Committee of EUROPEAN ECONOMIC CO-OPERATION

☆

VOLUME II

TECHNICAL REPORTS

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THE DEPARTMENT OF STATE

Committee of EUROPEAN ECONOMIC CO-OPERATION

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PUBLISHER'S NOTE

This is the second of two volumes giving the results of the work of the Committee of European Economic Co-operation. The first volume contains the General Report of the Committee of European Economic Co-operation, followed by five Appendices, namely a Statement of the origins of the Conference, a Note on the problems relating to Western Germany, Summaries of the Technical Committee Reports published in Volume II, and Reports on Balance of Payments and Finance.

This second volume contains Introductory and Historical Sections, followed by the Reports of Technical Committees, Sub-Committees and Working Parties who were charged with investigatinng particular branches of the work of the Conference and presenting their findings in the form of reports and statistics.

The information is based on the replies to Questionnaires sent by the Committee to each of the governments of the participating countries and to the Commanders-in-Chief of the Western Zones of Germany. The general scope of these Questionnaires, and the assumptions which the governments were asked to make in answering them, are indicated in the following Introduction.

The main statistical information collected by the Conference will be found in Appendices to the Technical Report to which they refer.

Some errors which have come to light in Volume I are noted in the Errata on p. 550 of this Volume.

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INTRODUCTION TO VOLUME II

1. The first major need for the work of the Conference was to organise the collection of statistical information in order to clarify the nature and magnitude of the problems facing it in each field of its activities. For this purpose, a series of Questionnaires was issued, asking from each Government,[1] in respect of each of the commodities covered by the Technical Committees of the Conference, estimates of:—

Domestic production;
Requirements for domestic consumption;
Expected exports a) to participating countries;
b) to other countries;
Required imports.

For the reviews of the Manpower and Maritime Transport problems special Questionnaires were issued.

2. Each Questionnaire was designed by the appropriate Technical Committee to cover the special problems with which it had to deal, and the information likely to be most readily available. Precise standardisation of questions was neither desirable nor possible.

3. In the preparation of its replies, each Government was asked to adopt the following assumptions:—

(a) foreign exchange necessary to pay for essential imports would be available;
(b) requirements would be consistent with the aim of bringing "the external accounts into approximate balance by the end of the period without dependence thereafter on special external assistance";
(c) consumption standards would not exceed those "which each country expects subsequently to be able to maintain without special external assistance";
(d) production and consumption would be at levels consistent with "high and stable employment".

4. The replies to the Questionnaires were examined in Paris by the experts on the Technical Committees. The figures were checked,

[1] Questionnaires for Germany were addressed to the Commanders-in-Chief of the Zones of Occupation.

and in many cases revised, to ensure that those finally adopted were internally consistent and in accordance with the general principles laid down by the Committee. The replies, after this scrutiny, were used by each Committee to set up a trial balance-sheet as a basis of study, and in this way the Reports were gradually built up.

5. The Technical Committees were primarily concerned with physical problems of production. The statistics are therefore in physical and European units, normally metric tons (except for certain items of equipment for which no practicable unit of measurement other than money values could be used). At a later stage the Committees converted into money values the quantities of various commodities required from outside the participating countries, in order to make a summation of requirements. For this valuation, the Committees adopted the prices in the most likely outside source of supply, normally (but not always) the United States. In all cases the Committees used the prices ruling on 1st July 1947, and made no assumptions about possible changes of prices in future years. All values are expressed in terms of dollars, at the official rates of exchange current at that date, whether or not the probable source of supply would be the United States.

6. For calculating the balance of payments of the participating countries and Western Germany, the statistics of import values provided by the Technical Committees were supplemented by:—

(a) corresponding statistics of expected exports of the commodities reviewed by the Technical Committees;

(b) replies to a separate questionnaire asking each Government, in less detail, for its estimates of the imports and exports of other commodities, and of the payments and receipts on account of the invisible items (such as shipping, interest and profits, tourist traffic) in the balance of payments.

This information enabled the Balance of Payments Committee to compile a summary account of the expected balance of payments between the participating countries and the most significant countries or groups of countries outside.

7. Governments with dependent overseas territories provided similar information about the import requirements and exports of these territories when such information was materially relevant to the supply position in the participating countries. The quantitative statistics for dependent territories are normally stated separately in the Technical Committee Reports, and a summary of the balance of payments of these territories is given in the Balance of Payments Report.

8. To sum up, the basic figures in the Technical Committee Reports are derived from the replies to the Questionnaires. They bring together a statistical picture of the resources and needs of the participating countries and Western Germany now and in the next four years, as complete as it could be made in the time available, and as accurate as possible, taking into account the many uncertain factors in the future.

SECTION A

HISTORICAL

A. The Pre-War Position

1. The sixteen participating countries and Western Germany, whose total population now numbers some 270 million, include some of the most industrialised nations of the world. These industrialised countries were in normal times able to support their populations at a high standard of living as a result of the use of specialised capital equipment in industry and agriculture and of a skilled labour force producing a wide range of goods a large proportion of which was exchanged across frontiers. The prosperity of these countries was therefore dependent on a high level of international trade and on a high level of industrial and agricultural production.

2. The participating countries also derived a large proportion of their income from services such as shipping, banking and insurance connected with their export and import trades, and from investments resulting from exports overseas in the past. Their share of world imports was five times that of the United States, and of world exports two and a quarter times; if adjustment is made by leaving out of account trade between the sixteen countries, the imports of the system as a whole were over three times those of the United States, and of exports 30 per cent higher. Before the war, the excess of total imports of the participating countries over total exports was normally covered by interest and dividends, and by receipts from shipping, transit and financial services. At the same time they provided for themselves the vast bulk of shipping and financial services. A special feature of their trading position was their large deficit with the United States, which was financed in part from the dollar surpluses of the dependent territories of South-East Asia and elsewhere. The consequential loss of part of the overseas assets of the participating countries, and their reduced ability to earn foreign exchange in the form of shipping and other services make it essential, in the absence of help from overseas, that they must greatly increase their export of goods as the only way to avoid a reduction in their imports of food, raw materials and capital goods; since such a reduction would necessarily lower not only their standard of living, but also their pro-

ductive capacity. Table 1 illustrates the general importance of the participating countries and Western Germany, and provides a comparison with the United States.

Table 1—Population and Trade of the Participating Countries and Western Germany in 1938, Compared With the United States

	Pre-War Population (millions)	Percentage of World		
		Imports	Exports	Shipping Tonnage
1. Participating Countries	205.9	40.8	30.4	58.6
2. Western Germany	40.1	[a] 9.1	[a] 9.0	[a] 6.8
3. U.S.A.	131.7	8.1	13.2	14.2

[a] Whole of Germany.

3. The high pre-war level of international trade supported and was supported by a powerful industrial concentration based on certain key commodities—coal, steel and chemicals. Table 2 shows that in coal and steel the output of the participating countries before the war was not far short of that of the United States, and, if Western Germany is added, somewhat higher. To take only one basic commodity—sulphuric acid—as an example, the figures show that production in the participating countries was comparable with that of the United States. All these levels of production were, however, themselves dependent on movements of coal and various steel and chemical products both between participating countries and also between them and Germany; and this in turn was dependent on the smooth working of financial exchanges, trading services and transport.

Table 2—Production (average for 1936–38) for Selected Commodities

(Millions of metric tons)

	Coal [a]	Steel	Sulphuric Acid
1. Participating Countries	331	27.7	5.0
2. Western Germany	155	18.0	[b] [c] 1.9
3. TOTAL	486	45.7	
U.S.A.	419	42.9	4.2

[a] Hard coal plus hard coal equivalent of lignite.
[b] Approx.
[c] Whole of Germany.

4. Although the participating countries were net importers of foodstuffs and agricultural products, their relatively high standards of

food consumption also depended on their own intensive agricultural production. Although production per head of bread grains was lower than in the United States, the yield per unit of wheat lands was 50 per cent higher. The countries with the most efficient agricultural production were in the main precisely those most dependent on imports from overseas and imported primary agricultural products, particularly animal feeding stuffs, to produce high value animal products with the help of large supplies of fertilisers and costly capital equipment. The agriculture of these countries as well as of parts of Southern Europe was dependent for its prosperity on intra-European trade.

5. Thus the very fact that the participating countries included a number of highly industrialised national economies closely linked with each other, depended on the maintenance of certain conditions:

(i) A large volume of trade with overseas countries;
(ii) receipts from the earnings of their mercantile marines and of investments abroad;
(iii) trade in coal and various steel and chemical products between the participating countries and between them and Germany;
(iv) the provision of machinery, feeding stuffs and fertilisers to maintain a high level of specialised and intensive agricultural production which depended for its prosperity on exports to the other participating countries and to Germany.

Unless these could be assured, it was evident that the economies of most of the participating countries would break down, and that this would mean not only a sharp reduction in their own standards of living, but a wastage of capital resources and inherited human skill which would lower European productivity and with it the prosperity of the whole world.

B. The Effects of the War

6. The war destroyed much of the wealth of the participating countries, particularly such capital assets as industrial equipment, public utilities, railways, shipping and residential property. Agricultural fertility and other natural resources were depleted. The United Kingdom in particular was forced to sell a vast proportion of its foreign investments and to contract heavy new debts abroad. There were more intangible losses resulting from the distortions in the structure of national economies caused by war and blockade. In some countries the loss was the result of the scale of their war effort and in others of occupation, but everywhere there was an abnormal expansion of war industries and of uneconomic industries, a displace-

ment of labour and a consequent loss of technical skill, an over-exploitation of natural resources and a switching of sections of agriculture from the production of valuable animal products to the production of cereals and vegetables. These distortions were all the more difficult to remedy owing to the under-maintenance of transport, public utilities and industry generally, the depletion of stocks, and exhaustion of labour and, in some countries, to the difficulty of transferring labour owing to the lack of housing.

7. The dislocation of normal channels of international trade was the more disastrous because the effects of the war spread out far beyond Europe. The most spectacular change was the catastrophic decline in the normal exports of the participating countries and of Germany to overseas markets and their partial replacement by the United States as a source of supply. But added to this was an important factor which was not present after the war of 1914–18, namely the dislocation of the economy of large areas of Asia. This had severe repercussions on the world production of foodstuffs and also on the supplies of dollar exchange which Europe formerly derived, directly or indirectly from exports of primary produce from South-East Asia to the United States.

8. In agriculture there was a general shift of production from animal products to grains, root crops and vegetables, but even so there was a considerable reduction in the production of bread grains. On the Continent, supplies of fertilisers were deficient throughout the war, labour was inadequate, agricultural machines were run down and not renewed, while shortages of petrol not only reduced actual draught power but helped to restrict markets and hamper production. The campaigns of Liberation caused inevitable damage in many areas and hampered agricultural work in 1944–45, thus reducing still further the yield of the 1945 harvest. In that year the production of bread grains in the participating countries and in Western Germany was only two-thirds of the pre-war level.

9. Industry was very nard hit by the exhaustion of stocks of raw materials and the deterioration of equipment resulting from the impossibility of carrying out any but the most vital repairs and maintenance. Locomotives, waggons and motor trucks were greatly reduced in number and their average age was higher; roads, bridges and railway tracks were badly in need of repairs, calling for large, unavailable quantities of steel, timber and concrete. In addition there was the displacement of workers due either to their transference from consumer goods and services to war industries or to their deportation to Germany, involving difficult problems of demobilisation and repatriation. The vital coal industry of the United Kingdom is a

763122—47——2

striking example of one whose production fell largely as the result of the mobilisation of some of its best workers into the armed forces.

10. The fall in the production of coal in all the coal producing participating countries and of steel in the continental countries was particularly serious in view of the need of reconstruction in rail transport, shipping, housing and public utilities generally. Reduced production or pressing domestic needs meant inevitably that exports tended to take second place in the producing countries, and this resulted in a drastic decline in the exchange between European countries of coal and coke in particular, and also of various specialised steel products. Until this specialised trade could be resumed in some degree, a large amount of industrial capacity, notably in France and Italy but to some extent in all the countries, could not be restored to full production.

11. Equally serious was the effect of the serious decline in supplies of timber, another essential material for the construction industries. Home-grown timber had been drastically over-cut in the occupied countries and, even more so, in the United Kingdom. In Sweden the shortage of coal created bottlenecks which led to a heavy decrease in the surplus of timber available for exports. Moreover timber exports from other Baltic areas and from the U. S. S. R. had temporarily ceased.

C. The Progress of Recovery

12. The first eighteen months after the close of hostilities saw rapid progress in the initial recovery of industrial production. Its general extent may be indicated by some figures (Table 3).

Table 3—Index of Recovery of Industrial Production in Certain Participating Countries

(1938=100)

Country	July 1945	Last quarter 1946	2d quarter 1947
Belgium, France, Netherlands	30–40	85–95	85–95
Italy	20	60	65
Sweden	99	111	113

In the United Kingdom industrial production has been sustained at a level rather higher than that of 1938.

13. This initial recovery was made possible by prompt "first-aid" repairs to the transportation systems. Many major transport problems, however, were left unsolved. The shortage of freight cars is aggravated by the fact that a high proportion of them is over age and

requires abnormally frequent repairs, and railway track has on the average shown little or no improvement in quality, and will not do so while the present shortages of timber for ties and steel for rails continue. Individual countries have made remarkable efforts to increase the production of transportation equipment in which they specialise. France increased her serviceable locomotives by one-third in the year after liberation, Belgium her serviceable waggons by 10 per cent, Italy her serviceable electric locomotives by 27 per cent, and the United Kingdom's volume of shipbuilding and ship repairing once again reached very high levels.

14. The transport situation was indeed not unlike the industrial situation as a whole. A sufficient impetus to production had been given to enable the various countries to make substantial progress at least in those industries which were most favourably situated or were given priority, e. g. chemicals and engineering in the United Kingdom, coal and textiles in France and Belgium, textiles in Belgium and Italy. But it was only in Sweden and Switzerland that most branches of industry exceeded pre-war levels. In other countries deterioration of equipment, the unfilled need for fixed capital investment, shortages of houses and of other consumer goods created an enormous and urgent demand for the basic products of industry that could not be adequately met.

15. In every country the most serious bottlenecks were fuel and power. The power shortage was in a sense a by-product of the coal shortage, since it was largely due to the switch in demand from raw coal to power, but it was still further increased by a heavy fall in hydro-electric generation during the drought in 1946 and during the exceptional cold of early 1947. Table 4 gives the figures to illustrate the progress of coal production.

Table 4—Progress of Hard Coal Production in the Participating Countries and Western Germany—Annual Rate

(Millions of metric tons)

Country	1938	July 1945	May 1947
U.K.	231	168	180
France	47	31	47
Other Participating Countries	51	23	35
Total Participating Countries	329	222	262
Western Germany	153	27	75

The continental participating countries are still receiving no coal from the United Kingdom and considerably reduced quantities from Western Germany; their imports from Silesia have also fallen. This gap

has had to be met partly by imports of coal from the United States at great cost. In the United Kingdom production has not yet fully recovered from the after-effects of the war, e. g. loss of skilled manpower, retarded development underground; whereas in the Ruhr the depressed level of production has been due not only to insufficiency of manpower, but also to acute food and housing difficulties, extensive war damage, etc.

16. In steel the position was somewhat different. Up to the end of 1946 output in the United Kingdom maintained the high level reached during the war. On the Continent, where steel output had sharply fallen, progress was hampered by shortages of coking coal, so that though output just reached 1938 levels, it could not make the further expansion needed to meet the greatly increased post-war demand which was made acute by the very low level of German production.

Table 5—Steel Production in the Participating Countries and Western Germany

(Millions of metric tons)

Country	1938	Mid-1945	Oct. 1946
1. U.K.	10.6	11.7	13.4
2. Other Participating Countries	13.2	3.5	13.2
3. Western Germany	21.0	----------	3.2
4. GRAND TOTAL	44.8	15.2	29.8

17. In agriculture progress was steady, and the 1946 harvest was very considerably better than that of 1945. Wheat production increased substantially in France and Italy but not up to the pre-war level. In Western Germany output was considerably below pre-war. On the other hand progress has been slower in the building up of livestock numbers and in the restoration of agricultural fertility. Supplies of agricultural machinery, repairs to buildings and other essential equipment have been substantial, but fall far short of what is necessary to restore efficiency to the pre-war level in the most important producing countries, namely France and Italy. The added obstacle encountered by these countries has been the difficulty met in securing full deliveries of produce from the farmers. This is a direct result of deficiencies in industrial production; the farmer is slow to supply his produce because he cannot get in return for it the various goods, whether agricultural equipment or consumer goods, that he needs.

18. To deal with specific economic problems several European organisations were set up, of which the majority of the participating

countries have been either members or associates. The E.C.O. (European Coal Organisation) was created to make recommendations for the allocation of coal which might become available for import into its member countries. Another organisation was the E.C.I.T.O. (European Committee for Inland Transport Organisations), which dealt with a number of technical railway problems. There was also the E.E.C.E. (Emergency Economic Committee for Europe), which studied economic problems of common interest and made suggestions to members, the most important of which perhaps were those relating to the distribution of timber supplies. The work of these bodies is now being taken over by the Economic Commission for Europe (E.C.E.), a Commission of the Economic and Social Council of the United Nations.

19. In spite of high war expenditure and occupation costs, uncontrolled price inflation has been less evident after 1945 than it was after 1918. There has, however, been some inflationary increase in prices even where price control has been relatively effective. In these countries where price increases have been more serious, the restoration of general financial and economic equilibrium is a major and pressing problem.

20. So far as they were able, certain participating countries have since the war granted financial assistance to others. This amounted to the equivalent of $1,150 millions from the United Kingdom, over $300 millions from Sweden and over $130 millions from Switzerland. In addition, relief was extended by the United Kingdom through U.N.R.R.A. and Civil Affairs channels and by Sweden and Switzerland through official, private and Red Cross channels.

21. But as a general rule deficits resulting from trade between the participating countries have to be met in gold or dollars, and in continental Europe there is a strong tendency to regulate trade by bilateral arrangements so as to prevent such deficits being incurred. There is a need, therefore, to make payments arrangements between European countries more flexible pending the creation of a multilateral system of convertible currencies.

D. External Assistance

22. While hostilities were still proceeding some $1,500 millions in relief were provided by the United States, United Kingdom and Canadian armies to the participating countries in Western and Southern Europe. In Southern Europe U.N.R.R.A. operated in three of the participating countries (Austria, Greece and Italy), and provided them with goods and services to the value of nearly $900 millions. In each case the United States provided about 73 per cent, the United

Kingdom 17 per cent and Canada 4 per cent of the total funds. Similarly the participating countries of Western Europe received credits and grants from the United States to purchase lend-lease "pipe-line" supplies, U. S. surplus property and similar material. Finally there was the United States credit of $3,750 millions to the United Kingdom. The total of post-war loans and credits granted by the United States to participating countries has been nearly $7,800 millions. Details of these post-war loans and credits as well as those granted by International Agencies are given in Table 6. Credits have also been received since the war from Canada ($1,750 millions) and the Argentine ($180 millions), while Australia and New Zealand have made grants to the United Kingdom of $120 millions.

Table 6—Post-War Loans and Credits Granted to Participating Countries up to 15th August, 1947

A. By the United States

(Millions of United States dollars)

Country	Lend-Lease Pipe Line and Surplus Property	Export-Import Bank	Treasury and Private Credits	Total
Austria	10	13	----------	23
Belgium	105	100	----------	205
Denmark	----------	20	----------	20
France (and Colonies)	720	1,200	----------	1,920
Greece	----------	25	300	325
Italy	160	130	----------	290
Netherlands	93	300	20	413
Norway	10	50	10	70
Turkey	10	----------	100	110
United Kingdom	650	----------	3,750	4,400
TOTAL FOR PARTICIPATING COUNTRIES	1,758	1,838	4,180	7,776
N. E. I.	100	100	----------	200

B. By International Agencies

(Millions of United States dollars)

Country	International Bank	Monetary Fund
France	250	50
Netherlands	195	[a] 18
	445	68

[a] In addition there was a sterling loan of £1,500,000.

E. The Present Position

23. The set-back in industrial production in many countries during the winter of 1946–47 has made it evident that this large volume of external assistance was not enough to ensure lasting recovery. Shortages of coal and electric power combined with a severe winter were the most important reasons for this, but other general factors were also important. The rising industrial demand consequent on the rapid progress of economic recovery in the first eighteen months of peace had the effect of reducing many essential stocks—in particular the reserves of coal in the United Kingdom and Western Germany were heavily drawn upon at a time when current outputs could not be quickly stepped up. Moreover, a continuing deterioration of certain essential types of capital equipment, such as rolling stock and power plant, hampered production. In some countries there was a decline in labour productivity which may be attributable to long years of subnormal food consumption. The continued stagnation in Germany has also been a depressing factor. Finally the severe and prolonged winter of 1946–47 and the drought, which followed, have resulted in a poor harvest for most of Western and Southern Europe. Import requirements of essential foodstuffs will therefore be much higher than had been expected, and this increase, combined with higher world prices, will mean a serious additional strain on dollar resources.

24. The drain on dollar resources which has been threatening the whole of European recovery for many months has now become acute and is a world-wide problem. Not only are all European countries affected, but the shortage of dollars is also being severely felt in Canada and in Latin America, while the economic dislocation of S.E. Asia, China, Japan and the Philippines adds to the general difficulties. In the first half of 1947 the surplus in the United States balance of payments was running at the annual rate of $10,000 millions a year. The drain on dollar reserves and credits and on gold accelerated by the rise in cost of imports from the United States will, unless arrested by additional help, lead to drastic reduction of imports into Europe, which might well obliterate all that has been achieved during the past two years.

TECHNICAL REPORTS

SECTION B

Food and Agriculture

FOOD AND AGRICULTURE

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A list of tables in the text and Appendices is given at the end of this Volume.

Notes

1. Unless otherwise stated, all quantities are in metric tons and all values in United States dollars.

2. The term "net import requirements" is used to denote that part of the total import requirements of the participating countries, their dependent oversea territories and Western Germany which can only be met by imports from non-participating countries.

3. The Committee has in general worked on the basis of a July–June and not a calendar year; thus "1947–48" means July 1st, 1947 to June 30th, 1948.

Preface

1. Since the information on which this report is based was collected, the immediate outlook for agriculture production in most of

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the participating countries has taken a marked turn for the worse. As the summer of 1947 has progressed, it has become increasingly evident that prolonged droughts in many of the participating countries following upon an unusually severe and long winter would seriously reduce crops this year. Unfavourable reports were being received by the Committee while the writing of the report was in its final stages; and some mention of this fact has been made in paragraph 113. The full extent of the damage to crops will not be known for a few weeks. But since the report was completed it has become clear that damage will be substantial; and the Committee therefore feels it necessary to preface its report with a special statement on the position now facing many of the participating countries.

2. The effect of the reduced crops in Western Europe is to increase substantially the need for imports of cereals if the programmed levels of cereal consumption by human beings and the livestock feeding programmes are to be met. This need is made more acute by the fact that even before their own crop prospects had worsened, the participating countries were not able to count upon an availability of imported cereals equal to the full quantity they would require to achieve their programmes.

3. At the same time as import requirements have risen, the supply position in some oversea countries has worsened also. Drought has affected the Canadian wheat crop and in the United States the maize crop has fallen very substantially compared with the record crop of last year. Only in regard to the United States wheat crop has the outlook improved; it will be an all-time record.

4. The immediate supply position of cereals is thus extremely serious. It follows that the present bread supply (which is necessary to maintain a bread ration which in many countries is already very low) is endangered; and the realisation of the livestock production programme described in the following pages is put in jeopardy or at least may have to be postponed for a considerable time.

5. In this situation, the participating countries undertake to intensify to the utmost all the measures which they have already instituted in pursuance of national policies as well as international recommendations, such as those of the special Cereals Conference held in Paris at the beginning of July 1947, to increase the supply of cereals and to economise their use. They undertake to improve, wherever possible, collection measures, control of utilisation and in so far as this is still possible, to increase production of cereals particularly of bread grains by increasing the acreages for both autumn and spring sowing.

6. It is recognised that, however great the effort of the participating countries themselves, it cannot in these grave circumstances be sufficient

to bridge the gap. It may be that in some countries in which livestock numbers are comparatively high and in which the production of animal products is not a vital factor in the economy, a re-examination of present plans for livestock feeding will be necessary with a view to collecting for human consumption the largest possible additional quantities of secondary cereals. It must be emphasised, however, that to the extent to which such re-examination leads to a reduction in livestock numbers, this will mean an eventual worsening of the supply situation in regard to animal products and, if national diets are not to fall seriously short of the minimum necessary to sustain the European recovery programme as a whole, increased import demands for such products with a consequent prolongation of the existing unbalance.

7. The Committee feels it necessary, however, to recall, as was recognised at the Special Cereals Conference already referred to, that for many countries the needs of national diets, balanced farming practice, shortage of foreign currency and heavy depletion of livestock during the war, make it necessary to carry out "a controlled and gradual increase in their production of livestock products from indigenous and imported grains; and that this necessitates the feeding of an increased proportion of secondary cereals to livestock". If, therefore, European agricultural production programmes are not to be delayed to such an extent as to reduce very seriously the contribution which agriculture can make to European recovery, only a special effort by oversea producing countries can prevent the reduction of European diets to an intolerably low level.

8. The Committee can only appeal to these countries to maximise the supplies of cereals for export. The Committee thinks it appropriate to recall the effort made in the past few years by some of these countries to ship vast quantities of cereals abroad. A similar effort now would reduce though it could not overcome, the disastrous effects of frost and drought in Europe and would enable the participating countries to get over the immediate crisis without having to forego for many years to come the prospect of an overall improvement which the programmes set out in this Report hold out to them.

Introduction

1. Food is basic to production. The great economic difficulties which the participating countries are now experiencing are in large part due to low production. A substantial improvement in food sup-

ply is, therefore, an essential condition for general economic recovery.

2. The food situation in September 1947 in the participating countries, taken as a whole, is worse than a year ago. In nearly all the countries bread continues to be rationed; indeed, in many of them, rations have had to be reduced. Rations of fats and oils and meat have also had to be reduced in some of them, and the supply of other basic foodstuffs continues to be short. Most serious of all, stocks of basic foodstuffs have been much depleted; and even though most of these countries are now harvesting their new crops, the severe winter through which many of them have passed, together with recent droughts, have decreased crop areas and caused lower yields than might have been expected. Low stocks, low home production and the difficulty of maintaining adequate imports in the face of world shortages and scarcity of foreign exchange, greatly aggravate the problem of the collection and marketing of even those indigenous food supplies that are physically in existence. The immediate prospect is for a continuation or even worsening of this state of affairs during the coming critical winter.

3. These inadequate food supplies make it difficult to maintain, let alone increase, industrial production. Low industrial production deprives agriculture of many of the means necessary to increase the output of food. It also affects production indirectly by depriving the producer of goods and services which constitute his real earnings.

4. Thus, a vicious circle is created. It can only be broken by a simultaneous increase of imports and domestic production within a framework of general economic recovery.

CHAPTER I

THE BACKGROUND

A. The Pre-War Pattern

5. The agriculture of the participating countries as it existed before the war was highly diverse in character, varying both between countries and within national boundaries. Within the area, most farming systems, apart from the purely tropical, could be found: from the rough grazings of the upland districts of Scandinavia and the northern parts of the United Kingdom to the vineyards of Southern France and Italy and the tobacco fields of Greece. While single crops were often important, in general mixed farming predominated over monoculture. Farming was intensive and crop yields were well above those of the rest of the world. Some of the countries, notably the United Kingdom, Belgium and Western Germany, were highly industrialised, but in all the countries agriculture bulked large in the national economy.

6. From the point of view of international trade, the area as a whole showed certain outstanding features:—

(i) it was a net importer of most of the basic food commodities; and it included, in the United Kingdom, the world's chief food importing country;

(ii) it drew upon the rest of the world for feeding-stuffs, on which a highly developed livestock industry had been built, based in several countries upon the export of livestock products.

7. Nearly all countries were heavy importers of foodgrains, though in *wheat* Turkey was a net exporter, France was normally self-sufficient and Portugal was so in some years. All except Turkey imported *feedgrains*, and Italy alone exported *rice*. Denmark occasionally exported *sugar*. All these countries imported oil seeds, although several exported a proportion of the resultant *oils*. *Butter* was a major export commodity for Denmark and the Netherlands; in the former country it formed one-quarter by value of all exports. But taking *oils and fats* as a whole, the area was a heavy net importer. Denmark, Ireland and the Netherlands were large exporters of *meat* in various forms, notably pigmeat, largely derived from imported feeding stuffs; but the heavy dependence of the United Kingdom upon the rest of the

world for meat rendered the area as a whole a net importer of that commodity.

8. There were, however, other agricultural commodities, which had been so developed by some of the countries as to constitute a large proportion of their export trade. This trade, in general, was largely to other participating countries. Meat and butter have already been mentioned. Of other livestock products, *eggs*, *cheese* and *processed milk* were important exports from Denmark, the Netherlands and Ireland, while *live cattle* contributed one-third by value of all exports from the last-named country. Examples of dependence of particular countries on specific commodities may be found for crops too. Thus, the exports of *tobacco* constituted nearly one-half by value of all exports from Greece, and *dried fruits* one-fifth; exports of *wine* from Portugal averaged between a fifth and a quarter of total exports. *Potatoes and vegetables* were an important element in the export trade of the Netherlands, Italy and Denmark. *Citrus fruit* was an important export commodity for Italy and Greece; while France and the Netherlands exported *other fruit* on an appreciable scale.

B. The War

9. In general, the war disrupted this agricultural structure and gravely affected the food position of the participating countries. To internal destruction and disorganisation of production was added a drastic reduction or even elimination of supplies from outside sources, through shortage of shipping or foreign exchange. In these circumstances, marked changes in farming practice were necessary to ensure that the diminished resources were applied to the maximum extent to the production of staple foods to keep their peoples alive.

10. These changes varied greatly from country to country but for most of them certain broad typical trends can be discerned.

(i) *Livestock* numbers were reduced. The main causes of the decline included the need to conserve grain for human consumption, and the absence or reduction of imported feeding stuffs. For the sixteen participating countries and Western Germany the decline in numbers between 1934–38 and 1945–46 was *cattle* 1%; *sheep* 7%; *pigs* nearly 40%; *poultry* 25%. For a number of reasons, including the importance of milk supply, cattle numbers were the last to be reduced; in some countries they were slightly increased.

The reduction in livestock numbers, combined with a fall in average yields owing to the absence of feeding stuffs, was reflected in a substantial fall in the output of livestock products in most of the countries.

Between 1934–38 and 1945–46 the output of certain livestock products in the sixteen participating countries and Western Germany fell by 36% for *meat*, 27% for *milk*, 30% for *butter*, 52% for *other milk products* and 37% for *eggs*.

There were wide variations within the area, and those countries which normally exported these commodities were necessarily most affected. Under occupation, the exports of livestock products from these countries to many of their normal markets were cut off entirely, but the fall in output was so severe that domestic consumption, too, usually fell below the pre-war levels. Thus, by the end of the war little or no reserve was available to enable shipments of livestock products to be resumed.

In the *Netherlands*, for example, meat and milk production fell by 70% and 40% respectively, while the output of milk products was reduced to less than 20% of the pre-war figure. *The United Kingdom*, on the other hand, was able to increase its milk production by 6%, though the output of meat fell by 30% and of eggs by 35%. Meat production in *France* fell by 23% and in Belgium by 56%.

(ii) The output of *crops* fell. Inadequate labour, shortage of fertilizers, reduced numbers of draught animals and in many cases the disrepair or immobilisation of machinery had a cumulative effect which meant a sharp drop in unit yields. In an area 9% smaller than before, the production of all cereals in 1945–46 in the countries being considered was 33% less than in 1934–38, the fall being rather less marked for *feed grains* than for *wheat*. The production of *sugar* was reduced by 30%. The output of *potatoes* fell by 25%. Broadly speaking, comparing 1945–46 with the pre-war average, the decline in crop production was greatest in occupied areas, less marked or absent in neutral countries, while in the *United Kingdom* and *Ireland*, normally drawing much of their supplies from overseas, considerable increases in arable acreage at the expense of pasture and previous agricultural practice resulted in a substantially higher crop production. The output of wheat in *France* was reduced substantially; at its lowest point, it was only one-half of pre-war. In *Italy*, the decline was over 40%, in *Sweden* 20%, in *Portugal* 25%, while in *Switzerland* there was a rise of 25%. In the *United Kingdom* wheat production was up 30% in 1945–46, and in *Ireland* it was trebled. Similarly, sugar production in these two countries increased, while in

France it fell by half. Again, the *United Kingdom*, *Ireland* and *Denmark* increased their potato output, while a decline occurred in most other participating countries.

11. The net result was a lower standard of food consumption. Imports from outside sources might have compensated for reduced internal supplies for countries normally self-sufficient or nearly so, but for most of these countries such supplies were cut off while the war lasted. Where, as in the case of the United Kingdom, considerable dependence on oversea supply was normal, the absence of European sources increased this dependence. But again full compensation, even with increased home production, was not possible and total supplies fell.

12. Mention must also be made of the effects on Europe brought about by the ravages of the war in the Far East. These included the elimination of major sources of supply of such important commodities as oils and sugar and an aggravation of the cereals problem through the shortage of rice and the consequent creation of a demand by the Far East for cereals.

13. The drop in total available supplies and in domestic production as such of the major basic food commodities in the sixteen participating countries and Western Germany between 1934–38 and 1945–46 is illustrated in Table 1:—

Table 1—Production and Total Supplies of Basic Foodstuffs in the Participating Countries and Western Germany

(Millions of metric tons)

	Total Available Supplies		Domestic Production (Included in Available Supplies)	
	1934–38 (Average)	1945–46	1934–38 (Average)	1945–46
Wheat and Rye	47.9	36.6	34.0	22.4
All Cereals	89.8	60.7	64.5	43.1
Oils and Fats [a]	6.0	3.6	2.8	1.9
Sugar	6.8	4.4	3.4	2.4
Meat	10.6	7.1	9.0	5.8
Milk [b]	72.5	52.9	72.5	52.9

[a] Including butter.
[b] Liquid milk.

C. Developments Since the End of the War

14. European agriculture reached a low point in 1945. Production of grain, meat and other livestock products was well below the prewar level, and for none of these commodities were fully compensating quantities imported.

15. To the physical devastation of war were added disorganisation of transport, an unwillingness of many primary producers to sell their products when currencies were fluctuating and consumer goods were scarce, and droughts during the spring and summer of 1945.

16. Great efforts have been made since 1945 to restore agricultural economies. The devastated areas of France, Belgium and Western Germany have largely been put back into production; and even in the Netherlands, where inundation was added to physical destruction, land is quickly being restored to use. Livestock populations are beginning to be rebuilt, notably in the Netherlands, Belgium and Italy. Various measures have been introduced to instil a sense of stability into the farming community; and in many countries comprehensive legislation has been passed designed to maintain agricultural production at a high level over a long period.

17. The countries' own efforts were supported by considerable assistance from the rest of the world. During the war the mutual aid provided between the United States, Canada, the British Dominions and the European allies themselves, helped to maintain the level of food consumption and industrial production. At the same time, by providing seeds, fertilisers and agricultural machinery, this aid prevented an even bigger decline in agricultural production than in fact took place. Subsequent recovery was, thus, made much less arduous. After the war, relief and rehabilitation assistance through U.N.R.R.A. to Italy, Greece and Austria did a great deal to restore agriculture in these countries.

18. The rate of recovery was not uniform over the whole area, owing partly to the varying incidence of unfavourable weather. It was greatly hampered by scarcity of means of production; and in some cases it was further retarded by currency and trade dislocations. For some of the means of production, e. g., feeding stuffs, there was a world-wide shortage. This shortage caused a sharp rise in prices; and high prices worsened the drain on the dwindling foreign exchange resources of Europe. Moreover, they increased the difficulties of those countries which normally produce for export. But, notwithstanding these adverse factors, the rate of recovery might have been maintained but for the serious effect of the bad weather in the winter and spring of 1946–47. This not only directly affected crop yields and agricultural production generally but, by its impact upon the extremely precarious fuel position, further retarded improvement. It not only affected adversely the supply of the means of agricultural production and transport, but the general depressing effect on the economy produced many damaging secondary effects on agriculture and food supply.

CHAPTER II

Agricultural Programme for the Next Four Years

A. Crops

19. The Food and Agriculture Committee asked the participating countries to set out in some detail their agricultural plans for the next four-year period 1947–48 to 1950–51. The main fact which emerges from the replies received is that, in nearly all cases, the aim is to restore at least the pre-war standard of production within the period under review and, in some instances, well before the end of the period. Given adequate supplies of fertilizers, agricultural machinery and feeding stuffs, both cereals and concentrates, this aim can be achieved.

20. Detailed tables are included in Appendix C. They are summarised in Table 2, which shows for the major commodities average pre-war production, production in 1946–47 and estimated production in each of the years 1947–48 to 1950–51.

Table 2—Production of Basic Foodstuffs in the Participating Countries and Western Germany

(Millions of metric tons)

	1934–38 (Average)	1946–47	1947–48	1948–49	1949–50	1950–51
Wheat and Rye	34.0	28.3	21.4	30.2	32.7	34.0
All Cereals	64.5	55.6	48.9	60.3	63.4	65.8
Oils and Fats [a]	2.8	2.0	2.2	2.5	2.7	2.9
Sugar	3.4	3.3	3.4	3.6	3.7	3.9
Meat	9.0	5.9	6.0	6.5	7.2	8.1
Milk	72.5	55.7	57.0	61.9	65.9	73.4

[a] Including butter.

21. On the assumption of average yields and the absence of major or repeated natural catastrophes during the period, approximately 66 million tons of all *cereals* are to be produced in 1950–51. This is rather more than before the war. In 1946–47 the total cereal production was about 14% below pre-war. Within the total for 1950–51 there is to be some increase of wheat and barley but a slight decline in rye and oats.

22. A substantial increase is to be achieved in the production of oil and oil seeds as well as butter and other animal fats making total *fats* production rather higher than before the war. There is also to be a substantial increase in the output of *oilcakes*. This will result from increased supplies of both domestic and *imported* oil seeds. In this connection, it should be noted that the area as a whole, though

not a significant producer of *oil seeds*, is planning during the period to increase production nearly threefold compared with pre-war. *Sugar* production is also to be increased from 5% below pre-war to about 13% above pre-war.

23. Within the total figures there are some significant divergences between the different countries, each one striving to achieve an efficient pattern of production best suited to its own particular circumstances. Few, if any, are taking, as their goal, precisely the pre-war output, either of crops or of livestock. Some countries, notably the United Kingdom, Turkey and Greece, aim at a production of *cereals* above that of pre-war, while others, e. g. Italy, will not quite reach the pre-war figure by 1950–51. There are some countries, e. g. Norway, which expect to devote a larger proportion of their cereal acreage to bread grains while others, such as the United Kingdom, the Netherlands and Belgium, tend to substitute coarse grains for bread grains in their cereal acreage.

24. Among other crops, important increases over pre-war production levels include those of *sugar* in Italy, Ireland and the United Kingdom (where the aim is to maintain approximately the war-time output); *fruit*, which will be substantially increased in the Netherlands, Italy, Denmark, Greece and Turkey; *vegetables*, in which the chief increases are in Italy and France, but where other countries are also expecting material expansion in output.

B. Livestock

25. The programmes also envisage increases in *livestock population*. In the participating countries and Western Germany, the number of cattle is to be raised in the aggregate to 7% above pre-war; pigs will be about 10% below pre-war, and poultry approximately 13% above pre-war. In Western Germany *cattle* numbers are expected to remain stationary, i. e. at about 13% below pre-war. An increase is envisaged for *pigs* and *poultry*, but 1950/51 numbers will still be below the pre-war level by between 30% and 40%.

26. The most striking increases in *cattle* are in the United Kingdom and Turkey, which look forward to 1951 cattle populations 20 and 36% respectively higher than the pre-war average. Turkey forecasts a national *sheep* flock one-third higher than before the war but there are marked declines from the pre-war level in France, Norway and the United Kingdom. While *pig* numbers generally go up, they will still be below the 1934/38 average in the United Kingdom, Norway and Austria. Striking increases in *poultry* are expected in the United Kingdom, Denmark, Holland, Ireland, France and Turkey, the increase in the United Kingdom being particularly noticeable.

27. The projected increase in livestock figures will only gradually be reflected in increased supplies of meat and animal fats. By 1950/51, the difference in meat production, for example, as compared with prewar will still be of the order of 1 million tons (a large portion of it arising in Western Germany), while, at the same time, total requirements show a rising trend.

C. Intra-European Trade

28. The production programmes are designed not only to enable consumption to be on a rising scale, but also to restore the contribution to European consumption made by the agriculture of the participating countries. Table 3 shows some of the outstanding examples of increasing exportable surpluses of the participating countries during the period under review.

Table 3—Exportable Surpluses of Certain Products From Participating Countries and Western Germany

(Thousands of metric tons)

	Butter	Eggs	Meat	Fresh Fruit
1946–47	87	52	395	550
1950–51	154	223	630	1,911

29. The Committee is aware of the great importance of increasing intra-European trade in the commodities produced within the area. These comprise mainly meat, dairy products, eggs, vegetables, fruits, wines and tobacco. They could contribute much to a higher level of consumption, and, for the most part, to a more varied and more nutritious diet. For many countries they are also an important credit item in the balance of payments while in the case of Greece tobacco constitutes the main item.

30. An increased output of some of these products is dependent upon increased supplies of means of production, particularly feeding stuffs. For others, additional supplies of raw materials and means of production are not so significant. These products could be exported in increased quantity, were it not for the fact that potential markets lack the necessary foreign exchange.

31. The removal of this difficulty, and the development of freer commercial relations accompanied by efforts to encourage an increased exchange of commodities between participating countries is, thus, one of the principal conditions for enabling countries with exportable surpluses to market their goods in deficit countries.

D. Fish

32. Certain of the participating countries, notably Iceland, Norway, Denmark, Portugal, the Netherlands and the United Kingdom are large producers of fish, and most of them have exportable surpluses, several of them to such an extent that their export trade is of vital interest.

33. Fish production and exportable surpluses in the participating countries chiefly concerned are shown in Table 4.

Table 4—Production and Exportable Surplus of Fish in Participating Countries and Western Germany

(Thousands of metric tons)

	Production			Exportable Surplus		
	Average 1934–38	1946–47	1950–51	Average 1934–38	1946–47	1950–51
Denmark	111	198	222	79	127	142
Iceland	163	275	470	163	275	470
Netherlands	127	144	213	68	42	138
Norway	921	835	1,000	641	425	700
Portugal	174	210	226	48	44	76
Sweden	144	211	225	40	52	80
United Kingdom	1,039	962	1,321	252	65	151
Others (including Western Germany)	1,016	666	995	50	17	178
TOTAL PARTICIPATING COUNTRIES (INCLUDING WESTERN GERMANY)	3,695	3,501	4,672	1,341	1,047	1,935

34. It will be seen that production in 1950/51 is expected to be about one million tons, or 28%, above the pre-war level. In this connection the Committee wishes to draw attention to a possible danger. The expansion of fishing fleets now being carried out or projected must take account of the risk of over-fishing in some of the fishing grounds nearest to the countries concerned, e.g. the North Sea. There is no doubt that increased activity in such grounds would rapidly lead to depletion of resources. The more distant grounds are, however, at present well stocked with many varieties of fish.

35. The quantities available for export will increase in 1950/51 by 600,000 tons or 45% over the 1934/38 average. Stated import requirements in 1950/51 in participating countries amount to about 750,000 tons (or little above the pre-war average), leaving nearly 1,200,000 tons over the stated needs of participating countries. Owing to differences in definition this figure exaggerates the probable surplus. The Committee is, however, satisfied that it will certainly be greater than the probable demand from non-participating countries and that a serious disposal problem exists.

36. Some of the principal exporting countries are already finding it impossible to dispose of all their exportable surpluses, a good deal of the difficulty being due to the lack of a market in Western Germany, where fish consumption is very much below the pre-war average. Thus, for the participating countries with exportable surpluses the development of the German market is vital. The Committee recognises the financial difficulties involved, which also operate in a number of other potential markets. This is a problem to which reference has already been made in connection with a number of other commodities and a solution of it, resulting from greater trade and financial co-operation within Europe, would enable more fish to be moved into consumption. It is recognised that there may also be technical problems to be solved, both in regard to distributive machinery and equipment (e.g. refrigerated transport). But these problems are not insuperable, and the equipment could, to a large extent, be provided by the participating countries themselves.

E. Development in Dependent Oversea Territories

37. An important part of the production programmes of some of the participating countries is the development of the resources of their oversea territories so that the resulting supplies may reduce their dependence upon the outside world. The most important of the various schemes now in action or preparation relate to the development of oilseeds production.

38. The United Kingdom, together with the authorities of the territories concerned, has embarked upon a scheme for the clearing, development and cultivation of 1,200,000 hectares (3 million acres) of waste scrub land in East Africa. It is proposed to clear this land of the existing scrub, small trees and forest, and to develop the total area progressively over a period of six years. As the land is cleared, a complete system of mechanised agriculture is to be set up with groundnuts as the main crop. Adequate methods of soil conservation will be enforced, and complete mechanisation from ploughing to final harvesting and shelling of the groundnuts is to be introduced. At present it is intended that two years of groundnuts will be followed by two years of leys; but experiments are to be carried out in the rotation of crops, including soya beans and sunflowers.

39. If this scheme is developed as planned, the quantities of groundnuts (in tons of decorticated nuts) which will be produced and available for export from East Africa are estimated to be 80,000 in 1949; 255,000 in 1950 and 398,000 in 1951. Similar developments in other parts of Africa are also being pursued including groundnut cultivation in West Africa and linseed growing in Kenya.

40. The French Government have a similar scheme for their oversea territories under which it is proposed to plant some 200,000 hectares (500,000 acres) in Senegal and a further 200,000 spread over other territories of Equatorial and West Africa. Production from these plantations will not begin until 1951 when it is expected that about 100,000 tons decorticated nuts will be produced, rising to 125,000 tons in the following year and continuing at that level thereafter. In addition to the groundnut schemes the French Union is planting about 100,000 hectares (250,000 acres) with oil-palms, from which production will also begin on a small scale in 1951.

CHAPTER III

THE MEANS OF PRODUCTION

A. Fertilisers

41. The essential means of agricultural production required to implement the programme are fertilisers, agricultural machinery and feeding stuffs. Fertilisers are vital to the restoration of the fertility of the soil. Table 5 summarises the position which is set out in more detail in Table VII of Appendix C.

Table 5—Fertiliser Position in Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of metric tons)

	Average 1934–38 *	1946–47	1950–51
Nitrogen (in Terms of N):			
Requirement	752	1,070	1,896
Production	764	960	2,003
Net Import Requirement	----------	110	----------
Net Export Surplus	12	----------	107
Phosphate (in Terms of P_2O_5):			
Requirement	1,329	1,519	2,745
Production	1,256	1,407	2,558
Net Import Requirement	73	112	188
Potash (in terms of K_2O):			
Requirement	750	1,076	2,261
Production	548	846	1,603
Net Import Requirement	202	230	658

* Pre-war figures exclude the Bi-zone of Germany for which data are not available.

42. For the next four years the net import requirements from non-participating countries are set out in Table 6.

Table 6—Net Import Requirements of Fertilisers of Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of metric tons)

	Nitrogen	Phosphate	Potash
1947–48	290	270	495
1948–49	229	221	607
1949–50	81	237	626
1950–51	* 107	188	658

* Export surplus.

43. The use of artificial fertilisers was expanding steadily before the war but was checked during the war in many of the participating countries by supply difficulties. Tables 5 and 6 show to what extent the participating countries are planning a further increase in the utilization of fertilisers in order to achieve the programmed increases in the crops to be produced during the next few years. By 1950/51 the use of nitrogen, of phosphates and of potash will be from 2 to 2½ times as great as the average use in 1934/38. (These proportions relate to participating countries only: no pre-war figures are available for the Bi-zone.) Production within the participating countries is also to be increased. In 1947/48 production of nitrogen will be over 25% and in 1948/49 about 45% larger than in 1946/47. By 1950/51 there should be no need to import from non-participating countries any artificial fertilisers except potash.

44. *Nitrogen:* The participating countries were, before the war, on an export basis for nitrogen. Production in many countries was greatly reduced during the war, although it increased in the United Kingdom and Norway. War damage to plant and lack of coal have prevented full recovery of production in Western Germany but Italian production reached pre-war level in 1946/47. Production programmes, however, indicate a rapid expansion in output. War damaged plant is to be restored and new factories are to be built.

45. There is an almost equally rapid increase in requirements and there are continuing import requirements which reach their maximum of 290,000 tons (19%) in 1947/48. In 1950/51 the participating countries will again be self-sufficient in nitrogen supplies.

46. *Phosphates:* There is no shortage of phosphates. Table 6 shows a small import requirement but this arises from the fact that capacity for the manufacture of superphosphates is rather less than is necessary to meet all requirements. This deficiency is more apparent than real

for it merely represents the difference between the quantity of phosphates calculated as phosphoric acid (P_2O_5) available in the forms in which they are usually applied to the soil, i.e., superphosphates, basic slag, etc., and the total requirements of the participating countries. There are ample supplies of rock phosphate in North Africa to supply the full needs of the participating countries, and any apparent shortage can be remedied by the use under certain conditions of ground phosphate rock. On the whole the phosphate position presents no serious difficulty.

47. *Potash:* The import requirements of potassic fertilisers will increase rapidly during the next four years, reaching a total of about 650,000 tons in 1950/51. The only important source of potash among the participating countries is France, although Western Germany is also a substantial producer for its own needs. Import requirements must be met from non-participating countries to the East and West—Eastern Europe, Spain and Palestine. There should be no supply difficulty over potassic fertilisers provided that there are no hindrances to trade between producing countries and the participating countries.

B. Agricultural Machinery

48. Tables VII (d) and VII (e) of Appendix C set out in detail estimated production, requirements, import requirements and exportable surpluses of tractors and other agricultural machinery. Within the total of requirements there are substantial variations between the different countries according to the type of farming, the kind of crops involved, and soil and climatic conditions. The variety of agricultural machinery is extremely great not only within the class as a whole but also within particular categories, such as tractors. An overall balance sheet, therefore, conceals difficulties in balancing supplies and requirements which may arise in practice. Nevertheless, the overall picture is not considered to be vitiated by this fact.

49. Participating countries were asked to state their probable production, requirements, and imports and exports of "agricultural tractors" and "other agricultural machinery". There were differences of interpretation as to what should be included under either group in their replies. Moreover, although both quantities and values were requested in respect of imports and exports, some countries omitted to answer one or other of these questions.

50. In these circumstances the Committee had to make a number of estimates in order to obtain an approximately complete and accurate estimate of the position. It is believed that the overall picture of requirements is not significantly distorted.

51. Table 7 shows figures relating to agricultural tractors for the four years 1947/48 to 1950/51.

Table 7—Requirements and Production of Agricultural Tractors in Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of units)

	1947–48	1948–49	1949–50	1950–51
Domestic Requirements	205	224	205	204
Exports to Non-Participating Countries	7	94	159	186
Production	182	305	352	380
Net Import Requirements of Heavy Tractors	16	13	12	10
Net Import Requirements of Medium and Light Tractors	14	----------	----------	----------

52. The output of tractors, particularly in the United Kingdom, has already greatly increased since 1939, and is expected to increase very rapidly and substantially. Only in 1947/48 is there a net import requirement in tractors of all kinds. But domestic production is almost entirely of medium and light tractors, and there is a net import need for heavy tractors throughout the period, amounting in the aggregate to some 50,000. Production of these heavy tractors, which are mostly tracked, could not be developed within the participating countries until nearly the end of the four-year period.

53. The net import requirement of medium and light tractors in 1947/48 is 14,000. In 1948/49 and subsequent years, through the full use of existing and new productive capacity, and provided that those countries needing tractors will make the fullest use of those produced within the participating countries, the output of medium and light tractors should fully suffice for the programmed needs of the participating countries.

54. *Other Agricultural Machinery* (including tools and implements): Production, requirements and net import requirements of other agricultural machinery are set out in Table 8.

Table 8—Requirements and Production of Other Agricultural Machinery of Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of metric tons)

	1947–48	1948–49	1949–50	1950–51
Requirements	1,472	1,596	1,655	1,612
Production	922	1,168	1,361	1,456
Net Import Requirements	550	428	294	156
Value ($ Million)	275	214	147	78

55. Total requirements over the whole period amount to over 6.3 million tons, and production to 4.9 million tons, of which France accounts for 2.1 million, United Kingdom for 1.2 million, Western Germany for 0.8 million and Italy for 0.2 million. The import requirements decline steadily through the period, but in the aggregate amount to 1.4 million tons of a total value of $715 million. Of these net imports France and Western Germany each accounts for 0.4 million tons, but nearly all the participating countries show total requirements and import requirements which are large in comparison with pre-war figures. This is, of course, attributable mainly to two factors, the actual and projected increase in mechanisation, and the fact that much of the machinery and implements now on farms is outworn and needs replacement.

56. Mechanisation has made rapid progress in the United Kingdom under the stress of war conditions and the larger agricultural output which was required from a diminished labour force. The further progress in mechanisation effected in the United Kingdom and in most other countries is attributable not only to manpower shortages—and sometimes a scarcity of draught animals—but also to the realisation that the use of machinery makes for economies in farm operations. The output of crops can be increased by full and timely cultivation and harvesting, which machinery can facilitate.

57. Farm machines and implements in most of the participating countries were exceedingly difficult to replace during the war and since, and low crop yields were no doubt to some extent attributable to the fact that farm equipment was obsolete and worn out. Replacement over the next few years is an urgent need for the larger agricultural programmes.

58. The less complicated kinds of machines and implements can largely be provided, especially in later years, from the resources of the participating countries themselves, but there is a continuing import requirement. A substantial proportion of the imports required would consist, especially towards the end of the period, of up-to-date and complicated machinery, including those for use with the imported heavy tractors.

59. The Committee has not considered, in detail, the specific requirements of a number of countries for food processing machinery (e.g. milling, oil-crushing, milk processing, sugar refining); but these have been included in the overall returns supplied by the individual countries to the Balance of Payments Committee. The absence of explicit mention here should not be taken as detracting from the importance of equipment of this kind in the production programmes of many countries. It is of special importance to such countries as Greece and Turkey which require substantial quantities but have no manufacturing capacity.

60. Mention has already been made in paragraphs 37 to 40 of certain colonial development schemes. To enable these schemes to be realised, large import requirements for tractors and other machinery as well as for fertilisers must be met. British colonial imports of tractors, which in 1946 and 1947 are about 1,000, will increase to 15,000 by 1950, a total importation of nearly 50,000 tractors being required over the next four years. Imports of other machinery will exceed $120 million in value in the same period. While a substantial proportion of these requirements can be met from the output of the United Kingdom, some of the heavier tractors and of the more complex machinery will have to be sought in the United States.

61. Requirements of agricultural tractors and other machinery into the French Union (excluding French North Africa) show a corresponding increase totalling about 6,500 tractors and about $60 million worth of other machinery in the four years ending 1951.

C. Feeding Stuffs

62. In view of the pre-war agricultural pattern of the participating countries and their present plans to re-create that pattern rapidly, it is clear that perhaps the most important problem facing the participating countries is that of securing sufficient feeding stuffs of the right kind, with which to balance domestic fodder supplies and so to make the best use of an increasing livestock population. Plans for the rehabilitation of agriculture are based, to a large extent, upon a substantial increase in supplies of coarse grains and of oilcakes and other high protein feeding stuffs. A substantial proportion of these coarse grains must be obtained, as in pre-war years, by importation; and most of the oilcake must be so obtained, either as cake or in the form of oil seeds to be crushed in Europe.

63. Imports of coarse grains and of oilcakes in 1934/38 and 1946/47 and import requirements for the ensuing four years are shown in Table 9.

Table 9—Import Requirements for Feeding Stuffs of Participating Countries, Dependent Oversea Territories and Western Germany

(Millions of metric tons)

	Coarse grains	Oilcakes *
1934–38	11.4	5.0
1946–47	4.7	1.9
1947–48	8.6	3.5
1948–49	9.9	4.4
1949–50	11.1	4.9
1950–51	11.7	5.4

* Including the oilcake content of imported oil seeds.

These are the needs if the flocks and herds are to be established by 1950/51 at the levels which the countries concerned plan to reach by that year.

D. Summary

64. To sum up, during the earlier years, the prime requisites for the achievement of the programmed production levels are substantial imports from outside the participating countries of nitrogen and feeding stuffs, and appreciable imports of agricultural machinery. For the later years, the import needs from outside for nitrogen and agricultural machinery decline, but those for feeding stuffs increase. How far these needs can be met, and what are the consequences of their not being met, are problems which are discussed in the final chapter.

CHAPTER IV

THE BALANCE SHEET FOR 1948–51

A. Introduction

65. The Committee has attempted to prepare from the information received from the participating countries a complete balance sheet of production, total requirements, import requirements and export surpluses for a number of individual commodities. For the purpose of the questionnaire which the Committee sent out these commodities were divided into two categories, A and B. Category A comprised commodities which were, and might continue to be, in short supply and which, moreover, occupied a very important place, both in tonnage and value, in the trade of all the participating countries with the rest of the world and more particularly with the Americas. Category B included a number of other important commodities, which did not, however, possess all the characteristics of those in Category A. No clear line of distinction can be drawn; but on the whole the considerations that arise in respect of the two categories are not exactly the same.

66. Category A consists of cereals, rice (the main importance of which for the purpose of the present study lies in its bearing on the cereal balance sheet), oil seeds, oils and fats, sugar, meat and livestock and oilcakes and other protein feeding stuffs. Category B includes certain milk products, eggs, fish, potatoes, fruit and vegetables, wine, tea, cocoa and coffee and finally tobacco. It is recognised that this list by no means exhausts the agricultural products which may be important for one country or another; but it was decided that all the

other agricultural products, though they had, of course, to be included in the returns submitted to the Balance of Payments Committee, were not of a character that made them suitable to be dealt with separately by this Committee.

B. Category B Products

67. So far as commodities in Category B are concerned a good deal has already been said about them in connection with intra-European trade as related to the production problems of various participating countries. Tables 10 and 11 show for some of the important commodities included in Category B total import requirements from all sources and total export surpluses.

Table 10—Import Requirements for Certain Commodities in Category B of Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of metric tons)

	1934–38 average	1946–47	1950–51
Cheese	212	229	297
Processed Milk	141	303	270
Eggs [a]	287	323	332
Tea [b]	267	215	299
Coffee [b]	500	344	473

[a] Including the shell egg equivalent of dried egg.
[b] Excluding Western Germany.

Table 11—Exports of Certain Commodities in Category B From Participating Countries and Dependent Oversea Territories

(Thousands of metric tons)

	1934–38 average	1946–47	1950–51
Cheese	127	35	145
Processed Milk	197	59	227
Eggs	177	52	223
Tea	7	12	20
Coffee	137	134	151

68. The Committee is conscious of the danger that a juxtaposition of import requirements and exports might produce very misleading results. It is not possible in all cases simply to subtract the exportable surpluses which arise within the participating countries and dependent oversea territories from those countries' import requirements. Neither from the supply nor from the financial point of view would this

always be justified. There are important factors of trade with countries outside the participating countries, resting on customary trade relations, price and cost relationships, as well as national tastes and habits, which bring about a continued import requirement from outside for a particular commodity by a particular country, notwithstanding the fact that there are exportable surpluses of that commodity available elsewhere within the participating countries.

C. Tobacco

69. Special mention may be made here of tobacco which, though not a food, has been considered by the Committee. It plays an important part in the international trade and in the balance of payments of a number of countries. Tobacco is in a somewhat special category, because not only is there a wide range of types, dependent on soil and climate, but tastes also differ markedly. The crop is grown in certain European countries, chiefly Turkey, Greece, Italy and France, and from the first two a substantial proportion is exported to a large number of countries of which Germany and the United States were formerly the most important. At the same time, participating countries as a whole are big importers of tobacco from oversea sources, mainly the United States.

70. Over the next four years the European countries envisage an increase in production of the order of 30% compared with pre-war and an even greater relative increase in exports, for which outlets in non-participating countries will be important as well as an expanding demand within the participating countries. Total consumption is expected to grow and is reflected in estimated larger imports both from certain participating countries and from overseas. The position is summarised in Table 12 in which the figures of imports represent the total imports of participating countries from all sources and the export figures the total exports from the tobacco producing countries within the area (excluding dependent oversea territories) to all destinations.

Table 12—Tobacco Position in Participating Countries and Western Germany

(Thousands of metric tons)

	1934–38 average	1946–47	1950–51
Production	225	266	290
Consumption	364	415	442
Total Imports	215	189	257
Total Exports	76	40	105

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D. Category A Products

71. The commodities in Category A, particularly cereals, have to a large extent already been discussed. Feeding stuffs were not included in the questionnaire among means of production. This was done as a matter of statistical convenience because of the possibility of substitution between coarse grains and bread grains, and the close connection in production and trade between vegetable oils and oil seeds on the one hand and oilcakes on the other. For the purpose of the discussion, however, cereals and oilcakes have been dealt with together with means of production and in relation to the agricultural production programmes. Tables 13 and 14 give, respectively, total import requirements and total exports for 1934/38 and each of the years 1946/47 and 1950/51 for other commodities included in Category A.

Table 13—Import Requirements for Certain Basic Foodstuffs of Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of metric tons)

	1934–38 average	1946–47	1950–51
Fats and Oils	3,784	1,996	4,064
Sugar	3,868	2,712	3,709
Meat	2,216	1,979	3,036

Table 14—Exports of Certain Basic Foodstuffs From Participating Countries and Dependent Oversea Territories

(Thousands of metric tons)

	1934–38 average	1946–47	1950–51
Fats and Oils	1,354	993	1,979
Sugar	1,501	1,225	1,573
Meat	572	395	630

72. Comparison of these import and export tables, like the juxtaposition of Tables 9 and 10 gives no certain indication of the changes in net imports of these commodities which must be obtained from non-participating countries. But disregarding this factor it is apparent that import requirements must remain high throughout the period, and are likely to be greater in 1950/51 than before the war for both oils and fats and meat.

73. In *meat*, some of the countries show declining import requirements as their own livestock herds are restored, while their domestic

exports, principally of pigmeat, begin to recover from 1948, fully attaining the pre-war level by the end of the period. On the other hand, the United Kingdom, the largest import market for meat, shows increasing requirements throughout the period, while Western Germany appears as an importer on a rapidly rising scale, i. e. from 12,000 to 488,000 tons between 1947/48 and 1950/51. In *fats and oils* there is a gradually rising import requirement to rather above the pre-war level but the quantity to be exported is nearly doubled. For *sugar*, only Greece, Sweden and Portugal show import requirements in 1950/51 markedly above the pre-war figures, while total import requirements for the area as a whole are less than in 1934/38. Here, also, exports increase slightly compared with pre-war.

74. The figures, generally, show that even in 1950 there will continue to be a substantial and, indeed, increasing demand for many foodstuffs to be imported into the participating countries from the rest of the world. At first sight this may seem a surprising conclusion, bearing in mind that it has been the aim of the participating countries to draw up their programme of economic activity over the period under review in such a way as to reduce their dependence on the outside world. It is, however, clear, that food or at any rate certain kinds of food, as well as certain means of agricultural production will continue to be imported from outside on a large scale. A study of the food and agriculture economy of the participating countries shows that they have on balance been substantial net importers throughout their modern history. Apart from general political and economic considerations, it would not be physically possible for them, or at any rate for some of them, to become reliant exclusively on the food resources of the group as a whole, except at the cost of a very much reduced level of food consumption and, therefore, of economic activity and standards of living generally.

E. Western Germany

75. Special mention must be made here also of *Germany*, particularly in view of the importance which must be attached in the programme of European recovery to an increase in German coal output. The plan for Western Germany assumes that by 1950/51 there will have been a very substantial increase in food consumption from the level in existence now, though the planned level would still be below pre-war, and the composition of the diet would be inferior. The present level is undoubtedly very low; the correlation between increased food supply and increased industrial output, particularly coal mining, must, therefore, be a close one.

76. Before the war, Germany was largely dependent on imported food. Western Germany produced barely half its own food supply,

and its deficit has increased sharply since the war. Agricultural production has fallen heavily, owing mainly to shortages of fertilisers and other requisites. At the same time, the population has increased by some 6½ million or 15%. As a result, Western Germany can provide its non-farm population with less than 40% of its present consumption, which with the imported food available, is about three-fifths of the target for 1950/51.

77. The authorities in Western Germany have referred to the adverse effects on production of the present low level of food consumption and have represented to the Committee that an increase in the food supply, sufficient to rebuild the working capacity of the German people, is a first requisite of increased industrial output in Germany as a necessary part in the process of European economic recovery.

78. Those figures in the tables in Appendix C which relate to Western Germany imply a twofold approach to the problem. The aim is to increase consumption and, at the same time, to increase the proportion contributed by Germany's own agriculture. Thus, in the Bi-zone the proportion is to be raised by 1950/51 to 55% of the target consumption level as compared with 39% now. This would mean restoring agricultural production at a rapid rate by means of increased utilisation of fertilisers, seeds, agricultural machinery and, beginning 1948/49, imported feeding stuffs.

79. Table 15 shows the most important items in this programme, the figures referring throughout to Western Germany as a whole.

Table 15—Food Programme for Western Germany

(Millions)

	1934–38 (average)	1946–47	1950–51
Population	43.1	49.8	52.0
Bread Grains	*M. tons*	*M. tons*	*M. tons*
Production	5.7	3.4	5.2
Import	2.2	3.1	3.7
Fodder Grains			
Production	4.9	2.9	3.8
Import	1.6	(a)	1.7
Application of Fertilisers			
Nitrogen	c 0.37	0.19	0.41
Phosphates	c 0.41	0.12	0.47
Potash	c 0.61	0.28	0.63
Production of Livestock Products			
Milk	14.8	9.6	12.3
Meat	1.9	0.8	1.1
Livestock	*No.*	*No.*	*No.*
Cattle	12.3	b 10.8	10.8
Pigs	12.3	6.5	8.2

a Imports of maize, barley, etc., used as bread grains.
b Expected level end 1947.
c Rough estimate only

80. The Committee cannot express a view on the wider implications of this programme. Even on the supply side, issues are raised which the Committee cannot resolve. From a study of the discussion on availability of supplies in the final chapter of this report, it will be seen that the problem is primarily one of cereals and feeding stuffs though it will also arise in the case of meat. In these commodities an overall shortage of supplies in relation to import requirements is probable. Substantial imports into Germany will certainly be necessary, and they will probably have to be on a rising scale. But it will be for others to decide what the actual level is to be.

F. Consumption Standards

81. The main assumption underlying the figures of total requirements of the participating countries and of import requirements within the total, is that, there should be an increase in food consumption by 1950/51. This is, in part, designed to provide for an increasing population. (See Table I in Appendix C). A summary of the population figures is given in Table 16.

Table 16—Population

(Millions)

	1934–38 (Average)	1947	1951 (Estimate)
Participating Countries	206	220	226
Western Germany	43	50	52
TOTAL	249	270	278

82. Table 17 shows total requirements of the participating countries and Western Germany for certain basic food, requirements per head of the population before the war, and in the years 1945/46 to 1950/51. The figures represent the total quantities consumed, not only as food but also for seed, animal food, technical purposes or unavoidably wasted.

Table 17—Total Requirements of Main Foods in Participating Countries and Western Germany

	1934–38 Average	1945–46	1946–47	1947–48	1948–49	1949–50	1950–51
Bread Grains:							
Million metric Tons	47.9	36.6	42.3	43.2	47.7	49.4	49.7
Kg. per Head	192.0	138.0	158.0	159.0	175.0	178.0	179.0

Table 170—Total Requirements of Main Foods in Participating Countries and Western Germany—Continued

	1934–38 Average	1945–46	1946–47	1947–48	1948–49	1949–50	1950–51
Fats and Oils:							
Million metric Tons	6.0	3.4	3.6	4.6	5.2	5.9	6.3
Kg. per Head	24.1	12.9	13.3	17.0	19.4	21.0	22.6
Meat:							
Million metric Tons	10.7	7.1	7.5	8.1	8.8	9.6	10.5
Kg. per Head	42.9	26.3	27.7	30.0	32.1	34.5	37.6
Sugar:							
Million metric Tons	6.8	4.4	5.5	5.4	6.4	6.7	7.1
Kg. per Head	27.4	16.6	20.8	20.0	23.4	24.4	25.2
Potatoes:							
Million metric Tons	58.8	43.5	50.7	61.6	65.1	66.7	68.2
Kg. per Head	236.0	163.0	190.0	228.0	238.0	242.0	243.0

83. The figures show a rising trend of consumption from current low levels, but consumption per head in 1950/51 for all these basic foods except potatoes will not have attained the pre-war level.

84. Thus, the targets of food consumption are not extravagant, particularly bearing in mind both the level of industrial production and the total framework of economic activity within which this level of food consumption is envisaged.

G. The Impact of the Programme on the Outside World

85. In the following table the net import requirements of the participating countries, their dependent oversea territories and Western Germany from all other areas are brought together. These requirements are given both in tonnage and in estimated value. In respect of certain commodities, to which further reference is made in Chapter V, the quantities used are not the full net import requirements but smaller quantities, representing estimated availabilities.

86. It is not possible to find a reliable method of estimating the cost of these requirements. In the first place, there is the difficulty of estimating the course of prices for so long a period ahead. In the second place, for many food commodities there have usually been in the past and are likely to be in the future fairly substantial variations in price as between one source of supply and another. And even in respect of those basic foodstuffs which form a substantial part of the international trade of the world, the economic dislocations of the last decade have upset the close price relationship which was a normal feature of this trade.

87. In view of these difficulties, the Committee decided to use as far as possible a single price for the whole period. For those basic commodities for which the United States is the principal or a very important supplier this has been the United States price ruling on

1st July, 1947. In respect of other commodities, current prices in the principal sources of supply have been used.

Table 18—Net Import Requirements of Participating Countries, Dependent Oversea Territories and Western Germany

(Excluding Exports and Re-exports between Participating Countries)

	Quantities (Thousands of metric tons)				Estimated Cost ($ Millions)			
	1947–48	1948–49	1949–50	1950–51	1947–48	1948–49	1949–50	1950–51
Grain [a]	20,000	25,000	25,000	25,000	1,720	2,400	2,400	2,400
Rice [a]	950	1,750	2,000	2,427	143	263	300	367
Oils and Fats [b]	2,545	2,805	3,246	3,500	1,399	1,543	1,785	1,925
Oilcake [c]	2,062	2,859	3,356	3,853	231	320	376	431
Protein Feeding Stuffs	152	160	160	162	18	19	19	19
Sugar	2,345	3,214	3,406	3,540	263	360	381	396
Meat [a]	2,119	2,108	2,065	2,063	1,060	1,054	1,033	1,032
Cheese	251	241	228	216	151	145	137	130
Processed Milk	246	212	207	211	64	55	54	55
Eggs [d]	271	267	166	124	176	174	109	81
Fresh Fruits [e]	1,290	1,609	1,748	1,896	226	282	301	323
Dried Fruits	222	279	260	186	62	78	73	52
Wine	509	452	350	316	356	316	245	221
Tea	259	274	299	299	259	274	299	299
Cocoa	321	342	365	375	193	205	219	225
Coffee	403	438	445	453	202	219	223	224
Tobacco	193	194	198	196	240	243	247	245
Nitrogen	290	229	81	----------	58	46	16	----------
Phosphate	270	222	237	188	40	33	36	28
Potash	495	607	626	658	40	49	50	53
Tractors (000 units)	30	13	12	10	78	52	48	40
Other Agricultural Machinery	550	428	294	156	275	214	147	78

[a] Estimated supply likely to be available, which is lower than import requirement.
[b] Including butter and the oil content of oil seeds.
[c] Including the cake content of oil seeds.
[d] Including dried eggs as fresh equivalent.
[e] Including canned fruit.

88. For the purpose of drawing up a Balance of Payments for all the participating countries and Western Germany an attempt had to be made to divide the total net import requirements by value according to the main areas of supply. An estimate of this kind for so long a period ahead cannot be made with a high degree of accuracy so far as each of the individual commodities is concerned. Total production and exportable surpluses in the surplus producing countries cannot be forecast with precision, nor can the demands upon their exports which will be made from non-participating countries. Table 19 below is based upon the most reliable estimates which the Committee was able to make. Many of the commodities concerned must continue to come from traditional sources, e.g. tea, coffee and cocoa largely from India, Ceylon and various oversea territories and South America; tobacco from the United States; wine from certain dependent oversea territories; the bulk of the meat supplies from South America, Australia

and New Zealand; and phosphate rock from French North Africa. For other commodities, e.g. some animal products, certain demands, developed during the war, will continue to fall upon the United States, but these demands diminish during the period as European production increases. The largest single item and the most important in the list, is cereals. The Committee estimates (see Chapter V) that there will be available during the last three years of the period for import into the participating countries on an average 25 million tons a year, as against an estimated availability in the first year of only 20 million tons, and an annual requirement throughout the period of approximately 30 million tons. The estimated increase in availability arises largely from the anticipated reappearance of traditional exportable surpluses in the U.S.S.R. and Eastern Europe. But the participating countries will continue to have to rely on the United States for from 10 to 9 million tons a year, and on the rest of the American Continent for another 8 to 10 million tons annually. In addition, the net import requirements for tractors and agricultural machinery stated in this report will have to come almost entirely from the United States, and those of nitrogen partly from the United States and partly from the rest of the American Continent.

89. Table 19 summarises in financial terms the information given above. This statement has been submitted to the Balance of Payments Committee and has been used by it in the construction of its total Balance of Payments estimate.

Table 19—Overall Balance Sheet for Participating Countries and Western Germany

(Thousands of millions of United States dollars)

	1947–48	1948–49	1949–50	1950–51
Total Import Requirements of Participating Countries and Western Germany	8.4	9.6	10.0	10.4
Exports and Re-exports between Participating Countries	1.7	1.9	2.1	2.4
Net Import	6.7	7.7	7.9	8.0
Import Requirements of Dependent Oversea Territories	0.5	0.6	0.6	0.7
Total	7.2	8.3	8.5	8.7
Available from Dependent Oversea Territories	1.4	1.5	1.6	1.7
Net Requirement from Non-Participating Countries (other than Dependent Oversea Territories)	5.8	6.8	6.9	7.0
Of Which:				
From United States	2.1	2.0	1.8	1.7
Other American Countries	1.9	2.3	2.3	2.3
Rest of World	1.8	2.5	2.8	3.0

90. As has already been pointed out above, it has been assumed here that the various unit prices which have been used will continue uniform throughout the period. It has been left to the Balance of Payments Committee to make any necessary additional assumptions regarding future price trends.

91. Some mention must be made here of the part played in the total balance sheet by the dependent oversea territories of some of the participating countries. These have import requirements from non-participating countries as well as from their mother countries and other participating countries in Europe and they are also substantial exporters to the outside world. Table 20 gives an approximate estimate of the total position.

Table 20—Balance Sheet for Dependent Oversea Territories

(Thousands of millions of United States dollars)

	1947–48	1948–49	1949–50	1950–51
EXPORTS				
Participating Countries	1.4	1.5	1.6	1.7
Other Countries	0.2	0.2	0.2	0.3
TOTAL EXPORTS	1.6	1.7	1.8	2.0
TOTAL IMPORTS	0.5	0.6	0.6	0.7
SURPLUS	1.1	1.1	1.2	1.3

92. Taking the figures given in Table 20, together with estimates made by the Committee of exports from the participating countries themselves to the rest of the world, Table 21 is the resulting picture of the net deficit.

Table 21—Net Deficit of Participating Countries, Dependent Oversea Territories and Western Germany

(Thousands of millions of United States dollars)

	1947–48	1948–49	1949–50	1950–51
Net Requirements from Non-participating Countries	5.8	6.8	6.9	7.0
Exports from Participating Countries and Dependent Oversea Territories to Rest of the World	0.7	1.0	1.3	1.6
Net Deficit	5.1	5.8	5.6	5.4

CHAPTER V

Is This Programme Possible?

A. Future Availability of Supplies

93. The replies received from the participating countries show that European agriculture can be restored within the period under review. There is no attempt at imposing a centralised plan applicable to all the countries concerned. But the achievement of the programmes of the individual countries would produce a pattern which, with due regard to the changes that have taken place, would re-establish the major features of the pre-war relation between these countries which were themselves the result of a long process of economic development. The achievement of such a pattern would be a major contribution towards the general economic recovery of Europe. In its turn, recovery in food and agriculture depends as much on the realisation of many other plans as it does on the agricultural programmes themselves.

94. The Committee has, however, considered whether the achievement of the contemplated programmes is physically within the realm of possibility. In returning its replies to the Committee's questionnaire each country has made the most realistic assumptions it could. Nevertheless the Committee is conscious of the fact that in aggregating the individual replies, estimates are needed regarding the availability of supplies if the total picture is to be realistic.

95. The Committee, therefore, has attempted to estimate the supplies available for import into participating countries, at any rate of the basic commodities and means of production involved, and to compare them with the total of import requirements. The Committee, however, was determined to avoid any suggestion that it was proposing to allocate available supplies among the different countries. It was therefore clearly understood that if availability were estimated at less than total import requirements, no suggestion would be made how the shortfall should be borne by individual countries.

96. It is impossible for so long a period ahead to forecast accurately what will be available for import into the participating countries. Agricultural production is subject to many fluctuations which cannot be foreseen. It is also extremely difficult to assess the many factors which will determine the requirements of non-participating countries (including the supplying countries) out of available world supplies and therefore the balance which will be available for the participating countries. Moreover, it will be realised that, apart from physical availability of means of production to carry through the programmes, prices and price relations must be such that producers can economically utilise the supplies that are available.

97. The Committee confined its consideration of future supplies to sugar, meat, oils and fats, fertilisers, agricultural machinery, oil-cakes, cereals and rice. Its conclusions are set out in the following paragraphs.

98. *Sugar:* The import requirements present a possible target. While there may be some shortfalls in the next year or two, supplies to meet import requirements fully should be available before the period under review is over.

99. *Meat:* In the early part of the period, availabilities seem to be nearly equal to import requirements, but a widening gap appears in the later years, due in substantial part to the emergence of requirements of Western Germany. This gap by 1950–51 may be estimated at 500,000 tons or 12% of the total. The gap would become greater still if, through non-availability of feeding stuffs, meat production in the participating countries were lower than programmed.

100. *Oils and Fats:* The position is complicated in regard to this group of commodities by the difficulty of forecasting the domestic requirements of those large oversea producing countries which have in recent years been substantial exporters. For example, the position would be very much affected were the United States to become again a net importer on a large scale. The import requirements for 1947–48 are at least 10% higher than the total allocated to the participating countries for the calendar year 1947. It is, however, possible that in the course of the period 1947–48 some part of this difference may be made up by increased supplies. The allocation for 1947 assumes an increase in the rate of shipments over that for the period 1946–47. It is not unreasonable to assume that the increase will continue as Far Eastern supplies become available in larger quantity and as colonial development schemes get under way. Such an increase would make the net import requirement possible of achievement in each year. It is, however, necessary to qualify this conclusion by emphasising that the postulated total level of requirement is very low, being even in 1950–51 below the average of the pre-war period. Bearing in mind increases in population, this means that even if the stated import requirements are met, the level of consumption will still be low.

101. *Fertilisers:* The supply of *phosphate rock* to the participating countries from French North Africa is sufficient to meet the stated import requirements. While there may be bottlenecks in the production of superphosphates, which requires pyrites and coal, ground phosphate rock is an effective substitute for some purposes. The Committee is of the view that it is reasonable to assume that there will be a balance between supplies and requirements.

102. Many countries are still experiencing difficulty in meeting their requirements of *potash* owing to lack of supplies. Output in some

of the major supplying countries is, however, expected to increase and subject to the removal of currency transport and other difficulties, it should be possible to fill stated import requirements well before the end of the period.

103. It has been shown in Chapter III that the demand for *nitrogen* in Europe will continue to increase substantially over the next few years. Whether production will keep pace with demand will depend mainly on the availability of coal, and in part on the rehabilitation of plant. It is estimated that the deficit of nitrogen in the participating countries including dependent oversea territories and Western Germany for 1947–48 amounts to 290,000 tons or 19% of the total requirement of approximately 1½ million tons. This deficiency may be increased if the production targets of Italy and Germany are not attained. Largely because of lack of coal, it is doubtful whether the deficiency could, in the time available, be made good by an increase in European production itself. The gap must therefore be covered by imports. Only approximately 70,000 tons are at present programmed for import into the participating countries from North America. If no more is made available, there will still remain a substantial deficit.

104. For the crop year 1948–49 there is an import deficit of 229,000 tons or 13% of the total requirement. This can only be met by imports from outside the participating countries.

105. For the year 1949–50, taking into account new plants now being planned, e.g. in Greece, and some unused capacity, e.g. in Austria, there will be sufficient capacity in Europe to meet almost all the requirements of the participating countries themselves, although there will still be a deficit of about 60,000 tons for dependent overseas territories. In the following year there will be an export surplus. But it will be necessary to complete the new plants as well as to rehabilitate the existing ones, particularly in Germany and Italy. In addition, a substantial increase in the amount of coal made available for nitrogen production will have to take place. Assuming on an average that six tons of coal are needed to produce one ton of nitrogen an additional one million tons of coal per annum for use in the production of nitrogen (or between 3½ and 4 million tons over the period 1947–48 to 1950–51), would render the participating countries independent of imports from the outside world by 1950–51. The calculation of nitrogen supplies in this report assumes this increased output, and account has been taken of the corresponding coal requirements by the Fuel and Power Committee. It should also be noted that coal consumption would be reduced if increased nitrogen production were to arise from hydro-electric power, in which case the ratio is 1½ tons of coal to one ton of nitrogen.

106. *Agricultural machinery:* The deficit in tractors and other machinery shown in Chapter III can, whatever the efforts for further production in Europe, in the short run only be met from outside sources. Plans for production of heavy tractors and of the machinery for use with them would take some time to mature. Additional capacity would have to be created. For some types of machines much development work is also still required. Technical information in regard to the needs of the small farmers in particular and to necessary adaptations of machines to meet European conditions, not at present sufficiently available, will have to be secured.

107. In addition to taking steps for increasing supplies of machinery, the fullest possible use must be made of existing machinery and of new machinery as it becomes available. For this purpose a number of countries have developed co-operative holding of machinery, hire to farmers of government-owned machines, work on contract and similar schemes for securing maximum output from powerful machinery. Continuation of such schemes, according to the conditions of each country, will be very important.

108. Many machines are held up by shortage of spare parts. This affects both machines in current production and older machines, particularly those formerly produced in Germany. It is very important that supplies of spare parts for these machines should be provided in adequate quantities as quickly as possible. The possibility of producing spare parts in Germany will be explored.

109. By the end of the period productive capacity in the participating countries will be sufficient to meet the greater part of current requirements, given adequate supplies of raw materials, particularly steel. Account has been taken of the appropriate steel requirement in the figures used by the Iron and Steel Committee.

110. For the whole period, there is a substantial need for imports estimated at:—

(a) 50,000 tractors of over 30 h.p. mainly tracked, value estimated at $200 million.

(b) $700 million worth of machinery, other than tractors, and of spare parts.

111. As large deliveries as possible would be needed in the earlier part of the period, the first year's requirement being of the order of 16,000 tractors of over 30 h.p. and $280 million worth of other machinery. There will also be a deficit in that year of about 14,000 light tractors which can only be met by imports from non-participating countries. The import requirements of heavy tractors and other machinery are high in relation to present world supplies and may be particularly difficult to meet quickly. Capacity, however, exists out-

side the participating countries and the supply of the necessary raw materials should not present an insuperable difficulty.

112. *Oilcake:* The total import requirement stated for the period 1947/48 is approximately 3½ million tons. The availability for the calendar year 1947, taking into account the international allocation of oilcake as such and the production of oilcake from domestic and colonial oil seeds, can be estimated at 2 million tons. There is thus a deficiency of 1½ million tons or 40% of the total import requirement. If the increase in estimated fat supplies mentioned earlier is achieved, the total supply of oilcake might rise to 4.2 million tons for the year 1950–51. This would compare with a total import requirement of 5.4 million tons, leaving a deficiency of 1.2 million tons or 20% of the total. The Committee has decided to assume an average deficiency for each year of 1.5 million tons. This deficiency has been treated in the same manner as that for cereals mentioned below.

113. *Cereals:* This is the most important item in the balance sheet, and in this case the Committee has found it particularly difficult to form a view on the future course of available supplies. Over the period, import requirements for all grains run at a roughly even rate of 30 million tons per annum, though within that total there is a decline in bread grains and an increase in cereal feeding stuffs. So far as the year 1947–48 is concerned the Committee, taking into account the discussions in the International Emergency Food Council and the Special Cereals Conference held earlier this year, has concluded that an import requirement of the participating countries of 30 million tons in 1947–48 cannot be met, notwithstanding a continuance of good harvests in North America. The Committee has, therefore, decided without prejudice to discussions on allocations, to assume a total availability for participating countries for 1947–48 of 20 million tons. This is a very low figure which, it should be emphasised, is not in any way to be taken as a reduction of the requirements presented by the countries concerned to the I.E.F.C. Indeed, in view of the serious drought in many European countries during the summer of 1947, import requirements of cereals or substitute feeding stuffs are higher than stated. Thus, there is a grave danger of a depletion of livestock, which would mean a capital loss that would greatly retard the implementation of the production programme.

114. For the remaining three years of the period the Committee has had to take into account the possibility that there may be an interruption of the exceptionally long series of record harvests oversea. On the other hand it has assumed that before the period is over certain sources of supply not now available should have reappeared, while certain demands from the outside world, e.g. the

Far Eastern countries suffering from a rice deficiency, may have declined.

115. The Committee felt that it should not attempt to forecast availabilities of cereals for import into the participating countries for each of the years 1948–49 to 1950–51. It has merely assumed that, on an average over the period, the figure will be of the order of 25 million tons per annum, this figure being about the same as the average annual import before the war. The Committee feels that it is not unreasonable to expect that this amount can be exceeded, bearing in mind the great increases in production and export which have taken place in recent years in some of the large oversea producing countries.

116. *Rice*: The stated net import requirements of rice vary between 2¼ and 2½ million tons per annum over the next four years, principally for those colonial areas in which rice bulks large as a staple food, European requirements having been kept far below the pre-war level. The Committee is aware that the exportable surpluses of the chief rice-producing countries are so reduced that shipments on this scale in the immediate future are unlikely. In 1947–48 the figures used in preparing the overall balance sheet have accordingly been scaled down substantially below the stated import requirements. The Committee has, however, felt it reasonable to assume that the gap will subsequently narrow, and that supplies may increase to a level in line with stated requirements by 1950–51.

117. The figures for estimated availability given in the foregoing paragraphs have been used in the statement of the total financial balance sheet given in Table 18 and submitted to the Balance of Payments Committee for the construction of the total balance of payments of all participating countries.

B. Consequences of a Shortage of Supplies

118. What would be the consequences for the pattern as a whole if, in the outcome, the supplies available for import into the participating countries fall short of the originally stated import requirements? In the case of foods required for direct human consumption the result must be a level of consumption lower than that which has been programmed. In the case of fertilisers, agricultural machinery, and feeding stuffs, the consequences would be more complicated and indirect.

119. So far as *fertilisers* are concerned, the position is best illustrated by reference to the effect of the use of nitrogen. By the judicious application of one ton of nitrogen the yield of grain crops can be increased by as much as 15 tons. Indeed, where nitrogen is seriously

deficient, as it is now in much of Europe, the effect of an increased application of nitrogen may be even more striking. It is therefore of the utmost importance that until production within the participating countries is sufficient to meet requirements the stated import needs should be met if the cereals requirements are not to be greatly increased.

120. The possible shortfall in *agricultural machinery*, which, on very unfavourable assumptions, might be as high as one quarter of requirements, would make the attainment of the production programme much more difficult. In the case of requirements for colonial development schemes a shortfall might have a completely crippling effect.

121. In the case of *feeding stuffs*, the consequence of a shortfall would be extremely serious. Balanced concentrated feeding stuffs (oilcakes, other proteins and cereals) are essential for winter milk production and for pigs and poultry. One million tons of concentrated feeding stuffs including a high proportion of protein are in general necessary to produce 2½ million tons of milk. One million tons of grain with a proper proportion of protein will produce about 200,000 tons of eggs or 150,000 tons of pork.

122. These figures merely illustrate the relation between input and output. It is, however, not possible even if one were to assume a specific shortfall to measure the disruptive effect on the agricultural production programmes. The incidence of such a shortfall on particular branches of agricultural production cannot be estimated without making assumptions about the allocation of available supplies to individual countries. Furthermore, even if it were known how much of each commodity involved each individual country would get, assumptions would have to be made here and now about the modifications in its agricultural programme which, in the circumstances then obtaining, each country would decide to pursue.

123. What would happen if the food and agricultural plans of the participating countries were to be seriously disrupted? These countries would then be faced with two equally undesirable alternatives. They could attempt to make good the loss of domestic production by larger imports from abroad. This course might be impossible for supply reasons; but, if the necessary supplies are available, the balance of payments would be affected. The reduced imports of means of production (which have already been taken into account in the balance of payments), would then have to be compensated by an increased outgoing in respect of the import requirements of the finished products. For reasons already given it is not possible to show the effect of such a compensation in financial terms. But in interpreting the balance of

payments statement, insofar as it relates to the commodities covered by this Committee, this possible chain of consequences must be borne in mind.

124. The other course would be for the countries to lower their consumption standards and continue to plan to achieve a balance in their external accounts by about 1951 at a lower level of food consumption. This, however, would not be the end of the story. The danger is that the lowering of the food consumption level might have so adverse an effect on the whole production effort as to start a general decline in economic activity. Instead of steady expansion and viability at a high level of economic activity and prosperity there would be a danger of a downward spiral developing in the participating countries and, therefore, inevitably in the world as a whole. The Committee feels it right to draw attention to this danger.

125. It may be asked whether the possibility of the kind of shortfall mentioned above, particularly in cereals, oilcake and nitrogenous fertilisers, is not sufficiently serious to upset substantially the realism of the production programmes of the participating countries. If a shortfall of 1½ million tons of oilcake, 5 million tons of cereals, and something of the order of 200,000 tons of nitrogenous fertilisers per annum, had to be assumed with certainty, for a part or the whole of the period under review, it might be necessary for the participating countries to review their production programmes. The consequences of this have already been touched upon.

126. The Committee is, however, of the opinion that no such certain assumption about a shortfall in supplies can or should be made, notwithstanding the fact that for the purpose of drawing up a statement in financial terms the lower figures have been used. In the first place, the Committee is of the view that these availability figures do not represent the limit of supply possibilities. Some part of any deficit in coarse grains might be made good by increased importation of substitutes, e.g. milling offals.

127. It is moreover possible that the estimates of future yields of cereals may prove conservative and that, with the far greater use of artificial fertilisers, yields may be increased to a pre-war level, and beyond, earlier than has been assumed. Alternatively a comparatively small deficit in nitrogen, with total supplies still much greater than pre-war, might not prevent pre-war yields from being obtained. The Committee concludes, therefore, that for the reasons given the substantial realism and validity of the production programme is not seriously impaired by the margin of doubt about the availability of the necessary supplies which inevitably exists when forecasts are made for so long a period ahead.

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Conclusion

128. The programme put forward by the participating countries may appear ambitious when viewed in the light of the present critical food shortages. But they are very modest when measured by absolute standards of nutrition and economic well-being. They are certainly reasonable programmes for the countries concerned to aim at if the wider aim of a steadily rising level of prosperity and all that that implies is to be achieved.

129. It is clear that only by a great effort can the programmes be realised. In that effort the participating countries will have to be assisted by others. This Committee is concerned primarily with the supply aspect. It must, therefore, draw the attention of those countries which are in a position to help to the fact that the realisation of the food and agricultural programmes will demand the continuance of that sustained effort of production for export to the participating countries which the great supplying nations overseas have undertaken during and since the war in order to assist Europe. This is especially true in the case of cereals and feeding stuffs which are basic to the recovery of European agricultural production.

130. The Committee has tried to deal in this report with all the major problems which arise within its sphere. It recognizes, however, that, within the time at its disposal, it has been impossible to analyse completely the vast amount of information supplied by the participating countries, much of it never before collected in one place.

131. The Committee feels that there is need for continued interchange of information regarding agricultural production programmes and mutual consultation on common problems in this field. The Committee is of opinion that the participating countries will need to co-operate to remove the many difficulties which will inevitably arise from unforeseen changes in production and supply conditions. The Committee considers therefore that there should be continued consultation, in association with the work of the Food and Agriculture Organisation of the United Nations, on all possible measures designed to solve these problems.

132. The Committee, therefore, notes with satisfaction that the Government of the Netherlands is prepared to convene a meeting, when requested to do so by participating countries.

APPENDIX A

Countries Represented on the Food and Agriculture Committee

The following countries were represented:—

Denmark
France
Greece
Iceland
Ireland
Italy
Netherlands
United Kingdom

The Committee also had the benefit of the advice of sub-committees on Fertilisers, Agricultural Machinery and Fish, on which were represented all participating countries interested in the respective subjects.

APPENDIX B

A Note on Statistical Methods and Problems

Statistical Method

The purpose of the original questionnaire sent to participating countries was to obtain the necessary information to enable the Committee to draw up balance sheets of resources and requirements in respect of the most important items of agricultural production and means of production for the participating countries as a whole.

For almost every commodity the following questions were asked:—

(a) production
(b) requirements
(c) import requirements
(d) exportable surpluses.

Besides these questions, some information was requested on areas under crops, livestock numbers and population figures.

So far as the exportable surpluses are concerned, countries were asked to give information about estimated quantities for export to participating countries and to non-participating countries respectively. All quantities were asked for in metric tons and all areas in hectares.

In Appendix C the following sets of tables are given:—

I. Population figures
II. Areas under crops
III. Livestock populations
IV. National production
V. Import requirements
VI. Exportable surpluses
VII. Means of production

I. *Population figures.*—The population estimates for 1951 were calculated by the Committee so that the proper comparisons with pre-war could be made where necessary.

IV. *National production.*—The national production of total fats was built up from the oil content of oilseeds, butter and animal fats. Many of the countries gave only the amount of oilseeds harvested, and the Committee had, in such cases, to estimate the average oil content of indigenous oilseed production.

V. *Import requirements.*—In the 20 tables dealing with the import requirements of the various commodities, the following method was used. To the total import requirements of the 16 participating countries and Western Germany was added the import demand of the dependent oversea territories (though only the United Kingdom and France gave these figures), giving a total import requirement. Quantities available for export and re-export from the participating countries and their dependent oversea territories to the participating countries were then deducted, giving a final total of quantities to be supplied from other countries.

For the import requirements of oilcakes, there are two sets of figures for each country. The first gives the amount of cake produced from imported oilseeds and the second the import requirement of cakes as such.

VI. *Exportable surpluses.*—In these tables only the total amount available for export has been stated.

VII. *Means of production.*—These tables have been prepared in the same way as those for import requirements. They show for each country, and for participating countries as a whole, figures of production, imports, exports and total requirements.

Statistical Problems

Owing to the extremely short time that was allowed to governments concerned to supply the figures in the questionnaire, several countries could not give all the information asked for. As a result of war circumstances some countries had no figures available for the year 1945/46. In order to obtain approximate comparability between the annual totals the Committee thought it desirable to estimate the missing fig-

ures, where possible in consultation with representatives of the countries concerned.

One of the major statistical problems the Committee had to face arose from the fact that the sum of production, import requirements and exportable surpluses, did not always check with the stated requirement, while in a number of cases one of the four factors was missing. In those cases the Committee tried, in agreement with the delegates concerned, to estimate the missing figure or figures.

After making the necessary amendments, the tables in Appendix C were built up in the same manner, i. e., production+import−export=requirement.

APPENDIX C. STATISTICAL TABLES

APPENDIX C I

TOTAL POPULATION FIGURES

(Participating Countries and Western Germany)

(Millions)

Country	Average 1934/38	1947	Estimates 1951	Population increase 1951 over 1934/38	
				in millions	in percentage
	(1)	(2)	(3)	(4)	(5)
Austria	6.7	6.9	[7.2]	0.5	7.5
Belgium	8.3	8.4	[8.6]	0.3	4
Denmark	3.7	4.2	4.3	0.6	16
France	41.9	41.4	42.1	0.2	0.5
Greece	6.9	7.6	[7.7]	0.8	12
Iceland	0.1	0.1	0.1	----------	----------
Ireland	3.0	3.0	[3.0]	----------	----------
Italy	42.6	46.6	47.5	4.9	11
Luxemburg	0.3	0.3	0.3	----------	----------
Netherlands	8.5	9.6	10.0	1.5	18
Norway	2.9	3.1	3.3	0.4	14
Portugal	7.4	8.1	8.5	1.1	15
Sweden	6.3	7.0	[7.2]	0.9	14
Switzerland	4.2	4.5	[4.7]	0.5	12
Turkey	16.4	19.4	20.5	4.1	25
United Kingdom	47.1	49.1	50.8	3.7	8
SUB-TOTAL PARTICIPATING COUNTRIES	206.3	219.3	225.8	19.5	9.4
Western Germany:					
Bi-zone	36.4	43.3	45.5	9.1	25
French Zone	5.9	5.6	[5.6]	0.3	−5
Saar	0.8	0.9	[0.9]	0.1	12
SUB-TOTAL WESTERN GERMANY	43.1	49.8	52.0	8.9	21
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	249.4	269.1	277.8	28.4	11

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C II (a)

HECTARAGE OF BREAD GRAINS (WHEAT AND RYE)

(Participating Countries and Western Germany)

(Thousands of hectares)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	617	[400]	459	405	459	500	540
Belgium	343	280	246	155	255	255	240
Denmark	273	248	229	110 [a]	223	250	250
France	5,905	[5,000]	4,481	3,740 [a]	4,940	4,790	4,750
Greece	906.7	718.4	809.2	871.6	898	918	938
Iceland							
Ireland	81	265	253	233	223	143	103
Italy	5,166	[4,900]	4,729	4,602	4,730	4,880	4,950
Luxemburg	24.6	17.8	22.6	13	19.5	20.8	23
Netherlands	350	335	347	265	280	280	280
Norway	34	51	41	42	42	42	42
Portugal	653	829	847	860	790	760	760
Sweden	503	459	460	349	445	445	440
Switzerland	88.2	111	79	109	[709]	[110]	[110]
Turkey	4,000	4,230	[5,000]	6,210	6,480	6,600	6,760
United Kingdom	758	952	856	785	849	768	801
SUB-TOTAL PARTICIPATING COUNTRIES	19,702.5	18,796.2	18,858.8	18,749.6	21,342.5	20,761.8	20,987
Western Germany:							
Bi-zone	2,440	1,960	2,075	1,942	2,150	2,300	2,440
French Zone	355.6	[300]	280.9	288	330	345	355
Saar	27.2	[20]	18.3	15.3	26.4	28	28
SUB-TOTAL WESTERN GERMANY	2,822.8	2,280	2,374.2	2,245.3	2,506.4	2,673	2,823
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	22,525.3	21,076.2	21,233.0	20,994.9	23,848.9	23,434.8	23,810

[a] Areas sown in the fall have largely been destroyed by frost.

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C II (b)

HECTARAGE OF COARSE GRAINS (BARLEY, OATS, MAIZE AND OTHER GRAINS)

(Participating Countries and Western Germany)

(Thousands of hectares)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	526	[380]	381	358	404	434	459
Belgium	294	242	261	289	280	280	295
Denmark	1,079	1,048	1,061	1,190	1,050	1,050	1,050
France	4,388	[3,200]	3,408	3,781	3,838	3,640	3,790
Greece	656.2	509	599.3	599.7	638	652	670
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	285	404	390	387	358	338	338
Italy	2,102	[2,000]	1,946	1,975	2,030	2,030	2,020
Luxemburg	29.5	24.4	25.2	31.8	28.3	29.3	30.3
Netherlands	181	198	243	234	220	220	220
Norway	152	133	129	134	133	132	132
Portugal	708	863	833	800	[800]	[800]	[800]
Sweden	1,041	944	925	995	970	975	985
Switzerland	35.2	105.5	102.4	101.9	95	[70]	[60]
Turkey	2,910	2,970	[3,500]	4,030	4,190	4,290	4,390
United Kingdom	1,389	2,594	2,523	2,482	2,448	2,306	2,206
SUB-TOTAL PARTICIPATING COUNTRIES	15,775.9	15,614.9	16,326.9	17,388.4	17,482.3	17,246.3	17,445.3
Western Germany:							
Bi-zone	2,048	1,677	1,767	1,738	1,600	1,700	1,800
French Zone	319.5	[300]	245.2	293.5	282.5	298	308.5
Saar	17	[16]	15.7	24.4	16.6	20	20
SUB-TOTAL WESTERN GERMANY	2,384.5	1,993	2,027.9	2,055.9	1,899.1	2,018	2,128.5
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	18,160.4	17,607.9	18,354.8	19,444.3	19,381.4	19,264.3	19,573.8

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C II (c)

HECTARAGE OF SUGAR BEET

(Participating Countries and Western Germany)

(Thousands of hectares)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	41	[10]	13	21	30	35	42
Belgium	50	36	44	50	50	50	50
Denmark	41	35	43	43	45	45	50
France	315	[197]	197	250	300	300	300
Greece	----	----	----	----	----	----	----
Iceland	----	----	----	----	----	----	----
Ireland	21	32	30	24	26	26	26
Italy	115	[29]	101	115	125	135	150
Luxemburg	----	----	----	----	----	----	----
Netherlands	43	18	45	50	45	45	45
Norway	----	----	----	----	----	----	----
Portugal	----	----	----	----	----	----	----
Sweden	52	55	55	48	45	45	45
Switzerland	2	6	6	6	6	[6]	[6]
Turkey	24	50	40	40	40	40	40
United Kingdom	135	167	176	162	162	162	162
SUB-TOTAL PARTICIPATING COUNTRIES	839	635	750	809	874	889	916
Western Germany:							
Bi-zone	119	86	133	138	160	170	180
French Zone	14	[8]	8	10	12	13	13
Saar	----	----	----	----	----	----	----
SUB-TOTAL WESTERN GERMANY	133	94	141	148	172	183	193
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	972	729	891	957	1,046	1,072	1,109

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C II (d)

HECTARAGE OF POTATOES

(Participating Countries and Western Germany)

(Thousands of hectares)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	206	[150]	156	139	180	200	205
Belgium	90	79	81	85	90	90	90
Denmark	79	107	103	115	115	115	115
France	1,420	[775]	775	850	950	1,025	1,100
Greece	21	26	26	27	28	29	30
Iceland	----------	[1]	[1]	[1]	[1]	[1]	[1]
Ireland	135	157	158	154	162	168	174
Italy	423	392	404	430	430	430	435
Luxemburg	15	8	8	9	10	10	12
Netherlands	130	182	203	212	220	225	225
Norway	51	65	62	58	55	55	55
Portugal	40	63	50	55	55	55	55
Sweden	132	145	143	145	140	130	125
Switzerland	48	89	83	79	75	[75]	[75]
Turkey	55	57	[57]	57	58	59	60
United Kingdom	293	566	576	567	518	465	405
SUB-TOTAL PARTICIPATING COUNTRIES	3,138	2,862	2,886	2,983	3,087	3,132	3,162
Western Germany:							
Bi-zone	942	787	898	1,050	1,125	1,175	1,250
French Zone	220	[151]	151	180	205	225	250
Saar	[15]	[14]	14	12	24	27	25
SUB-TOTAL WESTERN GERMANY	1,177	952	1,063	1,242	1,354	1,427	1,525
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	4,315	3,814	3,949	4,225	4,441	4,559	4,687

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C III (a)

LIVESTOCK POPULATION: CATTLE (INCLUDING MILK-COWS)

(Participating Countries and Western Germany)

(Thousands of heads)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	2,500	[2,100]	2,200	2,150	2,200	2,300	2,500
Belgium	1,772	1,539	1,652	1,690	1,720	1,770	1,770
Denmark	3,153	3,237	3,176	3,100	3,200	3,300	3,300
France	15,700	14,800	15,200	15,500	15,800	16,000	16,500
Greece	1,041	600	650	700	760	830	900
Iceland	35	37	38	38	38	38	38
Ireland	4,026	4,211	4,146	3,961	4,000	4,100	4,200
Italy	7,396	6,900	7,245	7,400	7,600	7,800	8,000
Luxemburg	108	109	118	120	120	122	125
Netherlands	2,686	2,277	2,410	2,500	2,750	2,900	3,000
Norway	1,343	1,280	1,221	1,210	1,260	1,310	1,360
Portugal	832	[832]	[832]	[832]	[832]	[832]	[832]
Sweden	2,986	2,912	2,871	2,910	2,910	2,975	2,975
Switzerland	1,631	1,472	1,451	1,450	1,500	[1,500]	[1,500]
Turkey	8,800	10,700	10,800	11,000	11,300	11,600	12,000
United Kingdom	8,685	9,616	9,629	9,630	9,945	10,240	10,550
SUB-TOTAL PARTICIPATING COUNTRIES	62,694	62,622	63,639	64,191	65,935	67,617	69,550
Western Germany:							
Bi-zone	10,275	9,644	9,522	8,900	8,900	8,900	8,900
French Zone	1,919	1,583	1,656	1,674	1,720	1,767	1,840
Saar	67	44	80	76	80	80	80
SUB-TOTAL WESTERN GERMANY	12,261	11,271	11,258	10,650	10,700	10,747	10,820
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	74,955	73,893	74,897	74,841	76,635	78,364	80,370

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C III (b)

LIVESTOCK POPULATION: PIGS

(Participating Countries and Western Germany)

(Thousands of heads)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	2,850	[1,300]	1,490	1,600	1,800	1,900	2,400
Belgium	1,086	735	776	825	875	925	1,000
Denmark	3,148	1,646	1,779	1,800	2,500	3,000	3,500
France	7,080	4,886	4,852	5,800	5,800	6,500	7,400
Greece	430	400	430	460	470	480	480
Iceland							
Ireland	1,000	426	479	463	400	500	1,000
Italy	2,986	3,000	3,100	3,100	3,100	3,250	3,500
Luxemburg	147.3	87	78.2	75	85	95	110
Netherlands	1,646	769	1,040	855	1,300	1,700	2,000
Norway	449	234	247	270	300	330	360
Portugal	1,177	[1,177]	[1,177]	[1,177]	[1,177]	[1,177]	[1,177]
Sweden	1,425	1,390	1,408	1,404	1,450	1,550	1,650
Switzerland	965	654	710	780	800	[800]	[800]
Turkey	3	4	4	4	4	5	6
United Kingdom	4,367	2,152	1,955	1,615	2,200	3,000	3,500
SUB-TOTAL PARTICIPATING COUNTRIES	28,759.3	18,860	19,525.2	20,228	22,261	25,212	28,883
Western Germany:							
Bi-zone	10,792	5,335	5,711	4,700	5,000	6,000	7,000
French Zone	1,436	593	756	700	847	994	1,141
Saar	94	17	59	43	70	90	95
SUB-TOTAL WESTERN GERMANY	12,322	5,945	6,526	5,443	5,917	7,084	8,236
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	41,081.3	24,805	26,051.2	25,671	28,178	32,296	37,119

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C III (c)

LIVESTOCK POPULATION: SHEEP

(Participating Countries and Western Germany)

(Thousands of heads)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	310	[400]	400	400	410	400	380
Belgium	175	177	143	142	141	140	140
Denmark	147	213	178	170	150	150	150
France	9,760	7,000	7,000	7,000	7,000	7,000	7,000
Greece	12,495	9,130	9,900	10,700	11,700	12,600	13,000
Iceland	600	532	530	540	540	540	540
Ireland	3,067	2,581	2,423	2,095	2,400	2,800	3,000
Italy	10,950	8,692	9,735	10,000	10,000	10,000	10,000
Luxemburg	6.9	8.4	10.4	10	10	11	12
Netherlands	648	489	558	500	550	600	650
Norway	1,740	1,121	1,053	1,000	1,000	1,000	1,000
Portugal	5,086	[5,086]	[5,086]	[5,086]	[5,086]	[5,086]	[5,086]
Sweden	353	435	403	403	355	355	355
Switzerland	397	401	371	370	360	[360]	[360]
Turkey	33,000	40,000	40,200	41,000	42,000	43,000	44,000
United Kingdom	25,472	20,150	20,358	15,800	19,510	20,520	21,550
SUB-TOTAL PARTICIPATING COUNTRIES	104,206.9	96,415.4	98,348.4	95,216	101,212	104,562	107,223
Western Germany:							
Bi-zone	1,878	2,064	2,040	2,100	2,100	2,100	2,100
French Zone	208	193	210	210	210	210	210
Saar	15	10	15	16	16	16	16
SUB-TOTAL WESTERN GERMANY	2,101	2,267	2,265	2,326	2,326	2,326	2,326
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	106,307.9	98,682.4	100,613.4	97,542	103,538	106,888	109,549

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C III (d)

LIVESTOCK POPULATION: HORSES

(Participating Countries and Western Germany)

(Thousands of heads)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	260	[270]	274	280	270	270	260
Belgium	251	257	262	255	250	245	240
Denmark	553	644	651	600	575	550	500
France	2,770	2,257	2,350	2,400	2,300	2,200	2,000
Greece	951	675	716	762	810	838	856
Iceland	50	59	60	60	60	60	60
Ireland	429	465	452	450	440	430	430
Italy	2,027	1,350	1,300	1,250	1,200	1,150	1,100
Luxemburg	17.3	15	16	16	17	17	17
Netherlands	293	300	305	300	295	290	280
Norway	186	233	225	210	210	210	210
Portugal	81	[81]	[81]	[81]	[81]	[81]	[81]
Sweden	633	611	584	556	523	515	510
Switzerland	140	152	147	145	145	[145]	[145]
Turkey	2,400	2,700	2,800	2,850	2,900	2,950	3,000
United Kingdom	756	586	570	565	560	555	550
SUB-TOTAL PARTICIPATING COUNTRIES	11,797.3	10,655	10,793	10,780	10,636	10,506	10,239
Western Germany:							
Bi-zone	1,395	1,350	1,418	1,450	1,450	1,450	1,450
French zone	172	150	135	137	144	151	151
Saar	9	10	13	12	13	13	13
SUB-TOTAL WESTERN GERMANY	1,576	1,510	1,566	1,599	1,607	1,614	1,614
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	13,373.3	12,165	12,359	12,379	12,243	12,120	11,853

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C III (e)

LIVESTOCK POPULATION: POULTRY

(Participating Countries and Western Germany)

(Thousands of heads)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	9,300	[4,300]	4,300	4,300	5,200	6,200	8,300
Belgium	17,000	3,575	5,484	6,500	9,000	13,000	17,000
Denmark	29,950	17,627	19,374	20,000	25,000	30,000	33,000
France [a]	171,160	162,000	165,000	168,000	170,000	175,000	180,000
Greece	11,945	7,500	9,000	12,000	13,000	14,000	14,000
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	19,780	18,314	18,276	17,107	18,250	21,000	25,000
Italy	70,000	61,000	63,000	65,000	65,000	68,000	70,000
Luxemburg	518	175	275	350	400	450	550
Netherlands	29,600	----------	10,900	19,000	27,000	33,000	34,000
Norway	3,485	1,660	2,204	3,000	3,300	3,600	3,600
Portugal	6,171	[6,171]	[6,171]	[6,171]	[6,171]	[6,171]	[6,171]
Sweden	11,192	11,911	10,910	12,000	12,000	12,000	12,000
Switzerland	5,594	5,043	5,025	5,500	5,500	[5,500]	[5,500]
Turkey	18,000	19,000	19,000	20,000	21,000	23,000	25,000
United Kingdom	78,596	62,136	67,117	70,000	96,000	128,000	144,000
SUB-TOTAL PARTICIPATING COUNTRIES	482,291	380,412	406,036	428,928	476,821	538,921	578,121
Western Germany:							
Bi-zone	47,678	23,092	23,236	26,500	26,500	26,500	26,500
French Zone	7,675	3,444	3,222	3,627	4,421	5,307	6,382
Saar	435	231	360	315	400	450	450
SUB-TOTAL WESTERN GERMANY	55,788	26,767	26,818	30,442	31,321	32,257	33,332
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	538,079	407,179	432,854	459,370	508,142	571,178	611,453

[a] The estimates for France include approximately 30,000 rabbits.

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (a)

PRODUCTION OF RAW SUGAR*

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	190	[25]	25	53	92	118	170
Belgium	237	139	232	245	240	240	240
Denmark	222	172	209	210	220	220	240
France	850	414	675	810	810	810	850
Greece	----	----	----	----	----	----	----
Iceland	----	----	----	----	----	----	----
Ireland	81	103	68	81	100	100	100
Italy	335	264	319	350	385	420	420
Luxemburg	----	----	----	----	----	----	----
Netherlands	235	59	237	245	220	220	220
Norway	----	----	----	----	----	----	----
Portugal	----	----	----	----	----	----	----
Sweden	300	294	290	240	254	257	261
Switzerland	10	25	20	20	[20]	[20]	[20]
Turkey	54	90	97	85	85	85	85
United Kingdom	432	549	607	549	549	549	549
SUB-TOTAL PARTICIPATING COUNTRIES	2,946	2,134	2,779	2,888	2,975	3,039	3,155
Western Germany:							
Bi-zone	455	305	476	512	577	625	723
French Zone	56	28	33	42	47	51	56
Saar	----	----	----	----	----	----	----
SUB-TOTAL WESTERN GERMANY	511	333	509	554	624	676	779
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	3,457	2,467	3,288	3,442	3,599	3,715	3,934

*Figures for production of bread and coarse grains will be found included in Appendices C V (a) and (b), respectively.

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (b)

TOTAL PRODUCTION OF FATS (OILS FROM OIL SEEDS, BUTTER, ANIMAL FATS)

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	77	[30]	31	39	48	58	69
Belgium	87	29	33	41	51	68	87
Denmark	197	150	152	185	206	211	210
France	336	140	170	180	295	355	410
Greece	135	110	96	142	142	156	169
Iceland	22	15	23	57	58	60	60
Ireland	80	66	61	57	62	68	76
Italy	456	302	310	376	426	423	484
Luxemburg	5	4	4	4	5	5	5
Netherlands	116	62	80	78	72	80	90
Norway	225	105	181	200	204	206	209
Portugal	84	73.5	81	116.5	[84]	121.5	87.5
Sweden	89	113	109	106	98	103	108
Switzerland	38	29	31	25	24	[24]	[24]
Turkey	190	[196]	[206]	221	235	263	282
United Kingdom	200	101	117	150	166	171	172
SUB-TOTAL PARTICIPATING COUNTRIES	2,337	1,525.5	1,685	1,977.5	2,176	2,371.5	2,542.5
Western Germany:							
Bi-zone	456	268	223	210	247	287	315
French Zone	45	49	49	46	56	62	75
Saar	----------	1	1	1	1	1	1
SUB-TOTAL WESTERN GERMANY	501	318	273	257	304	350	391
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	2,838	1,863.5	1,958	2,234.5	2,480	2,721.5	2,933.5

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (c)

PRODUCTION OF BUTTER

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	42	[18]	19	22	27	33	38
Belgium	70	22	26	32	40	55	70
Denmark	182	136	136	160	180	190	190
France	200	100	110	120	200	200	200
Greece	7	2	3	3	4	6	7
Iceland							
Ireland	63	51	48	45	49	54	60
Italy	51	35	35	36	40	45	50
Luxemburg	3	2	3	3	3	3	3
Netherlands	97	46	56	55	46	55	64
Norway	19	8	9	9	12	14	16
Portugal	3	[3]	[3]	[3]	[3]	[3]	[3]
Sweden	92	106	106	92	86	95	102
Switzerland	27	18	20	16	[15]	[15]	[15]
Turkey	85	90	100	110	120	132	145
United Kingdom	22	9	9	10	10	12	12
SUB-TOTAL PARTICIPATING COUNTRIES	963	646	683	716	835	912	975
Western Germany:							
Bi-zone	201	168	152	133	151	162	195
French Zone	29	36	35	35	38	43	52
Saar	1	1	1	1	1	1	1
SUB-TOTAL WESTERN GERMANY	231	205	188	169	190	206	248
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	1,194	851	871	885	1,025	1,118	1,223

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

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APPENDIX C IV (d)

PRODUCTION OF MEAT (BEEF AND VEAL, MUTTON, PORK, INCLUDING BACON AND POULTRY)

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	281	[110]	109	131	155	181	220
Belgium	331	143	150	186	227	272	330
Denmark	557	388	412	396	424	489	579
France	2,055	1,585	1,602	1,699	1,782	1,865	2,045
Greece	106	63	73	79	84	89	94
Iceland	5	5	7	7	7	7	7
Ireland	363	333	326	315	303	316	384
Italy	748	494	498	537	656	727	810
Luxemburg	17	9	10	11	12	13	13
Netherlands	387	123	185	202	285	331	388
Norway	101	70	75	80	87	92	100
Portugal	85	[85]	[85]	[85]	[85]	[85]	[85]
Sweden	303	264	274	273	294	313	324
Switzerland	194	122	124	120	130	[130]	[130]
Turkey	[190]	190	[190]	206	232	260	290
United Kingdom	1,411	973	944	933	1,034	1,121	1,188
SUB-TOTAL PARTICIPATING COUNTRIES	7,134	4,957	5,064	5,260	5,797	6,291	6,987
Western Germany:							
Bi-zone	1,730	672	675	620	570	770	895
French Zone	240	136	137	132	145	157	169
Saar	7	2	4	4	5	6	7
SUB-TOTAL WESTERN GERMANY	1,977	810	816	756	720	933	1,071
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	9,111	5,767	5,880	6,016	6,517	7,224	8,058

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (e)

PRODUCTION OF OILCAKES (EXCLUDING PRODUCTION FROM IMPORTED OIL SEEDS)

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	2	[2]	2	2	2	2	2
Belgium	----------	----------	----------	----------	----------	----------	----------
Denmark	----------	16	10	16	16	8	4
France	9	104	104	104	130	130	160
Greece	26	20	22	25	28	32	37
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	----------	----------	----------	----------	----------	----------	----------
Italy	3	14	27	33	33	27	22
Luxemburg	----------	----------	----------	----------	----------	----------	----------
Netherlands	5	7	5	5	5	5	5
Norway	----------	----------	----------	----------	----------	----------	----------
Portugal	1	[1]	[1]	[1]	[1]	[1]	[1]
Sweden	----------	26	19	26	19	18	18
Switzerland	0	16	11	8	5	[5]	[5]
Turkey	----------	----------	----------	60	62	63	68
United Kingdom	----------	2	----------	43	72	72	72
SUB-TOTAL PARTICIPATING COUNTRIES	46	208	201	323	373	363	394
Western Germany:							
Bi-zone	44	63	40	42	73	76	80
French Zone	----------	5	5	7	8	11	13
Saar	----------	----------	----------	1	1	1	1
SUB-TOTAL WESTERN GERMANY	44	68	45	50	82	88	94
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	90	276	246	373	455	451	488

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (f)

PRODUCTION OF PROTEIN FEEDING STUFFS

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria							
Belgium	6	4	5	5	6	6	6
Denmark	25	33	30	35	35	35	35
France	—	—	—	—	—	—	—
Greece	18	6	8	12	16	20	23
Iceland	22	13	25	64	66	68	70
Ireland	5	5	5	5	5	5	7
Italy	—	—	—	—	—	—	—
Luxemburg	—	—	—	—	—	—	—
Netherlands	17	9	10	10	15	20	25
Norway	85	57	60	60	60	65	65
Portugal	17	[17]	[17]	[17]	[17]	[17]	[17]
Sweden	5	8	10	10	10	10	10
Switzerland	—	—	—	—	—	—	—
Turkey	—	—	—	—	—	—	—
United Kingdom	132	56	67	78	90	104	117
SUB-TOTAL PARTICIPATING COUNTRIES	332	208	237	296	320	350	375
Western Germany:							
Bi-zone	83	89	89	85	85	85	85
French Zone							
Saar							
SUB-TOTAL WESTERN GERMANY	83	89	89	85	85	85	85
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	415	297	326	381	405	435	460

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (g)

PRODUCTION OF MILK

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	2,300	[1,300]	1,354	1,389	1,611	1,891	2,190
Belgium	3,100	1,150	1,800	2,300	2,700	3,000	3,100
Denmark	5,270	4,433	4,446	5,000	5,500	5,700	6,000
France	14,600	7,866	9,685	9,200	10,400	11,000	15,000
Greece	588	290	326	413	502	545	573
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	2,287	2,261	2,092	1,905	2,237	2,367	2,535
Italy	6,300	4,500	4,800	5,200	5,500	6,000	6,500
Luxemburg	140	90	125	125	135	138	145
Netherlands	5,173	3,170	3,750	4,288	4,623	4,927	5,412
Norway	1,392	1,098	1,200	1,200	1,275	1,370	1,450
Portugal	284	[284]	[284]	[284]	[284]	[284]	[284]
Sweden	4,596	4,641	4,670	4,400	4,600	4,800	4,950
Switzerland	2,804	2,120	2,160	2,150	2,150	[2,150]	[2,150]
Turkey	1,500	1,500	[1,500]	1,600	1,700	1,850	2,000
United Kingdom	7,305	7,740	7,833	8,109	8,460	8,693	8,857
SUB-TOTAL PARTICIPATING COUNTRIES	57,639	42,443	46,025	47,563	51,677	54,715	61,146
Western Germany:							
Bi-zone	12,715	8,900	8,200	8,000	8,662	9,450	10,350
French Zone	2,046	1,478	1,411	1,399	1,520	1,673	1,880
Saar	65	40	50	65	65	70	75
SUB-TOTAL WESTERN GERMANY	14,826	10,418	9,661	9,464	10,247	11,193	12,305
TOTAL PARTICIPATING COUNTRIES & WESTERN GERMANY	72,465	52,861	55,686	57,027	61,924	65,908	73,451

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (h)

PRODUCTION OF PROCESSED MILK

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria							
Belgium	5	2	3	4	4	5	6
Denmark	21	10	21	25	25	30	30
France							
Greece							
Iceland							
Ireland	10	16	17	15	21	23	25
Italy							
Luxemburg							
Netherlands	167		29	50	107	137	186
Norway	5	1	1	2	2	2	2
Portugal	1	[1]	[1]	[1]	[1]	[1]	[1]
Sweden	2	11	13	15	15	15	15
Switzerland	10	10	10	11	12	[12]	[12]
Turkey						1	1
United Kingdom	228	107	97	127	158	170	170
SUB-TOTAL PARTICIPATING COUNTRIES	449	158	192	250	345	396	448
Western Germany:							
Bi-zone	74	5	5	5	5	6	7
French Zone							
Saar							
SUB-TOTAL WESTERN GERMANY	74	5	5	5	5	6	7
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	523	163	197	255	350	402	455

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (i)

PRODUCTION OF CHEESE

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	14	----------	----------	----------	----------	----------	----------
Belgium	8	2	6	7	8	9	10
Denmark	33	48	52	55	60	62	65
France	250	90	90	95	100	135	300
Greece	54	27	33	40	47	51	53
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	2	3	3	3	3	4	5
Italy	242	112	165	200	220	235	250
Luxembourg	0.4	----------	0.1	0.2	0.3	0.4	0.5
Netherlands	121	49	66	79	102	118	139
Norway	18	8	11	11	13	17	19
Portugal	13	[13]	[13]	[13]	[13]	[13]	[13]
Sweden	34	43	48	48	48	50	50
Switzerland	51	43	42	42	41	[41]	[41]
Turkey	10	10	[10]	12	14	17	20
United Kingdom	43	25	20	25	30	33	36
SUB-TOTAL PARTICIPATING COUNTRIES	893.4	473	559.1	630.2	699.3	785.4	1001.5
Western Germany:							
Bi-zone	135	91	81	84	130	155	160
French Zone	17	15	15	15	15	15	15
Saar	----------	----------	----------	----------	----------	----------	----------
SUB-TOTAL WESTERN GERMANY	152	106	96	99	145	170	175
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	1,045.4	579	655.1	729.2	844.3	955.4	1,176.5

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (j)

PRODUCTION OF EGGS

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	38	[10]	12	14	17	27	36
Belgium	73	35	44	49	57	66	75
Denmark	120	55	68	80	100	120	130
France	365	360	365	365	374	374	376
Greece	17	11	10	13	15	16	17
Iceland							
Ireland	64	52	52	51	59	80	100
Italy	317	211	200	220	240	275	315
Luxemburg	2	1	1	2	2	2	2
Netherlands	127	22	41	75	85	122	145
Norway	21	6	7	15	17	19	20
Portugal	14	[14]	[14]	[14]	[14]	[14]	[14]
Sweden	56	60	65	65	66	67	68
Switzerland	23	13	17	19	20	[20]	[20]
Turkey	43	[43]	[43]	70	73	81	88
United Kingdom	257	166	171	194	230	283	376
SUB-TOTAL PARTICIPATING COUNTRIES	1,537	1,059	1,110	1.246	1,369	1,566	1,782
Western Germany:							
Bi-zone	214	57	56	57	57	57	57
French Zone	32	15	14	16	19	23	28
Saar	1	[1]	1	1	1	1	1
SUB-TOTAL WESTERN GERMANY	247	73	71	74	77	81	86
TOTAL PARTICIPATING COUNTRIES and WESTERN GERMANY	1,784	1,132	1,181	1,320	1,446	1,647	1,868

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (k)

PRODUCTION OF POTATOES

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	2,844	[1,000]	1,533	1,530	2,160	2,600	2,767
Belgium	2,000	1,230	1,350	1,800	2,000	2,000	2,000
Denmark	1,349	1,608	1,810	2,000	2,000	2,000	2,000
France	15,800	5,500	10,450	16,000	16,850	16,850	16,850
Greece	139	230	240	243	252	261	270
Iceland	----------	9	9	9	9	9	9
Ireland	2,588	3,038	3,302	3,009	3,156	3,380	3,503
Italy	2,820	2,342	2,600	2,600	2,700	3,000	3,100
Luxemburg	202	100	135	150	155	165	190
Netherlands	2,880	2,740	4,470	4,404	4,560	4,660	4,660
Norway	892	1,112	1,204	850	950	1,000	1,000
Portugal	600	750	800	700	700	700	700
Sweden	1,847	1,659	1,941	1,870	1,970	1,970	1,970
Switzerland	747	1,705	1,134	1,300	[1,300]	[1,300]	[1,300]
Turkey	181	217	234	228	232	236	240
United Kingdom	3,141	5,830	6,204	6,430	5,579	4,727	3,876
SUB-TOTAL PARTICIPATING COUNTRIES	38,030	29,070	37,416	43,123	44,573	44,858	44,435
Western Germany:							
Bi-zone	16,258	12,298	11,188	15,750	17,438	18,800	20,000
French Zone	3,438	1,816	1,970	2,452	2,922	3,220	3,450
Saar	----------	165	144	288	324	324	300
SUB-TOTAL WESTERN GERMANY	19,696	14,279	13,302	18,490	20,684	22,344	23,750
TOTAL PARTICIPATING COUNTRIES and WESTERN GERMANY	57,726	43,349	50,718	61,613	65,257	67,202	68,185

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (1)

PRODUCTION OF FISH

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	3	[1]	1	1	1	2	3
Belgium	54	107	110	110	100	100	100
Denmark	111	249	198	204	216	222	222
France	340	222	187	198	[250]	[300]	[300]
Greece	33	17	27	33	39	45	56
Iceland	163	262	275	330	390	440	470
Ireland	12	24	21	20	24	24	24
Italy	180	105	127	138	152	181	210
Luxemburg	----	----	----	----	----	----	----
Netherlands	127	49	144	175	180	197	213
Norway	921	323	835	1,100	950	1,000	1,000
Portugal	174	213	210	209	218	226	226
Sweden	144	204	211	211	224	225	225
Switzerland	2	3	2	2	2	[2]	[2]
Turkey	22	18	21	40	70	100	125
United Kingdom	1,039	682	962	1,118	1,168	1,270	1,321
SUB-TOTAL PARTICIPATING COUNTRIES	3,325	2,479	3,331	3,889	3,984	4,334	4,497
Western Germany:							
Bi-zone	370	150	170	172	175	175	175
French Zone	----	----	----	----	----	----	----
Saar	----	----	----	----	----	----	----
SUB-TOTAL WESTERN GERMANY	370	150	170	172	175	175	175
TOTAL PARTICIPATING COUNTRIES and WESTERN GERMANY	3,695	2,629	3,501	4,061	4,159	4,509	4,672

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (m)

PRODUCTION AND EXPORTABLE SURPLUS OF DRIED FRUITS IN THE MAIN PRODUCING COUNTRIES

(Participating Countries and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average, 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Greece:							
Production	221	112	142	223	2 34	250	262
Exports	137	1	12	123	129	140	147
Italy.							
Production	630	400	400	450	500	575	650
Exports	120	----------	----------	120	120	170	200
Portugal:							
Production	26	24	34	30	30	30	30
Exports	11	7	20	17	17	17	17
Turkey:							
Production	260	260	260	265	270	275	280
Exports	128	73	123	130	130	130	130
TOTAL MAIN PRODUCING COUNTRIES:							
Production	1,137	796	836	968	1,034	1,130	1,222
Exports	396	81	155	390	396	457	494
Available for export from dependent oversea territories	35	30	40	45	45	50	50
TOTAL EXPORTS	431	111	195	435	441	507	544
Exports to the participating countries including Western Germany	245	81	129	177	176	206	276
AVAILABLE FOR EXPORT TO OTHER COUNTRIES	186	30	66	258	265	301	268

APPENDIX C IV (n)

PRODUCTION OF TOBACCO

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	----------	----------	----------	----------	----------	----------	----------
Belgium	3	11	11	5	5	5	5
Denmark	----------	3	1	2	----------	----------	----------
France	33	24	40	28	30	35	50
Greece *	49	20	29	39	56	64	69
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	----------	----------	----------	----------	----------	----------	----------
Italy	44	44	65	70	70	70	70
Luxemburg	----------	----------	----------	----------	----------	----------	----------
Netherlands	----------	----------	----------	----------	----------	----------	----------
Norway	----------	----------	----------	----------	----------	----------	----------
Portugal	----------	----------	----------	----------	----------	----------	----------
Sweden	----------	----------	----------	----------	----------	----------	----------
Switzerland	1	3	3	3	[3]	[3]	[3]
Turkey	61	70	96	70	70	70	70
United Kingdom	----------	----------	----------	----------	----------	----------	----------
SUB-TOTAL PARTICIPATING COUNTRIES	191	175	245	217	234	247	267
Western Germany:							
Bi-zone	14	7	8	10	10	10	10
French Zone	14	13	13	13	13	13	13
Saar	----------	----------	----------	----------	----------	----------	----------
SUB-TOTAL WESTERN GERMANY	28	20	21	23	23	23	23
TOTAL	219	195	266	240	257	270	290

* Net production after allowing for losses in manufacture.

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C IV (o)

SUMMARY OF AGRICULTURAL PRODUCTION

(Participating Countries and Western Germany)

(Thousands of metric tons)

Products	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bread grains	34,040	22,451	28,281	21,361	30,160	32,728	34,025
Coarse grains	30,476	20,717	27,333	27,530	30,104	30,658	31,819
Rice	560	282	349	415	494	597	664
Fats and oils [a]	2,838	1,843	1,958	2,234	2,480	2,721	2,933
Of which butter [b]	[1,194]	[851]	[871]	[885]	[1,025]	[1,118]	[1,223]
Oil cakes	90	276	246	373	455	451	488
Protein feeding stuffs	415	297	326	381	405	435	460
Raw sugar	3,457	2,467	3,288	3,442	3,599	3,715	3,934
Meat	9,111	5,767	5,880	6,016	6,517	7,224	8,058
Milk	72,465	52,861	55,686	57,027	61,924	65,908	73,451
Processed milk	523	163	197	255	350	402	455
Cheese	1,045	579	655	729	844	955	1,176
Eggs	1,784	1,132	1,181	1,320	1,446	1,647	1,868
Fish	3,695	2,629	3,501	4,061	4,159	4,509	4,672
Potatoes	57,726	43,349	50,718	61,613	65,257	67,202	68,188
Dried fruit	1,137	796	836	968	1,034	1,130	1,222
Wine	11,615	[c] [8,000]	8,024	8,915	9,089	9,658	10,408
Tobacco	219	195	266	240	257	270	290

[a] Includes butter and the oil contents of oil seeds.
[b] Included above in oils and fats.
[c] Estimated by the Committee.

APPENDIX C V (a)

ESTIMATED PRODUCTION, TOTAL REQUIREMENTS AND IMPORT REQUIREMENTS FOR BREAD GRAINS (WHEAT AND RYE)

(Participating Countries, Western Germany and Dependent Oversea Territories)

P=Production
I=Import requirements
R=Total requirements

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	955	----------	472	464	618	723	819
	I	321	----------	468	657	651	727	635
	R	1,276	----------	940	1,121	1,269	1,450	1,454
Belgium	P	874	422	487	225	613	613	580
	I	1,285	1,099	658	1,000	1,112	1,387	1,570
	R	2,159	1,521	1,145	1,225	1,725	2,000	2,150
Denmark	P	645	591	584	175	445	590	590
	I	443	22	16	348	95	20	20
	R	1,088	613	600	523	540	610	610
France	P	8,851	4,477	7,112	3,783	7,716	8,623	8,750
	I	849	2,144	1,325	2,230	600	153	100
	R	9,700	6,621	8,437	6,013	8,316	8,776	8,850
Greece	P	811	399	786	535	890	910	930
	I	433	440	322	887	552	553	554
	R	1,244	839	1,108	1,422	1,442	1,463	1,484
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	11	12	----------	12	12	12	12
	R	11	12	----------	12	12	12	12
Ireland	P	134	437	358	337	322	207	149
	I	407	258	327	343	334	388	446
	R	541	695	685	680	656	595	595
Italy	P	7,389	4,338	6,231	4,729	5,920	6,725	7,130
	I	680	1,552	1,468	3,243	2,329	2,042	1,903
	R	8,069	5,890	7,699	7,972	8,249	8,767	9,033
Luxemburg	P	43	24	36	16	32	37	42
	I	11	20	12	28	16	14	10
	R	54	44	48	44	48	51	52
Netherlands	P	877	424	815	545	678	678	678
	I	755	922	709	1,046	1,028	1,091	1,114
	R	1,632	1,346	1,524	1,591	1,706	1,769	1,792
Norway	P	67	91	85	63	80	80	80
	I	355	430	290	387	370	370	370
	R	422	521	375	450	450	450	450
Portugal	P	584	437	560	445	510	510	510
	I	33	178	146	280	250	250	250
	R	617	615	706	725	760	760	760
Sweden	P	1,105	864	970	475	900	960	1,000
	I	----------	56	13	443	220	150	----------
	R	1,105	920	983	918	1,120	1,110	1,000
Switzerland	P	199	251	232	195	195	195	195
	I	479	480	450	449	450	450	450
	R	678	731	682	644	645	645	645
Turkey	P	4,080	4,090	4,090	3,830	4,996	5,276	5,426
	I	a −96	a −12	a −69	a −85	a −410	a −485	a −560
	R	3,984	4,078	4,021	3,745	4,586	4,791	4,866

Estimated Production, Total Requirements and Import Requirements for Bread Grains (Wheat and Rye)—Continued

P=Production.
I=Import requirements.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
United Kingdom	P	1,751	2,271	2,038	1,882	2,025	1,832	1,918
	I	5,711	4,679	4,694	5,513	5,433	5,226	5,168
	R	7,462	6,950	6,732	7,395	7,458	7,058	7,086
SUB-TOTAL FOR PARTICIPATING COUNTRIES	P	28,365	[b] 19,116	24,856	17,699	25,940	27,959	28,797
	I	11,677	[b] 12,280	10,829	16,781	13,042	12,348	12,042
	R	40,042	[b] 31,396	35,685	34,480	38,982	40,307	40,839
Western Germany:								
Bi-zone	P	4,909	2,871	3,097	3,090	3,601	4,082	4,500
	I	2,000	1,500	2,750	4,445	3,990	3,670	3,050
	R	6,909	4,371	5,847	7,535	7,591	7,752	7,550
French Zone	P	719	438	309	528	570	638	676
	I	110	291	340	598	450	530	530
	R	829	729	649	1,126	1,020	1,168	1,206
Saar	P	47	26	19	44	49	49	52
	I	98	58	61	51	96	96	94
	R	145	84	80	95	145	145	146
SUB-TOTAL WESTERN GERMANY	P	5,675	3,335	3,425	3,662	4,220	4,769	5,228
	I	2,208	1,849	3,151	5,094	4,536	4,296	3,674
	R	7,883	5,184	6,576	8,756	8,756	9,065	8,902
SUB-TOTAL EUROPE	P	34,040	[b] 22,451	28,281	21,361	30,160	32,728	34,025
	I	13,885	[b] 14,129	13,980	21,875	17,578	16,644	15,716
	R	47,925	[b] 36,580	42,261	43,236	47,738	49,372	49,741
Dependent oversea territories:								
North Africa	P	1,831	650	1,920	2,000	2,000	2,000	2,000
	I	[a] −380	1,790	115	500	500	500	500
	R	1,451	2,440	2,035	2,500	2,500	2,500	2,500
Other French dependent oversea territories	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	87	95	110	120
	R	----------	----------	----------	87	95	110	120
United Kingdom dependent oversea territories	P	----------	----------	----------	----------	----------	----------	----------
	I	434	1,192	1,252	1,315	1,381	1,450	1,522
	R	434	1,192	1,252	1,315	1,381	1,450	1,522
SUB-TOTAL DEPENDENT OVERSEA TERRITORIES	P	1,831	650	1,920	2,000	2,000	2,000	2,000
	I	54	2,982	1,367	1,902	1,976	2,060	2,142
	R	1,885	3,632	3,287	3,902	3,976	4,060	4,142
GRAND TOTAL	P	35,871	[b] 23,101	30,201	23,361	32,160	34,728	36,025
	I	13,939	[b] 17,111	15,347	23,777	19,554	18,704	17,858
	R	49,810	[b] 40,212	45,548	47,138	51,714	53,432	53,883

[a] Exportable surplus.

[b] Excluding Austria.

NOTE: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (b)

ESTIMATED PRODUCTION, TOTAL REQUIREMENTS AND IMPORT REQUIREMENTS FOR COARSE GRAINS (BARLEY, OATS, MAIZE AND MIXED GRAINS)

(Participating Countries, Western Germany and Dependent Oversea Territories)

P=Production
I=Import requirements
R=Total requirements

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	907	----------	401	406	533	647	733
	I	455	----------	----------	8	31	54	70
	R	1,362	----------	401	414	564	701	803
Belgium	P	784	487	422	625	690	690	725
	I	971	327	374	867	965	1,165	1,230
	R	1,755	814	796	1,492	1,655	1,855	1,955
Denmark	P	2,808	2,991	3,249	3,035	2,950	3,200	3,200
	I	403	17	1	542	740	590	590
	R	3,211	3,008	3,250	3,577	3,690	3,790	3,790
France	P	6,435	----------	5,063	5,228	6,365	6,087	6,480
	I	1,026	512	1,402	1,500	900	847	100
	R	7,461	512	6,465	6,728	7,265	6,934	6,580
Greece	P	593	286	475	394	614	631	649
	I	60	155	55	295	126	122	115
	R	653	441	530	689	740	753	764
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	6	16	9	9	9	9	9
	R	6	16	9	9	9	9	9
Ireland	P	695	876	693	771	714	674	674
	I	330	466	468	514	546	596	696
	R	1,025	1,342	1,161	1,285	1,260	1,270	1,370
Italy	P	3,779	1,786	2,590	2,896	3,050	3,160	3,420
	I	302	142	596	280	268	285	285
	R	4,081	1,928	3,186	3,176	3,318	3,445	3,705
Luxemburg	P	48	38	43	51	46	50	51
	I	46	16	20	25	35	41	41
	R	94	54	63	76	81	91	92
Netherlands	P	478	349	609	539	544	541	539
	I	1,294	182	356	829	1,101	1,246	1,434
	R	1,772	531	965	1,368	1,645	1,787	1,973
Norway	P	314	257	292	241	262	260	260
	I	154	49	101	150	200	200	200
	R	468	306	393	391	462	460	460
Portugal	P	437	379	650	505	500	500	500
	I	72	116	155	160	160	160	160
	R	509	495	805	665	660	660	660
Sweden	P	2,072	1,427	1,519	1,520	1,800	1,905	1,980
	I	130	579	56	284	250	250	250
	R	2,202	2,006	1,575	1,804	2,050	2,155	2,230
Switzerland	P	77	258	226	193	193	193	193
	I	459	420	450	608	650	650	650
	R	536	678	676	801	843	843	843

Estimated Production, Total Requirements and Import Requirements for Coarse Grains (Barley, Oats, Maize and Mixed Grains)—Continued

P=Production
I=Import requirements
R=Total requirements

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates 1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Turkey	P	3,220	2,880	2,880	2,610	3,494	3,690	3,834
	I	[a] −138	[a] −13	[a] −142	[a] −65	[a] −90	[a] −115	[a] −140
	R	3,082	2,867	2,738	2,545	3,404	3,575	3,694
United Kingdom	P	2,886	5,817	5,299	5,344	5,267	4,962	4,753
	I	4,308	418	548	1,724	2,661	3,137	3,602
	R	7,194	6,235	5,847	7,068	7,928	8,099	8,355
SUB-TOTAL PARTICIPATING COUNTRIES	P	25,533	[b] 17,831	24,411	24,358	27,022	27,190	27,991
	I	9,878	[b] 3,402	4,449	7,730	8,552	9,237	9,292
	R	35,411	[b] 21,233	28,860	32,088	35,574	36,427	37,283
Western Germany:								
Bi-zone	P	4,308	2,508	2,559	2,694	2,556	2,886	3,200
	I	1,560	7	43	200	700	1,210	1,715
	R	5,868	2,515	2,602	2,894	3,256	4,096	4,915
French Zone	P	605	352	341	448	492	548	596
	I	----------	----------	----------	----------	----------	----------	----------
	R	605	352	341	448	492	548	596
Saar	P	30	26	22	30	34	34	32
	I	13	----------	----------	----------	7	7	6
	R	43	26	22	30	41	41	38
SUB-TOTAL WESTERN GERMANY	P	4,943	2,886	2,922	3,172	3,082	3,468	3,828
	I	1,573	7	43	200	707	1,217	1,721
	R	6,516	2,893	2,965	3,372	3,789	4,685	5,549
SUB-TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY.	P	30,476	20,717	27,333	27,530	30,104	30,658	31,819
	I	11,451	3,409	4,492	7,930	9,259	10,454	11,013
	R	41,927	24,126	31,825	35,460	39,363	41,112	42,832
Dependent oversea territories:								
North Africa	P	2,310	540	1,840	1,900	1,900	1,900	1,900
	I	[a] −196	440	50	500	500	500	500
	R	2,114	980	1,890	2,400	2,400	2,400	2,400
Other French dependent oversea territories	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	----------	----------	----------	----------
	R	----------	----------	----------	----------	----------	----------	----------
United Kingdom dependent oversea territories	P	----------	----------	----------	----------	----------	----------	----------
	I	192	150	155	150	150	150	150
	R	192	150	155	150	150	150	150
SUB-TOTAL FRENCH AND BRITISH DEPENDENT OVERSEA TERRITORIES.	P	2,310	540	1,840	1,900	1,900	1,900	1,900
	I	[a] −4	590	205	650	650	650	650
	R	2,306	1,130	2,045	2,550	2,550	2,550	2,550
GRAND TOTAL	P	32,786	[b] 21,257	29,173	29,430	32,004	32,558	33,719
	I	11,447	[b] 3,999	4,697	8,580	9,909	11,104	11,663
	R	44,233	[b] 25,256	33,870	38,010	41,913	43,662	45,382

[a] Exportable surplus. [b] Excluding Austria.

NOTE: See, however, the discussion on available supplies in the text of the Report.

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APPENDIX C V (c)

IMPORT REQUIREMENTS FOR SUGAR

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	3	----------	16	49	69	57	58
Belgium	112	54	----------	10	100	100	100
Denmark	14	----------	1	----------	----------	----------	----------
France	[70]	[250]	[236]	25	----------	----------	----------
Greece	71	22	23	100	102	103	105
Iceland	6	5	6	6	6	6	6
Ireland	39	17	52	49	40	40	40
Italy	15	75	30	----------	----------	----------	----------
Luxemburg	9	6	8	8	9	9	9
Netherlands	147	137	71	101	140	142	167
Norway	95	70	80	90	95	100	110
Portugal	70	88	92	100	100	100	100
Sweden	16	2	10	50	96	118	114
Switzerland	160	63	108	138	168	168	168
Turkey	20	----------	----------	30	30	30	30
United Kingdom	2,206	1,194	1,611	1,375	1,802	1,966	2,130
SUB-TOTAL PARTICIPATING COUNTRIES	3,053	1,983	2,344	2,131	2,757	2,939	3,137
Western Germany:							
Bi-zone	400	16	----------	----------	273	228	164
French Zone	104	----------	10	25	15	30	30
Saar	11	4	8	8	8	8	8
SUB-TOTAL WESTERN GERMANY	515	20	18	33	296	266	202
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	3,568	2,003	2,362	2,164	3,053	3,205	3,339
Dependent oversea territories	300	350	350	360	360	370	370
Total import requirements	3,868	2,353	2,712	2,524	3,413	3,575	3,709
Less export and re-exports between participating countries	160	35	171	179	199	169	169
Net import requirement	3,708	2,318	2,541	2,345	3,214	3,406	3,540
Available from dependent oversea territories	1,002	928	844	649	965	1,094	1,232
Requirements from other countries	2,706	1,390	1,697	1,696	2,249	2,312	2,308

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C V (d)

IMPORT REQUIREMENTS FOR FATS AND OILS

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	37	----------	20	45	62	56	49
Belgium	135	81	88	200	124	137	133
Denmark	296	7	31	134	200	203	204
France	364	321	281	284	384	425	490
Greece	2	----------	1	4	3	2	----------
Iceland	2	----------	1	5	5	5	5
Ireland	15	19	19	19	19	19	19
Italy	80	8	72	115	116	154	150
Luxemburg	3	2	2	2	3	3	3
Netherlands	373	88	126	439	451	453	451
Norway	53	27	33	40	45	50	55
Portugal	28	50	50	36	28	26	26
Sweden	119	23	39	54	92	92	92
Switzerland	83	63	66	81	82	82	82
Turkey	----------	----------	----------	----------	----------	----------	----------
United Kingdom	1,446	1,015	1,027	1,315	1,431	1,655	1,760
SUB-TOTAL PARTICIPATING COUNTRIES	3,036	1,704	1,856	2,773	3,045	3,362	3,519
Western Germany:							
Bi-zone	500	3	----------	75	113	272	409
French Zone	148	----------	----------	5	4	10	10
Saar	21	6	7	7	19	19	19
SUB-TOTAL WESTERN GERMANY	669	9	7	87	136	301	438
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	3,705	1,713	1,863	2,860	3,181	3,663	3,957
Dependent oversea territories	79	131	133	107	107	107	107
Total import requirement	3,784	1,844	1,996	2,967	3,288	3,770	4,064
Less exports and re-exports between participating countries	542	135	207	422	483	524	564
Net import requirement	3,242	1,709	1,789	2,545	2,805	3,246	3,500
Available from dependent oversea territories	572	574	724	821	929	1,081	1,204
Requirements from other countries	2,670	1,135	1,065	1,724	1,876	2,165	2,296

NOTE: See, however, the discussion of available supplies in the text of the Report.

APPENDIX C V (e)

IMPORT REQUIREMENTS FOR MEAT (INCLUDING BACON)

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	46		33	13	69	85	40
Belgium	26	72	56	100	100	60	25
Denmark							
France							
Greece	30	8	35	67	64	62	59
Iceland							
Ireland							
Italy	45	18	30	40	40	40	40
Luxemburg		1					
Netherlands	11	49	21	22	28	24	5
Norway	3	13	5	1	1		
Portugal	15	[15]	[15]	[15]	[15]	[15]	[15]
Sweden		12	11	27	36	32	31
Switzerland	8	7	31	32	50	[50]	[50]
Turkey							
United Kingdom	1,706	1,426	1,698	2,096	2,144	2,192	2,242
SUB-TOTAL PARTICIPATING COUNTRIES	1,890	1,621	1,935	2,413	2,547	2,560	2,507
Western Germany:							
Bi-zone	200	12			45	176	478
French Zone	76						
Saar	10	4	4	12	11	10	10
SUB-TOTAL WESTERN GERMANY	286	16	4	12	56	186	488
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	2,176	1,637	1,939	2,425	2,603	2,746	2,995
Dependent oversea territories	40	40	40	40	40	41	41
Total import requirement	2,216	1,677	1,979	2,465	2,643	2,787	3,036
Less exports and re-exports between participating countries	520	346	375	330	360	375	536
Net import requirement	1,696	1,331	1,604	2,135	2,283	2,412	2,500
Available from dependent oversea territories							
Requirements from other countries	1,696	1,331	1,604	2,135	2,283	2,412	2,500

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (f)

IMPORT REQUIREMENTS FOR OILCAKES (INCLUDING OILCAKES CONTENT OF IMPORTED OIL SEEDS)

(Participating Countries, Western Germany and Dependent Oversea Territories)

1—From imported oil seeds
2—Imported as such
3—Total of 1 and 2

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	1	----------	----------	30	38	38	38	38
	2	35	----------	5	30	33	35	40
Belgium	1, 2	465	100	95	250	350	400	450
Denmark	1	324	23	7	184	284	292	296
	2	654	132	154	400	500	500	500
France	1	634	34	120	114	236	274	324
	2	57	119	166	280	350	300	232
Greece	1	----------	----------	----------	----------	----------	----------	----------
	2	----------	2	----------	21	12	10	7
Iceland	1	----------	----------	----------	----------	----------	----------	----------
	2	----------	----------	----------	----------	----------	----------	----------
Ireland	1	5	7	7	7	7	7	7
	2	30	40	40	40	45	50	50
Italy	1	136	7	29	148	148	170	240
	2	----------	----------	----------	----------	----------	----------	----------
Luxemburg	1	----------	----------	----------	----------	----------	----------	----------
	2	4	1	1	2	2	3	4
Netherlands	1	425	74	55	280	280	280	280
	2	158	85	97	115	197	272	337
Norway	1	50	57	60	60	60	65	165
	2	120	39	72	90	120	130	150
Portugal	1	----------	----------	----------	----------	----------	----------	----------
	2	40	40	40	40	40	40	40
Sweden	1	144	27	39	36	160	160	160
	2	137	118	89	150	129	131	134
Switzerland	1, 2	44	42	46	48	45	45	45
Turkey	1	----------	----------	----------	----------	----------	----------	----------
United Kingdom	1	1,044	520	499	658	733	902	986
	2	605	104	204	406	478	508	508
SUB-TOTAL PARTICIPATING COUNTRIES	1	2,762	749	846	1,525	1,946	2,188	2,496
	2	2,349	822	1,009	1,872	2,301	2,424	2,497
	3	5,111	1,571	1,855	3,397	4,247	4,612	4,993

Import Requirements for Oilcakes (including Oilcakes Content of Imported Oil Seeds)—Continued

1—From imported oil seeds
2—Imported as such
3—Total of 1 and 2

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
Western Germany:		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Bi-zone	1	----------	----------	----------	30	72	222	372
	2	----------	----------	----------	----------	----------	----------	----------
French Zone	1	132	82	----------	----------	----------	----------	----------
	2	----------	----------	84	80	88	96	96
Saar	1	----------	----------	----------	----------	----------	----------	----------
	2	9	----------	----------	----------	10	10	10
SUB-TOTAL WESTERN GERMANY	1	132	82	----------	30	72	222	372
	2	9	----------	84	80	98	106	106
TOTAL	1	[a] 2,894	831	846	1,555	2,018	2,410	2,868
	2	[a] 2,358	822	1,093	1,952	2,399	2,530	2,603
	3	[a] 5,252	1,653	1,939	3,507	4,417	4,940	5,471
Less exports and re-exports to participating countries	3	215	32	46	36	50	58	73
Net import requirement	3	5,037	1,621	1,893	3,471	4,367	4,882	5,398
Dependent oversea territories (export supplies):								
British dependent oversea territories	3	250	305	417	499	547	653	735
French dependent oversea territories	3	328	201	204	213	249	288	360
Portuguese dependent oversea territories		[70]	77	67	67	67	67	67
SUB-TOTAL DEPENDENT OVERSEA TERRITORIES	3	648	583	688	779	863	1,008	1,162
Less import requirement dependent oversea territories	3	18	66	65	62	59	56	53
Net exports	3	630	517	623	717	804	952	1,109
Requirements from other countries		4,407	1,104	1,270	2,754	3,563	3,930	4,289

[a] Excluding Bi-zone of Western Germany.

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (g)

IMPORT REQUIREMENTS FOR PROTEIN FEEDING STUFFS

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	----------	----------	----------	----------	----------	----------	----------
Belgium	----------	----------	----------	----------	----------	----------	----------
Denmark	6	3	6	10	10	10	10
France	----------	----------	----------	----------	----------	----------	----------
Greece	----------	----------	----------	----------	----------	----------	----------
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	5	5	5	5	5	5	3
Italy	----------	----------	----------	----------	----------	----------	----------
Luxemburg	1	----------	----------	1	1	1	1
Netherlands	37	9	12	30	36	36	36
Norway	----------	----------	----------	----------	----------	----------	----------
Portugal	----------	----------	----------	----------	----------	----------	----------
Sweden	4	3	6	5	5	5	5
Switzerland	45	61	50	85	85	[85]	[85]
Turkey	----------	----------	----------	----------	----------	----------	----------
United Kingdom	27	10	13	33	33	33	37
SUB-TOTAL PARTICIPATING COUNTRIES	125	91	92	169	175	175	177
Western Germany:							
Bi-zone	----------	----------	----------	----------	----------	----------	----------
French Zone	----------	----------	----------	----------	----------	----------	----------
Saar	2	----------	----------	----------	2	2	2
SUB-TOTAL WESTERN GERMANY	2	----------	----------	----------	2	2	2
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	127	91	92	169	177	177	179
Dependent oversea territories	----------	----------	----------	----------	----------	----------	----------
Total import deficit	127	91	92	169	177	177	179
Less exports and re-exports between participating countries	28	5	6	17	17	17	17
Net import requirement	99	86	86	152	160	160	162
Available from dependent oversea territories	----------	----------	----------	----------	----------	----------	----------
Requirements from other countries	99	86	86	152	160	160	162

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (h)

IMPORT REQUIREMENTS FOR RICE

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	31	n.a.	n.a.	5	10	20	30
Belgium	52	5	2	15	30	50	50
Denmark	11			5	10	14	14
France	500			133	48	12	20
Greece	28	3	12	31	31	31	31
Iceland	1	1	1				
Ireland	4	4	4	4	4	4	4
Italy							
Luxemburg	2			1	2	2	2
Netherlands	189			45	90	135	190
Norway	5				3	4	5
Portugal	8	33	21	12	15	15	16
Sweden	13			3	15	15	15
Switzerland	18	10	12	12	18	[18]	[18]
Turkey							
United Kingdom	121	11		29	51	76	102
SUB-TOTAL PARTICIPATING COUNTRIES	983	67	52	295	327	396	497
Western Germany:							
Bi-zone	76				20	40	60
French Zone	15						
Saar	5				5	5	5
SUB-TOTAL WESTERN GERMANY	96				25	45	65
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	1,079	67	52	295	352	441	562
Dependent oversea territories	1,423	882	861	1,973	2,085	2,129	2,044
Total import requirement	2,502	949	913	2,268	2,437	2,570	2,606
Less exports and re-exports between participating countries	127			16	72	143	195
Net import requirement	2,375	949	913	2,252	2,365	2,427	2,411
Available from dependent oversea territories							
Requirements from other countries	2,375	949	913	2,252	2,365	2,427	2,411

n. a.=not available.

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (i)

IMPORT REQUIREMENTS FOR PROCESSED MILK

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria							
Belgium	5	25	12	15	16	15	14
Denmark							
France	18		25				
Greece	2	13	51	13	7	5	4
Iceland							
Ireland							
Italy		170	10				
Luxemburg							
Netherlands		22					
Norway		3					
Portugal							
Sweden							
Switzerland				1	1	1	1
Turkey							
United Kingdom	104	71	169	205	183	160	160
SUB-TOTAL PARTICIPATING COUNTRIES	129	304	267	234	207	181	179
Western Germany:							
Bi-zone	8	28	21	33	31	62	75
French Zone		2	2	2	2	2	2
Saar							
SUB-TOTAL WESTERN GERMANY	8	30	23	35	33	64	77
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	137	334	290	269	240	245	256
Dependent oversea territories	4	13	13	13.5	13.5	14	14
Total import requirement	141	347	303	282.5	253.5	259	270
Less exports and re-exports between participating countries	104	21	30	36	41	52	59
Net import requirement	37	326	273	246.5	212.5	207	211
Available from dependent oversea territories							
Requirements from other countries	37	326	273	246.5	212.5	207	211

NOTE: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (j)

IMPORT REQUIREMENTS FOR CHEESE

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria							
Belgium	23	17	7	20	25	25	25
Denmark							
France							
Greece	1		7	27	21	18	17
Iceland							
Ireland							
Italy							
Luxemburg							
Netherlands		6					
Norway		3	1	1			
Portugal							
Sweden	1	1	2	2			
Switzerland	2	1	1	1	1	1	1
Turkey							
United Kingdom	144	197	196	218	224	228	231
SUB-TOTAL PARTICIPATING COUNTRIES	171	225	214	269	271	272	274
Western Germany:							
Bi-zone							
French Zone	23						
Saar	8	3	2	2	8	8	8
SUB-TOTAL WESTERN GERMANY	31	3	2	2	8	8	8
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	202	228	216	271	279	280	282
Dependent oversea territories	10	13	13	14	14	14	15
Total import requirement	212	241	229	285	293	294	297
Less exports and re-exports between participating countries	77	8	19	34	52	66	81
Net import requirement	135	233	210	251	241	228	216
Available from dependent oversea territories							
Requirement from other countries	135	233	210	251	241	228	216

NOTE: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (k)

IMPORT REQUIREMENTS FOR EGGS

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	5			5	26	16	7
Belgium	1	1					
Denmark							
France							
Greece	1			7	5	4	4
Iceland							
Ireland							
Italy	10	7					
Luxemburg	1		0.4	0.5	0.2	0.3	0.4
Netherlands		7.2					
Norway		1	1	2	2	2	2
Portugal							
Sweden		3	5				
Switzerland	15	15	15	16	16	16	16
Turkey			1				
United Kingdom	207	[300]	[300]	[a] 305	[a] 297	[a] 284	[a] 302
SUB-TOTAL PARTICIPATING COUNTRIES	240	334.2	322.4	335.5	346.2	322.3	331.4
Western Germany:							
Bi-zone	45						
French Zone							
Saar	2		1			1	1
SUB-TOTAL WESTERN GERMANY	47		1			1	1
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	287	334.2	323.4	335.5	346.2	323.3	332.4
Dependent oversea territories							
Total import requirement	287	334.2	323.4	335.5	346.2	323.3	332.4
Less exports and re-exports between participating countries	137	27	35	66	79	157	208
Net import requirement	150	307.2	288.4	269.5	267.2	166.3	124.4
Available from dependent oversea territories							
Requirements from other countries	150	307.2	288.4	269.5	267.2	166.3	124.4

[a] Including dried eggs (as shell eggs equivalent).

NOTE 1: See, however, the discussion on available supplies in the text of the Report.

NOTE 2: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C V (1)

IMPORT REQUIREMENTS FOR POTATOES

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	20	[a] n.a.	36		20	15	15
Belgium	90	107	13	100	100	100	100
Denmark							
France							
Greece	2	1	17	7	6	4	2
Iceland	1	1	1	1	1	2	2
Ireland							
Italy	50	50	30	50	50	50	50
Luxemburg							
Netherlands	5				5	5	5
Norway		2					
Portugal				100	100	100	100
Sweden	5						
Switzerland	24	11	74	50	30	30	30
Turkey							
United Kingdom	203	1	121				
SUB-TOTAL PARTICIPATING COUNTRIES	400	173	292	308	312	306	304
Western Germany:							
Bi-zone	1,000	259	279	125	300		
French Zone							
Saar		71	95	105			
SUB-TOTAL WESTERN GERMANY	1,000	330	374	230	300		
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	1,400	503	666	538	612	306	304
Dependent oversea territories							
Total import requirement	1,400	503	666	538	612	306	304
Less exports and re-exports between participating countries	281	378	640	759	774	793	817
Net import requirement	1,119	125	26				
Available from dependent oversea territories							
Requirements from other countries	1,119	125	26				

([a]) n.a.=Not available.

NOTE: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (m)

IMPORT REQUIREMENTS FOR FRESH FRUITS

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	92		2	30	40	50	50
Belgium	170			170	170	170	170
Denmark	20	19	6	12	16	20	22
France	508						
Greece							
Iceland		3	3	1	1		
Ireland	36	36	36	35	35	35	35
Italy							
Luxemburg	4	4	4	4	4	4	4
Netherlands	120	20	65	100	135	165	195
Norway	40	18	29	35	40	45	50
Portugal							
Sweden	78	145	160	75	150	155	160
Switzerland	47	41	36	40	40	40	40
Turkey							
United Kingdom	1,677	427	960	1,786	2,074	2,274	2,280
SUB-TOTAL PARTICIPATING COUNTRIES	2,792	713	1,301	2,288	2,705	2,958	3,006
Western Germany:							
Bi-zone					100	200	400
French Zone							
Saar		3	3	3	6	3	2
SUB-TOTAL WESTERN GERMANY		3	3	3	106	203	402
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	2,792	716	1,304	2,291	2,811	3,161	3,408
Dependent oversea territories							
Total import requirement	2,792	716	1,304	2,291	2,811	3,161	3,408
Less exports and re-exports between participating countries	543	[100]	124	1,001	1,202	1,413	1,512
Net import requirement	2,249	[616]	1,180	1,290	1,609	1,748	1,896
Available from dependent oversea territories	555	[300]	494	707	753	794	808
Requirements from other countries	1,694	[316]	686	583	856	954	1,088

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (n)

IMPORT REQUIREMENTS FOR DRIED FRUIT

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	21	----	2	10	15	20	20
Belgium	----	----	----	----	----	----	----
Denmark	10	----	1	4	8	10	11
France	----	----	----	----	----	----	----
Greece	----	----	----	----	----	----	----
Iceland	----	----	3	1	1	----	----
Ireland	9	10	10	10	10	10	10
Italy	----	----	----	----	1	----	----
Luxemburg	1	----	1	----	----	1	1
Netherlands	65	10	10	40	60	75	80
Norway	6	5	1	6	6	7	7
Portugal	----	----	----	----	----	----	----
Sweden	21	19	36	15	25	25	25
Switzerland *	----	----	----	----	----	----	----
Turkey	----	----	----	----	----	----	----
United Kingdom	178	144	193	213	229	218	208
SUB-TOTAL PARTICIPATING COUNTRIES	311	188	257	299	355	366	362
Western Germany:							
Bi-zone	n.a.	----	----	100	100	100	100
French Zone	----	----	----	----	----	----	----
Saar	----	----	----	----	----	----	----
SUB-TOTAL WESTERN GERMANY	----	----	----	100	100	100	100
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	311	188	257	399	455	466	462
Dependent oversea territories	----	----	----	----	----	----	----
Total import requirement	311	188	257	399	455	466	462
Less exports and re-exports between participating countries	245	81	129	177	176	206	276
Net import requirement	66	107	128	222	279	260	186
Available from dependent oversea territories	35	30	40	45	45	50	50
Requirement from other countries	31	77	88	177	234	210	136

n.a. Not available.

* Included in fresh fruits.

NOTE: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (o)

IMPORT REQUIREMENTS FOR VEGETABLES

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	30	----------	19	50	20	10	10
Belgium	139	----------	----------	150	100	140	140
Denmark	6	3	1	2	3	4	5
France	----------	----------	----------	----------	----------	----------	----------
Greece	19	1	7	5	4	3	2
Iceland	1	1	2	2	2	2	2
Ireland	10	20	20	10	10	10	10
Italy	----------	----------	----------	----------	----------	----------	----------
Luxemburg	5	3	4	4	5	5	5
Netherlands	10	2	10	12	14	16	18
Norway	6	3	5	1	1	1	1
Portugal	----------	----------	----------	----------	----------	----------	----------
Sweden	6	4	5	5	6	7	8
Switzerland	53	5	20	35	35	35	35
Turkey	----------	----------	----------	----------	----------	----------	----------
United Kingdom	495	94	395	552	543	582	587
SUB-TOTAL PARTICIPATING COUNTRIES	780	136	488	828	743	815	823
Western Germany:							
Bi-zone	400	263	322	200	200	225	250
French Zone	15	----------	10	14	21	34	34
Saar	[30]	6	32	38	38	38	38
SUB-TOTAL WESTERN GERMANY	445	269	364	252	259	297	322
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	1,225	405	852	1,080	1,002	1,112	1,145
Dependent oversea territories	----------	----------	----------	----------	----------	----------	----------
Total import requirement [a]	1,225	405	852	1,080	1,002	1,112	[a] 1,145

[a] Whole import requirement met from participating countries.

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (p)

IMPORT REQUIREMENTS FOR FISH

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	7	----------	14	14	14	9	9
Belgium	74	15	10	60	60	60	60
Denmark	24	2	3	7	7	7	7
France	32	16	21	[25]	[25]	[25]	[25]
Greece	20	23	9	19	18	17	16
Iceland	----------	----------	----------	----------	----------	----------	----------
Ireland	3	----------	----------	----------	----------	----------	----------
Italy	75	28	30	40	50	53	59
Luxemburg	1	1	1	2	2	2	2
Netherlands	7	----------	2	7	7	7	7
Norway	----------	----------	----------	----------	----------	----------	----------
Portugal	40	----------	21	36	27	19	19
Sweden	50	22	24	20	20	[20]	[20]
Switzerland	6	3.5	5	6	5	[5]	[5]
Turkey	----------	----------	----------	----------	----------	----------	----------
United Kingdom	217	365	273	346	348	352	356
SUB-TOTAL PARTICIPATING COUNTRIES	556	475.5	413	582	583	576	585
Western Germany:							
Bi-zone	130	100	175	150	150	150	150
French Zone	60	----------	10	18	18	35	[35]
Saar	23	----------	4	14	[14]	[14]	[14]
SUB-TOTAL WESTERN GERMANY	213	100	189	182	182	199	199
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	769	575.5	602	764	765	775	784
Dependent oversea territories	145	79	82	82	82	82	82
Total import requirement [a]	914	654.5	684	846	847	857	866

[a] Whole imiport requirement met from participating countries.

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (q)

IMPORT REQUIREMENTS FOR COFFEE

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	5.0	[a] n.a.		3.0	3.0	4.0	5.0
Belgium	50.0	41.0	59.0	50.0	50.0	50.0	50.0
Denmark	28.0	10.0	12.0	20.0	30.0	34.0	34.0
France	190.0	25.0	80.0	80.0	[80.0]	[80.0]	[80.0]
Greece	6.3	0.8	3.6	8.0	8.1	8.2	8.3
Iceland	(b)	(b)	(b)	[c] 1.0	[d] 1.0	[1.0]	[1.0]
Ireland	0.3	1.0	1.0	0.8	0.8	0.8	0.8
Italy	38.0			35.0	40.0	42.0	45.0
Luxemburg	2.0	1.0	2.0	2.0	2.0	2.0	2.0
Netherlands	42.0	9.0	22.0	45.0	45.0	45.0	45.0
Norway	18.0	11.0	16.0	15.0	16.0	18.0	20.0
Portugal	6.0	7.0	7.0	7.0	7.0	7.0	7.0
Sweden	48.0	46.0	48.0	35.0	50.0	50.0	50.0
Switzerland	17.3	16.8	16.8	16.8	16.8	[16.8]	[16.8]
Turkey	5.0	4.0	4.0	6.0	6.0	7.0	7.0
United Kingdom	22.0	52.0	38.0	61.0	66.0	66.0	66.0
SUB-TOTAL PARTICIPATING COUNTRIES	477.9	224.6	309.4	385.6	421.7	431.8	437.9
Western Germany:							
Bi-zone							
French Zone							
Saar							
SUB-TOTAL WESTERN GERMANY							
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	477.9	224.6	309.4	385.6	421.7	431.8	437.9
Dependent oversea territories	22.0	35.0	35.0	35.0	35.0	35.0	35.0
Requirement	499.9	259.6	344.4	420.6	456.7	466.8	472.9
Less exports and re-exports between participating countries	18.0	12.0	16.0	15.0	16.0	18.0	20.0
Net import requirement	481.9	247.6	328.4	405.6	440.7	448.8	452.9
Available from dependent oversea territories	119.0	117.0	118.0	121.0	121.0	126.0	131.0
Requirements from other countries	362.9	130.6	210.4	284.6	319.7	322.8	321.9

[a] n.a. = Not available. [b] Included in cocoa. [c] 1947. [d] 1948.

NOTE 1: See, however, the discussion on available supplies in the text of the Report.

NOTE 2: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

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APPENDIX C V (r)

IMPORT REQUIREMENTS FOR TEA

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	0.4			0.1	0.2	0.3	0.4
Belgium	0.2	0.25	0.25	0.3	0.3	0.3	0.3
Denmark	0.6	0.4	0.5	0.6	0.7	0.7	0.7
France	1.4		0.5	0.5	0.5	1.4	1.4
Greece	0.4	1.0	0.4	0.5	0.5	0.5	0.5
Iceland				0.02	0.02	[0.02]	[0.02]
Ireland	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Italy							
Luxemburg							
Netherlands	13.0	6.0	6.0	14.0	14.0	14.0	14.0
Norway	0.2	0.1	0.2	0.2	0.2	0.2	0.2
Portugal							
Sweden	0.5	0.5	0.5	0.3	0.5	0.5	0.5
Switzerland	0.8	0.8	0.7	0.7	0.7	[0.7]	[0.7]
Turkey	0.9		0.8	1.0	1.0	0.9	0.8
United Kingdom	225.0	165.0	181.0	217.0	232.0	256.0	256.0
SUB-TOTAL PARTICIPATING COUNTRIES	254.4	185.05	201.85	246.22	261.62	286.52	286.52
Western Germany:							
Bi-zone	[a] n.a.						
French Zone	n.a.						
Saar	n.a.						
SUB-TOTAL WESTERN GERMANY	n.a[a]						
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	254.4	185.05	201.85	246.22	261.62	286.52	286.52
Dependent oversea territories	13	13	13	13	13	13	13
Total import requirement	267.4	198.05	214.85	259.22	274.62	299.52	299.52
Less exports and re-exports between participating countries							
Net import requirement	267.4	198.05	214.85	259.22	274.62	299.52	299.52
Available from dependent oversea territories	7	12	12	9	13	16	16
Requirements from other countries	260.4	186.05	202.85	250.22	261.62	283.52	283.52

[a] n.a.=Not available.

NOTE 1. Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (s)

IMPORT REQUIREMENTS FOR COCOA

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	6	[6]	[6]	6	6	6	6
Belgium	15	16	21	20	20	20	20
Denmark	4.3	3.3	5.4	5	6	7	7
France	42	37	40	45	50	60	60
Greece	1.5	0.5	1.6	2.2	2.3	2.3	2.4
Iceland	0.2	0.2	0.2	0.2	0.2	---	---
Ireland	1.7	2.3	2.3	2.5	2.5	2.5	2.5
Italy	8.5	---	---	10	10	12	12
Luxemburg	0.6	0.3	0.6	0.6	0.7	0.7	0.7
Netherlands	72	40	34	80	80	80	80
Norway	4	3	5	5	5	5	5
Portugal	---	---	---	---	---	---	---
Sweden	6	10	7	6	10	10	10
Switzerland	10.3	10	12.1	12.1	13	[13]	[13]
Turkey	0.1	0.2	0.3	0.3	0.4	0.4	0.4
United Kingdom	104	99	129	122	132	142	152
SUB-TOTAL PARTICIPATING COUNTRIES	276.2	227.8	264.5	316.9	338.1	360.9	371
Western Germany:							
Bi-zone	---	---	---	---	---	---	---
French Zone	6	---	---	---	---	---	---
Saar	0.5	---	---	---	---	---	---
SUB-TOTAL WESTERN GERMANY	6.5	---	---	---	---	---	---
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	282.7	227.8	264.5	316.9	338.1	360.9	371
Dependent oversea territories	3	4	4	4	4	4	4
Total import requirement	285.7	231.8	268.5	320.9	342.1	364.9	375
Less exports and re-exports between participating countries	---	---	---	---	---	---	---
Net import requirement	285.7	231.8	268.5	320.9	342.1	364.9	375.0
Available from dependent oversea territories [a]	479	389	400	393	395	400	405
Requirements from other countries	---	---	---	---	---	---	---

[a] Total exports from dependent oversea territories.

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (t)

IMPORT REQUIREMENTS FOR WINE

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of hectolitres)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	59	[25]	[25]	25	30	30	30
Belgium	35	30	38	35	35	35	35
Denmark	55	14	38	10	50	50	50
France	12,000	800	6,000	6,000	6,000	6,000	6,000
Greece							
Iceland	1	1	2	2	2	2	2
Ireland	23	25	25	30	35	35	35
Italy							
Luxemburg	1	1				1	1
Netherlands	920	480	570	1,170	1,200	1,230	1,250
Norway	47	8	38	[38]	[38]	[38]	[38]
Portugal							
Sweden	51	80	80	60	60	60	60
Switzerland	948	795	1,272	1,100	1,100	[1,100]	[1,100]
Turkey							
United Kingdom	750	190	510	990	830	820	820
SUB-TOTAL PARTICIPATING COUNTRIES	14,890	2,449	8,598	9,460	9,380	9,401	9,421
Western Germany:							
Bi-zone							
French Zone							
Saar	30		48	50			
SUB-TOTAL WESTERN GERMANY	30		48	50			
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	14,920	2,449	8,646	9,510	9,380	9,401	9,421
Dependent oversea territories							
Total import requirement	14,920	2,449	8,646	9,510	9,380	9,401	9,421
Less exports and re-exports between participating countries	5,415	1,457	3,256	4,401	4,862	5,899	6,248
Net import requirement	9,505	992	5,390	5,109	4,518	3,502	3,173
Available from dependent oversea territories	12,000	6,000	6,000	6,000	6,000	6,000	7,000
Requirements from other countries							

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C V (u)

IMPORT REQUIREMENTS FOR TOBACCO

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons)

Country	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	12	[2]	4	6	7	9	9
Belgium	18	3	16	25	25	25	25
Denmark	8	7	14	10	10	10	10
France *	----	----	----	----	----	----	----
Greece	----	----	----	----	----	----	----
Iceland	----	----	----	----	----	----	----
Ireland	4	5	5	6	6	6	6
Italy	----	----	----	----	5	4	3
Luxemburg	2	1	2	2	2	2	2
Netherlands	28	[10]	20	27	30	33	33
Norway	3	5.	5	5	5	5	5
Portugal	2.5	3	4	4	5	5	5
Sweden	6	7	7	8	8	9	9
Switzerland	7	7	9	10	10	[10]	[10]
Turkey	----	----	----	----	----	----	----
United Kingdom	124	157	103	134	134	140	140
SUB-TOTAL PARTICIPATING COUNTRIES	214.5	207	189	237	247	258	257
Western Germany:							
Bi-zone	----	----	----	----	----	----	----
French Zone	----	----	----	----	----	----	----
Saar	----	----	----	----	----	----	----
SUB-TOTAL WESTERN GERMANY	----	----	----	----	----	----	----
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	214.5	207	189	237	247	258	257
Dependent oversea territories	----	----	----	----	----	----	----
Total import requirement	214.5	207	189	237	247	258	257
Less exports and re-exports between participating countries	28	27	31	44	53	60	61
Net import requirement	186.5	180	158	193	194	198	196
Requirement dependent oversea territories	27	33	28	26	26	26	26
Requirements from other countries	159.5	147	130	167	168	172	170

* As no figures for import and export of tobacco were available, the French Delegation estimated that the import of tobacco equalled the export of same.

NOTE 1: Figures in brackets were estimated by the Committee to obtain approximate comparability of totals.

NOTE 2: See, however, the discussion on available supplies in the text of the Report.

APPENDIX C VI (a)

EXPORTS OF EUROPEAN COUNTRIES TO PARTICIPATING COUNTRIES

(Thousands of metric tons)

Products	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Grain							
Rice	127			16	72	143	195
Oils & Fats (including butter)	542	135	207	422	483	524	564
Oil-cakes	215	32	46	36	50	58	73
Protein feeding-stuffs	28	5	6	17	17	17	17
Sugar	160	35	71	179	199	169	169
Meat	520	346	375	330	360	375	536
Cheese	77	8	19	34	52	66	81
Processed milk	104	21	30	36	41	52	59
Eggs	137	27	35	66	79	157	208
Fish [a]	[924]	[654]	[684]	[846]	[847]	[857]	[866]
Potatoes	281	378	640	759	774	793	817
Vegetables [a]	[1,225]	[405]	[852]	[1,080]	[1,002]	[1,112]	[1,145]
Fresh Fruit	543	[100]	124	1,001	1,202	1,413	1,512
Dried Fruit	245	81	129	177	176	206	276
Wine	541	146	326	440	486	590	625
Tea							
Cocoa							
Coffee	18	12	16	15	16	18	20
Tobacco	28	27	31	44	53	60	61
Nitrogen	[b] 190	[b] 162	203	184	291	399	495
Phosphates	[b] 224	[b] 21	180	234	305	315	320
Potash	[b] 195	[b] 200	250	250	200	200	200
Tractors [c]	7	8	18	32	47	36	30
Other agricultural machinery	35	21	33	124	168	214	270

[a] These figures are equal to the import requirements previously given (Appendix C, V (o) and (p), seeing that the Committee was of opinion that the whole import requirements could be met from participating countries.

[b] Excluding Western Germany.

[c] Thousand units.

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C VI (b)

EXPORTS OF EUROPEAN COUNTRIES TO NON-PARTICIPATING COUNTRIES

(Thousands of metric tons)

Products	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Grain							
Rice							
Oils and fats (including butter)	240	30	62	198	196	204	211
Oil-cakes							
Protein feeding stuffs							
Sugar	39	10	10	23	23	28	38
Meat	52	7	20	29	48	84	94
Cheese	50		16	23	35	52	64
Processed milk	93		29	48	100	126	168
Eggs	40		17	11	29	23	15
Fish	725		392	721	777	979	1,061
Potatoes							
Vegetables							
Fresh fruit	609		426	99	266	375	399
Dried fruit	151		84	213	220	251	218
Wine	249	703	45	89	148	249	382
Tea							
Cocoa							
Coffee							
Tobacco	48	11	9	27	37	38	44
Nitrogen	24						182
Phosphates							
Potash							
Tractors [a]				19	98	168	197
Other agricultural machinery				50	75	100	125

[a] Thousand units.

APPENDIX C VI (c)

TOTAL EXPORT SURPLUSES OF DEPENDENT OVERSEA TERRITORIES

(Thousands of metric tons)

Products	Average 1934/38	1945/46	1946/47	Estimates			
				1947/48	1948/49	1949/50	1950/51
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fats, oils	572	574	724	821	929	1,081	1,204
Oil-cakes	648	583	688	779	863	1,008	1,162
Protein feeding-stuffs							
Sugar	1,302	1,228	1,144	1,185	1,266	1,294	1,366
Meat							
Bread grains	380						
Coarse grains	196						
Rice							
Cheese							
Processed milk							
Eggs							
Fish							
Potatoes							
Vegetables							
Fresh fruit	735	277	529	757	843	914	958
Dried fruit	35	30	40	45	45	50	50
Wine	1,200	600	600	600	600	600	700
Tea	7	12	12	15	18	20	20
Cocoa	479	389	400	393	395	400	405
Coffee	119	117	118	121	121	126	131
Tobacco	27	33	28	26	26	26	26
Nitrogen							
Phosphates [a]	3,440	4,430	4,680	4,930	5,420	5,920	6,420
Potash							
Tractors							
Other agricultural machinery							

[a] Phosphate rock = Phosphate naturel.

APPENDIX C VII (a)

PRODUCTION, IMPORT, EXPORT AND REQUIREMENTS FOR NITROGEN

(Participating Countries, Western Germany and Dependent Oversea Territories)

P=Production.
I=Import requirement.
E=Exportable surplus.
R=Total requirement.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	1.2	----------	6.0	24.0	26.5	29.0	31.0
	I	5.8	----------	1.6	1.0	1.0	1.2	1.4
	R	7.0	----------	7.6	25.0	27.5	30.2	32.4
Belgium	P	60.0	85.0	135.0	145.0	155.0	165.0	175.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	----------	5.0	45.0	45.0	45.0	55.0	50.0
	R	60.0	80.0	90.0	100.0	110.0	110.0	125.0
Denmark	P	----------	----------	----------	----------	----------	----------	----------
	I	37.9	37.3	43.0	47.0	39.0	39.0	39.0
	R	37.9	37.3	43.0	47.0	39.0	39.0	39.0
France	P	150.0	92.0	150.0	190.0	220.0	250.0	350.0
	I	90.0	93.0	56.0	59.0	180.0	200.0	150.0
	R	240.0	185.0	206.0	249.0	400.0	450.0	500.0
Greece	P	----------	----------	----------	----------	----------	30.0	40.0
	I	7.0	4.4	11.0	25.0	35.0	10.0	10.0
	R	7.0	4.4	11.0	25.0	35.0	40.0	50.0
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	1.8	3.2	4.5	3.0	2.3	2.6	2.9
	R	1.8	3.2	4.5	3.0	2.3	2.6	2.9
Ireland	P	0.4	----------	----------	----------	0.2	0.4	0.4
	I	6.5	14.0	14.0	14.0	14.0	21.0	21.0
	R	6.9	14.0	14.0	14.0	14.2	21.4	21.4
Italy	P	83.0	----------	85.0	164.0	191.0	240.0	305.0
	I	11.0	23.0	----------	----------	----------	----------	----------
	E	----------	----------	----------	----------	21.0	65.0	125.0
	R	94.0	23.0	85.0	164.0	170.0	175.0	180.0
Luxemburg	P	----------	----------	----------	----------	----------	----------	----------
	I	3.2	2.0	2.8	3.3	3.5	3.5	3.5
	R	3.2	2.0	2.8	3.3	3.5	3.5	3.5
Netherlands	P	88.0	34.0	55.0	65.0	75.0	110.0	160.0
	I	24.0	35.0	51.0	65.0	60.0	30.0	----------
	E	39.0	----------	----------	----------	----------	----------	15.0
	R	73.0	69.0	106.0	130.0	135.0	140.0	145.0
Norway	P	83.0	89.0	91.0	93.0	98.0	118.0	143.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	71.0	70.0	70.0	71.0	74.0	91.0	113.0
	R	12.0	19.0	21.0	22.0	24.0	27.0	30.0
Portugal	P	----------	----------	----------	----------	----------	----------	----------
	I	16.0	22.0	22.0	23.0	25.0	25.0	25.0
	R	16.0	22.0	22.0	23.0	25.0	25.0	25.0
Sweden	P	17.0	18.0	21.0	19.0	19.0	20.0	20.0
	I	19.0	20.0	27.0	36.0	36.0	37.0	40.0
	R	36.0	38.0	48.0	55.0	55.0	57.0	60.0
Switzerland	P	4.92	12.5	13.5	13.5	13.5	13.5	13.5
	I	----------	----------	----------	----------	----------	----------	----------
	E	3.0	0.5	1.0	1.5	2.0	2.0	2.0
	R	1.92	12.0	12.5	12.0	11.5	11.5	11.5

See footnotes at end of table.

Production, Import, Export and Requirements for Nitrogen—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates 1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Turkey	P	----------	0.7	0.7	0.7	0.7	0.7	0.7
	I	1.0	0.7	----------	4.0	4.2	7.0	10.0
	R	1.0	1.4	0.7	4.7	4.9	7.7	10.7
United Kingdom	P	137.0	251.0	240.0	246.0	252.0	252.0	252.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	77.0	86.0	75.0	66.0	72.0	67.0	67.0
	R	60.0	165.0	165.0	180.0	180.0	185.0	185.0
SUB-TOTAL PARTICIPATING COUNTRIES	P	624.52	582.2	797.2	960.2	1,050.9	1,228.6	1,490.6
	I	223.2	254.6	232.9	280.3	400.0	376.3	302.8
	E	190.0	161.5	191.0	183.5	214.0	280.0	372.0
	R	657.72	675.3	839.1	1,054.0	1,236.9	1,324.9	1,421.4
Net	I	33.2	[b] 93.1	41.9	96.8	186.0	96.3	----------
	E	----------	----------	----------	----------	----------	----------	69.2
Western Germany:								
Bi-zone	P	----------	----------	128.0	200.0	300.0	320.0	340.0
	I	----------	----------	38.0	120.0	60.0	40.0	20.0
	R	----------	----------	166.0	320.0	360.0	360.0	360.0
French Zone	P	134.0	24.0	32.5	54.0	124.0	164.0	164.0
	I	----------	----------	----------	14.4	----------	----------	----------
	E	93.3	----------	10.6	----------	74.8	114.8	118.0
	R	40.7	24.0	21.9	68.4	49.2	49.2	46.0
Saar	P	5.4	0.5	3.2	3.2	6.4	8.0	8.0
	I	----------	----------	----------	0.8	----------	----------	----------
	E	2.4	----------	1.1	----------	2.4	4.5	4.5
	R	3.0	0.5	2.1	4.0	4.0	3.5	3.5
SUB-TOTAL WESTERN GERMANY	P	----------	----------	163.7	257.2	430.4	492.0	512.0
	I	----------	----------	38.0	135.2	60.0	40.0	20.0
	E	----------	----------	11.7	----------	77.2	119.3	122.5
	R	[c]	[c]	190.0	392.4	413.2	412.7	409.5
Net	I	[b]	[b]	26.3	135.2	----------	----------	----------
	E	[c]	[c]	----------	----------	17.2	79.3	102.5
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	P	----------	----------	960.9	1,217.4	1,481.3	1,720.6	2,002.6
	I	----------	----------	270.9	415.5	460.0	416.3	322.8
	E	----------	----------	202.7	183.5	291.2	399.3	494.5
	R	[b]	[b]	1,029.1	1,449.4	1,650.1	1,737.6	1,830.9
Net	I	[b]	[b]	68.2	232.0	168.8	17.0	----------
	E	----------	----------	----------	----------	----------	----------	171.7

See footnotes at end of table.

Production, Import, Export and Requirements for Nitrogen—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
Import requirement, dependent oversea territories:								
British dependent oversea territories		(1)	(2)	(3)	(4)	(5)	(6)	(7)
		----------	----------	30	46	46	50	50.0
French North Africa		12	10	12	12	14	14	15.0
SUB-TOTAL, DEPENDENT OVERSEA TERRITORIES		12	10	42	58	60	64	65.0
Net import requirement or export surplus	I	(c)	(c)	110.2	290.0	228.8	81.0	----------
	E	----------	----------	----------	----------	----------	----------	106.7

[a] Production could be raised to 54.0 with a corresponding increase in export surpluses if sufficient coal were made available.

[b] Excluding Austria.

[c] Totals are not significant, owing to the absence of figures for the Bi-zone of Western Germany.

APPENDIX C VII (b)

PRODUCTION, IMPORT, EXPORT AND REQUIREMENTS FOR POTASH

(Participating Countries, Western Germany and Dependent Oversea Territories)

P=Production.
I=Import requirement.
E=Exportable surplus.
R=Total requirement.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	----------	----------	----------	----------	----------	----------	----------
	I	9.2	----------	8.9	52.0	54.0	56.0	60.0
	R	9.2	----------	8.9	52.0	54.0	56.0	60.0
Belgium	P	----------	----------	----------	----------	----------	----------	----------
	I	60.0	80.0	90.0	100.0	110.0	110.0	125.0
	R	60.0	80.0	90.0	100.0	110.0	110.0	125.0
Denmark	P	----------	----------	----------	----------	----------	----------	----------
	I	37.0	5.7	37.9	60.0	60.0	60.0	60.0
	R	37.0	5.7	37.9	60.0	60.0	60.0	60.0
France	P	470.0	384.0	570.0	700.0	800.0	900.0	1,000.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	195.0	200.0	250.0	250.0	200.0	200.0	200.0
	R	275.0	184.0	320.0	450.0	600.0	700.0	800.0
Greece	P	----------	----------	----------	----------	----------	----------	----------
	I	3.5	2.7	5.2	10.0	15.0	18.0	22.0
	R	3.5	2.7	5.2	10.0	15.0	18.0	22.0
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	0.7	1.3	1.8	----------	0.6	0.7	0.8
	R	0.7	1.3	1.8	----------	0.6	0.7	0.8
Ireland	P	----------	----------	----------	----------	----------	----------	----------
	I	7.0	14.0	14.0	14.0	14.0	22.0	22.0
	R	7.0	14.0	14.0	14.0	14.0	22.0	22.0
Italy	P	2.0	2.0	2.0	2.0	2.0	2.0	2.0
	I	22.0	----------	----------	38.0	38.0	38.0	38.0
	R	24.0	2.0	2.0	40.0	40.0	40.0	40.0
Luxemburg	P	----------	----------	----------	----------	----------	----------	----------
	I	1.5	1.0	1.6	1.8	2.0	2.2	2.5
	R	1.5	1.0	1.6	1.8	2.0	2.2	2.5
Netherlands	P	----------	----------	----------	----------	----------	----------	----------
	I	100.0	39.0	79.0	150.0	155.0	160.0	165.0
	R	100.0	39.0	79.0	150.0	155.0	160.0	165.0
Norway	P	----------	----------	----------	----------	----------	----------	----------
	I	13.0	28.0	28.0	30.0	31.0	32.0	34.0
	R	13.0	28.0	28.0	30.0	31.0	32.0	34.0
Portugal	P	----------	----------	----------	----------	----------	----------	----------
	I	2.0	7.0	7.0	7.0	8.0	8.0	8.0
	R	2.0	7.0	7.0	7.0	8.0	8.0	8.0
Sweden	P	----------	----------	----------	----------	----------	----------	----------
	I	35.0	19.0	40.0	44.0	44.0	44.0	44.0
	R	35.0	19.0	40.0	44.0	44.0	44.0	44.0
Switzerland	P	----------	----------	----------	----------	----------	----------	----------
	I	8.0	20.8	18.0	17.0	17.0	17.0	17.0
	R	8.0	20.8	18.0	17.0	17.0	17.0	17.0

Production, Import, Export and Requirements for Potash—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates 1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Turkey	P	----------	0.7	0.7	0.7	0.9	0.7	0.7
	I	1.0	0.7	----------	4.0	4.0	7.0	10.0
	R	1.0	1.4	0.7	4.7	4.9	7.7	10.7
United Kingdom	P	----------	----------	----------	----------	----------	----------	----------
	I	75.0	126.0	125.0	165.0	150.0	160.0	170.0
	R	75.0	126.0	125.0	165.0	150.0	160.0	170.0
SUB-TOTAL PARTICIPATING COUNTRIES	P	472.0	386.7	572.7	702.7	802.9	902.7	1002.7
	I	374.9	345.2	456.4	692.8	702.6	734.9	778.3
	E	195.0	200.0	250.0	250.0	200.0	200.0	200.0
	R	651.9	531.9	779.1	1145.5	1305.5	1437.6	1581.0
Net	I	179.9	145.2	206.4	442.8	502.6	534.9	578.3
	E	----------	----------	----------	----------	----------	----------	----------
Western Germany:								
Bi-zone	P	----------	----------	260.0	400.0	450.0	450.0	530.0
	I	----------	----------	----------	----------	----------	----------	----------
	R	----------	----------	260.0	400.0	450.0	450.0	530.0
French Zone	P	76.0	0.8	13.6	24.0	48.0	62.0	70.0
	I	----------	71.0	2.4	4.0	54.5	40.5	24.0
	R	76.0	71.0	16.0	28.0	102.5	102.5	94.0
Saar	P	----------	----------	----------	----------	----------	----------	----------
	I	4.6	----------	0.8	8.0	7.0	6.0	5.5
	R	4.6	----------	0.8	8.0	7.0	6.0	5.5
SUB-TOTAL WESTERN GERMANY	P	----------	----------	273.6	424.0	498.0	512.0	600.0
	I	----------	----------	3.2	12.0	61.5	46.5	29.5
	E	----------	----------	----------	----------	----------	----------	----------
	R	----------	----------	276.8	436.0	559.5	558.5	629.5
Net	I	----------	----------	3.2	12.0	61.5	46.5	29.5
	E	----------	----------	----------	----------	----------	----------	----------
		(a)	(a)					
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	P	----------	----------	846.3	1126.7	1300.9	1414.7	1602.7
	I	----------	----------	459.6	704.8	764.1	781.4	807.8
	E	----------	----------	250.0	250.0	200.0	200.0	200.0
	R	----------	----------	1055.9	1581.5	1865.0	1996.1	2210.5
Net	I	----------	----------	209.6	454.8	564.1	581.4	607.8
	E	----------	----------	----------	----------	----------	----------	----------

See footnotes at end of table.

Production, Import, Export and Requirements for Potash—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
Import requirement, dependent oversea territories		(1) (b)	(2) (b)	(3)	(4)	(5)	(6)	(7)
British dependent oversea territories					18	18	20	20
French North Africa		20	20	20	22	25	25	30
Other French dependent oversea territories								
SUB-TOTAL, DEPENDENT OVERSEA TERRITORIES				20	40	43	45	50
Net import requirement				20	40	43	45	50
Net import requirement for participating countries, Western Germany and dependent oversea territories		(b)	(b)	229.6	494.8	607.1	626.4	657.8

a Excluding Austria.
b Totals not significant owing to absence of figures from Western Germany.

APPENDIX C VII (c)

PRODUCTION, IMPORT, EXPORT AND REQUIREMENTS FOR PHOSPHATES

(Participating Countries, Western Germany and Dependent Oversea Territories)

P = Production.
I = Import requirement.
E = Exportable surplus.
R = Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	7.8	----------	----------	----------	3.0	3.0	3.0
	I	6.5	----------	5.19	33.0	30.0	30.0	30.0
	R	14.3	----------	5.19	33.0	33.0	33.0	33.0
Belgium	P	170.0	100.0	180.0	200.0	200.0	200.0	200.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	90.0	10.0	90.0	100.0	100.0	100.0	100.0
	R	80.0	90.0	90.0	100.0	100.0	100.0	100.0
Denmark	P	----------	----------	----------	----------	----------	----------	----------
	I	90.9	56.5	96.2	98.0	92.0	92.0	92.0
	R	90.9	56.5	96.2	98.0	92.0	92.0	92.0
France	P	405.0	183.0	340.0	500.0	600.0	700.0	800.0
	I	----------	----------	----------	----------	----------	----------	----------
	R	405.0	183.0	340.0	500.0	600.0	700.0	800.0
Greece	P	14.9	9.6	11.1	20.0	25.0	30.0	40.0
	I	1.1	4.0	----------	5.0	10.0	10.0	10.0
	R	16.0	13.6	11.1	25.0	35.0	40.0	50.0
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	3.6	6.4	9.0	2.0	1.0	1.1	1.2
	R	3.6	6.4	9.0	2.0	1.0	1.1	1.2
Ireland	P	30.3	50.4	50.0	50.0	50.0	60.0	60.0
	I	----------	10.4	10.0	10.0	10.0	60.0	60.0
	R	30.3	60.8	60.0	60.0	60.0	120.0	120.0
Italy	P	190.0	[33.0]	120.0	265.0	300.0	320.0	350.0
	I	46.0	----------	25.0	----------	----------	----------	----------
	E	----------	----------	----------	20.0	20.0	20.0	20.0
	R	236.0	33.0	145.0	245.0	280.0	300.0	330.0
Luxemburg	P	68.0	10.5	50.0	67.0	110.0	110.0	110.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	62.0	5.0	44.5	61.0	104.0	104.0	104.0
	R	6.0	5.5	5.5	6.0	6.0	6.0	6.0
Netherlands	P	96.0	62.0	112.0	125.0	125.0	130.0	135.0
	I	73.0	11.0	30.0	38.0	38.0	50.0	50.0
	E	72.0	----------	28.0	30.0	30.0	40.0	45.0
	R	97.0	73.0	114.0	133.0	133.0	140.0	140.0
Norway	P	4.0	2.0	3.0	3.0	6.0	6.0	6.0
	I	10.0	23.0	21.0	22.0	21.0	24.0	26.0
	R	14.0	25.0	24.0	25.0	27.0	30.0	32.0
Portugal	P	26.0	49.0	49.0	49.0	51.0	51.0	51.0
	I	1.0	----------	----------	----------	----------	----------	----------
	E	----------	----------	----------	----------	----------	----------	----------
	R	27.0	49.0	49.0	49.0	51.0	51.0	51.0
Sweden	P	3.0	59.0	58.0	60.0	68.0	68.0	70.0
	I	50.0	----------	----------	----------	----------	----------	----------
	R	53.0	59.0	58.0	60.0	68.0	68.0	70.0
Switzerland	P	4.52	6.0	8.0	8.0	8.0	8.0	8.0
	I	19.52	11.4	22.6	27.5	27.5	27.5	27.5
	R	24.04	17.4	30.6	35.5	35.5	35.5	35.5

Production, Import, Export and Requirements for Phosphates—Continued

P = Production.
I = Import requirements.
E = Exportable surplus.
R = Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates 1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Turkey	P	----------	0.7	0.7	0.7	0.7	0.7	0.7
	I	1.0	0.7	----------	4.0	4.2	7.0	10.0
	R	1.0	1.4	0.7	4.7	4.9	7.7	10.7
United Kingdom	P	150.0	319.0	311.0	336.0	361.0	365.0	370.0
	I	20.0	40.0	44.0	29.0	14.0	15.0	15.0
	R	170.0	359.0	355.0	365.0	375.0	380.0	385.0
SUB-TOTAL PARTICIPATING COUNTRIES	P	1,169.52	884.2	1,292.8	1,683.7	1,907.7	2,051.7	2,203.7
	I	322.62	163.4	262.99	268.5	247.7	316.6	321.7
	E	224.0	15.0	162.5	211.0	254.0	264.0	269.0
	R	1,268.14	1,032.6	1,383.29	1,741.2	1,901.4	2,104.3	2,256.4
Net	I	198.62	[a]148.4	100.49	57.5	----------	52.6	52.7
	E	----------	----------	----------	----------	6.3	----------	----------
Western Germany:								
Bi-zone	P	----------	----------	93.0	150.0	200.0	245.0	276.0
	I	----------	----------	20.0	200.0	195.0	150.0	120.0
	R	----------	----------	113.0	350.0	395.0	395.0	396.0
French Zone	P	23.0	0.6	1.2	----------	22.0	22.0	22.0
	I	35.0	2.4	8.5	17.0	65.2	65.2	46.0
	R	58.0	3.0	9.7	17.0	87.2	87.2	68.0
Saar	P	63.5	2.0	20.0	28.0	56.0	56.0	56.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	59.3	1.5	17.4	22.5	50.5	51.0	51.0
	R	4.2	0.5	2.6	5.5	5.5	5.0	5.0
SUB-TOTAL WESTERN GERMANY	P	----------	----------	114.2	178.0	278.0	323.0	354.0
	I	----------	----------	28.5	217.0	260.2	215.2	166.0
	E	----------	----------	17.4	22.5	50.5	51.0	51.0
	R	----------	----------	125.3	372.5	487.7	487.2	469.0
Net	I	(b)	(b)	11.1	194.5	209.7	164.2	115.0
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	P	----------	----------	1,407.0	1,861.7	2,185.7	2,374.7	2,557.7
	I	----------	----------	291.49	485.5	507.9	531.8	487.7
	E	----------	----------	179.9	233.5	304.5	315.0	320.0
	R	----------	----------	1,518.59	2,113.7	2,389.1	2,591.5	2,725.4
Net	I	(b)	(b)	111.59	252.0	203.4	216.8	167.7
Import requirement, dependent oversea territories (c)	----	----------	----------	----------	18.0	18.0	20.0	20.0
SUB-TOTAL DEPENDENT OVERSEA TERRITORIES	----	----------	----------	----------	18.0	18.0	20.0	20.0

See footnotes at end of table.

Production, Import, Export and Requirements for Phosphates—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
Net import requirement, Western Germany and dependent oversea territories		(1) (b)	(2) (b)	(3) 111.59	(4) 270.0	(5) 221.4	(6) 236.8	(7) 187.7
French North Africa (d)	P	3,500.0	4,500.0	4,750.0	5,000.0	5,500.0	6,000.0	6,500.0
	I	----------	----------	----------	----------	----------	----------	----------
	E	3,440.0	4,430.0	4,680.0	4,930.0	5,420.0	5,920.0	6,420.0
	R	60.0	70.0	70.0	70.0	80.0	80.0	80.0
Net import requirement or export surplus	I	----------	----------	----------	----------	----------	----------	----------
	E	3,440.0	4,430.0	4,680.0	4,930.0	5,420.0	5,920.0	6,420.0

[a] Excluding Austria.
[b] Totals are insignificant in the absence of figures from Western Germany.
[c] Excluding French North Africa.
[d] Figures for French North Africa are all expressed as rock phosphate.

NOTE: Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

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APPENDIX C VII (d)

PRODUCTION, IMPORT, EXPORT AND REQUIREMENTS FOR TRACTORS

(Participating Countries, Western Germany and Dependent Oversea Territories)

P = Production.
I = Import requirement.
E = Exportable surplus.
R = Total requirements.

(Thousand units)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	----------	----------	----------	2.0	3.6	3.6	3.6
	I	0.2	3.0	3.0	0.18	0.18	0.18	0.18
	E	----------	----------	----------	----------	1.98	1.98	1.98
	R	0.2	3.0	3.0	2.18	1.8	1.8	1.8
Belgium	P	1.5	1.8	2.0	2.0	2.25	2.5	2.75
	I	----------	----------	----------	0.25	0.25	0.25	0.25
	R	1.5	1.8	2.0	2.25	2.5	2.75	3.0
Denmark	P	----------	----------	----------	----------	----------	----------	----------
	I	0.25	0.5	1.7	8.0	7.0	7.0	7.0
	R	0.25	0.5	1.7	8.0	7.0	7.0	7.0
France	P	1.32	1.4	3.5	34.0	47.0	55.0	63.0
	I	23.68	8.0	11.5	30.0	20.0	15.0	10.0
	E	----------	----------	----------	2.0	5.0	7.0	10.0
	R	25.0	9.4	15.0	62.0	62.0	63.0	63.0
Greece	P	----------	----------	----------	----------	----------	----------	----------
	I	1.5	0.8	0.98	2.6	1.75	1.05	0.3
	R	1.5	0.8	0.98	2.6	1.75	1.05	0.3
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	0.3	0.8	----------	----------
	R	----------	----------	----------	0.3	0.8	----------	----------
Ireland	P	----------	----------	----------	----------	----------	----------	----------
	I	0.26	2.5	2.5	2.5	2.5	2.5	2.5
	R	0.26	2.5	2.5	2.5	2.5	2.5	2.5
Italy	P	2.5	1.6	2.3	4.2	6.2	9.0	12.0
	I	0.45	0.7	0.45	0.25	0.25	0.25	0.25
	E	----------	----------	0.05	1.7	3.5	6.0	8.3
	R	2.95	2.3	2.7	2.75	2.95	3.25	3.95
Luxemburg	P	----------	----------	----------	----------	----------	----------	----------
	I	0.03	0.1	0.1	0.2	0.15	0.15	0.1
	R	0.03	0.1	0.1	0.2	0.15	0.15	0.1
Netherlands	P	----------	----------	----------	----------	----------	----------	----------
	I	0.5	2.0	1.6	3.0	3.0	3.0	3.0
	R	0.5	2.0	1.6	3.0	3.0	3.0	3.0
Norway	P	----------	----------	----------	----------	----------	----------	----------
	I	0.4	1.5	1.5	1.5	1.5	1.5	1.5
	R	0.4	1.5	1.5	1.5	1.5	1.5	1.5
Portugal	P	----------	----------	----------	----------	----------	----------	----------
	I	0.8	----------	----------	0.4	0.4	0.2	0.2
	R	0.8	----------	----------	0.4	0.4	0.2	0.2
Sweden	P	0.3	0.7	2.0	4.1	5.0	5.5	6.0
	I	2.0	0.2	3.2	2.0	2.5	2.5	2.5
	R	2.3	0.9	5.2	6.1	7.5	8.0	8.5
Switzerland	P	1.25	2.0	2.0	2.25	2.25	(2.25)	(2.25)
	I	0.2	0.1	0.3	0.5	0.5	(0.5)	(0.5)
	E	----------	0.3	0.3	0.5	0.5	----------	----------
	R	1.45	1.8	2.0	2.25	2.25	2.75	2.75

Production, Import, Export and Requirements for Tractors—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of units)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Turkey	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	0.18	0.23	1.6	0.8	0.8	0.6
	R	----------	0.18	0.23	1.6	0.8	0.8	0.6
United Kingdom	P	15.0	33.0	60.0	125.0	226.0	260.0	275.0
	I	4.0	0.5	0.5	2.0	2.0	1.0	0.75
	E	7.0	8.0	18.0	47.0	135.0	185.0	200.0
	R	12.0	25.5	42.5	80.0	93.0	76.0	75.75
SUB-TOTAL PARTICIPATING COUNTRIES	P	21.87	40.50	71.8	173.55	292.3	337.85	364.60
	I	34.27	20.08	27.56	55.28	43.58	35.88	29.63
	E	7.00	8.3	18.35	51.2	145.98	199.98	220.28
	R	49.14	52.28	81.01	177.63	189.90	173.75	173.95
Western Germany:								
Bi-zone	P	8.1	----------	1.7	8.0	12.0	14.0	14.0
	I	----------	----------	13.3	7.0	3.0	----------	----------
	E	----------	----------	----------	----------	----------	4.0	6.5
	R	8.1	----------	15.0	15.0	15.0	10.0	7.5
French Zone	P	1.3	0.2	0.4	0.6	0.6	1.0	1.0
	I	0.2	----------	2.2	0.4	0.6	0.2	0.2
	R	1.5	0.2	2.6	1.0	1.2	1.2	1.2
Saar	P	----------	----------	----------	----------	----------	----------	----------
	I	0.04	0.06	0.007	0.01	0.05	0.07	0.03
	R	0.04	0.06	0.007	0.01	0.05	0.07	0.03
SUB-TOTAL WESTERN GERMANY	P	9.40	0.2	2.10	8.6	12.6	15.0	15.0
	I	0.24	0.06	15.507	7.41	3.65	0.27	0.23
	E	----------	----------	----------	----------	----------	4.0	6.5
	R	9.64	0.26	17.607	16.01	16.25	11.27	8.73
TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY	P	31.27	40.7	73.90	182.15	304.9	352.85	379.6
	I	34.51	20.14	43.067	62.69	47.23	36.15	29.86
	E	7.0	8.3	18.35	51.2	145.98	203.98	226.78
	R	[a] 58.78	[a] 52.54	98.617	193.64	206.15	185.02	182.68

See footnotes at end of table.

Production, Import, Export and Requirements for Tractors—Continued

P = Production.
I = Import requirements.
E = Exportable surplus.
R = Total requirements.

(Thousands of units)

Country		Average 1934/38	1945/46	1946/47	Estimates 1947/48	1948/49	1949/50	1950/51
Dependent oversea territories:								
British dependent oversea territories		(1)	(2)	(3)	(4)	(5)	(6)	(7)
	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	0.9	1.0	6.0	12.0	15.0	15.0
	R	----------	0.9	1.0	6.0	12.0	15.0	15.0
French North Africa	P	----------	----------	----------	----------	----------	----------	----------
	I	2.0	3.0	5.0	5.0	5.0	5.0	5.0
	R	2.0	3.0	5.0	5.0	5.0	5.0	5.0
Other French dependent oversea territories	P	----------	----------	----------	----------	----------	----------	----------
	I	0.12	0.15	0.22	0.77	1.55	1.57	2.6
	R	0.12	0.15	0.22	0.77	1.55	1.57	2.6
TOTAL DEPENDENT OVERSEA TERRITORIES	P	----------	----------	----------	----------	----------	----------	----------
	I	2.12	4.05	6.22	11.77	18.55	21.57	22.6
	R	2.12	4.05	6.22	11.77	18.55	21.57	22.6
GRAND TOTAL	P	31.27	40.7	73.9	182.15	304.9	352.85	379.6
	I	36.63	24.19	49.287	74.46	65.78	57.72	52.46
	E	7.0	8.3	18.35	51.2	145.98	203.98	226.78
	R	60.90	56.59	104.837	205.41	224.7	206.59	205.28

Distribution of Exports

	Average 1934/38	1945/46	1946/47	Estimates 1947/48	1948/49	1949/50	1950/51
Participating countries	----------	----------	----------	32.0	47.0	36.0	30.0
Dependent oversea territories	----------	----------	----------	12.0	19.0	22.0	23.0
Other countries	----------	----------	----------	7.0	79.0	146.0	174.0

[a] Totals insignificant owing to absence of figures for Western Germany.

NOTE.—Figures in brackets were estimated by the Committee to obtain approximate comparability of the totals.

APPENDIX C VII (e)

PRODUCTION, IMPORT, EXPORT AND REQUIREMENTS FOR AGRICULTURAL MACHINERY OTHER THAN TRACTORS

(Participating Countries, Western Germany and Dependent Oversea Territories)

P = Production.
I = Import requirement.
E = Exportable surplus.
R = Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Austria	P	10.9	6.7	11.5	18.9	30.0	42.6	51.5
	I	----------	47.3	32.1	23.1	6.0	----------	----------
	E	----------	----------	----------	----------	----------	[a] 8.6	[a] 21.5
	R	10.9	54.0	43.6	42.0	36.0	34.0	30.0
Belgium	P	20.0	10.0	15.0	20.0	25.0	30.0	40.0
	I	20.0	40.0	45.0	45.0	40.0	35.0	30.0
	E	2.5	----------	----------	----------	----------	----------	----------
	R	37.5	50.0	60.0	65.0	65.0	65.0	70.0
Denmark	P	14.0	13.0	14.0	14.0	15.0	16.0	17.0
	I	4.0	4.3	6.1	32.0	30.0	30.0	30.0
	R	18.0	17.3	20.1	46.0	45.0	46.0	47.0
France	P	----------	----------	75.0	404.0	484.0	583.0	613.0
	I	----------	----------	25.0	180.0	210.0	220.0	220.0
	E	----------	----------	----------	80.0	100.0	120.0	150.0
	R	----------	----------	100.0	504.0	594.0	683.0	683.0
Greece	P	7.0	3.5	4.0	18.0	25.0	27.0	28.0
	I	87.0	20.0	35.0	63.4	39.8	38.8	7.0
	R	94.0	23.5	39.0	81.4	64.8	65.8	35.0
Iceland	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	----------	----------	----------	----------
	R	----------	----------	----------	----------	----------	----------	----------
Ireland	P	2.5	2.5	2.7	3.0	3.6	4.5	4.5
	I	2.0	7.5	7.5	7.5	7.5	7.5	7.5
	R	4.5	10.0	10.2	10.5	11.1	12.0	12.0
Italy	P	40.0	24.0	34.0	43.0	50.0	55.0	61.0
	I	6.0	3.0	4.0	5.0	4.0	4.0	4.0
	E	3.0	1.0	2.0	2.0	5.0	8.0	11.0
	R	43.0	26.0	36.0	46.0	49.0	51.0	54.0
Luxemburg	P	----------	----------	----------	----------	----------	----------	----------
	I	2.0	0.6	1.6	4.0	4.0	4.0	4.0
	R	2.0	0.6	1.6	4.0	4.0	4.0	4.0
Netherlands	P	5.3	3.7	7.6	17.0	21.0	24.0	27.0
	I	13.3	16.4	21.7	18.0	24.0	20.0	15.0
	R	18.6	20.1	29.3	35.0	45.0	44.0	42.0
Norway	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	6.25	10.0	10.0	10.0
	R	----------	----------	----------	6.25	10.0	10.0	10.0
Portugal	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	1.5	1.5	0.7	0.7
	R	----------	----------	----------	1.5	1.5	0.7	0.7
Sweden	P	----------	----------	----------	----------	----------	----------	----------
	I	----------	----------	----------	3.0	3.0	3.0	3.0
	R	----------	----------	----------	3.0	3.0	3.0	3.0
Switzerland	P	6.7	9.0	9.0	10.0	10.0	10.0	10.0
	I	2.2	0.2	1.7	2.0	2.0	2.0	2.0
	E	----------	----------	----------	2.6	2.6	2.6	2.6
	R	8.9	9.2	10.7	9.4	9.4	9.4	9.4

See footnote at end of table.

Production, Import, Export and Requirements for Agricultural Machinery other than Tractors—Continued

P=Production.
I=Import requirements.
E=Exportable surplus.
R=Total requirements.

(Thousands of metric tons)

Country		Average 1934/38	1945/46	1946/47	Estimates			
					1947/48	1948/49	1949/50	1950/51
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
Turkey	P	----------	----------	----------	----------	----------	----------	----------
	I	2.5	1.36	3.0	66.0	56.0	32.0	26.0
	R	2.5	1.36	3.0	66.0	56.0	32.0	26.0
United Kingdom	P	30.0	115.0	150.0	200.0	300.0	340.0	375.0
	I	4.0	12.0	11.0	30.0	27.0	21.0	18.0
	E	4.0	20.0	31.0	75.0	125.0	165.0	200.0
	R	30.0	107.0	130.0	155.0	202.0	196.0	193.0
SUB-TOTAL PARTICIPATING COUNTRIES.	P	136.4	187.4	322.8	747.9	963.6	1,132.1	1,227.0
	I	143.0	152.66	193.7	486.75	464.8	428.0	377.2
	E	9.5	21.0	33.0	159.6	232.60	304.2	385.1
	R	269.9	319.06	483.5	1,075.05	1,195.8	1,255.9	1,219.1
Western Germany:								
Bi-zone	P	----------	90.0	110.0	150.0	179.0	198.0	198.0
	I	----------	----------	195.0	155.0	103.0	63.0	39.0
	R	----------	90.0	305.0	305.0	282.0	261.0	237.0
French Zone	P	55.2	7.0	16.0	24.0	25.7	30.0	30.0
	I	----------	----------	11.0	----------	----------	----------	----------
	E	25.2	----------	----------	* 14.0	* 10.7	* 10.0	* 10.0
	R	30.7	7.0	27.0	10.0	15.0	20.0	20.0
Saar	P	----------	0.054	0.115	0.337	0.5	0.6	0.65
	I	----------	25.7	25.8	25.5	26.4	26.9	27.4
	R	----------	25.754	25.915	25.837	26.9	27.5	28.05
SUB-TOTAL WESTERN GERMANY.	P	----------	97.054	126.115	174.337	205.2	228.6	228.65
	I	----------	25.7	231.8	180.5	129.4	89.9	66.4
	E	----------	----------	----------	14.0	10.7	10.0	10.0
	R	----------	122.754	357.915	340.837	323.9	308.5	285.05
SUB-TOTAL PARTICIPATING COUNTRIES AND WESTERN GERMANY.	P	----------	284.454	448.915	922.237	1,168.8	1,360.7	1,455.65
	I	----------	178.36	425.5	667.25	594.2	517.9	443.6
	E	----------	21.0	33.0	173.6	243.3	314.2	395.1
	R	(*)	441.814	841.415	1,415.887	1,519.7	1,564.4	1,504.15
British dependent oversea territories.	P	----------	----------	----------	----------	----------	----------	----------
	I	11.0	----------	----------	36.0	50.0	58.0	58.0
	R	11.0	----------	----------	36.0	50.0	58.0	58.0
French North Africa	P	----------	----------	----------	----------	----------	----------	----------
	I	8.0	10.0	16.0	16.0	18.0	18.0	20.0
	R	8.0	10.0	16.0	16.0	18.0	18.0	20.0
Other French dependent oversea territories.	P	----------	----------	----------	----------	----------	----------	----------
	I	2.0	2.0	2.0	5.0	8.0	15.0	30.0
	R	2.0	2.0	2.0	5.0	8.0	15.0	30.0
TOTAL	P	(*)	284.454	448.915	922.237	1,168.8	1,360.7	1,455.65
	I	----------	190.36	443.5	724.25	670.2	608.9	551.6
	E	----------	21.0	33.0	173.6	243.3	314.2	395.1
	R	----------	453.814	859.415	1,472.887	1,595.7	1,655.4	1,612.15

* Totals not significant owing to absence of figures for Western Germany.

TECHNICAL REPORTS

SECTION C

Fuel and Power

FUEL AND POWER

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Explanatory Note

The figures included in the body of the Report are derived from the replies sent in by the various participating countries and the three Western Zones of Germany to the Questionnaires issued at the beginning of the Conference. The basis for the figures quoted will, in general, be found in the detailed figures incorporated in the Appendices. In some cases, however, it has not been thought necessary to show all the basic figures in detail so as not to multiply the number of tables.

Throughout this Report metric units have been used. In the case of petroleum products, quantities have also been stated in barrels. The following are the principal conversion factors:—

1 metric ton	= 0.984 long tons
	= 1.102 short tons
1 Solid cubic metre of pitwood	= 0.245 fathoms
1 metric ton of:—	
Aviation Gasoline	= 8.86 barrels
Motor Gasoline	= 8.56 "
White Spirit	= 7.97 "
Burning Kerosene	= 7.87 "
Tractor Kerosene	= 7.68 "
Gas/Diesel (Inland)	= 7.38 "
Gas/Diesel (Bunkers)	= 6.99 "
Fuel Oils (Inland)	= 6.79 "
Fuel Oils (Bunkers)	= 6.50 "
Lubricants	= 6.89 "
Bitumen	= 6.10 "
Paraffin Wax	= 7.87 "
Crude Oil—Light/Medium	= 7.19 "
Crude Oil—Heavy	= 6.54 "
Petroleum Coke	= 5.51 "

(The conversion factors for metric tons into barrels are based on the rates used by the United States and British Governments during the war.)

It should be noted that figures quoted in billions refer to the American billion of one thousand million.

In all cases values have been estimated at prices ruling at 1st July, 1947, at official exchange rates then current.

INTRODUCTION

1. The participating countries and Western Germany contain an industrial complex of similar magnitude to that contained in the United States. Modern industry on the scale encountered in units of this magnitude and, indeed, modern civilisation itself, are founded on the supply and application of energy in one of its many forms. While it may confidently be hoped that future generations will be able to count nuclear energy among the list of resources serving their industrial and general requirements, the primary sources of energy at present available are coal, oil products and water power with shale, peat, natural gas, wood, windpower, etc., as minor sources of energy.

2. Modern industry, however, uses in many cases energy derivatives of these primary sources of energy, such as electricity derived from water power or the combustion of coal, commercial gas derived from the carbonisation of coal, etc. From the point of view of the consumer the most important forms of energy used are coal, electricity and oil products. It is, therefore, with these three forms of energy that this Report is mainly concerned.

3. Historically, the Industrial Revolution had its origin in Europe, and was based upon coal, which at that time (apart from the imperfectly developed use of wind and water power) was the only known major source of energy and which was available in liberal supply in many European countries. Coal has retained its pre-eminence as a source of energy, although alternative sources have since been developed which are gradually assuming greater importance. In Europe the use of liquid fuels as a source of energy does not, however, approach in extent the use of this form of energy in the United States. Unlike their position in respect of coal, the participating countries do not enjoy—or at least have not yet discovered—any large deposits of oil products or natural gas. In consequence, requirements for liquid fuels have to be met almost entirely by imports from overseas. In this respect the United States are more fortunate, since they enjoy vast natural resources of this character. At the same time European interests took (and indeed continue to take) a prominent

part in the discovery and exploitation of oilfields situated outside Europe. An important refining industry had also been built up in some European countries before the war.

4. Electricity on the other hand presents a different picture. Europe in this respect is well supplied with natural resources of water power, as well as coal deposits suitable for use as a source of electricity generation in thermal power plants. The water power potentialities have already been developed on a considerable scale, but have not yet been fully exploited.

5. Table 1 illustrates the relative importance of the three primary sources of energy in the economies of the participating countries and Western Germany and that of the United States. The table deals with the primary sources of energy, and therefore does not indicate the relative importance of electricity derived from the combustion of coal. As a rough indication of this it may be said that in the participating countries and Western Germany the quantity of electricity derived from the combustion of coal is roughly equivalent to that derive from water power.

Table 1—Comparative Consumption of Energy Derived From Coal, Water Power and Oil Products in Europe and the United States (Mean for Years 1935–1938)[a]

Source of Energy	Participating Countries and Western Germany		United States	
	Energy Consumed in terms of million tons of Hard Coal	%	Energy Consumed in terms of million tons of Hard Coal	%
Coal (including thermal generation of electricity)	500	82	400	54
Water Power (mainly for generation of electricity)	50	8	40	6
Oil Products and Natural gas	60	10	300	40
TOTAL	610	100	740	100

[a] The conversion factors used are 1 kwh=0.750 kg. coal and 1 kg. oil products=1.50 kg. coal.

6. Taking all forms of energy in combination, however, the per capita consumption of energy in the participating countries and Western Germany in 1938, expressed in terms of the energy represented by one ton of hard coal, was 2.3 tons per capita per year, as compared with 5.6 tons per capita in the United States. In 1946 consumption in the participating countries and Western Germany was only 1.8 tons per capita while that in the United States had increased to 7.4 tons per capita. These figures give an indication of the relative levels of industrial activity and the standards of living which prevailed in

the two continents immediately before the second world war, and in the year following the end of that catastrophe.

7. It may be asked why, with the great natural resources Europe possesses, it has not so far been possible to derive from them sufficient energy to meet the present rising demand. Undoubtedly development would have been much more extensive had it not been for the disruption and chaos resulting from two great world wars fought largely on European soil. The pattern of fuel development and distribution, which had recovered to an extent capable of meeting demands between the wars, was abruptly fractured during the second Great War which destroyed mines, scattered the accumulated trained manpower, cut off sources of overseas oil supplies, wrecked refineries and generally brought inland transport to a standstill by the end of hostilities. In the case of electric power, however, overall European resources remained virtually unchanged, although there were fluctuations in capacity in individual countries according to the fortunes of war. But, again owing to war conditions, industrial investment had been so curtailed as to retard or prohibit the natural course of development of electric power supply, which would otherwise have kept pace with the changing incidence of power requirements.

8. It follows that the European countries are faced with the prospect of restoring their basic sources of energy—their development, generation, storage and transmission—as an essential pre-requisite in the entire programme of recovery and reconstruction to which they have set their seal. The plans are already in train, but the resources are lacking—particularly in materials, machinery and foreign exchange. During recent months some countries have been unable to purchase all the coal allocated to them.

9. In the following sections of this Report the situation for each of the main fuels is separately described. It is necessary, however, to stress their actual inter-dependence and the extent to which shortages in one form have a direct effect on the demand for and availability of another. At the same time, there are obvious limits to the extent to which such exchanges are practicable, and the programmes for each type of energy, while integrated one with another, are self-contained and self-explanatory.

10. The objectives of all three programmes are summarised in the concluding section of this Report, which shows the extent of the assistance in raw materials, finance and equipment required to accomplish these objectives. Unless they are accomplished, the re-establishment of the European economy on a sound basis will be indefinitely postponed and the natural aspirations of the common people of Europe frustrated.

PART I—COAL

CHAPTER I

THE PROBLEM AND ITS ORIGINS

A. Pre-War Pattern

11. Before the war, the participating countries, together with Western Germany, accounted for 85% of the total hard coal production in Europe. Of the remaining countries[1], only Poland and Czechoslovakia enjoyed any substantial production. The participating countries, together with Western Germany, by reason of the high degree of industrialisation prevailing in many of them, had to provide for heavy consumption requirements, for which their indigenous coal production was in many cases insufficient. The deficit in those cases was met by imports from European producers, notably the United Kingdom, Germany and Poland, who were in a position to export coal.

12. Table 2 sets out the pattern of production and consumption, imports and exports for all the 16 participating countries and Western Germany during the pre-war period. It will be seen that within the overall picture there were big exchanges between the various countries. In the case of countries with little or no indigenous production, such as Denmark, Greece, Ireland, Italy, Luxemburg, Norway, Portugal, Sweden and Switzerland, dependence on the exporting countries for their requirements was virtually complete. Others imported only special qualities for special industries, e. g., France and Belgium imported large tonnages of coking coal and metallurgical coke from Germany and the United Kingdom, who were the principal producers and exporters of those fuels.

13. It is interesting to compare the production and consumption figures in Table 2 with production and consumption in the United States during the same period. Average United States production for the years 1935–38 was 410 million tons while consumption was approximately 400 million tons. The production of the participating countries and Western Germany was, therefore, roughly 128% of the United States production and their combined consumption 133% of that of the United States.

[1] No mention has been made of coal production in the U. S. S. R. which pre-war did not play any material rôle in European coal exchanges.

Table 2—Solid Fuel Production, Consumption, Imports and Exports for Participating Countries and Western Germany, 1935–38

(Solid fuel—ton for ton)

(Annual mean 1935/38) (Millions of metric tons)

Country	Production of Coal/ Lignite	Consumption [a] of Solid Fuel including Bunkers	Exports of Solid Fuel excluding Bunkers	Imports of Solid Fuel
Austria	3	7	----------	3
Belgium	29	27	6	6
Denmark	----------	6	----------	6
France	47	72	1	24
Greece	----------	1	----------	1
Iceland	----------	----------	----------	----------
Ireland	----------	3	----------	3
Italy	2	13	----------	12
Luxemburg	----------	3	----------	3
Netherlands	13	15	6	8
Norway	----------	3	----------	3
Portugal	----------	1	----------	1
Sweden	----------	9	----------	8
Switzerland	----------	4	----------	3
Turkey	2	1	1	----------
United Kingdom	233	194	41	----------
Western Germany	197	171	40	6
Total	526	530	[b] 94	[c] 87
United States	410	400	12	1

(a) The discrepancy between the consumption figure and production plus imports from non-participating countries less exports to non-participating countries is accounted for by withdrawals from stocks.

(b) Of which 68 million tons went to participating countries and Western Germany and
26 " " " " non-participating countries.

(c) Of which 73 million tons from participating countries and Western Germany, and
14 " " " non-participating countries.

14. It should be added that the period covered by this table was not the period of maximum production or consumption. This in fact occurred in 1929.

15. In any consideration of the coal mining industry in Europe it is necessary to bear in mind that there are wide differences in the nature of the coal deposits and consequently in their methods of working as between Europe and the United States. These differences have, in part, dictated the nature of the machinery which can be effectively employed and the deployment of labour. The European coal deposits are generally more irregular, deeper, thinner and consequently more difficult to work than those at present being mined in the United States. In part this is due to the fact that the industry is centuries old and that in many locations the best seams have been worked out and present operations are directed towards extraction from deposits of less favourable character. On account of the greater physical difficulties to be

overcome the labour factor assumes great importance, in that so much has depended in the past on the strength, endurance and skill of the individual miner.

16. On the other hand, while the industry has been the keystone of the whole programme of economic development in Europe since the Industrial Revolution, it has not in itself always been a prosperous one. Since the turn of the century, and particularly the period between the wars, fluctuations in the demand for coal led to low prices which brought about in most countries a situation discouraging to financial investment in systematic development and exploitation of new techniques. For these technical and economic reasons the industry has not adopted the intensive mechanised methods which have characterised coal mining in the United States in the last 50 years, and production per manshift worked has never approached the production records in the United States industry. Table 3 provides a comparison of the average productivity per manshift worked overall in various countries of Europe and the United States.

Table 3—European Output per Manshift (Overall) Compared With the United States, 1913, 1925 and 1938

(Metric tons)

	1913	1925	1938
Belgium	0.538	0.472	0.753
France	.701	.578	.833
Germany:			
Ruhr	.945	.946	1.547
Saar	.803	.680	1.139
Netherlands	.820	.837	1.645
United Kingdom	[a] 1.032	.915	1.166
United States (bituminous coal mines)	3.270	4.100	4.440

[a] June 1914.

17. The above table reflects:—

(i) the deterioration brought about in productivity in the European mines as a result of the first World War, while the United States achieved at the same time a substantial increase in productivity;

(ii) the substantial progress made in most European countries between the two wars, which compares favourably with the progress made over a similar period in the United States.

B. Wartime Changes

Pattern of Trade

18. With the outbreak of war, the normal pre-war pattern of European coal exchanges was shattered. The flow of coal from the major producing countries was disrupted, e. g. overland coal traffic, which was a marked feature of the pre-war pattern, was slowed down and in many cases ceased altogether; German and Polish resources were diverted on a large scale from their normal export end-uses to support the German war machine. Much the same thing happened in the various occupied countries as they were overrun by the German armies. In the United Kingdom, when communication with the Continent was broken off in 1940, coal became temporarily in excess supply and consequently large numbers of trained British miners were released for armed service.

Production

19. With the overrunning of the Continent by the Germans, who promptly took over the direction of coal production in the occupied coalfields, other major changes took place. The most important of these were:—

(i) the adoption of ruthless exploitation methods with the aim of accomplishing maximum immediate results regardless of the future;

(ii) neglect of normal maintenance work (even at the expense of safety) and of constructive development was a common feature of all producing countries;

(iii) loss in the efficiency of labour, partly due to organised resistance to German methods, and partly to lack of materials and the reduction of food and housing standards;

(iv) widespread use of inexperienced labour to bolster up production, e. g. employment of prisoners-of-war and displaced persons on a large scale in the continental mines, by which expedient, wasteful in itself, production was in some cases expanded above pre-war levels;

(v) in the United Kingdom, as the war progressed, urgent steps were taken to rebuild the labour force (which had been drastically reduced in 1940). Youths of 18 (Bevin boys) who would otherwise have been drafted into the armed forces, were recruited and trained for work underground and were eligible for release at the end of the war, after their term of service had expired. During the later war years special efforts were also made in the material field to speed up production, notably by the development of opencast mining,

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for which purpose Lease-Lend equipment from the United States was brought over and set to work under the initial guidance of American technicians;

(vi) towards the end of the war, when fighting took place on a large scale on the continent of Europe, widespread damage and destruction took place. In France the main coalfields suffered from bombardment and the Lorraine deposits were flooded and the equipment pillaged. Surface installations, e. g., coke ovens in Holland were also damaged or destroyed. In many cases reserve stocks at mines were used up or destroyed—in particular distributed stocks in the United Kingdom were heavily drawn upon to meet the requirements of the British and American Armies in France. In Germany, also, as a result of the bombing campaigns and the advance of the Allied Armies into that country, the damage to mines was enormous (10% destroyed, 25% badly damaged).

Consumption

20. Far-reaching changes in the incidence of consumption took place, at first owing to the change-over to war production and later, in the case of the occupied countries, to purposes designed to serve the Nazi war machine. In the course of this process severe restrictions in the use of fuel were imposed on domestic household consumption and on non-essential industries in all European countries. To illustrate the degree of hardship imposed on the ordinary household, domestic consumption per head per annum in France and Belgium during the period of occupation was cut to approximately 15% to 20% of normal pre-war consumption, and this sank still further immediately following the liberation. A similar situation has arisen in the majority of non-occupied continental countries, e. g., Switzerland, whose consumption for domestic purposes and smaller industries fell to 3% in 1945, and Ireland, where little or no coal has been available for normal domestic use since 1941.

C. Progress Since the War

21. The situation at the end of the war can be summarized as follows.

22. Fuel production generally was at a low level and in some areas, e. g., the Ruhr and Lorraine, where military operations had taken place, it was entirely at a standstill. Industry throughout all countries was similarly affected. Overland transport on the Continent was virtually non-existent. Fuel stocks in many countries had been exhausted and a general dispersal had taken place almost overnight of the forced labour accumulated by the Germans at the mines and surface installations. Practically no coal was available to meet do-

mestic household requirements. In such conditions, the pre-war scale and pattern of trade in coal between the countries of Europe could not be quickly restored. Of the traditional exporting countries, only the United Kingdom was able to supply appreciable quantities of coal, and even these quantities were in the event drawn largely from stocks, so that it was not possible to maintain exports at such a level.

23. In the short space of two years, recovery from this state of dislocation and chaos has been remarkable in most countries, although it has so far proved impossible to recover the whole of the lost ground. In all countries intensive efforts have been made, even at the expense of other sections of the national economy, but lack of materials and manpower has hampered accomplishment. The results of these efforts are discussed hereafter under the several headings of Production, Intra-European Exports, External Aid and International Allocations.

Recovery of Production

24. Good progress has been made in re-manning the industry and in recovery of production. Germany and the United Kingdom, however, are still below the level of pre-war performance, with Germany, in particular, the most backward of all in this regard. This is the more unfortunate in view of the importance of United Kingdom and German production as a source of potential exports to other countries.

25. Table 4 provides an indication in terms of percentages of 1935–1938 figures of the production accomplished between July 1945 and May 1947, and the employment and output per manshift of those same years.

Table 4—Production, Employment and Output per Manshift in the Coal Mines of Certain Participating Countries and Western Germany, July 1945 and May 1947

(Mean 1935-38=100)

Country	Hard Coal Production		Number of Workers on Colliery Books		Output per Manshift (Underground)	
	July 1945	May 1947	July 1945	May 1947	July 1945	May 1947
Belgium	48	88	83	120	78	76
France	70	103	112	146	70	76
Netherlands	37	71	113	127	44	62
United Kingdom	[a] 86	[b] 86	[a] 93	93	[a] 89	95
Western Germany:						
Bi-Zone	18	51	[c] 52	[c] 89	[d] 51	56
Saar	28	80	[c] 36	[c] 87	73	81

[a] This is the June figure, being a 5-week month taken for comparison purposes.
[b] 5 week month.
[c] Percentage of mean 1935/1937 average daily effective employment.
[d] As at September 1945.

26. Among the principal measures that have been taken to accomplish these results are:—

(i) The priorities given to reconstruction of the mines and provision of equipment and special treatment to miners. In some countries miners are given preferential ration scales as compared with the normal civilian ration.

(ii) Development plans, both short and long term, which were postponed during the war have been resumed and in all countries great efforts have been made to redeem lost ground and to reorganise production along rational lines. These have necessarily taken different forms in different countries according to local conditions and resources. All these efforts, while wide in concept, have been hampered by lack of resources.

(iii) Special inducements have been instituted for the encouragement of recruitment and for the promotion of output. These vary as between countries, but in general they comprise wage increases, bonus schemes, points schemes for food and consumer goods, special housing and transport schemes.

(iv) In order to make good wartime losses of manpower (casualties, prisoners, etc.) and the exodus of forced labour referred to in the previous section, many countries have had recourse to the use of prisoners of war and displaced persons, and foreign free labour, to eke out. It must be appreciated, however, that labour of this character takes time to train and during that training period does not produce at a full rate. Furthermore, the availability of prisoners of war could not be counted on for much more than a short period, and countries today face the problem of replacing prisoner-of-war labour wherever this has been utilised.

(v) Reference must be made here to the determined efforts of all countries to rehabilitate their coal transport systems which were virtually at a standstill at the liberation. These efforts have taken the form of priorities for the transport of coal and the provision of wagons for coal transport at the expense of civil transport and other services.

Resumption of Intra-European Exports

27. During the past two years, as illustrated in Table 5, the major coal-producing countries have resumed, although on a lower scale, their exports of coal and mining supplies to European importing countries. This resumption of exports is the more remarkable in that it has been

brought about despite real sacrifice in terms of the countries' own needs.

Table 5—Resumption of Exports After the War (12 Months Ended March 1947) From Belgium, France and the Netherlands

Country	Mean Monthly Exports (metric tons)	Mean Monthly Percentage of 1935–1938 consumption
Belgium	93,000	81%
France	30,000	76%
Netherlands	34,000	72%

28. In addition to the coal exchanges between the participating countries shown in Table 5, exports from the United Kingdom were resumed in 1946 although not in large quantities, averaging 330,000 tons a month between April 1946 and March 1947. These dwindled during the latter part of the year as the fuel crisis in the United Kingdom deepened, and ceased entirely at the end of March. Exports from Western Germany were resumed in late 1945 in accordance with the directive addressed to the Commanders-in-Chief that exports should be maximised to the liberated countries. Owing to the backwardness of production in Western Germany, however, exports from that country have failed to meet expectations, averaging only 1,100,000 tons a month during the year 1946 and substantially less than this figure during the first quarter of 1947. Since April 1947 German exports have been increasing gradually from about 800,000 tons towards the earlier level.

External Aid

29. Despite the efforts described above, the extent of general economic recovery that has been accomplished in Europe could not have been maintained without substantial assistance from outside sources. In particular, without the large-scale exports of American coal which have flowed to Europe in increasing quantity since mid-year in 1945, industrial recovery in the participating countries would never have proceeded at the pace it has, and the people of those countries would have suffered still more severe privations. In 1945 these United States exports to Europe totalled 5.9 million tons; in 1946, they were more than 17 million tons, or at the rate of nearly 1½ millions a month. During the first six months of 1947 they have amounted to more than 16.5 million tons, or at an average rate of 2.7 million tons per month, to reach a maximum monthly level of 3.5 million tons in the summer of 1947.

30. In 1945 Polish coal exports were also resumed and the participating countries began to benefit in 1946. These countries received 4.4 million tons in that year and 2.6 million tons in the first six months of 1947, despite adverse transport conditions. In July 1947 Poland exported 890,000 tons to the participating countries.

Establishment of an International Allocation System

31. Shortly before the end of the war, discussions took place between a number of European countries and the United States with the object of setting up an international body whose main purpose would be the "fair and equitable distribution" of available supplies of solid fuel. In consequence, the European Coal Organisation was set up with American support and membership, and it is on recommendations from this organisation that American, German and other coals are at present allocated to European countries. (Further details regarding this organisation will be found in Chapter III, paragraph 94, *et seq.*). The functions of the European Coal Organisation are due to be taken over by the Economic Commission for Europe on or before the 31st December, 1947. The countries represented will then include, as well as the United States, those European members of the United Nations not at present members of the European Coal Organisation.

D. Consumption Trends and Present Levels of Satisfaction

32. Despite all these efforts and accomplishments in the fields of indigenous production, intra-European trade, outside assistance and co-ordination of distribution, current availabilities have never caught up with consumption requirements. By reason of this fact, the participating countries have been obliged to continue restricting the household and non-essential industrial consumption and to concentrate the major part of their available supplies on essential industries. In most countries, the allocation of coal was and still is based on a system of priorities. In general, first priority is granted to the requirements of public utilities (gas, electricity), and transport. Next in order of importance come the essential industries such as iron and steel, food and (in many cases) building materials. According to local circumstances and weather conditions, priority is also granted in some countries to domestic consumption over non-essential industries. It follows from this that, in periods of acute shortage such as occur during the winter owing to transport difficulties, industrial activity is seriously curtailed and the progress of national recovery impeded. For example, in France and Denmark it proved necessary to order a complete stoppage of industrial activity for two or three weeks in the middle of the winters of 1945/46 and 1946/47 save in the case of continuous processes. In other countries the stoppage was confined to certain in-

dustries, e. g., textiles in Belgium, or areas, e. g., S. E. England when stocks at power-stations ran out. Conditions such as these have borne with particular weight on those countries that have little or no indigenous production and have been alleviated only in part by the system of international allocation designed to assure at least minimum requirements of all participating countries being met. Table 6 sets out the comparative consumption levels in 1946 and 1947 for each participating country and Western Germany in relation to the 1938 level.

Table 6—Trend in Levels of All Solid Fuel Consumption (Including Brown Coal and Lignite) for Participating Countries and Western Germany, 1946 and 1947

(1938=100)

Country	1946		1947 (estimated)	
	Overall	Domestic[a]	Overall	Domestic
Austria	67	90	77	----------
Belgium	92	84	97	----------
Denmark	74	69	81	----------
France	84	57	93	----------
Greece	40	96	34	----------
Iceland	60	----------	108	----------
Ireland	60	3	56	----------
Italy	55	----------	93	----------
Luxemburg	71	81	83	----------
Netherlands	72	94	88	----------
Norway	65	23	74	----------
Portugal	76	50	89	----------
Sweden	41	34	62	----------
Switzerland	38	22	58	----------
Turkey	183	214	206	----------
United Kingdom	101	84	103	----------
Western Germany:				
Bi-Zone	51	23	66	----------
French Zone	44	31	49	----------
Saar	46	22	71	----------

[a] Includes certain small-scale industrial classifications.

Another way of showing this comparison is in terms of per capita consumption. In 1938 the per capita consumption in the participating countries and Western Germany was 2.2 tons per year as compared with 3.1 tons per year in the United States. In 1946 per capita consumption in the participating countries and Western Germany was only 1.6 tons per year, while that in the United States was nearly 4 tons per year.

33. When considering the comparisons in Table 6, it should be borne in mind that considerable tonnages of low-grade fuels, including lignite, have been taken into account when computing the consumption figures. This situation has necessitated in all European

countries the adoption of measures designed to economise coal for both industrial and domestic consumers. These measures have taken the form of programmes involving large-scale plant conversion, in spite of the cost in material and effort.

34. It will be noted that, even so, very few countries have yet approached the levels of consumption enjoyed in pre-war years, and that even if these were achieved they would still be less than present-day requirements due to increased populations and the necessity to make good the damage caused by war as well as to serve rising levels of industrial activity.

35. It is quite impossible by statistical means alone to convey the full impact of such reduced availabilities in terms of human hardship. Only passing mention can be made here of the many expedients enforced by the general shortage of coal. Among examples which could be quoted it will suffice to mention the large diversion of labour in Denmark and Ireland from agricultural work to peat cutting; and the burning of abnormal quantities of wood in Scandinavian countries during the winter owing to insufficient coal imports.

CHAPTER II

Production Programme for the Four Years 1948–51

A. The Production Effort

36. The production targets set by the participating countries and Western Germany as stated in detail in Appendix B (i) show a steady overall increase from 1948 to 1951. Table 7 shows this in summary for the participating countries, and for Western Germany so far as its hard coal production is concerned.

Table 7—Coal Production Programme 1948–51, Participating Countries—Including Also Western German Hard Coal Production

(Millions of metric tons)

1938	1948	1949	1950	1951
483	414	446	482	511
As % of 1938: 100	86	92	100	106

37. An analysis of Appendix B (i) shows that not only is the overall anticipated increase a substantial one, but also that practically all countries share in this planned increase. As compared with 1938 the production estimates for 1951 amount to 112% for the participating countries; (105% for Belgium, 131% for France, 97% for the Netherlands and 108% for the United Kingdom). For the Saar, the corresponding figure is 117%, whereas for the Ruhr the figure is 87%. If, however, the comparison is made with 1946, the appropriate percentages are as follows:—Participating countries 131%, Belgium 136%, Netherlands 150%, Ruhr 219%, Saar 213%, and the United Kingdom 129%.

The following paragraphs illustrate, in necessarily summary form, the extent of the development programmes now proceeding in the major producing countries.

United Kingdom

38. The United Kingdom forward production programme, covering both deep mine and opencast coal, provides for an increasing production as shown in Table 8.

Table 8—Coal Production Programme: 1947–51, United Kingdom

(Millions of metric tons)

1947	1948	1949	1950	1951
199	214	227	239	249

39. The figures in Table 8 indicate the magnitude of the production effort which the United Kingdom intends to make. The National Coal Board are operating both a short-term and a long-term programme, the former merging gradually into the latter. The short-term plan provides for expanded opencast production, concentration on selected deep mine pits and workings, upgrading of haulage workers, an expanded labour force and intensive mechanisation, with the rapid development of drift mining by 1949. The final item alone is expected to yield at least an additional 4 million tons by the end of 1949. The long-term programme provides for some 20 new sinkings, in addition to which over 20 major reconstruction schemes (several of which involve investments approaching £4 million) are already in hand or projected. Many other important schemes, e. g. new washeries, introduction of locomotive haulage with large mine cars, should be completed by 1950. A programme of this size is clear evidence of the determination of those now in charge of Britain's mining industry

to carry out the far-reaching plans for re-organization and modernisation advocated in the Report of the Technical Advisory Committee (the Reid Report) of 1945.

France and French North Africa

40. So far as France is concerned, the Monnet Plan, which was adopted at the end of 1946, set up a far-reaching programme for the coal industry, which is regarded as a basic industry with full priority. This programme extends well over the period under review, since it is intended to bring the total output of the French mines from its present level of a little over 50 million tons to 70 million tons in 1955. In 1951, the planned production is 62.5 million tons. This is being achieved on lines very similar to those described above for the United Kingdom effort. Most important is the increased production in the newly-developed and efficient district of Lorraine but it is intended to increase production and output per manshift, even in the smallest mining areas.

41. A programme has also been set up to increase production in French North Africa where it was negligible before the war and should reach over one million tons in 1951.

The Western Zones of Germany

42. Production in the important Saar coalfield which has already recovered to 80% of the pre-war level is to be materially expanded during the next four years. Thus the 1935–1938 level of 12.5 million tons is to be exceeded by 1948 by approximately one million tons and by 1951 an output of 16.8 million tons is contemplated.

43. The increases projected for the Ruhr/Aachen coalfield are shown in table 9:—

Table 9—Coal Production Programme, Ruhr/Aachen: 1948–51

(Millions of metric tons)

1938	1948	1949	1950	1951
138	86	97	112	121

In addition, the output of brown coal in the Bi-Zone is planned to rise to 72 million tons in 1951—4 million tons more than the 1938 figure.

44. The effort to bring about increases of this magnitude involves an increase in the effective labour force of some 180,000 men, and major repair programmes for housing and surface installations,

which in turn will require large quantities of constructional steel, building materials and labour. New mechanised methods, including the development of the coal plough (an invention of the war years for mechanical coal-getting and loading, which has since been improved and developed) are also being actively pursued. This programme, admittedly ambitious, is nevertheless a necessary and practical one, and the Bi-Zonal authorities are satisfied that, given the necessary conditions and materials (described in paragraphs 65–72 of this Report), the future output programme can be realised.

Belgium

45. The production target which Belgium has set for achievement over the next four years represents an increase in output of 1,500,000 tons over the best pre-war performance, i. e. 1938. To bring about this increase, it is proposed to make maximum use of mechanised methods at the coal face and underground loading points. To this end, methods and appliances used in the United States have been carefully studied with a view to their adaptation to Belgian conditions. Efforts are also being made to solve the vital problem of housing for miners, with particular emphasis on the need for attracting to the mines the best labour available.

The Netherlands

46. In the pre-war years modern methods of mining (including new techniques) were extensively developed in the Netherlands in counteracting intensive competition from the Ruhr. Thus by 1939 a modern and efficient industry had been built up, and practically all the pits were working to full capacity. The target adopted for 1951 is about 13 million tons, or approximately the same level as in 1935–8, and it is doubtful, in view of the intensive exploitation of the South Limburg deposits, whether this figure can be much expanded. In order to attain it, however, it will be necessary

(i) to attract the required number of men to the mines, e. g. by higher wages and other inducements, both of which methods have already been adopted;

(ii) to provide adequate food and housing. Steps already taken to this end include higher rations than those provided for the ordinary population; and

(iii) to give special priority for the manufacture and distribution of mining supplies. The necessary equipment must be secured from Germany and the United States if the production targets are to be realised.

Smaller Producers

47. In the case of the smaller producers the overall output increase is about 50% above 1938. This reflects their desire to collaborate by increasing indigenous production. It must be appreciated, however, that even if these efforts are fully successful, the additional tonnage thus provided would form only a small contribution towards the total European deficit.

Among these small producers, Greece, which has been driven to economise in the use of wood from its forests (many of which were destroyed or burnt during the war) has made great efforts to increase its lignite production. The principal item of the reconstruction programme is concerned with the development, by open-cast methods, of the Ptolemaid deposits, in Central Macedonia, where resources of over 100 million tons of lignite have been located. The lignite so produced makes good briquettes which can be used for the railways and for electric power generation, of which there is a shortage in Northern Greece.

Italy expects to achieve an important increase in Sardinian coal production, which is scheduled to increase from 1.3 million tons in 1947 to three million tons in 1950. In order to achieve this programme it is intended to develop two additional mines and to build two settlements for the workers. There will also be an increase in the lignite programme, although on a smaller scale than that for Sardinian coal.

B. Factors Essential for the Achievement of the Production Programmes

48. In this section a brief account is given of the basic requirements and assumptions upon which will ultimately depend the success of the production programmes embarked upon by the participating countries and Western Germany. Bearing in mind the fact that the depressed output of the Ruhr is the major factor affecting European coal production recovery as a whole, this section has been divided into two parts, the first showing factors common to all the major coal producers, and the second dealing in more detail with the special problems presented by Western Germany, with particular reference to the Ruhr. No mention has been made in this section of the less tangible factors, both social and psychological, which have a bearing on coal production, e. g., improved attendance, higher standards of living for the miners, discipline; since these are difficult to evaluate where conditions vary widely from country to country. They have, therefore, properly been regarded as falling outside the scope of this Report.

(a) Factors Common to All Producing Countries

49. The figures for increased coal production over the next four years given in the previous section assume that production will not be prejudiced either by lack of mining supplies and equipment, by shortages of pitwood, or by deficiency of manpower. Recommendations covering the above factors will be found in Chapter III.

Mining Supplies and Equipment

50. The total requirements of the participating countries for mine supplies and mining equipment over the four-year period in terms of dollar values have been estimated at 2.1 billion dollars. Table 10 summarises the annual figures of these requirements, the breakdown of which by individual countries, but adding Western Germany, is shown in Appendix B (vii).

Table 10—Value of Total Consumption Requirement of Mining Supplies and Equipment for Participating Countries and Western Germany 1948–51 [a]

(Millions of U. S. dollars)

	1948	1949	1950	1951	Total
Participating countries	509.1	536.3	546.3	557.6	2149.3
Western Germany	380.9	353.5	332.5	347.2	1414.1

[a] Excluding mining timber and structural steel requirements which are dealt with in the Timber and Iron and Steel Reports.

51. It is not possible to give any estimate of the breakdown of the annual totals for the participating countries in terms of the quantities of particular types of equipment or materials required. They cover all types of coal mining equipment, including underground machinery, locomotives and transport equipment, steam and electric generating plant, and machinery and equipment for use in preparation and cleaning plants.

52. Of the total requirements listed by the major producing countries about 75% represents requirements for normal maintenance, machinery replacement and the repair of war damage, while 25% only is required for development work, including large-scale reconstruction with the object of introducing new mining methods, the concentration and modernisation of existing pits and extensive new sinkings, on some of which the preliminary work has already been carried out. In the case of Turkey, however, where a large increase in production is planned, the greater proportion of the equipment required is for development.

53. According to the plans and estimates of the countries themselves, they expect to produce by far the larger proportion of all their

requirements for coal mining equipment within their own borders. There is no reason to doubt, therefore, that manufacturing capacity exists for this production. Availability of the necessary raw materials, especially steel, depends of course on the degree of realisation of other programmes dealt with by other Technical Committees. Table 11 shows, in summary form, that part of the total requirements of the countries which they expect to import. The details of these figures and anticipated home production are shown in Appendices B (viii) and (ix).

Table 11—Value of Import Requirements of Mining Supplies and Equipment for Participating Countries and Western Germany, 1948–51

(Millions of United States dollars)

1948	1949	1950	1951	TOTAL
186.1	149.5	137.7	133.6	606.9

54. In Appendix B (ix) this total figure of expected import requirements is broken down into two parts, the first being the value of imports which the countries hope to be able to obtain from sources within Europe: the second being the quantities—or rather the value of the quantities—which they expect to have to seek from other sources, i. e. the United States. Before the war, the United Kingdom and Germany were the principal export suppliers of mining equipment for the coal mining industry in other European countries. It is natural, therefore, that those countries should look forward to the resumption of their trade with the United Kingdom and Germany for such materials and equipment, particularly in respect of replacements and spare parts for equipment now in use which was originally supplied from those sources.

55. From Appendix B (x), however, it will be seen that the export availabilities of mining equipment announced by the manufacturing countries fall substantially short of the quantities which the importing countries had listed as their requirements from European sources. It is not improbable, however, that these export availabilities may prove larger than were reported by the exporting countries. The present figures, for instance, make no allowance for supplies from Switzerland [1] which will obviously be a substantial element in the final picture. The expected exports from the United Kingdom were

[1] This position has arisen owing to the inability of Switzerland to state what proportion of her future machinery exports would be destined for the mines.

based on orders on hand or in sight, rather than on manufacturing capacity. The German figures must obviously depend upon decisions as to the level of industry. If and when definite orders are in sight and raw materials are available and credits for the settlement of accounts are ascertained, the total export availabilities of the participating countries and Western Germany should much more nearly approach the requirements of the other countries from those sources. An account of the measures already taken for dealing with this situation will be found in Chapter III.

Pitwood

56. The supply of pitwood for the mines also constitutes a problem, in view of the expanded level of deep-mine production contemplated over the four years 1948–51. The preliminary figures established by the Timber Working Party showed that in each year a shortfall of between two and three million cubic metres could be expected, out of a total requirement of 13 million cubic metres. An examination of the problem revealed that it would be possible by various measures to reduce the deficit, which would then be only some 10% of the total needs. When allowance is made for the more extensive use of steel supports, it is reasonable to assume that the ultimate deficit, should any remain after the above steps have been taken, would have no material effect on production.

Manpower

57. All countries intend to continue and intensify the measures already taken to attract labour to the mines. The average age of the miners at present is comparatively high and consequently a higher wastage of labour in the near future is anticipated. In addition the P. O. W.'s and foreign labour which have been employed in the mines are due for repatriation and the normal intake will not balance the wastage. It is therefore very necessary that every possible step be taken so that new labour can be recruited in a constant stream before there is a gap between the time that the total labour force is reduced and manpower economy can be effected by the introduction of mechanisation and modern mining methods. In France, the number of workers employed underground as at August, 1947 is 218,000 of which 36,000 are P. O. W.'s. It is expected that the total underground labour force will be reduced to 210,000 in 1948 and 196,000 in 1951, in spite of a powerful recruiting drive in France itself, as well as in French North Africa, Italy and Western Germany where displaced persons are available. This has been taken into account in the production targets, where it is offset by the expected increased output per manshift. The United Kingdom are taking measures to increase

their present total labour force from 719,000 at which it now stands, to 740,000 at the end of 1948.

58. It is therefore obvious that unless all steps are taken to insure that there is adequate labour for the mines, the actual production programmes in the various countries will be prejudiced. The work of the Manpower Committee has shown that it is not possible to find additional skilled mine-workers in the participating countries; it will, therefore, be necessary for countries needing such manpower to recruit and train unskilled labour drawn from among those attaining the necessary physical standard.

(b) Special Problems of Western Germany

59. In order to understand what has taken place in Western Germany since the collapse, and how vast a problem confronts the Allies in their efforts to restore coal output, some picture, however inadequate, of the general situation must be given.

60. The main coal-producing areas of Western Germany are, in order of magnitude, the Ruhr hard coalfield, the Saar hard coalfield and the Cologne brown coal deposits. The latter are mainly important as a source of raw brown coal for local power stations and for their brown coal briquette production, which is consumed in Western Germany mainly for domestic purposes. As the output of brown coal has now been restored to the level prevailing in 1935/1938 it is not proposed to discuss this aspect in this Report.

Saar

61. Neither is it proposed to enlarge upon the problems prevailing in the Saar, where coal production has reached the level of 80% of pre-war. The effort to restore production is thus similar in character to what has been described in the case of other European producers; the French authorities have set a target which, as is the case in France itself, aims at reaching in 1951 a much higher production than pre-war. Table 12 sets out this programme:—

Table 12—Coal Production Programme, Sugar: 1948–51

(Millions of metric tons)

1935–1938 (mean)	1948	1949	1950	1951
12.5	13.5	15.0	15.6	16.8

62. Foremost amongst the difficulties underlying these targets is the necessity of obtaining from Germany, and chiefly from the Ruhr, the larger part of the machinery required by the Saar mines. The Saar

mines have always used German-type machinery and equipment which are chiefly manufactured in the Ruhr and it is particularly important to secure adequate replacements.

Ruhr

63. The Ruhr hard coalfield produced pre-war about 126 million tons per year. It comprises one of the largest deposits of coking coal in Europe, around which an industrial complex of the highest importance was built. In 1945 much of this vast industrial area was reduced to rubble [1]; transport was at a standstill and the difficulties to be surmounted before coal production could be effectively resumed were stupendous.

64. Table 13 shows the extent to which the efforts of the Occupation Authorities to restore production were successful:—

Table 13—Restoration of Ruhr/Aachen Coal Production (July 1945, 1946, 1947)

(Millions of metric tons)

July 1945	July 1946	July 1947
1.8	4.8	6.1

This is a very considerable achievement bearing in mind the appalling conditions at the outset of the occupation. The latest figures available at the time of writing show an encouraging increase, being now (August, 1947) in excess of 240,000 tons a day.

65. In drawing up the estimate for hard coal production shown in the foregoing section, the Bi-Zonal Authorities have not lost sight of the very real obstacles which still remain to be overcome. Some of these difficulties, which it has been assumed can be overcome with greater co-operation, enhanced resources and the creation of the conditions and mental atmosphere among the Ruhr miners conducive to greater effort, are described in the following paragraphs.

FOOD

66. The paramount importance of food supplies is illustrated by the dramatic recessions which occurred in weekly hard coal output in the Ruhr at those periods when reductions in the normal civilian ration (including that of the miners, their families and dependents) took place, i. e. on two occasions in the past two years. The figures in Table 14 speak for themselves.

[1] Out of 172,000 dwelling units in the Ruhr, 150,000 were destroyed or damaged

Table 14—Effect of the Food Ration Reductions on Ruhr/Aachen Coal Production, as Shown by the Average Weekly Production, 1946 and 1947

(Thousands of metric tons)

1946		
February	March	April
1,080	[a] 950	887

1947		
February	March	April
1,353	1,407	[b] 1,149

(a) Ration cuts announced early March, 1946.
(b) Effect of gradual reduction in availability of rations reached its peak early in April, 1947.

Thus, bitter experience has shown that it is essential that the mining population should receive sufficient food to ensure that coal output is maintained. Western German food requirements as a whole have been dealt with as part of the Food Committee's Report; it is, however, important to state here that adequate food supplies are the key to the coal production problem and that unless the food problem is solved all efforts to secure any permanent increase in output may well be unavailing.

HOUSING

67. Despite the tremendous effort in terms of material and manpower called for—a task rendered still more difficult by reason of the need to provide for the accommodation of additional manpower (estimated at 180,000) required for the production programme—great strides have already been made, and full priority has been given to rehousing requirements.

MANPOWER

68. On account of the high labour turnover, it is estimated that, if the number of effective underground manshifts is to be raised by 40,000 to 50,000 per day during the period under review an additional 180,000 men will be required. Intensive recruiting drives have been carried out, with the co-operation of the United States Authorities in Germany, and recruits are coming in from the United States

Zone and Berlin. In addition, there are good prospects that the P. O. W. labour returning from French and Belgian mines will be re-employed in the Ruhr, the total number involved being approximately 90,000.

CONSUMER GOODS

69. Inducements to higher output have been introduced, with considerable success, in the form of points schemes related to individual attendance. The goods provided include bacon, coffee, sugar and schnapps. The value of these schemes is indisputable, and their continuation must be ensured.

MINING SUPPLIES

70. To meet the production targets now set, the Ruhr will require large quantities of mining machinery, the total cost of which is estimated over the four years at $1,049 million. It is expected that a substantial proportion of this requirement will be supplied from the German industry itself, as recovery proceeds. It will be necessary meantime to import the balance of requirements in certain specialised items, many of which can at present be supplied only from the United States. Their total value is estimated at $20.0 million.

71. Apart from these special items, there are certain major requirements e. g. for constructional steel and non-ferrous metals, textiles and insulating materials, mining and sawn timber (including pit-props), which do not fall within the scope of this Committee's Report. Their provision is, however, essential to fulfil the outputs now contemplated.

72. Meanwhile, there are other specialised items, e. g. time detonators, compressed air underground equipment of all kinds, which Belgium, Holland, and the Saar (as well as Poland) urgently require and which can only be provided from the Ruhr. It is intended that Western Germany should supply such equipment over the four years to the value (for the participating countries) of $13.1 million.

C. Solid Fuel Requirements

73. As against the anticipated increased production described in Section A of this Chapter, Appendix B (ii) shows the solid fuel consumption requirements of the participating countries and Western Germany. Table 15 shows the annual total of this consumption together with estimates for 1950 and 1951.

Table 15—Consumption Requirements of Solid Fuel (Including Bunkers) for Participating Countries and Western Germany (Excluding Dependent Oversea Territories) 1947–51

(Millions of metric tons (ton for ton))

1929	1938	1947	1948	1949	1950	1951
569	552	471	530	555	585	609

These estimated requirements so far as the participating countries are concerned are based upon the assumptions that in 1951:

(i) Fullest use will be made of the industrial productive capacity estimated to be available in that year;

(ii) Domestic consumption of coal will be at a level sufficient to restore the pre-war standard of living, taking into account developments in the use of electric power and other alternative fuels, without exceeding those levels which each country expects to be able to maintain without special external assistance.

74. So far as Western Germany is concerned, it is clear that if it is to become a viable economic proposition within the next few years, it must be put into a state of rehabilitation sufficient to enable its trade, transport and manufactures to recover to the point when they can make an effective contribution to the European economy as a whole. Western Germany must also be able to provide those essential exports, amongst which coal is one of the most important, so urgently required by neighbouring countries. Estimates of the coal requirements of the Western Zones, as put forward by the Zonal Authorities, will be found in Appendix B (ii). These estimates, while formulated in some detail for the years 1948 and 1949, are necessarily less complete for the subsequent years and it has not been practicable to present a complete statistical breakdown for 1950–1951.

75. Domestic consumption in Western Germany has been restricted, in the estimates put forward by the occupying authorities, to levels very much below those obtaining in the participating countries, and this position will continue at least until 1951.

76. In spite of these assumptions, which may be regarded as conservative, it will be seen that there is a substantial increase in coal requirements over the present level. Even with this appreciable increase in requirements the figures for the countries concerned are still below the level of satisfaction which they enjoyed pre-war. While the increases in overall requirements reflect the gathering momentum of economic recovery, peculiar importance necessarily

attaches to the full satisfaction of the 1948 requirement figure—530 million tons, of which a proportion (see Table 18) will be required from the United States. The current overall level of satisfaction of most European countries lies between 77% and 89% of that for 1938. Consequently, if the production programmes and other measures now proposed for the economic recovery of the participating countries are to be effectively realised, the full measure of assistance, as set out in Chapter IV, is essential, particularly in the first critical year on which the success of the whole programme will so largely depend. Any appreciable shortfall in the measure of assistance then required will undermine the prospects of success for the programme as a whole.

77. The increases in question—from 471 million tons in 1947 to 609 million tons in 1951—are readily understandable when account is taken of the following factors:—

(i) The general increase in the level of economic and industrial activity in all countries, which springs in part from the effort all are making to achieve rehabilitation and reconstruction over the period, and in part also from the more normal and permanent trends in European economic development (including the results of pursuing the policy of full employment in many countries);

(ii) The steady increase in the consumption of electricity in all countries is a typical example of the latter trends. At the same time, domestic consumption everywhere has been drastically reduced and will not have recovered to the pre-war level even by 1951. This fact alone is evidence of the intention of the participating countries to spare no effort to achieve economic recovery and stability.

78. Coal requirements would certainly be greater, were it not for the efforts to improve fuel efficiency, and the partial replacement of coal by alternative sources of energy.

79. This can be illustrated, for instance, under the Monnet Plan in France, where the target of production for steel is 20% above the 1929 level of production, while the level of coal consumption in the steel industry remains almost exactly the same as in 1929. Similarly, in the United Kingdom, estimated fuel consumption per ton of steel is expected to be reduced by 12% in 1951 as compared with 1937.

80. In Belgium the National Committee on Railway Electrification has planned coal savings of 650,000 tons per year by the electrification (thermal) of some 1,500 kilometres of the Belgian railway system, this saving being all the more important because good quality coal is thereby freed for other uses.

81. On the other hand, the introduction of Diesel and oil-steam locomotives on the railways is expected to save large amounts of coal in France and the United Kingdom, the saving in France being estimated at one million tons as early as in 1948.

82. The effect of all these factors is clearly demonstrated in Appendix B (iii) which shows the breakdown of the estimated solid fuel requirements as between the major categories of consumers in each country. It will be noted, however, that in some countries, the consumption requirements in 1951 will amount to as much as 150% (or even higher) of the peak pre-war consumption. This is the case for Denmark, Greece, Italy and Turkey. This arises from special conditions, which are summarised below:—

(i) In *Denmark* there was in pre-war years a natural tendency to greater industrialisation at the expense of the traditional agricultural activities. This was coupled with a heavy rate of population increase and entailed a steady increase in the rate of coal consumption. This rate, which was arrested during the war, will be much higher in the next four years on account of almost complete exhaustion of the best peat resources, which contributed as much as 600,000 tons per annum pre-war, and production of which rose to several million tons per year during the German occupation.

(ii) The figures for *Greece* are somewhat misleading, because although they have been calculated on a ton for ton basis they comprise much higher proportions of low-grade lignite than pre-war, (see paragraph 47 (b)). In 1951, out of a total consumption of 2.5 million tons of solid fuel, lignite will account for 1.8 million tons—the equivalent of which in tons of hard coal is only 0.6 million tons. This means that the total consumption of Greece in hard coal equivalent will be only slightly higher than pre-war in spite of the fact that wood resources have been seriously depleted during the occupation.

(iii) The basic factor in *Italy* is the very high rate of population increase, i. e., about 1% per annum. This will make it necessary to increase industrialisation, and there are a number of major projects, e. g. coke ovens, steel plants, nitrate plants, etc., already in hand. Moreover, as in the case of Greece, a substantial amount of indigenous lignite will be used, and hard coal imports will reach in 1951 only 130% of pre war.

(iv) *Turkey* has continued during the war the progressive industrialisation which started between the wars, the result

of which was to bring coal consumption in 1947 to 300% of 1929. This process is due to continue. The development of coal consumption, though apparently high, will still leave per capita consumption in 1951 at a figure less than for the Western European countries.

Bunkers

83. Normally foreign bunkers are considered as part of the export trade, but it has been possible for only one or two countries (including the United Kingdom) to give the relevant detailed information. The figures for these countries amount to 7.1 million tons in 1948; 7.4 million tons in 1949; 8.3 million tons in 1950 and 8.6 million tons in 1951. So far as the other countries are concerned, they have included their requirements for foreign bunkers as part of their internal consumption, and these requirements are therefore covered by the figures given in Table 15. In order to arrive at the net import requirements of the participating countries and Western Germany, it was therefore decided to add the bunker export figures, where known, to the requirement figures in Table 16. It should be noted that the bunker figures include bunkers supplied to ships belonging to non-participating countries, but it is not possible to estimate what this proportion will be.

84. So far as cargo exports to non-participating countries are concerned, they only amount to the following:— 1.1 million tons in 1948; 2.6 million tons in 1949; 4.2 million tons in 1950 and 6.6 million tons in 1951. The bulk of these exports will consist of United Kingdom exports to Canada and other oversea territories, and provision has also been made for exports from Western Germany to non-participating countries. The difference between these tonnages and the figures entered in paragraph 92 represents the tonnage planned for exports to oversea bunker depots by the United Kingdom.

D. The Export-Import Programme

85. Having dealt with production under Sections A and B above, and consumption requirements under Section C, it is necessary, before the balance sheet can be drawn, to provide for planned exports.

86. At the same time as they have provided for expanded coal production, the major producing countries have envisaged a gradual development of their coal exports, which they regard both as a major contribution to the recovery of Europe, and also as a necessity in terms of world trade.

87. It will be seen from Appendix B (iv) that these planned exports (excluding bunkers) amount to 31 million tons in 1948, and 47 million

tons in 1949, the chief contributors being the United Kingdom and Western Germany.

88. So far as the United Kingdom is concerned, the figures of seven million tons in 1948 and 17 million tons in 1949 include six and 14 million tons respectively for participating countries. These figures are put forward as realistic figures which should prove fully attainable. Should the efforts now being made prove successful and the output estimates be improved upon, the United Kingdom hopes to devote the greater part of any increase to meeting the needs of Europe. It must be added, however, that the increased output in 1948 will necessarily fall mainly towards the latter end of the year, and that no appreciable exports are to be expected from the United Kingdom until April, 1948.

89. So far as the Saar is concerned, the figures in Appendix B (iv) show a marked increase in exports in 1948 and 1949 over 1947.

90. In the case of the Bi-Zone, estimates of the forward exports of solid fuels (coal, coke and briquettes) have been drawn up for 1948 and 1949, i. e. 17.5 and 21 million tons respectively. These estimates, while appreciably less than the 1935–38 average (33.9 million tons), are nevertheless much superior to the figures achieved in 1945 and 1946, which were respectively four and 12 million tons. The 1948/49 estimates have been calculated by the Bi-Zonal Authorities on the assumption that the sliding scale agreed between the British, French and United States Governments in March 1947 will apply. It should be recalled that, in accordance with this scale, total exports of coal from Western Germany are related to the combined hard coal production of the Ruhr and the Saar. The sliding scale, which starts to operate when this combined hard coal production reaches 280,000 tons a day, provides for the export of 25% of the net merchantable solid fuel tonnage produced as and when the combined production reaches 330,000 tons a day. The Bi-Zonal figures for 1948–49 exports, therefore, take this into account.

91. So far as 1950 and 1951 are concerned, it has not been found possible to estimate the coal exports from all producing countries. It is known, however, that the United Kingdom expects to provide, for the participating countries, 22 and 29 million tons respectively for 1950 and 1951. In the case of the other major exporter, i. e. Western Germany, it is impossible to give a forecast, as the sliding scale, which provides the only agreed basis for calculating the export figure, does not extend to the levels of production contemplated for these years. It is therefore impossible to adopt any figure which might prejudice the position adopted by one or other of the parties to this Agreement.

92. Nevertheless, it must not be assumed that all these export figures

are to be deducted from Europe's resources when the balance sheet is drawn up as between supplies and requirements. By far the larger part remains in Europe itself, as is shown by the figures in Appendix B (v). The balance between total exports (Appendix B (iv)) and exports to participating countries (Appendix B (v)), amounting to two million tons in 1948 and four million tons in 1949, represents the sum of cargo exports to non-participating countries and bunkers for certain countries. In the case of subsequent years it has been assumed that exports to non-participating countries (including some bunkers) will be higher, i. e. approximately six million tons in 1950 and eight million tons in 1951.

E. Import Requirements

93. It is now possible to summarise this Chapter by Table 16 showing solid fuel import requirements.

Table 16—Solid Fuel Import Requirements of the Participating Countries, Their Dependent Oversea Territories and Western Germany, 1948–51

(Millions of metric tons (ton for ton))

	1948	1949	1950	1951
Production (excluding oversea territories)	477	512	552	583
Minus exports to non-participating countries (excluding bunkers)	2	4	6	8
Available Supplies	475	508	546	575
Consumption Requirements (including bunkers)	530	555	585	609
Resulting Import Requirements	55	47	39	34
Net Requirements of the Dependent Oversea Territories	3	3	3	3
TOTAL IMPORT REQUIREMENTS	58	50	42	37

It will be seen in Chapter IV how these import requirements may be met. Meanwhile, such other possibilities as present themselves for the extension of European co-operation must first be explored.

CHAPTER III

EUROPEAN CO-OPERATION

A. Existing Machinery

94. It is perhaps in respect of coal that international co-operation between European countries has been most effective since the end of the war. In Chapter I of this Report, reference was made to the European Coal Organisation (E. C. O.), which was set up even before the end of hostilities, as an international body with the object, *inter alia*, of ensuring "the fair and equitable distribution of available supplies of solid fuel". The original members of E. C. O. were the United States, the United Kingdom, France, Belgium, the Netherlands, Luxemburg, Turkey, Norway, Denmark and Greece. Poland and Czechoslovakia subsequently joined. Many other countries became associate members. With the setting up of the Economic Commission for Europe (E. C. E.) within the Economic and Social Council of the United Nations, however, the functions of E. C. O. are due to be taken over by the 31st December, 1947, by the Coal Committee of the new Commission. In this way effective continuity will be ensured.

95. The existence of E. C. O. has made possible the solution of many delicate problems occasioned by the shortage of coal in Europe during the post-war years. Some idea of the magnitude of the allocation task which E. C. O. has performed can be gathered from the total tonnage of solid fuels—84,000,000 tons—allocated among its member and associated countries since its inception in May, 1945. Mutual assistance of great value has also been given, within the scope of the Organisation, on such problems as the provision of mining supplies and equipment, and new sources of supply for such items as pitch and pitprops.

96. Coal transport problems in Europe were, until recently, dealt with by the European Central Inland Transport Organisation (E. C. I. T. O.), in close collaboration with E. C. O. The functions of the former organisation will also be transferred shortly to the appropriate Committee of the new Economic Commission for Europe.

B. New Fields of Co-operation

97. Although the encouraging positive results so far achieved by co-operative effort—of which the work of E. C. O. has been a striking example—justify an optimistic view of the future, it is none the less true that the need for an early resolution of the coal problem will necessitate still further efforts on a collective basis. It is difficult,

within the scope of the present Report, to do more than enumerate the problems raised; the next step will be the actual and collective study of these problems, which the participating countries (most of which are already working closely together within E. C. O.) have already initiated, and intend to follow up without delay on the lines indicated in the following paragraphs.

98. Since one of the principal activities of E. C. O. has hitherto been the allocation of available coal supplies within Europe, the extension of these activities in the future, in measure as coal supplies become more plentiful, will be a natural development. The main emphasis to date has been on the satisfaction of minimum-level requirements, but the work of the present Conference has shown that, in the not very distant future, there will be scope for further co-operation on such aspects as the allocation of certain special qualities which may remain in short supply, with the object of removing bottlenecks at present restricting economic recovery. The kind of problem likely to emerge in the near future is exemplified by the metallurgical coke supply problem as disclosed by and dealt with in, the Reports of the Iron and Steel Committee and of the Mixed Sub-Committee on Coke. The fuel aspects of such problems can conveniently be examined and dealt with in a co-operative way within the existing machinery of E. C. O. or its successor. In view of the internal allocation systems already operating in a highly developed state in the more industrialised European countries, and the careful watch which is kept on the end-uses of coal, it is fully anticipated that the most effective use of available supplies will be made in the common interest.

99. In the field of production, the work of E. C. O. has been, and still is, handicapped by factors outside its control, such as food and housing shortages in the mining areas; shortages of steel for the manufacture of mining machinery; and the lack of finance and foreign exchange with which such equipment might be purchased. It will be seen, from Appendices B (ix) and B (x), that the participating countries and Western Germany expect to import from among themselves mining supplies and equipment to the value of $387 millions, whereas such of them as are exporting mining equipment expect to export only to the extent of $149 millions. It is anticipated that much of this gap can be bridged by the maximum utilisation of suitable manufacturing capacity in the United Kingdom and (to a lesser extent) Switzerland. Further, a more substantial contribution from Western Germany is to be hoped for, since German-made machinery and equipment have for many years been extensively used in many European coalfields. In order to solve this problem of capacity and manufacture, the participating countries (through their representa-

tives on E. C. O.) have suggested, and E. C. O. has agreed, to set up a special Working Party (in which the United States will participate) with the object of putting forward specific suggestions for the maximum use of manufacturing capacity, on the assumption that the necessary raw materials, finance, etc. will be forthcoming. This study, which has already begun, will be conducted as a matter of urgency and will cover both the present and potential availability for export to Europe of American mining machinery and equipment (for which requirements over the four years 1948–51 are estimated at $220 millions).

100. A second measure, which will be more difficult and will take longer to carry out, is the standardisation of certain equipment (such as coal-cutting and loading machines, pneumatic picks, lamps, conveyors and safety equipment) and the specialisation by certain countries in the production of specific types so as to facilitate mass-production. This measure should certainly be studied for the manufacture of new types of equipment, which certain countries propose to undertake in connection with the development of new mining techniques. This is a field in which, in addition to European co-operation, American assistance would be most valuable, e. g. in the form of manufacturing licences and supplies of equipment. Here again, the countries represented at the present Conference have agreed to make a special joint study, within the framework of E. C. O., as soon as possible. When the functions of E. C. O. are taken over by E. C. E. towards the end of 1947, interested governments will bring the problems described in this and the preceding paragraphs before the successor body in E. C. E. in order that the work carried out by E. C. O., with a view to finding practical means for their solution, may be continued.

101. With regard to European coal transport and distribution, joint studies have already been made by the appropriate international organisations, with the aim of effecting a more rational internal movement of coal traffic, e. g. by cutting out unnecessary cross-hauls. Some progress has already been made e. g. in regard to the movement of coal to Austria, but it is desirable to extend the scope and effectiveness of such studies. This question appears to fall within the scope of the Transport Committee of E. C. E. and interested governments have therefore decided to raise the matter at the first meeting of that Committee on 9th October, 1947, with a view to giving effect to the aim of achieving a more rational internal movement of coal traffic at the earliest possible date.

102. Finally, mention should be made of the need for coordinated action in the field of manpower for the coal mining industry. The

introduction of new methods and equipment alone cannot be expected to yield an immediate improvement in output and it will be necessary to concentrate attention on the maintenance and expansion of the present labour forces. In some cases, e. g. France and Belgium, it may be that stimulation of immigration will be necessary. The importance of this problem is, of course, already fully recognised, and specific recommendations on the consultations which should be undertaken in order to achieve its solution have been included in the Report of the Manpower Committee.

CHAPTER IV

IMPORT REQUIREMENTS

A. General

103. As a conclusion to Chapter II, the total import requirements of the participating countries and Western Germany were estimated. Tables 16 and 18 show that these import requirements, even in 1951, will be higher than pre-war, i. e. somewhere in the neighbourhood of 40 million tons, owing chiefly to increased consumption requirements. This shows first of all that there is ample scope in the future for further expansion of production in the important mining areas. But, so far as the period under review is concerned, this problem has to be faced: is it possible to meet this deficit, and if so, how?

104. Since the possibilities of providing supplies from the participating countries and Western Germany have been fully considered, no other recourse is open save that of calling on outside resources. In this respect, the two major exporters outside the participating countries themselves, are Poland and the United States. As the United States must be considered an abnormal supplier on account of the distance and the consequent high freight charges, it is necessary first to consider what can be expected in terms of coal from Poland, which now controls both the Upper and Lower Silesian coalfields—important pre-war sources of supply to Western Europe.

B. The Polish Contribution

105. In the first Chapter mention was made of the exports from Poland that recommenced in 1946 and have since continued in gradually increasing quantities. Without this Polish coal the quantities

available in the past two years from Germany and the United States would have had to be spread even more thinly than they were among the European importing countries, and the privations suffered in many of them last winter would have been even more severe.

106. There are good reasons to believe that Polish coal will continue to be available for export to the West in the years to come. From such information as it has been possible to obtain from E. C. O. it is estimated that the exports to the participating countries could attain the figures in Table 17.

Table 17—Estimated Exports of Solid Fuel From Poland to Participating Countries, 1947–51

(Millions of metric tons (ton for ton))

1947	1948	1949	1950	1951
8	16	24	27	30

These figures are probably on the high side, as they assume Poland's ability to carry out her present long-range plans for the rehabilitation of her mines, and to procure from abroad (including the United States) a substantial volume of mining equipment.

C. Import Requirements from the United States

107. Beyond the Polish contribution, the participating countries can expect relatively minor imports from such nonparticipating European countries as Czechoslovakia, Hungary and Yugoslavia, which are already exporting to Switzerland, France, etc.

108. It should also be mentioned here that South Africa has during recent years supplied appreciable tonnages to the relief of the coal situation in the Mediterranean area (Greece, Italy, French North Africa).

109. But it will be safer not to assume that these contributions, however useful, will together exceed one million tons per annum.

110. Taking this into account, Table 18 sets out the residual quantity of solid fuel which must be imported from the United States if sufficient coal is to be available to the partcipating countries in 1948–51 to restore economic activity and the standard of living contemplated in the other programmes covered by this Report as a whole.

Table 18—Assessment of Extra-European Solid Fuel Import Requirements for Participating Countries, Their Dependent Oversea Territories and Western Germany, 1948–51

(Millions of metric tons (ton for ton))

	1938	1948	1949	1950	1951
Net Import Requirements	10	58	50	42	37
Less Import Requirements from Poland and other countries	10	17	25	28	31
Import Requirements from United States	--------	41	25	14	6

111. The salient points which emerge from Table 18 are:—

(i) The dependence of the European economy in extra-European sources of solid fuel supplies during the period 1948–51 despite the tremendous efforts all the major coal-producing countries, including Western Germany, intend to make in order to maximise output in the shortest possible time;

(ii) The diminishing degree of dependence on such extra-European sources during the period, commensurate with the growth of indigenous production under the various programmes described in Chapter II of this part of the Report, until by 1951 it should be possible to dispense almost entirely with extra-European aid in terms of solid fuel imports. It should be noted that this position will be reached in spite of considerably increased requirements, due in part to increase in population.

(iii) The need for a somewhat higher rate of imports from the United States in 1948 than they are in fact likely to achieve in 1947. At the same time the total import required in 1948 is within the bounds of possibility, in that it is known that the port capacity and transport facilities for such exports can be provided. After 1948, however, the requirements from the United States fall away in accordance with the planned growth of European coal production, and the expanding scale of United Kingdom, German and Polish exports to other European countries.

(iv) If it thus seems possible to provide for all requirements as early as in 1948, with some difficulty, however, in that year, it must not be assumed that the problem of quality is thereby solved in the same manner. This chiefly applies to hard coke; in view of the special importance of this fuel to the iron and steel industry, it has been thought

necessary to deal with this problem in the Iron and Steel Report and in the Report of the Mixed Sub-Committee on Coke. It is necessary, however, to emphasise here the need for the provision of at least 7 million tons of coking coal (of a quality suitable for the manufacture of metallurgical coke) within the overall figure of 41 million tons required from the United States in 1948.

112. An estimate of the dollar cost of the imports required from extra-European sources for each of the four years in question will be found in Table 19.

Table 19—Value of Solid Fuel Import Requirements for Participating Countries, Their Dependent Oversea Territories, and Western Germany, 1948–51

(Millions of United States dollars)

Cost of solid fuel in $ at f. o. b. rates at 1st July 1947

Source of supply	Price per metric ton [a]	1948	1949	1950	1951	TOTAL
Poland and other countries	$15	255	375	420	465	1,515
United States	$9	369	225	126	54	774

[a] These prices reflect the prices currently quoted by the trade in the United States and in Poland on 1st July 1947, estimated on a dollar basis.

113. From Table 19 it will be seen that the expenditure on that proportion of solid fuel which can only be obtained from the United States amounts to 774 million dollars for the period under review, and represents only a fraction of the total financial expenditure falling on the participating countries for their essential solid fuel import requirements. Furthermore, it should be borne in mind that, so far as these countries are concerned, German coal has also in present circumstances to be paid for in dollars, but this aspect has not been taken into account in the dollar balance sheet since these dollars come as additional income to Western Germany and so do not affect the global balance of payments as between Europe (including Western Germany) and the United States.

114. It is necessary finally to emphasise that all these calculations of requirements depend entirely on the successful achievement of the coal production programmes. If, for any reasons, the European countries fail fully to achieve the results contemplated, this will inevitably

(i) imperil the success of the other production programmes (steel, transport etc.);

(ii) call for larger imports from the United States in order to bridge the gap, thus extending to 1951 the higher rate of United States exports from the previous years. This would in turn intensify the dollar drain such increased imports would represent.

115. To conclude, Table 20 summarises in terms of value the total import requirements of coal and equipment, which can in fact be derived only from the United States.

Table 20—Value of Solid Fuel and Coal Mining Equipment Required From the United States by the Participating Countries, Their Dependent Oversea Territories, and Western Germany, 1948–51

(Millions of United States dollars at f.o.b. prices)

	1948	1949	1950	1951	TOTAL
Solid fuel	369	225	126	54	774
Coal Mining Equipment	80	54	46	40	220
TOTAL	449	279	172	94	994

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PART II—ELECTRICITY

CHAPTER I

THE PROBLEM AND ITS ORIGINS

A. Position Before the War

116. Before the war, most of the participating countries had sufficient generating plant to supply almost the whole of their own electricity requirements. Each of these countries also had sufficient spare plant to ensure an adequate and regular supply of electricity at normal frequency and voltage.

117. Interchanges of electric power between different countries were therefore relatively small, except in the cases of Switzerland and Austria. The abundant water power resources in these countries made favourable the export of electric power, and they supplied approximately 20% and 10% respectively of their total production to other countries.

118. During the years immediately before the war, the power requirements of the participating countries and Western Germany [1] increased continuously. In 1938 net production was 130 billion kilowatt hours [2] and the total output capacity was 39 million kilowatts, of which 14 million kilowatts was hydro-electric plant. This production was equivalent to about 530 kilowatt-hours per head of population per annum which compares with a corresponding figure for the same date in the United States of nearly 900 kilowatt-hours.

119. The time required to construct a power station varies from three to seven years according to the type of station. Thus, to meet the increasing demands foreseen for subsequent years, extensive plant extension programmes were in hand at the time of the outbreak of war.

B. Changes Due to the War

120. One of the first results of the war was the slowing down or the complete abandonment of long-term programmes for new generating

[1] Figures for Iceland are not included since they are not available.

[2] Statistics quoted in Part II of this Report include, when figures are available, both public and industrial electricity plants.

plant in favour of more urgent war needs. This was the case not only in countries occupied by the enemy, but also in others. In addition, due to a variety of causes, the output capacity available from the existing plant was considerably reduced, in some cases permanently and in other cases temporarily until repairs could be made. The principal of these causes were:—

(i) Damage to plant by bombing and other military action.
(ii) Damage to plant due to the "scorched earth" policy.
(iii) Damage to plant by sabotage (in occupied countries).
(iv) Removal of plant by the enemy (in occupied countries).
(v) Insufficient maintenance due to shortage of staff and materials and the necessity for abnormally long periods of operation.
(vi) Damage to plant by the use of unsuitable fuel.
(vii) Damage to plant due to overload, operation at abnormally low frequencies and voltages, severe earth faults due to frequent war damage to transmission equipment, etc.
(viii) Exhaustion of coal stocks at generating stations.

It should also be noted that, with a view to assisting the enemy's war effort as little as possible, every effort was made in occupied countries to prevent the development of power resources and plant manufacturing capacity.

121. The net result of these conditions was that the rate of installation of new plant and repair of existing plant only slightly exceeded the rate of reduction in output capacity of existing plant due to the causes given above. Thus, the total generating plant capacity in the participating countries and Western Germany increased by only 8% between 1938 and 1946, while in the contiguous countries,[3] between which interchange of power is practicable, plant capacity actually decreased by nearly 5%.

122. While there was thus a halt in the installation of new generating plant, the installation of new consuming plant (motors, furnaces, etc.) continued in essential war industries and to a lesser extent in offices and homes. It is estimated that the increase in requirements in the eight-year period 1938–1946 would have been about 50%, but, of course, these requirements could not be met since no corresponding increase had taken place in generating plant capacity. When all spare plant had been brought into service, it thus became necessary to restrict requirements to the supplies available, by rationing, disconnection of supplies and other methods.

[3] Austria, Belgium, Denmark, France, Italy, Luxemburg, Netherlands, Switzerland, and Western Germany.

C. Efforts and Achievements Since the End of the War

123. When the war ended, the first task was to repair the damaged power stations and transmission systems in order to meet the essential needs of the population. This was done, first by makeshifts, then by more permanent repairs. Efforts were also made to obtain the largest possible power supplies from Germany by the construction of suitable interconnectors.

124. Further, the participating countries helped each other as far as possible, both by the supply of electric plant and by each country making available to its neighbours the maximum possible exports of electric energy. The United States also helped in many ways, in particular by putting floating power stations at the disposal of Belgium and the Netherlands.

125. Moreover, most of the participating countries were represented on the Public Utilities Panel (Emergency Economic Committee for Europe) which has now been replaced by the Power Committee of the Economic Commission for Europe, an organ of the United Nations, and have thus established contact and taken important decisions in order to assist one another to the utmost extent of their means and resources.

126. This common effort was, however, hampered by lack of fuel, raw materials and labour. The production of the power stations could not keep pace with the demand. As a result the frequency and voltage of the supply system often fell, sometimes by more than 10% with consequent detrimental effects

127. To meet these conditions a number of emergency measures were taken:—

(i) Economy campaigns were undertaken to limit consumption to the minimum essential quantity. Industrial and commercial users take over three-quarters of the total supply in the participating countries and Western Germany and direct approach was made to them by the appointment in many countries of fuel economy "wardens" or "officers" in factories and workshops. Domestic consumers, who take less than one quarter of the total supply in the same countries, were approached by broadcasting and other national publicity methods.

(ii) Arrangements were made to adjust industrial working hours in order to spread the electrical load more evenly throughout the twenty-four hours of the day and thus reduce the peak load demands. This enabled the maximum possible useful

output to be obtained from the limited plant capacity available.

(iii) The consumption of electrical energy (kilowatt-hours) had to be rationed in many countries although this inevitably caused serious interference with industrial production and considerable hardship for the general public.

(iv) Plant maintenance was reduced and often postponed and the generating plant was kept in operation as long as possible. In this connection it is interesting to note that the utilisation factor [1] of the plant of the participating countries and Western Germany was 41.4% in 1946, and is estimated to have risen to 44.2% in 1947. This compares with a pre-war figure of about 38% in 1938.

(v) Programmes for the rapid construction of diesel-driven generators were adopted (especially in the United Kingdom) and coal-fired boilers were converted to use oil (especially in France and the Netherlands) in order to reduce the demands on the limited supply of solid fuel and in some cases to obtain additional output from existing boiler plant.

128. However, even these emergency measures proved to be insufficient and in addition, particularly during the winter months, it became necessary to disconnect completely the supply to a certain proportion of the consumers during the peak load periods. Such disconnections were usually made according to a predetermined rota so as to spread the hardship evenly over all sections of the community.

D. Present Position

129. Due to the time taken to install new generating plant it has not yet been possible since the war to make any large increase in the available plant capacity other than by the repair of war-damaged plant. There is thus still insufficient plant to meet requirements, particularly during the hours of peak consumption. The maintenance of restrictions in supply, similar to those described above, is therefore inevitable, with a consequent continuance of serious interference with industrial production and hardship for the general public.

130. The necessity for keeping obsolete plant in service, for overloading the limited available plant and operating it at low voltage and frequency, combined with the inadequate time for maintenance and the bad quality of the available fuel, inevitably increases the number of breakdowns and lowers the effective capacity of the available plant.

[1] Ratio of actual output of plant to theoretical maximum possible output of plant during year.

CHAPTER II

PROGRAMME FOR THE FOUR YEARS 1948–51

131. Table 21 shows a comparison between production and requirements of electricity both in terms of maximum power (million kilowatts) and energy (billion kilowatt-hours). It is necessary to consider maximum rather than average power, since electricity cannot be stored on a commercial scale.

Table 21—Electricity Production and Requirements. Actual Figures for 1938 and 1946 and Estimates for 1947–51 [a]

Year	Power [b] (million KW)				Energy (billion KWH)			
	Productive Capacity (net)	Reqts.	Net Deficit		Production (net)	Reqts.[c]	Net Deficit	
			Amount	% of Reqts.			Amount	% of Reqts
	1	2	3	4	5	6	7	8
TOTAL [d]:								
1938					130	130		
1946					153			
1947	23.1	27.8	4.7	17	170	178	8	5
1948	25.0	29.5	4.5	15	189	197	8	4
1949	27.9	32.3	4.4	14	206	214	8	4
1950	30.7	34.6	3.9	11	222	230	8	3
1951	34.3	37.1	2.8	8	237	243	6	2
Of which in contiguous countries [e]:								
1938					88	88		
1946					86			
1947	11.1	14.3	3.2	22	101	110	9	8
1948	12.4	15.5	3.1	20	114	122	8	7
1949	13.9	16.9	3.0	18	126	134	8	6
1950	14.8	17.7	2.9	16	135	143	8	6
1951	15.8	18.5	2.7	15	144	150	6	4

[a] Detailed figures by countries and by years are given in Appendix C (iii)-(viii).

[b] Figures relate only to France, Italy and the United Kingdom (which countries together have 53 per cent of the total installed generating plant capacity of the participating countries and Western Germany) since figures for other counties are not available. Deficits in these countries are expected however to be of similar proportions.

[c] Having regard to probable available supplies.

[d] Participating countries and Western Germany.

[e] The countries are Austria, Belgium, Denmark, France, Italy, Luxemburg, Netherlands, Switzerland and Western Germany.

132. It will be seen from columns 1 and 5 of Table 21 that very large increases in production both of power and energy are planned for 1947–1951. The increase in productive capacity which is being installed to enable these large increases in production to be achieved is shown in Table 22.

Table 22—Maximum Net Productive Capacity of Installed Electricity Generating Plant

(Millions of kilowatts)

Year	Productive Capacity			Increase in Productive Capacity as compared with previous year		
	Thermal	Hydro	Total	Thermal	Hydro	Total
	1	2	3	4	5	6
TOTAL (a):						
1938	25.0	14.0	39.0	1.0	0.5	1.5
1946	25.2	16.9	42.1			
1947	26.3	17.7	44.0	1.1	0.8	1.9
1948	29.8	18.9	48.7	3.5	1.2	4.7
1949	33.7	20.5	54.2	3.9	1.6	5.5
1950	37.5	22.1	59.6	3.8	1.6	5.4
1951	40.9	24.6	65.5	3.4	2.5	5.9
Of which in contiguous countries (b):						
1938	15.0	10.6	25.6	0.4	0.4	0.8
1946	12.2	12.2	24.4			
1947	13.2	12.9	26.1	1.0	0.7	1.7
1948	15.8	14.0	29.8	2.6	1.1	3.7
1949	18.2	15.2	33.4	2.4	1.2	3.6
1950	20.0	16.4	36.4	1.8	1.2	3.0
1951	20.7	18.3	39.0	0.7	1.9	2.6

(a) Participating countries and Western Germany.

(b) The countries are Austria, Belgium, Denmark, France, Italy, Luxemburg, Netherlands, Switzerland and Western Germany.

133. The increase in productive capacity in the participating countries and Western Germany during the last pre-war year, 1938, was only about 1.5 million kilowatts. The programme of new construction now in hand for 1947–1951 (column 6 of Table 22) thus represents a very great effort to obtain a balance between productive capacity and requirements at the earliest possible date. In this connection where existing turbine capacity was greater than the associated boiler capacity arrangements have been made where practicable to obtain additional steam by conversion of boilers to oil firing, installation of additional boilers, etc. The relatively small figure (1.9 million kilowatts) for 1947 emphasises that the long period needed for the construction of electric power stations makes it impossible to bring new plant into commission rapidly. It will be seen, however, that the programmes for ensuing years reach figures in 1948–1951 which represent between three and four times the capacity of new plant installed in 1938. Many countries have decided to assign very high priority to the manufacture of electrical generating plant and in the United Kingdom, for instance, this carries the highest priority of all industrial processes. The capacity of the electrical plant manufacturing

works is also being expanded and utilised to the fullest possible extent as limited by availability of specialised raw materials and equipment.

134. It will also be noted from columns 4 and 5 of Table 22 (lower portion) that in the contiguous countries, where considerable water power resources are available, after an initial installation of relatively quickly installed thermal plant, the programme envisages a progressive increase in the proportion of hydro-electric plant installed. As a result, by 1951 about three-quarters of the total new plant being installed will be hydro-electric plant thus making the minimum possible additional demand on the limited coal supplies available. Where possible, moreover, the new thermal power stations are being designed to make use of lignite and other low grade fuels rather than coking coal and hard coal. Finally where new plant using hard coal is being installed, this is being designed for the highest economic efficiency so as to reduce coal consumption per kilowatt-hour to the lowest practicable figure.

135. It will, however, be seen from Table 21 (columns 3, 4, 7 and 8) that substantial deficits will persist despite these great efforts to increase productive capacity. Moreover the true deficits must necessarily be greater than those shown in Table 21 for the following reasons:—

(i) Geographically isolated countries such as the United Kingdom have necessarily estimated their requirements in kilowatt-hours as being equal to the probable supplies available, since no import of energy is possible. The probable deficit in the United Kingdom is actually about ½ billion kilowatt-hours in each of the years 1947–1949 and ¼ billion kilowatt-hours in 1950.

(ii) Some countries relying partly on high-altitude hydro-electric power have sufficient gross production over a calendar year but an insufficient proportion of this production during the winter.

(iii) Some countries (e. g. Austria) have a surplus of power in one part of their territory and a deficiency in another, without adequate inter-connecting transmission lines to effect a balance.

(iv) The figures of productive capacity assume the continued use of a considerable amount (over 20% in some countries) of obsolete plant, which would be shut down if sufficient new plant could be brought into service. The use of such inefficient plant naturally results in high coal consumption per kilowatt-hour at thermal stations.

136. It appears certain, therefore, that a shortage of electric power will persist for several years with consequent substantial restrictions of industrial and domestic consumption. There can be no doubt that such restrictions will greatly hamper the industrial recovery of the participating countries and may well form a bottleneck retarding the rate of expansion in all other industries.

CHAPTER III

European Co-operation

137. The main conclusion of Chapter II is that throughout the four-year period 1948–1951 the electricity supplies available will be insufficient to meet requirements unless further action is taken. As a result of the very large national programmes of generating plant extensions which have been undertaken by the participating countries and Western Germany, there will be a continuous reduction of the gap between resources and requirements, but nevertheless this would still be substantial in 1951. To meet this situation the co-operative action described in the following paragraphs 138–140 has been taken.

138. As an interim measure, in order to make the best use of the limited available resources, a full exchange of information and ideas has taken place between the participating countries regarding the best methods of obtaining maximum output from available plant and of limiting consumer demand to the available power output. In this connection the meetings of the Public Utilities Panel have been most valuable and will be succeeded by regular meetings of the Power Committee of the Economic Commission for Europe.

139. As a longer term measure it is evident that, despite the very large programme of generating plant extensions already undertaken, still further plant is required. A small working party of experts was therefore set up during the Conference to study urgently the possibility of increasing still further the power supplies available to the participating countries by means of the development of hydro-electric and brown coal resources. The recommendations of this working party are designed to eliminate the prevailing power shortage in the minimum time and in the most economical manner. They are that the nine projects listed in Table 23 should be undertaken with a view to their completion at the earliest possible date. The projects regarding which the working party have thus made a provisional choice are a selection from a considerable number submitted. Should the necessary further detailed investigation of these projects show that the realisation of some of them is undesirable, then a choice should be made from among the other projects submitted.

These projects have been unanimously selected by the working party on a purely economic basis and without regard to national frontiers. In some cases the plants would be constructed in one country for giving supply to another. In other cases the construction of the plants would involve the co-operative development of resources lying partly on the territory of one country and partly on the territory of another.

This programme of generating plant extensions supplementary to the main national programmes may be termed for convenience the "International Programme". It is beyond the present unaided resources of the countries concerned which will be fully engaged on the very large main national programmes summarised in paragraph 132. To undertake the supplementary International Programme a general increase in production would be required; for instance, more cement would be needed and to make this more coal would be required. Furthermore, as well as raw materials, a considerable part of the plant for installation would also have to be imported as finished machinery.

Table 23—International Programme for Additional Hydro-Electric, Brown Coal and Geothermic Electricity Generating Plant Projects

(For approximate location—see Map in Appendix C (x))

Name of Plant (H=Hydro) (B=Brown Coal) (G=Geothermic)	Country in which situated	Country to which supply would be given	Installed Capacity (thousand kw.)	Annual Production (Millions kwh)		Period for construction (years)	Cost (million) $
				Total	In six winter months		
1	2	3	4	5	6	7	8
Adige Noce (H)	Italy	Italy	140	552	150	4	22
Bouthier (H)	Italy	Italy	972	771	518	4	46
Fessenheim (H)	France [a]	France	120	850	350	4	67
Goldenberg (B)	Germany	France, Benelux [b]	190	1,150	--------	2	18
Larderello (G)	Italy	Italy	75	500	250	5	6
Piave (H)	Italy	Italy	130	275	150	5	16
Sarca Molveno (H)	Italy	Italy	180	500	300	4	30
Upper Inn (H)	Austria, Switzerland, Italy	Italy, Austria	349 [c]	1,047 [c]	412 [c]	4–6 [c]	80 [c]
Weisweiler (B)	Germany	France, Benelux	150	1,000	--------	3	30
TOTAL			2,306	6,645	--------	--------	315

[a] This plant would be situated on the River Rhine where it forms the frontier between France and Western Germany and the project would improve navigation on the River Rhine between France, Switzerland and Western Germany.

[b] It seems probable that part of the output would be made available for meeting local German needs, ultimately if not initially.

[c] These figures relate only to the Austrian part of the project.

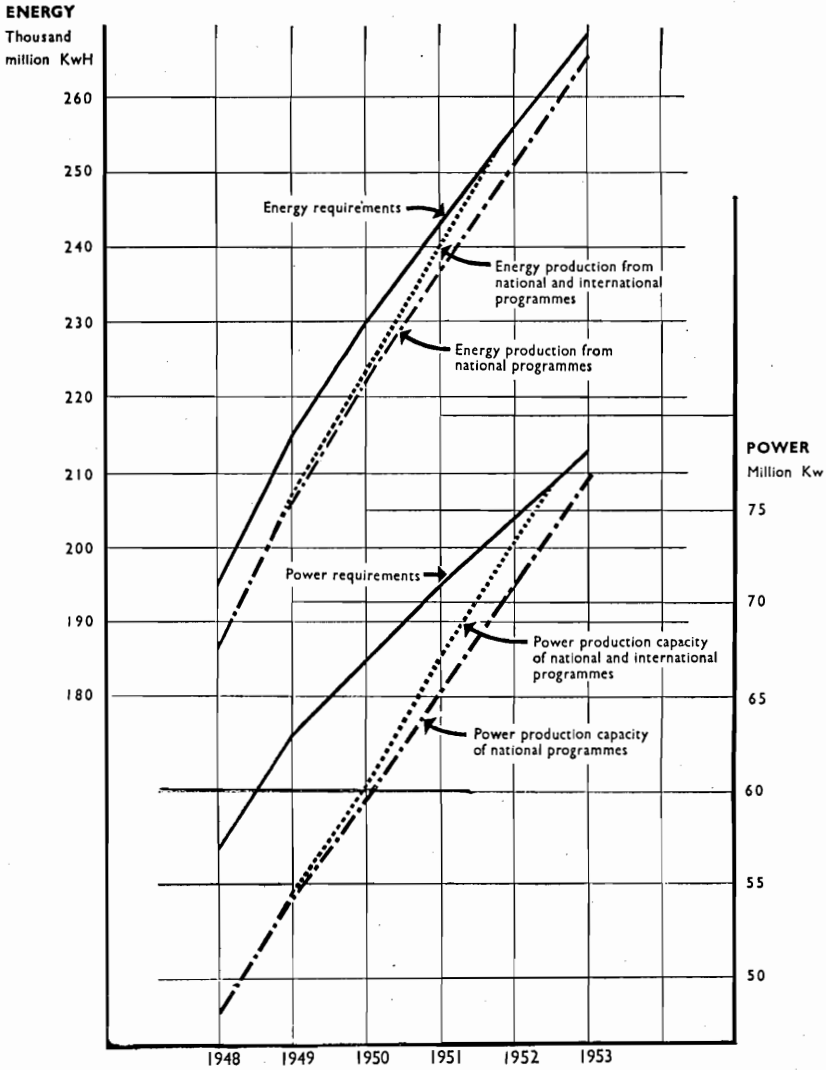
The effect of the International Programme in reducing more rapidly the deficits indicated in Table 21 can most clearly be shown by a diagram. This has been done in Diagram 1 and it will be seen that the

addition of the International Programme is expected to produce a balance between requirements and resources in about 1952 whereas national programmes alone would be unlikely to produce this balance until after 1953. The addition of the International Programme would also, as can be seen, substantially reduce the deficits in 1951.

DIAGRAM 1

Comparison of Electricity Production and Requirements

With and Without the International Generating Plant Extension Programme



The Figures From Which Diagram I Has Been Prepared Are Shown in Appendix C (ix).

The figures from which Diagram 1 has been prepared are shown in Appendix C (ix).

140. The following questions concerning the most economic development and utilisation of European power resources, having regard to the general interests of the nations concerned, appear to fall within the scope of the Power Committee of E. C. E. and interested Governments have therefore decided to raise them at the first meeting of that Committee on 9th October, 1947, with a view to furthering any action which may be deemed necessary at the earliest possible date:—

(i) The preparation and periodic revision of a survey of European large-scale power resources suitable for development for providing power for other countries as well as for national supply.
The nations concerned would then be informed regarding projects of mutual interest and would themselves, by bilateral discussions, investigate such projects and reach a solution as to their development;

(ii) The undertaking of an immediate study of the desirability of establishing an international high-tension network in order to determine whether a better and more economic use can be made of Europe's power resources;

(iii) The undertaking of an immediate study of the desirability of further standardising the design of electric equipment in order to expedite its manufacture.

CHAPTER IV

The Need for External Supplies of Raw Materials and Equipment

141. In order to estimate what imports may be required for carrying out the generating plant extension programmes, outlined in Chapter II, an investigation has been made into the relative productive capacity and requirements for heavy electrical plant of the participating countries and Western Germany. For this purpose a simple questionnaire was issued covering seven major items of heavy plant, viz. boilers, steam turbines and associated generators, water turbines and associated generators, high tension switchgear and transformers.

142. The analysis of the replies to this limited questionnaire was, however, found to be inconclusive as regards individual countries because of the technical complexities of the investigation, and it will

evidently be necessary for each country to make a detailed assessment of its own manufacturing capacity and requirements. The analysis does, however, indicate the following general conclusions for the participating countries as a whole.

143. In 1947–48 both the manufacturing capacity and the production of electricity generating plant will be insufficient to meet requirements.

144. By 1949–50, as a result of the great efforts that will be made, the manufacturing capacity will have been increased to the point of being approximately equal to requirements, which will, however, be several times the pre-war figure.

145. The most effective aid, unless suitable manufactured plant can be made available before the end of 1948, would be the supply of:—

(i) selected raw materials;
(ii) items of specialised equipment;
(iii) equipment for special purposes such as machine tools for factories and heavy plant for reservoir construction.

In the case of (i), the value of the supplies required is included under the appropriate headings in the reports of other Committees.

In the case of (ii) and (iii) it is very difficult to estimate precisely the value of the equipment needed to enable these programmes to be achieved, but it is anticipated that this will be about $300 million; this figure represents only 6% of the total estimated cost of the national generating plant extension programmes for the participating countries and Western Germany, outlined in Chapter II. Experience suggests that lack of this equipment would cause a disorganisation of the programmes out of all proportion to the value of the equipment itself. The allocation of the above estimate over the four years 1948–51 would probably be approximately as follows:—

1948	$125 million
1949	$100 "
1950	$50 "
1951	$25 "

It seems probable that only the U.S.A. would be in a position to supply this equipment.

146. It should be noted that the total estimate of $300 million for imports has been determined on the assumption that the participating countries and Western Germany will be able to obtain the raw materials needed for the achievement of their very large programmes of plant extensions. If they are unable to do so, then greater assistance in imports of plant will be essential.

147. For the further development of European power resources envisaged in paragraph 139, supplementary imports of raw materials and complete machinery would be essential.

It is estimated that these would amount to about $200 million out of the total estimated cost of $315 million in column 8 of Table 23. The allocation of the above estimate over the four years 1948–1951 will be approximately as follows:—

1948	$25 million
1949	$75 "
1950	$75 "
1951	$25 "

PART III—OIL AND OIL PRODUCTS

CHAPTER I

THE PROBLEM

A. The Pre-War Position

148. Oil, the most recently developed of the major sources of power, has in a short period of years become indispensable to modern civilisation, not only in its large-scale application, e.g., for use by transport of all types and for industrial purposes, but also more directly for the comfort and wellbeing of the population as a whole.

149. It is a misfortune of the participating countries and Western Germany that, despite exploration extending over a number of years, the amount of indigenous crude oil discovered forms only a very small part of requirements. The attempts to find oil in commercial quantities have, however, not been abandoned because there is some encouragement in that oil has been discovered in various countries—for example, in Austria, France, Germany, Italy, the Netherlands and the United Kingdom—although the results attending the past efforts may be regarded as generally disappointing.

150. It follows, therefore, that by far the major portion of the oil requirements of the participating countries and Western Germany has always been imported from other territories, the chief sources of supply in 1938 being the Americas (North and South) and the Middle East, and, to a lesser extent, Rumania.

151. With the object of reducing the heavy import demand and for other economic reasons, substitute fuels from indigenous production—such as alcohol, benzole and tar oil—were blended with petroleum products in some countries but the quantities—as in the case of indigenous crude oil—were also comparatively small. The synthetic production of liquid fuels from coal was of greater importance and Germany did, in fact, build up a large "oil from coal" industry in the years before the war. The quantity of indigenous fuels—from natural crude and shale oil, synthetic production and substitute fuels—used in the participating countries and Western Germany during 1938 is estimated at about 2.2 million tons, representing 7% of the total requirements in that year.

152. Imports of petroleum into the participating countries and Western Germany during 1938, i.e., excluding indigenous supplies, amounted to approximately 32.6 million metric tons, comprising 13 million metric tons of crude oil for processing in European refineries and 19.6 million metric tons of finished products. The proportions of these imports supplied through channels requiring payment in United States dollars are estimated at:—

47% of the crude oil
42% of the finished products.

It follows therefore that the "non-dollar" sources of supply accounted for rather more than half the total imports.

153. It is interesting to compare the 1938 per capita consumption of petroleum products in the participating countries and Western Germany and the United States. The figures—which speak for themselves—are:—

United States	1.18 metric tons (8.72 barrels)
Western Europe	0.14 metric tons (1.02 barrels)

B. The Situation During the War

154. The impact of war caused no fundamental alteration in the structure of the oil industry in the participating countries, the only important change being in Austria, where production of crude oil was increased appreciably by the Germans.

155. On the other hand, refining plants and distribution facilities—particularly in France, Germany, Italy and the Netherlands—suffered very heavy damage. A large number of main storage tanks were either completely destroyed or severely damaged: many rail tank-cars and road lorries engaged in the petroleum trade were lost and refinery capacity was substantially reduced.

156. During the war civil consumption of oil in occupied Europe and in the neutral countries was gradually reduced to a very low level as a result of which recourse was made to uneconomical (and unsatisfactory) substitute fuels such as producer gas, wood, peat, etc.

157. The sources of supply to unoccupied Western Europe underwent drastic changes as the war proceeded. With the closing of the Mediterranean, the haul from the Persian Gulf became so long that it had to be eliminated in order to make the best use of the available tanker tonnage. In the end imports were shipped almost exclusively from the United States and the Caribbean Area. This arrangement, in addition to increasing the carrying capacity of the tanker fleets, also had the advantage of enabling large quantities of oil to be supplied from the Persian Gulf to the United States Navy in the Pacific.

C. The Immediate Post-War Period

158. The search for oil in the participating countries—held up during the war in occupied countries with the exception of Austria—was renewed following the end of hostilities. In addition to the increased production in Austria, satisfactory prospects for the future have been disclosed in the Netherlands, but the results in France, Italy and the United Kingdom remained disappointing.

159. The repair of war-damaged refineries and storage tanks and the reintroduction of adequate transport and handling facilities has been pushed on with all possible speed when taking into account the extreme difficulties and perplexities confronting Europe in the immediate post-war period. Actual accomplishment would no doubt have been considerably greater had it not been for the acute shortage of materials such as steel. Despite all the adverse factors, however, a good recovery has been made by some countries from the chaotic conditions obtaining at the cessation of hostilities. France and the Netherlands by intensive efforts succeeded in repairing and operating by 1946 40.9% and 64.3% respectively of their pre-war refining capacity.

160. On the other hand, in Western Germany and Italy—the two other areas where an important local refining industry suffered severe material damage—recovery was slower, particularly in the case of Italy where in 1946 the crude oil throughput amounted to only 3.3% of the pre-war level.

161. The position in 1938 and 1946 is shown statistically in Table 24.

Table 24—Crude Oil Throughput

(Millions)

Country	1938		1946		
	Metric Tons	Barrels	Metric Tons	Barrels	% of 1938
France	6.82	48.6	2.79	19.9	40.9
Italy	1.50	10.8	0.05	0.4	3.3
Netherlands	0.70	4.8	0.45	3.0	64.3
Western Germany	[a] 1.54	[a] 10.3	0.50	3.5	32.4
TOTAL	10.56	74.5	3.79	26.8	35.9

[a] Estimated.

162. It is worth recalling that, in those participating countries where UNRRA operated, petroleum products formed an important part of the programmes of relief and rehabilitation.

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D. The Present Position

163. The present position in the participating countries and Western Germany broadly corresponds with the pre-war conditions. There are, however, two changes worthy of note:—

(i) There is relatively less refining of crude oil, consequently a greater proportion of the requirements has to be imported in the form of finished products—at a greater cost in foreign currency. (This situation is, of course, a direct result of the war damage to European oil refineries to which reference has been made).

(ii) The present situation in Western Germany where the synthetic plants are not in use for the production of liquid fuels. (They are, however, being used in some measure for the production of other commodities such as fats).

164. The outstanding repair work to damaged refineries and other facilities is being accelerated to the maximum degree possible but considerable quantities of American equipment are needed to enable this task to continue. Yet this is not all. The participating countries and Western Germany will still require to draw the bulk of their oil supplies from overseas and the efforts of the British, French and Netherlands oil industries to develop their production in concessions which they have acquired in areas outside Europe are vitally important to the maintenance of the flow of "non-dollar" oil to Europe. These areas too will require large quantities of special equipment that, under present industrial conditions, can only be obtained from the United States.

165. It should be pointed out that American sources have always supplied an important part of the oil required by the participating countries and no doubt they will wish to continue to do so. The receipt of such supplies, however, is related to the amount of dollars available to the participating countries.

166. The fact that the 1947 dollar bill for oil supplies and equipment is appeciably higher than it was before the war is not due to any significant change in the pattern of European oil economy but rather to:—

(i) a greatly increased demand for oil products which is not unrelated to the shortage of solid fuels;

(ii) the marked rise in the prices of oil products and oil equipment;

(iii) the need for buying a higher proportion of finished products due to reduced refining capacity in the participating countries and Western Germany;

(iv) the loss of Rumanian oil supplies;

(v) the purchase of abnormal quantities of equipment and material for the rehabilitation of damaged plant and for the building of new installations.

167. At the present time the participating countries are all too well aware of the very difficult supply position of petroleum products throughout the world. This situation is a direct consequence of the war and its after effects, which held up and are still delaying the normal expansion of oil production, transport and refining required to meet increasing consumption demands. In addition, various sources of oil supply were seriously damaged during the war and it has not yet been possible to restore all these properties to the degree necessary to enable them to contribute to the world availability.

168. Nevertheless, the participating countries are confident that America is fully alive to their need for oil products, essential for maintaining the present standard of living. Their oil programme, therefore, is based on the assumption that, in accordance with previous practice, American channels will continue, as hitherto, to provide a part of their needs.

CHAPTER II

Oil Requirements for the Four Years 1948–51

169. The requirements of the participating countries and Western Germany for petroleum products will continue to expand. It is estimated that by 1951 total requirements will be about 59% higher than in 1947. The foregoing estimate of the increase in the total petroleum requirements and the figures showing motor gasolene needs for the years 1948–1951 are based on the assumption that many of the participating countries will continue to exercise some form of restriction on the supply of motor gasolene for non-essential purposes. The percentage increase by products is shown in Table 25.

Table 25—Increase in Requirements for Oil Products in Participating Countries and Western Germany in 1951 as Compared with 1947

Product	% Increase over 1947	Product	% Increase over 1947
Aviation Gasolene	65.0	Lubricants	27.0
Motor Gasolene	32.7	Bitumen	64.1
White Spirit	19.2	Paraffin Wax	62.2
Kerosenes	14.4	Petroleum Coke	16.6
Gas/Diesel Oil	31.6		
Fuel Oils	105.8	Overall	59.0

Further details, including the changes in demand for each main product and for each of the participating countries and Western Germany are shown in Appendices D (ii) and (iv).

170. The anticipated increase is due principally to:—

(i) The large-scale conversion of industrial plants from coal to fuel oil and the installation of diesel-driven generators due to the shortage of coal and electrical power. The coal which is thereby released becomes available for other purposes and these conversions to oil may thus be regarded as a not unimportant factor in assisting the general recovery of European economy. Under prevailing conditions it is less costly to import fuel oil from whatever source than to bring in the equivalent quantity of American coal when account is taken of the greater calorific value of fuel oil.

This enhanced fuel oil requirement for inland trade consumption, i. e., excluding bunkers, is illustrated in Table 26.

Table 26—Fuel Oil Requirements (Inland Consumption) of Participating Countries and Western Germany

(Millions)

Year	Metric tons	Barrels
1938	4.8	32.7
1947	12.0	81.8
1949	22.8	155.1
1951	28.0	190.2

(ii) The mechanisation of agriculture calling for additional petroleum products, particularly power kerosene.

(iii) An increase in gasolene and diesel oil consumption for road haulage purposes. This increased requirement is, to a considerable extent, a direct consequence of damage to and inadequate maintenance of, alternative means of internal transport during the war.

(iv) Population increases.

171. The forecast of the petroleum requirements of the participating countries and Western Germany during the four years 1948–1951 is shown in Tables 27–29. Similar figures for 1938, 1946 and 1947 are included for the purpose of comparison, while further details are contained in Appendices D (ii, iv, v, vi).

Table 27—Oil Requirements of the Participating Countries, Including Western Germany (Excluding Dependent Oversea Territories)

(Millions)

Year	Indigenous Supplies		Output from Imported Crude Oil [a]		Imports of Finished Products		Total Requirements	
	Metric Tons	Percent	Metric Tons	Percent	Metric Tons	Percent	Metric Tons	Percent
1938	2.2	7	11.5	33	19.6	60	33.3	100
1946	2.0	6	6.0	18	25.2	76	33.2	100
1947	1.8	4	10.2	24	31.1	72	43.1	100
1948	2.5	5	13.2	25	37.3	70	53.0	100
1949	2.6	4	16.2	28	40.3	68	59.1	100
1950	2.5	4	21.1	33	41.0	63	64.6	100
1951	2.5	4	28.2	41	38.0	55	68.7	100

[a] The imports of crude oil required to produce these quantities are shown in Table 28.

Table 28—Sources of Crude Oil Imports, Participating Countries and Western Germany

(Millions)

Year	From Dollar Sources		From Other Sources		Total	
	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent
1938	6.1	47	6.9	53	13.0	100
1946	2.4	36	4.1	64	6.5	100
1947	5.5	49	5.8	51	11.3	100
1948	7.7	54	6.4	46	14.1	100
1949	9.3	51	8.8	49	18.1	100
1950	11.4	47	12.5	53	23.9	100
1951	17.1	55	14.3	45	31.4	100

Table 29—Sources of Supply of Imports of Finished Products, Participating Countries and Western Germany

(Millions)

Year	From Dollar Sources		From Other Sources		Total	
	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent
1938	8.3	42	11.3	58	19.6	100
1946	14.1	56	11.1	44	25.2	100
1947	15.4	50	15.7	50	31.1	100
1948	16.1	43	21.2	57	37.3	100
1949	17.2	43	23.1	57	40.3	100
1950	16.5	40	24.5	60	41.0	100
1951	12.4	33	25.6	67	38.0	100

172. The reason for the small proportion of the requirements which it is estimated will be met from all forms of indigenous supplies (natural crude, shale oil, substitute fuels, etc.) has already been indicated.

173. The anticipated increase in refining capacity in the participating countries which is disclosed by the rising figures of output from imported crude oil is, to some extent, a reflection of the probable coming changes in the world oil supply position and of an increased availability of crude oil, particularly from the Middle East. Part of this additional capacity—which will be needed to turn the crude oil into finished petroleum products and valuable chemical raw materials—will be erected in the participating countries and Western Germany where the products will be consumed. There will be a corresponding tendency for supplies from the Western Hemisphere to Europe to decrease. This is indeed highly probable in the case of heavy oils and crude oils, of which the United States is already a net importer.

174. Although Europe should thus become less dependent upon the supply of certain oil products from the American continent during the coming years, it does not necessarily mean that she will be more independent of America's oil industry or of manufacturers of oil equipment in the United States.

175. Although it is realised that the forward world oil supply position is likely to be difficult for some time (particularly in the case of heavy oils), it has been assumed that the estimated requirements during the four years 1948–1951 will in fact be met. No attempt has therefore been made to relate these requirements to a possible world availability over the period. Increased producing and refining facilities planned in all parts of the world should have a favourable effect on supplies of oil available for the participating countries and Western Germany. It seems desirable, however, that this proposed extension of the oil industry should be brought about as quickly as possible if the rising needs for oil of the participating countries and Western Germany are to be met.

CHAPTER III

Oil Equipment Requirements, 1948–51

176. At the risk of repetition, it cannot be too strongly emphasised that the timely and satisfactory completion of the rehabilitation of war-damaged refineries, the extension of existing terminals and the

building of additional plants in the participating countries and Western Germany and in oversea areas depends to a large extent on a steady flow of specialised oil equipment from the United States. This is not all. During the war, exploration and exploitation programmes were severely curtailed, and this leeway (in addition to the tasks mentioned previously) must now be made good as rapidly as possible.

177. The equipment needed for use in oversea territories will enable a considerable proportion of Western Europe's oil imports to continue to be supplied by the British, French and Netherlands oil industries for payment in currencies other than dollars.

178. In estimating the cost of oil equipment required by the participating countries and Western Germany from the United States during the next four years, adequate allowance has been made for their own manufacturing potentialities, whilst capital investment projects to be financed by American private interests have been excluded. In addition dollar requirements for certain major projects at present under review, *e.g.*, the proposed large diameter I.P.C. pipeline, have not been included owing to the difficulty in providing accurate estimates at this stage. Costs have been calculated at the ruling prices in the United States.

Table 30—Estimated Cost of Specialised Oil Equipment Required From the United States, 1948–1951 [a]

(Millions of United States dollars)

Year	For use in participating countries and Western Germany	For use in Dependent Oversea Territories	For use by participating countries in other regions	Total
1948	104.4	7.5	63.1	175.0
1949	84.7	8.0	62.8	155.5
1950	61.0	8.5	54.7	124.2
1951	59.3	9.3	64.9	133.5
TOTAL	309.4	33.3	245.5	588.2

[a] Further details are shown in Appendix D (x).

179. There is no reason to believe that American manufacturers would not be in a position to deliver the required oil equipment to the above value and within the period in question.

180. The value of specialised oil equipment which it is estimated European industry will be able to provide in 1948/51 and for which allowance has been made in arriving at the requirements from the United States (Table 30) is illustrated in table 31.

Table 31—Estimated Cost of Specialised Oil Equipment From European Sources

(Millions of United States dollars)

Year	$	Percentage of Total Equipment Requirement
1948	282	62
1949	304	66
1950	326	72
1951	348	72
TOTAL	1,260	68

CHAPTER IV

REQUIREMENTS FROM DOLLAR SOURCES, 1948–51

181. It is necessary finally to set out on a statistical basis the need for petroleum products and equipment from dollar sources during the period 1948–1951, and this has been done in Table 32. When considering this Table, it must be noted that the dollar income which accrues to participating countries during the course of world-wide oil trading is taken into account in the general balance of payments.

Table 32—Estimated Value of Oil and Oil Equipment Requirements From Dollar Sources

(Millions of United States dollars)

	1948	1949	1950	1951	Total
Estimated American oil supplies valued at loading port and based upon current market prices:					
To the participating countries and Western Germany	511.7	554.5	570.3	550.0	2,186.5
To dependent oversea territories	65.0	68.9	70.8	69.6	274.3
TOTAL FOR OIL [a]	576.7	623.4	641.1	619.6	2,460.8
Value of oil equipment required from dollar sources by the participating countries for use:					
In the participating countries and Western Germany	104.4	84.7	61.0	59.3	309.4
In dependent oversea territories	7.5	8.0	8.5	9.3	33.3
In other areas	63.1	62.8	54.7	64.9	245.5
TOTAL FOR OIL EQUIPMENT [b]	175.0	155.5	124.2	133.5	588.2
TOTAL OIL AND EQUIPMENT	751.7	778.9	765.3	753.1	3,049.0

(a) For details of oil requirements by products and countries see Appendices D (viii) and (ix).
(b) For details of oil equipment requirements by countries see Appendix D (x).

PART IV—CONCLUSIONS

General

182. This report has reviewed, in necessarily summary form, the present situation of the various main forms of fuel resources and energy supplies available to the participating countries and Western Germany. It now remains to review very briefly the position as a whole, and to present the final energy balance.

Coal

183. European coal production, which has made a marked recovery since the war, is to be further expanded as a result of the intensive efforts which have already been initiated, and which will be followed up in all the producing countries. By the end of 1951 it should be possible, provided the present programmes are carried out, for the needs of the participating countries and Western Germany to be satisfied from their own resources. This should permit the restoration of the pre-war pattern of the European coal trade. In the interim four-year period, assistance will be required in the form of raw coal (including certain tonnages of good coking coal required for the hard coke industry), on a gradually decreasing scale. These tonnages, which are exceptional in that Europe in the past has not been dependent on American coal imports, are essential for the period under review to prevent the slowing-down, if not the actual stoppage, of the present pace of industrial recovery in all countries, and to avoid recurrence of the hardships endured by the peoples of Europe in the two preceding winters.

Electricity

184. Great efforts are being made in the participating countries and Western Germany to increase electricity production and to make good the deficiency in productive capacity which grew up during the war years owing mainly to diversion of effort and resources. National generating plant extension programmes between three and four times as great as those of 1938 have been undertaken. Despite this great effort, unless further action is taken, the demand for electricity will exceed the available supply throughout the four-year period 1948–51. A programme has, therefore, been prepared on an

international basis for further generating plant extensions using the most economical water power and brown coal resources. The participating countries and Western Germany are already undertaking in their national programmes the maximum construction of new generating plant of which they are capable, and this international programme cannot, therefore, be implemented without substantial supplies from abroad. The programme would inevitably take several years to complete, but it would effect a balance between production and requirements of electricity by about 1952; whereas if this programme is not adopted, such a balance is unlikely to be achieved until some time after 1953. As it is not practicable to import power from overseas, the only effective contribution which can be made to alleviate the undoubted power shortage which will persist during the period 1947–51 is in the form of certain specialised equipment and raw materials needed particularly during the earlier years of the programme, which can materially assist in speeding up construction of new generating plants. It is probable that only the United States would be in a position to furnish these supplies.

Oil

185. In view of the relatively minor contribution which indigenous petroleum production in the participating countries and Western Germany can provide towards meeting requirements, and their consequent dependence on oversea supplies, petroleum presents an essentially different picture from that for other sources of power, in that there is no foreseeable prospect of the countries in question becoming self-sufficient in this respect. Imports into virtually all these countries from overseas will have to be maintained, and it is reasonable to hope for a continuation of supplies from the American continent, but possibly at a reduced rate owing to the factors described in paragraph 173. It should be emphasised, however, that this long-term modification in the relative importance of extra-European sources of supply will not necessarily mean a reduction in dollar expenditure.

186. In addition to the expected requirements from dollar sources (including the United States) over the period 1948–51, which is not exceptional in itself but only a projection of the normal course of events, the United States are in a position to give invaluable assistance in the form of machinery and materials for:—

(i) further exploration and development work within the participating countries and their oversea territories;

(ii) the extension of producing and refining capacity both in the countries themselves and in the territories where they enjoy concessions.

SUMMARY

187. When, by the end of 1951, the participating countries should have achieved their production and imports programmes, the fuel and power situation in Europe will be very different from that described in paragraph 5 of this Report. Table 33 illustrates this evolution.

Table 33—Comparative Energy Consumption in the Participating Countries and Western Germany Before the War and in 1951

Source of Energy	1935-38 Annual Average		1951	
	Energy Consumption in terms of Millions of Tons of Hard Coal [a]	Percent	Energy Consumption in terms of Millions of Tons of Hard Coal (estimated) [a]	Percent
Coal (including thermal generation of electricity)	500	82	600	60
Water power (mainly for the generation of electricity)	50	8	100	10
Petroleum products & natural gas	60	10	300	30
TOTAL	610	100	1,000	100

[a] The conversion factors used in this table are: 1 kWh=0.750 Kg. of coal, and 1 Kg. petroleum products=1.50 Kg. of coal.

188. The annual consumption per capita, therefore, will have risen from 2.3 tons to 4.0 tons of coal, and the ratio between the different sources of energy will more nearly approach that prevailing in the United States with, however, a greater comparative development of hydro-electric power.

189. Finally, to bring about the restoration of the European fuel and power situation by the end of the period under review, it will be necessary to rely on American supplies to a total value of $4,543 millions. The following Table shows the separate requirements for each main fuel and power item which make up this total.

Table 34—Fuel and Power: Total Import Requirements From Dollar Sources for Participating Countries, Their Dependent Oversea Territories and Western Germany, 1948–1951

(Millions of U. S. dollars)

	1948	1949	1950	1951	Total
Coal:					
Raw Coal	369.0	225.0	126.0	54.0	774.0
Mining Machinery	80.0	54.0	46.0	40.0	220.0
Electricity:					
Equipment	150.0	175.0	125.0	50.0	500.0
Oil:					
Petroleum Products	576.8	623.3	641.1	619.6	2,460.8
Materials and equipment	175.0	155.5	124.2	133.5	588.2
TOTAL	1,350.8	1,232.8	1,062.3	897.1	4,543.0

Of this total, between one-third and one-half can be considered as abnormal and due to the consequences of the European plight during the war. It will be seen that, when normal conditions return, by far the greater part of the dollar expenditure of Europe in terms of energy will be devoted to petroleum imports.

190. In the contents of this Report will be found positive evidence—if any such is needed—of the very real co-operation which exists between the European countries in matters affecting fuel and power—co-operation which has already been given material form in the international field through the successful operation of the European Coal Organisation and the Public Utilities Panel of the Emergency Economic Commission for Europe. Provided the above requirements are met from dollar sources, Europe can again become a closely knit and prosperous economic unit which, with the development on modern lines of its great natural resources of coal and water power, can make a positive contribution to the peace and prosperity of all nations.

APPENDIX A

Countries Represented on the Fuel and Power Committee, Its Sub-Committees and the Electricity Working Party

Fuel and Power Committee

Austria
Belgium
Denmark
France
Greece
Italy
Luxemburg
Netherlands
Sweden
Switzerland
United Kingdom

Coal Sub-Committee

Austria
Belgium
France
Italy
Switzerland
United Kingdom

The Coal Sub-Committee also had the assistance of the Secretariat of the European Coal Organisation.

Electricity Sub-Committee

Austria
Belgium
France
Italy
Netherlands
Sweden
Switzerland
United Kingdom

Oil Sub-Committee

France
Italy
Netherlands
Sweden
Switzerland
United Kingdom

Electricity Working Party

Austria
Belgium
France
Italy
Luxemburg
Switzerland
United Kingdom

The Electricity Working Party was assisted in its work by representatives of the Bi-zone and of the French Zone of Germany.

APPENDICES B, C, AND D, STATISTICAL TABLES

APPENDIX B (i)

COAL/LIGNITE: NET PITHEAD PRODUCTION

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons—ton for ton)

Country	1929	1935–38 (mean)	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. PARTICIPATING COUNTRIES										
Austria	3,733	3,347	3,543	2,138	2,515	2,900	3,000	3,190	3,500	4,000
Belgium	26,940	28,454	29,585	15,833	22,784	24,300	26,500	28,000	29,500	31,000
Denmark	Non-producing country									
France	54,977	46,554	47,562	35,017	49,298	50,500	51,000	53,300	58,000	62,500
Greece	n. a.	n. a.	108	70	122	120	120	800	1,300	1,800
Iceland	Non-producing country									
Ireland	87	122	120	214	215	210	210	210	210	210
Italy	999	1,716	2,278	n. a.	2,598	3,200	3,875	4,690	5,500	5,500
Luxemburg	Non-producing country									
Netherlands	11,738	13,244	13,659	5,225	8,794	10,280	11,350	12,300	12,750	13,200
Norway	207	261	269	3	58	200	300	350	400	450
Portugal	250	280	360	610	525	440	450	450	450	450
Sweden	262	295	286	393	301	275	200	200	200	200
Switzerland				311	178	28				
Turkey	1,433	1,776	1,839	3,007	2,949	3,203	3,290	3,520	3,885	4,610
United Kingdom	262,000	233,000	231,000	186,000	193,000	199,000	214,000	227,000	239,000	249,000
SUB-TOTAL	362,626	329,049	330,609	248,821	283,337	294,656	314,295	334,010	354,695	372,920

2. Western Germany										
Bi-zone:										
Hard Coal	131,700	126,200	138,400	35,800	55,300	74,800	86,000	97,000	112,000	121,000
Brown Coal	59,000	58,200	68,000	21,000	51,200	58,300	63,000	66,000	70,000	72,000
French Zone	n. a.	n. a.	n. a.	n. a.	80	65	90	120	120	120
Saar	13,579	12,510	14,388	3,461	7,886	10,440	13,550	15,000	15,600	16,800
Sub-total	204,279	196,910	220,788	60,261	114,466	143,605	162,640	178,120	197,720	209,920
3. Dependent Oversea Territories										
French	16	101	136	450	545	620	700	900	1,500	1,600
United Kingdom	Non-producing countries									
Sub-total	16	101	136	450	545	620	700	900	1,500	1,600
Grand Total	566,921	526,060	551,533	309,532	398,348	438,881	477,635	513,030	553,915	584,440

n. a.=not available.

APPENDIX B (ii)

CONSUMPTION OF SOLID FUEL (INCLUDING BUNKERS)

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons—ton for ton)

Country	1929	1935-38 (mean)	1938	1945	1946	1947	1948	1949
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. PARTICIPATING COUNTRIES								
Austria	10,665	7,114	7,814	2,755	5,248	6,000	8,584	8,864
Belgium	33,223	27,147	25,680	16,742	23,589	24,900	28,412	29,760
Denmark	5,499	5,974	5,696	2,285	4,221	4,600	6,550	7,075
France	91,672	72,272	69,885	41,496	58,900	65,000	78,000	81,800
Greece	n. a.	n. a.	1,083	271	433	365	660	1,250
Iceland	158	169	158	117	95	170	175	(a) 175
Ireland	2,565	2,606	2,652	1,225	1,580	1,484	1,960	2,210
Italy	15,058	13,183	13,289	(b) 2,684	7,258	12,420	16,628	18,365
Luxemburg	4,213	3,064	2,619	795	1,852	2,186	3,830	3,830
Netherlands	16,400	15,278	15,800	n. a.	11,411	13,950	17,040	18,590
Norway	2,975	3,100	3,100	1,107	2,025	2,300	2,500	2,700
Portugal	1,400	1,470	1,510	1,125	1,150	1,340	1,700	1,960
Sweden	6,926	8,686	8,597	3,140	3,494	5,365	7,138	8,163
Switzerland	3,846	3,740	3,808	868	1,437	2,200	3,276	3,276
Turkey	1,083	1,444	1,660	3,245	3,035	3,417	3,275	3,485
United Kingdom	197,700	193,900	192,200	186,100	193,800	197,600	207,000	209,000
SUB-TOTAL	393,383	359,147	355,551	263,955	319,528	343,297	386,728	400,503

2. WESTERN GERMANY								
Bi-zone	160,700	156,600	180,900	52,800	91,500	119,000	131,500	142,000
French Zone	(c) 8,480	(d) 8,064	8,640	n. a.	3,793	4,236	5,120	5,770
Saar	6,884	6,337	7,132	1,696	3,289	5,037	6,382	7,080
SUB-TOTAL	176,064	171,001	196,672	54,496	98,582	128,273	143,002	154,850
3. DEPENDENT OVERSEA TERRITORIES (Consumption not including re-exports of bunkers which are included as bunkers in the figures above for the parent countries)								
French	n. a.	n. a.	n. a.	n. a.	2,496	2,930	2,815	2,915
United Kingdom	324	1,222	1,310	n. a.	n. a.	n. a.	1,150	1,350
SUB-TOTAL	324	1,222	1,310	n. a.	2,496	2,930	3,965	4,265
GRAND TOTAL	569,771	531,370	553,533	318,451	420,606	474,500	533,695	559,618

(a) 1948 estimate repeated. (b) Imports only. (c) 1928 figure. (d) 1936 figure. n. a.=not available.

APPENDIX B (iii)

CONSUMPTION OF SOLID FUEL BY MAIN CONSUMER GROUPS, 1938, 1948, and 1951

(Participating Countries and Western Germany)

(Thousands of metric tons—ton for ton)

Country	Public Utilities (a)			Railways			Industry			Domestic—Others (b)		
	1938	1948	1951	1938	1948	1951	1938	1948	1951	1938	1948	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
1. PARTICIPATING COUNTRIES												
Austria	1,013	1,260	1,680	1,402	1,464	1,680	3,407	3,660	4,740	1,691	1,900	2,100
Belgium	1,823	3,160	3,200	2,119	2,425	2,500	9,182	8,875	10,750	7,516	7,250	8,000
Denmark	1,116	1,600	2,150	420	5,000	550	1,660	1,700	2,000	2,350	2,600	3,275
France	7,362	11,160	9,600	9,723	9,840	10,800	24,689	31,500	37,700	17,355	13,200	16,800
Greece	190	60	570	125	100	270	350	200	700	148	160	680
Iceland	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
Ireland	372	520	500	274	390	275	500	550	550	1,452	488	1,373
Italy	1,850	2,500	3,600	2,550	2,500	2,400	7,289	8,996	11,465	1,100	1,300	1,650
Luxemburg	(c) 39	(c) 48	(c) 48	134	144	144	(c) 2,200	(c) 3,388	(c) 3,388	246	250	250
Netherlands	2,504	3,600	4,750	608	760	560	4,137	4,050	5,300	4,316	5,300	5,800
Norway	130	100	115	220	330	330	1,200	1,230	1,345	900	400	850
Portugal	(d) 340	360	310	(d) 275	300	500	(d) 625	650	800	(d) 80	60	80
Sweden	944	1,180	1,320	653	670	670	3,955	2,720	3,030	2,726	2,330	3,400
Switzerland	810	600	600	159	90	90	1,040	960	960	1,779	1,606	1,606
Turkey	212	330	405	301	900	1,180	531	1,212	1,362	86	353	383
United Kingdom	27,200	45,500	47,800	13,500	15,500	13,900	54,100	59,800	58,700	61,700	56,400	62,500
2. WESTERN GERMANY												
Bi-zone	23,700	25,000	n. a.	7,700	9,600	n. a.	52,000	28,300	n. a.	26,000	10,400	n. a.
French Zone	(e) 610	430	n. a.	(e) 1,130	1,000	n. a.	(e) 3,360	2,380	n. a.	(e) 2,884	1,250	n. a.
Saar	344	322	n. a.	317	340	n. a.	3,185	2,010	n. a.	396	300	n. a.

(a) Gas-works and electricity-works.
(b) Includes small scale industrial classification.
(c) Electricity is included with "Industry."
(d) 1935/38 average.
(e) 1936 figure.
n. a.=not available.

APPENDIX B (iv)

EXPORTS OF SOLID FUEL TO ALL DESTINATIONS (EXCLUDING BUNKERS)

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons—ton for ton)

Country	1929	1935–38 (mean)	1938	1945	1946	1947	1948	1949
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1. PARTICIPATING COUNTRIES								
Austria	43	1	1					
Belgium	4,840	6,152	6,452	436	940	1,770	3,000	4,300
Denmark	53	23	6					
France	4,040	1,205	1,150	49	439	500	500	500
Greece								
Iceland								
Ireland	40	18	10					
Italy	31	10	4					
Luxemburg								
Netherlands	5,695	6,018	6,023	n. a.	443	500	650	900
Norway		2						
Portugal								
Sweden	2	11	9	25				
Switzerland								
Turkey	455	413	286		182	109	15	35
United Kingdom	65,400	40,900	38,500	5,300	4,600	1,000	7,000	17,000
SUB-TOTAL	80,599	54,753	52,441	5,810	6,604	3,879	11,165	22,735

Exports of Solid Fuel to all Destinations (excluding Bunkers)—Continued

(Thousands of metric tons—ton for ton)

Country	1929	1935–38 (mean)	1938	1945	1946	1947	1948	1949
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
2. WESTERN GERMANY								
(Excluding inter-zonal transfers)								
Bi-zone	38, 600	33, 900	32, 100	3, 900	11, 700	10, 300	17, 500	21, 000
French Zone	----------	----------	----------	----------	----------	----------	----------	----------
Saar	n. a.	n. a.	n. a.	n. a.	1, 200	1, 200	2, 775	3, 625
SUB-TOTAL	38, 600	33, 900	32, 100	3, 900	12, 900	11, 500	20, 275	24, 625
3. DEPENDENT OVERSEA TERRITORIES								
(Exports including re-exports of bunkers)								
French	n. a.	53	----------	----------	15	33	----------	----------
United Kingdom	1, 876	1, 578	1, 090	n. a.	n. a.	n. a.	1, 600	1, 450
SUB-TOTAL	1, 876	1, 631	1, 090	n. a.	15	33	1, 600	1, 450
GRAND TOTAL	121, 075	90, 284	85, 631	9, 710	19, 519	15, 412	33, 040	48, 810

n. a.=not available.

APPENDIX B (v)

EXPORTS OF SOLID FUELS TO PARTICIPATING COUNTRIES (EXCLUDING BUNKERS AND INTER-ZONAL TRANSFERS)

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons—ton for ton)

Country	1948	1949
	(1)	(2)
1. PARTICIPATING COUNTRIES		
Austria	----------	----------
Belgium	2,965	4,225
Denmark	----------	----------
France	500	500
Greece	----------	----------
Iceland	----------	----------
Ireland	----------	----------
Italy	----------	----------
Luxemburg	----------	----------
Netherlands	650	900
Norway	----------	----------
Portugal	----------	----------
Sweden	----------	----------
Switzerland	----------	----------
Turkey	8	20
United Kingdom	6,000	14,000
SUB-TOTAL	10,123	19,645
2. WESTERN GERMANY		
Bi-zone	16,500	20,000
French Zone	2,775	3,625
SUB-TOTAL	19,275	23,625
3. DEPENDENT OVERSEA TERRITORIES		
French	----------	----------
United Kingdom	1,600	1,450
SUB-TOTAL	1,600	1,450
GRAND TOTAL	30,998	44,720

APPENDIX B (vi)

IMPORTS OF SOLID FUEL (INCLUDING BUNKERS)

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons—ton for ton)

Country	1929	1935–38 (mean)	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. PARTICIPATING COUNTRIES										
Austria	6,658	3,305	3,884	563	2,367	3,326	4,764	4,854	5,510	5,510
Belgium	12,334	6,301	5,805	1,622	3,146	4,800	5,000	6,000	6,800	7,800
Denmark	5,552	5,674	5,396	1,475	3,789	4,600	6,550	7,075	7,600	8,125
France	34,840	23,899	22,099	5,188	10,400	16,200	27,500	28,000	27,300	26,100
Greece	n. a.	n. a.	975	201	311	245	440	550	650	800
Iceland	158	169	158	117	95	170	175	175	175	175
Ireland	2,518	2,501	2,541	1,011	1,365	1,274	1,750	2,000	2,250	2,500
Italy	14,603	12,228	12,133	2,684	5,758	10,621	14,400	15,600	17,000	19,200
Luxemburg	4,240	3,080	2,605	839	1,837	2,186	3,830	3,830	3,830	3,830
Netherlands	10,502	8,421	8,512	n. a.	3,211	3,915	6,050	6,600	7,670	8,735
Norway	2,768	2,781	2,659	1,068	1,824	2,055	2,150	2,300	2,450	2,600
Portugal	1 150	1,190	1,150	515	625	900	1,250	1,510	1,520	1,570
Sweden	6,276	7,851	7,733	362	3,567	5,090	6,425	7,440	7,710	7,965
Switzerland	3,463	3,272	3,337	239	1,536	2,000	3,276	3,276	3,276	3,276
Turkey	105	54	87	----	----	----	----	----	----	----
United Kingdom	----	----	----	----	----	700	----	----	----	----
SUB-TOTAL	105,167	80,726	79,074	15,884	39,831	58,082	83,560	89,210	93,741	98,186

2. WESTERN GERMANY (Excluding inter-zonal transfers)										
Bi-zone	8,600	6,100	6,600	----------	250	500	500	500	500	500
French Zone	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------
Saar	199	----------	----------	----------	----------	----------	----------	----------	----------	----------
SUB-TOTAL	8,799	6,100	6,600	----------	250	500	500	500	500	500
3. DEPENDENT OVERSEA TERRITORIES										
French	n. a.	1,095	1,413	972	1,231	1,693	2,115	2,015	2,715	2,715
United Kingdom	2,200	2,800	2,400	2,600	2,700	2,700	2,750	2,800	2,900	3,000
SUB-TOTAL	2,200	3,895	3,813	3,572	3,931	4,393	4,865	4,815	5,615	5,715
GRAND TOTAL	116,166	90,721	89,487	19,456	44,012	62,975	88,925	94,525	99,856	104,401

n. a.=not available.

APPENDIX B (vii)

VALUE OF TOTAL CONSUMPTION REQUIREMENTS OF COAL MINING EQUIPMENT 1948–1951 [a]

(Participating Countries and Western Germany)

(Millions of United States dollars)

Country	1948	1949	1950	1951	Total
	(1)	(2)	(3)	(4)	(5)
1. PARTICIPATING COUNTRIES					
Austria	5.10	0.73	0.74	0.07	6.64
Belgium	36.70	36.10	35.50	34.00	142.30
France	150.50	160.70	170.40	174.30	655.90
Greece	7.00	4.00	4.00	----------	15.00
Ireland	.11	.07	.10	.04	.32
Italy	15.06	20.08	10.04	5.02	50.20
Netherlands	21.35	18.05	18.55	30.55	88.50
Norway	1.55	.85	.85	.85	4.10
Portugal	2.80	2.80	2.80	2.80	11.20
Turkey	33.90	32.91	33.36	33.00	133.17
United Kingdom	235.00	260.00	270.00	277.00	1,042.00
SUB-TOTAL	509.07	536.29	546.34	557.63	2,149.33
2. WESTERN GERMANY					
Bi-zone	302.40	263.20	241.60	241.60	1,048.80
French Zone	78.50	90.30	90.90	105.60	365.30
SUB-TOTAL	380.90	353.50	332.50	347.20	1,414.10
GRAND TOTAL	889.97	889.79	878.84	904.83	3,563.43

APPENDIX B (viii)

VALUE OF TOTAL PRODUCTION OF COAL MINING EQUIPMENT [a]

(Participating Countries and Western Germany)

(Millions of United States dollars)

Country	1948	1949	1950	1951	Total
	(1)	(2)	(3)	(4)	(5)
1. PARTICIPATING COUNTRIES					
Austria	2.90	0.40	0.38	0.02	3.70
Belgium	27.20	26.60	25.00	24.00	102.80
France	125.00	136.00	149.00	155.70	565.70
Greece	----------	----------	----------	----------	----------
Ireland	----------	----------	----------	----------	----------
Italy	13.38	17.83	8.92	4.46	44.59
Netherlands	14.00	11.40	12.60	21.25	59.25
Norway	0.60	----------	----------	----------	0.60
Portugal	----------	----------	----------	----------	----------
Switzerland	----------	----------	----------	----------	----------
Turkey	13.60	13.45	13.45	13.70	54.20
United Kingdom	194.00	230.00	254.00	268.00	946.00
SUB-TOTAL	390.68	435.68	463.35	487.13	1,776.84
2. WESTERN GERMANY					
Bi-zone	279.70	256.70	234.70	234.70	1,005.80
French Zone	38.77	48.03	43.08	49.35	179.23
SUB-TOTAL	318.47	304.73	277.78	284.05	1,185.03
GRAND TOTAL	709.15	740.41	741.13	771.18	2,961.87

[a] Excluding structural steel and mining timber of all kinds.

APPENDIX B (ix)

VALUE OF IMPORT REQUIREMENTS OF COAL MINING EQUIPMENT [a]

(Participating Countries and Western Germany)

(Millions of United States dollars)

Country	From Participating Countries and Western Germany					From Non-Participating Countries				
	1948	1949	1950	1951	Total	1948	1949	1950	1951	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. PARTICIPATING COUNTRIES										
Austria	2.20	0.33	0.36	0.05	2.94					
Belgium	9.50	9.50	10.50	10.00	39.50					
France	13.50	13.00	10.60	9.40	46.50	12.00	11.70	10.80	9.20	43.70
Greece	3.00	1.00	1.00		5.00	4.00	3.00	3.00		10.00
Ireland	.11	.07	.10	.04	.32					
Italy	1.71	2.28	1.14	.57	5.70					
Netherlands	6.75	6.15	5.45	6.80	25.15	.60	.50	.50	2.50	4.10
Norway						.95	.85	.85	.85	3.50
Portugal	2.80	2.80	2.80	2.80	11.20					
Switzerland										
Turkey	20.30	19.46	19.91	19.30	78.97					
United Kingdom	2.00	2.00	1.00		5.00	39.00	28.00	15.00	9.00	91.00
2. WESTERN GERMANY										
Bi-zone	7.90	6.50	6.90	6.90	28.20	20.00				20.00
French Zone	36.19	32.09	32.58	37.55	138.41	3.54	10.28	15.24	18.60	47.66
GRAND TOTAL	105.96	95.18	92.34	93.41	386.89	80.09	54.33	45.39	40.15	219.96

(a) Excluding structural steel and mining timber of all kinds.

APPENDIX B (X)

VALUE OF ANTICIPATED EXPORTS OF COAL MINING EQUIPMENT TO PARTICIPATING COUNTRIES AND WESTERN GERMANY, 1948–51 [a]

(Participating Countries and Western Germany)

(Millions of United States dollars)

Country	1948	1949	1950	1951	Total
	(1)	(2)	(3)	(4)	(5)
1. PARTICIPATING COUNTRIES					
Austria	----------	----------	----------	----------	----------
Belgium	7.50	7.50	7.50	7.50	30.00
France	0.50	0.50	0.50	0.50	2.00
Greece	----------	----------	----------	----------	----------
Ireland	----------	----------	----------	----------	----------
Italy	16.00	16.00	16.00	16.00	64.00
Netherlands	----------	----------	----------	----------	----------
Norway	----------	----------	----------	----------	----------
Portugal	----------	----------	----------	----------	----------
Switzerland	n. a.	n. a.	n. a.	n. a.	n. a.
Turkey	----------	----------	----------	----------	----------
United Kingdom	10.00	10.00	10.00	10.00	40.00
2. WESTERN GERMANY					
Bi-zone	1.00	3.30	4.40	4.40	13.10
French Zone	----------	----------	----------	----------	----------
GRAND TOTAL	35.00	37.30	38.40	38.40	149.10

n. a.=not available.

(a) Excluding structural steel and mining equipment of all kinds.

DIAGRAM 2

Solid Fuel: Production, Imports, Exports and Consumption for Participating Countries and Western Germany in 1945–51 Compared with Pre-War.

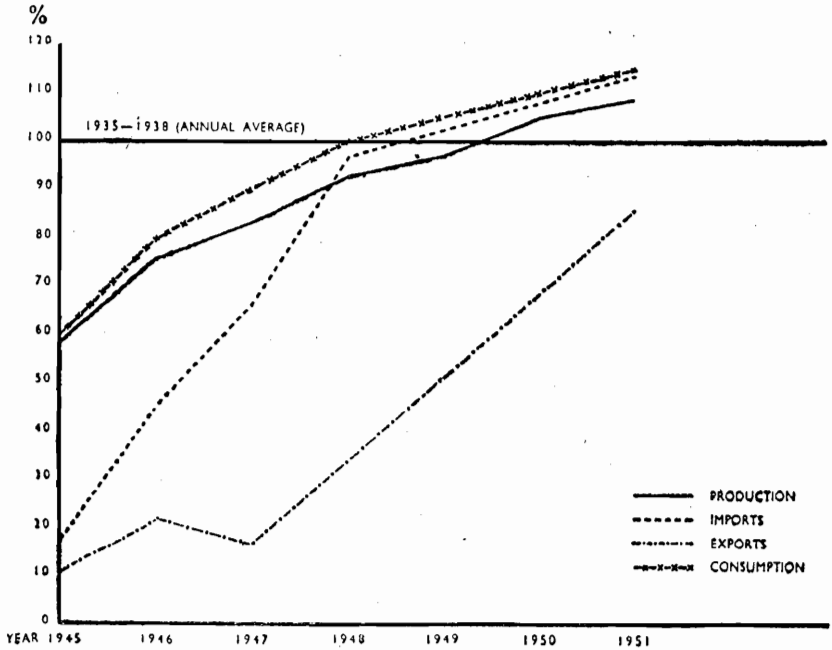
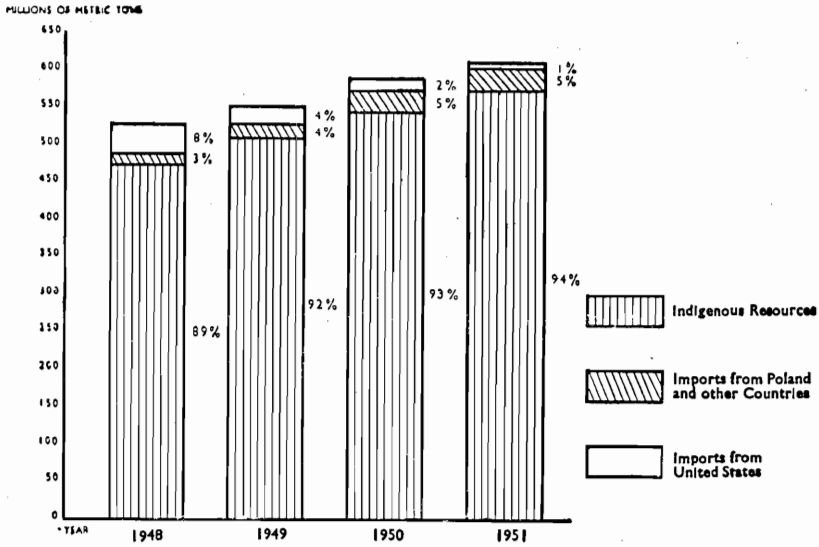


DIAGRAM 3

Breakdown of Total Annual Consumption of Solid Fuel in Participating Countries, Dependent Oversea Territories and Western Germany, 1948–51



APPENDIX C (i)

ESTIMATED NET IMPORTS (+) OR EXPORTS (−) OF ENERGY, 1947–51

(Participating Countries and Western Germany)

(Millions of kilowatt-hours)

Country	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)
CONTIGUOUS PARTICIPATING COUNTRIES					
Austria	−650	−810	−870	−1,320	−2,940
Belgium	+125	+60	----------	----------	----------
Denmark	+50	+50	+50	+50	+50
France	+1,500	+2,000	+2,500	+2,750	+3,000
Italy	+8,500	+8,000	+7,800	+7,600	+7,500
Luxemburg	+111	+25	+54	+95	+14
Netherlands	+50	+100	+200	+300	+300
Switzerland	−580	−500	−500	−500	−500
SUB-TOTAL	+9,106	+8,925	+9,234	+8,975	+7,424
WESTERN GERMANY					
Bi-zone	−750	−1,250	−2,000	−2,500	−2,500
French Zone	+485	(a)+1,000	(a)+1,343	(a)+1,500	(a)+1,500
Saar	−273	−177	−198	−253	−326
SUB-TOTAL	−538	−427	−855	−1,253	−1,326
TOTAL	+8,568	+8,498	+8,379	+7,722	+6,098
NON-CONTIGUOUS PARTICIPATING COUNTRIES					
Greece	----------	----------	----------	----------	----------
Iceland	----------	----------	----------	----------	----------
Ireland	----------	----------	----------	----------	----------
Norway	----------	----------	----------	----------	----------
Portugal	----------	----------	----------	----------	----------
Sweden	(a)−100	(a)−100	−100	−100	−100
Turkey	----------	----------	----------	----------	----------
United Kingdom	----------	----------	----------	----------	----------
TOTAL	−100	(a)−100	−100	−100	−100
GRAND TOTAL	+8,468	+8,398	+8,279	+7,622	+5,998

The figures in this table should not be regarded in every case as a precise indication of the power shortage of each country. For some countries, the absence of import figures is merely the result of geographical impracticability; for others, a result of their determination to operate all existing plant to the maximum, whereas in more favourable circumstances, some of them would have been kept in reserve or shut down.

(a) Rough estimate made for the purpose of addition.

APPENDIX C (ii)

ESTIMATED EQUIVALENT STORAGE-CAPACITY OF RESERVOIRS, 1947–51

(Participating Countries and Western Germany)

(Millions of kilowatt-hours)

Country	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)
CONTIGUOUS PARTICIPATING COUNTRIES					
Austria	243	248	330	465	1,330
Belgium	5	5	5	5	5
Denmark	----	----	----	----	----
France	1,220	1,340	1,480	2,050	2,230
Italy	2,602	3,223	3,508	3,823	4,142
Luxemburg	n. a.	n. a.	n. a.	n. a.	n. a.
Netherlands	----	----	----	----	----
Switzerland	1,210	1,240	1,310	1,340	1,400
SUB-TOTAL	5,280	6,056	6,633	7,683	9,107
WESTERN GERMANY					
Bi-zone	30	30	30	30	35
French Zone	110	(a) 110	(a) 110	(a) 110	(a) 110
Saar	n. a.	n. a.	n. a.	n. a.	n. a.
SUB-TOTAL	140	140	140	140	145
TOTAL	5,420	6,196	6,773	7,823	9,252
NON-CONTIGUOUS PARTICIPATING COUNTRIES					
Greece	n. a.	n. a.	n. a.	n. a.	n. a.
Iceland	n. a.	n. a.	n. a.	n. a.	n. a.
Ireland	----	----	----	----	----
Norway	----	----	----	----	----
Portugal	83	83	83	180	276
Sweden	2,700	2,650	2,790	2,950	3,200
Turkey	----	----	----	----	----
United Kingdom	----	----	----	----	----
TOTAL	2,783	2,733	2,873	3,130	3,476
GRAND TOTAL	8,203	8,929	9,646	10,953	12,728

(a) Rough estimates for the purpose of addition in the total.
n. a. = not available.

APPENDIX C (iii)

Total Net Annual Output of Electricity

(Participating Countries and Western Germany)

(Millions of kilowatt-hours)

Country	1937	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Contiguous Participating Countries									
Austria	3,082	3,197	3,638	4,302	4,830	5,310	5,770	6,520	8,940
Belgium	4,853	4,611	4,299	5,748	6,600	7,000	7,450	7,901	8,400
Denmark	1,104	1,142	975	1,430	1,750	1,950	2,150	2,342	2,520
France	20,100	20,844	18,485	22,959	25,800	29,100	32,000	34,550	37,000
Italy	15,188	15,380	12,622	16,923	20,800	23,510	26,380	28,710	31,260
Luxemburg	562	462	504	336	430	705	708	739	845
Netherlands	3,346	3,540	1,740	3,470	4,170	4,675	5,180	5,540	5,900
Switzerland	6,842	7,043	9,600	10,073	10,100	10,300	10,800	11,200	11,500
Sub-total	55,077	56,219	51,863	65,241	74,480	82,550	90,438	97,502	106,365
Western Germany									
Bi-zone	23,300	27,500	n. a.	18,000	22,700	27,300	31,700	33,500	33,500
French Zone	2,989	2,968	n. a.	2,227	2,353	(a) 2,400	2,557	(a) 2,600	(a) 2,600
Saar	1,169	1,265	423	835	1,121	1,328	1,525	1,627	1,779
Sub-total	27,458	31,733	n. a.	21,062	26,174	31,028	35,782	37,727	37,879
Total	82,535	87,952	(b) 51,863	86,303	100,654	113,578	126,230	135,229	144,244

NON-CONTIGUOUS PARTICIPATING COUNTRIES									
Greece	243	271	210	291	----------	440	530	621	964
Iceland	----------	----------	----------	----------	----------	----------	----------	----------	----------
Ireland	314	377	407	572	600	660	720	880	840
Norway	9,276	9,927	10,140	11,599	11,800	12,100	12,500	14,000	15,000
Portugal	390	409	518	614	650	885	920	1,115	1,270
Sweden	7,981	8,161	13,526	14,100	15,000	16,000	17,000	18,100	19,300
Turkey	266	312	528	552	610	680	740	840	970
United Kingdom	21,672	23,089	35,148	38,932	41,158	44,364	47,650	51,162	54,214
TOTAL	40,142	42,546	60,477	66,660	69,818	75,129	80,060	86,718	92,558
GRAND TOTAL	122,677	130,498	(b)112,340	152,963	170,472	188,707	206,280	221,947	236,802

(a) Rough estimates for the purpose of addition in grand total only.
(b) 1945 totals exclude Western Germany as figures for the Bi-zone and French Zone are not available.

n. a.=not available.

APPENDIX C (iv)

NET ANNUAL OUTPUT OF ELECTRICITY FROM THERMAL PLANT

(Participating Countries and Western Germany)

(Millions of kilowatt-hours)

Country	1937	1938	1945	1946	1947	1948	1949	1950	1951
CONTIGUOUS PARTICIPATING COUNTRIES	(1)	(2)	(3)	(4)	(5)	(6)	(7)		(9)
Austria	522	587	854	676	830	930	1,050	1,130	1,230
Belgium	4,796	4,567	4,249	5,698	6,550	6,945	7,395	7,846	8,280
Denmark	1,086	1,123	943	1,398	1,718	1,918	2,118	2,310	2,488
France	9,900	10,400	8,185	11,628	11,420	12,740	14,160	15,070	15,750
Italy	565	821	372	810	1,200	1,700	1,980	2,450	3,140
Luxemburg	561	461	[a] 503	335	428	703	706	737	843
Netherlands	3,346	3,540	1,740	3,470	4,170	4,675	5,180	5,540	5,900
Switzerland	33	33	6	13	100	120	180	150	200
SUB-TOTAL	20,809	21,532	16,852	24,028	26,416	29,731	32,769	35,233	37,831
WESTERN GERMANY									
Bi-zone	19,000	23,000	n. a.	13,900	18,200	22,800	27,200	29,000	28,600
French Zone	889	912	n. a.	226	415	[a] 500	617	[a] 600	[a] 600
Saar	1,147	1,249	418	815	1,101	1,308	1,505	1,607	1,759
SUB-TOTAL	21,036	25,161	n. a.	14,941	19,716	24,608	29,322	31,207	30,959
TOTAL	41,845	46,693	[b] 16,852	38,969	46,132	54,339	62,091	66,440	68,790

NON-CONTIGUOUS PARTICIPATING COUNTRIES									
Greece	233	259	201	282	n. a.	430	520	610	932
Iceland	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
Ireland	75	91	[a] 197	208	270	320	340	410	370
Norway	111	108	4	30	-------	-------	-------	-------	-------
Portugal	251	283	323	299	320	340	360	360	400
Sweden	1,011	855	389	600	[a] 1,000	[a] 1,000	2,000	1,800	1,700
Turkey	258	302	505	527	580	645	695	750	825
United Kingdom	20,920	22,103	34,005	37,796	39,983	43,189	46,265	49,351	51,889
TOTAL	22,859	24,001	35,624	39,742	[c] 42,153	45,924	50,180	53,281	56,116
GRAND TOTAL	64,704	70,694	[b] 52,476	78,711	[c] 88,285	100,263	112,271	119,721	124,906

[a] Rough estimates made for addition in totals.
[b] 1945 totals exclude Western Germany as figures for the Bi-zone and French Zone are not available.
[c] Excluding Greece.
n. a.=not available.

APPENDIX C (v)

Net Annual Output of Electricity From Hydro-electric Plant

(Participating Countries and Western Germany)

(Millions of kilowatt-hours)

Country	1937	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Contiguous Participating Countries									
Austria	2, 560	2, 610	2, 784	3, 626	4, 000	4, 380	4, 720	5, 390	7, 710
Belgium	57	44	50	50	50	55	55	55	120
Denmark	18	19	32	32	32	32	32	32	32
France	10, 200	10, 444	10, 300	11, 331	14, 380	16, 360	17, 840	19, 480	21, 250
Italy	14, 623	14, 559	12, 250	16, 113	19, 600	21, 810	24, 400	26, 260	28, 120
Luxemburg	1	1	1	1	2	2	2	2	2
Netherlands									
Switzerland	6, 809	7, 010	9, 594	10, 060	10, 000	10, 180	10, 620	11, 050	11, 300
Sub-total	34, 268	34, 687	35, 011	41, 213	48, 064	52, 819	57, 669	62, 269	68, 534
Western Germany									
Bi-zone	4, 300	4, 500	n. a.	4, 100	4, 500	4, 500	4, 500	4, 500	4, 900
French Zone	2, 100	2, 056	n. a.	2, 001	1, 938	[a] 1, 900	1, 940	[a] 2, 000	[a] 2, 000
Saar	22	16	5	20	20	20	20	20	20
Sub-total	6, 422	6, 572	n. a.	6, 121	6, 458	6, 420	6, 460	6, 520	6, 920
Total	40, 690	41, 259	[b] 35, 011	47, 334	54, 522	59, 239	64, 129	68, 789	75, 454

NON-CONTIGUOUS PARTICIPATING COUNTRIES									
Greece	10	12	9	9	n. a.	10	10	11	32
Iceland									
Ireland	239	286	[a] 210	364	330	340	380	470	470
Norway	9,165	9,819	10,136	11,569	[a] 11,800	[a] 12,100	12,500	14,000	15,000
Portugal	139	126	195	315	330	545	560	755	870
Sweden	6,970	7,306	13,137	13,500	[a] 14,000	[a] 15,000	15,000	16,300	17,600
Turkey	8	10	23	25	30	35	45	90	145
United Kingdom	752	986	1,143	1,136	1,175	1,175	1,385	1,811	2,325
TOTAL	17,283	18,545	24,853	26,918	[c] 27,665	29,205	29,880	33,437	36,000
GRAND TOTAL	57,973	59,804	[b] 59,864	74,252	[c] 82,187	88,444	94,009	102,226	111,896

[a] Rough estimates made for addition in the totals.
[b] 1945 Totals exclude Western Germany, as figures for Bi-zone and French Zone are not available.
[c] Excluding Greece.
n. a.=not available.

APPENDIX (vi)

Total Net Output Capacity of Installed Electricity Generating Plant

(Participating Countries and Western Germany)

(Thousands of kilowatts)

Country	1937	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Contiguous Participating Countries									
Austria	1,074	1,088	1,953	2,067	2,113	2,300	2,487	2,776	3,648
Belgium	1,525	1,578	1,626	1,724	1,732	1,965	2,129	2,286	2,480
Denmark	510	548	691	691	709	827	882	1,017	1,017
France	4,820	4,865	3,840	4,610	5,120	5,680	6,500	6,940	7,320
Italy	4,745	4,796	4,905	5,500	6,000	6,700	7,350	7,850	8,500
Luxemburg	127	128	128	132	109	109	114	135	141
Netherlands	1,746	1,741	1,444	1,660	1,660	1,750	1,835	1,870	1,920
Switzerland	1,940	2,030	2,495	2,555	2,565	2,650	2,780	2,880	2,970
Sub-total	16,487	16,774	17,082	18,939	20,008	21,981	24,077	25,754	27,996
Western Germany									
Bi-zone	7,500	8,000	n. a.	4,650	5,205	6,905	8,355	9,585	10,050
French Zone	485	485	n. a.	583	609	628	648	648	648
Saar	279	286	188	214	272	309	307	348	370
Sub-total	8,264	8,771	n. a.	5,447	6,086	7,842	9,310	10,581	11,068
Total	24,751	25,545	a 17,082	24,386	26,094	29,823	33,387	36,335	39,064

NON-CONTIGUOUS PARTICIPATING COUNTRIES									
Greece	110	126	123	123	----------	178	238	238	285
Iceland	----------	----------	----------	----------	----------	----------	----------	----------	----------
Ireland	140	140	175	175	175	187	210	242	282
Norway	2,016	2,037	2,450	2,550	2,550	2,650	2,800	2,950	3,150
Portugal	267	280	297	315	321	365	375	540	590
Sweden	1,750	1,850	2,450	2,600	2,600	2,600	2,800	2,950	3,150
Turkey	167	178	245	247	256	307	395	429	482
United Kingdom	8,280	8,803	11,559	11,748	12,002	12,637	14,027	15,924	18,440
TOTAL	12,730	13,414	17,299	17,758	17,354	18,924	20,845	23,273	26,379
GRAND TOTAL	37,481	38,959	[a] 34,381	42,144	43,998	48,747	54,232	59,608	65,443

[a] 1945 totals exclude Western Germany as figures for the Bi-zone and French Zones are not available.
n. a.=not available.

APPENDIX C (vii)

NET OUTPUT CAPACITY OF INSTALLED THERMAL ELECTRICITY GENERATING PLANT

(Participating Countries and Western Germany)

(Thousands of kilowatts)

Country	1937	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CONTIGUOUS PARTICIPATING COUNTRIES									
Austria	368	370	588	633	653	680	737	776	818
Belgium	1,506	1,559	1,607	1,705	1,713	1,946	2,110	2,267	2,449
Denmark	500	538	678	678	696	814	869	1,004	1,004
France	3,090	3,090	2,010	2,600	2,730	3,010	3,500	3,560	3,540
Italy	816	856	515	774	1,000	1,100	1,100	1,150	1,300
Luxemburg	126	127	127	131	108	108	113	134	140
Netherlands	1,746	1,741	1,444	1,660	1,660	1,750	1,835	1,870	1,920
Switzerland	110	110	125	125	125	140	180	200	220
SUB-TOTAL	[a] 8,262	8,391	7,094	8,306	8,685	9,548	10,444	10,961	11,391
WESTERN GERMANY									
Bi-zone	5,800	6,100	n. a.	3,510	4,105	5,805	7,255	8,485	8,770
French Zone	192	192	n. a.	125	151	170	190	[a] 190	[a] 190
Saar	275	282	184	210	268	305	303	344	366
SUB-TOTAL	6,267	6,574	n. a.	3,845	4,524	6,280	7,748	9,019	9,326
TOTAL	14,529	14,965	[b] 7,094	12,151	13,209	15,828	18,192	19,980	20,717

NON-CONTIGUOUS PARTICIPATING COUNTRIES									
Greece	102	118	115	115	n. a.	176	236	236	276
Iceland	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
Ireland	60	[a] 60	[a] 60	60	60	72	85	97	117
Norway	116	117	100	100					
Portugal	194	201	192	191	191	200	200	250	250
Sweden	550	550	550	600	600	600	600	650	650
Turkey	161	171	235	236	245	295	382	409	435
United Kingdom [c]	8,280	8,803	11,559	11,748	12,002	12,637	14,027	15,924	18,440
TOTAL	9,463	10,020	12,811	13,050	13,098	13,980	15,530	17,566	20,168
GRAND TOTAL	23,992	24,985	[b] 19,905	25,201	26,307	29,808	33,722	37,546	40,885

[a] Rough estimates for addition in the total.
[b] 1945 totals exclude Western Germany as figures for the Bi-zone and French Zone are not available.
[c] Including a relatively small proportion of hydro-electric power.
n. a. = Not available.

APPENDIX C (viii)

NET OUTPUT CAPACITY OF INSTALLED HYDRO-ELECTRIC PLANT

(Participating Countries and Western Germany)

(Thousands of kilowatts)

Country	1937	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
CONTIGUOUS PARTICIPATING COUNTRIES									
Austria	706	718	1,365	1,434	1,460	1,620	1,750	2,000	2,830
Belgium	19	19	19	19	19	19	19	19	31
Denmark	10	10	13	13	13	13	13	13	13
France	1,730	1,775	1,830	2,010	2,390	2,670	3,000	3,380	3,780
Italy	3,929	3,940	4,390	4,726	5,000	5,600	6,250	6,700	7,200
Luxemburg	1	1	1	1	1	1	1	1	1
Netherlands	----	----	----	----	----	----	----	----	----
Switzerland	1,830	1,920	2,370	2,430	2,440	2,510	2,600	2,680	2,750
SUB-TOTAL	8,225	8,383	9,988	10,633	11,323	12,433	13,633	14,793	16,605
WESTERN GERMANY									
Bi-zone	1,700	1,900	n. a.	1,140	1,100	1,100	1,100	1,100	1,280
French Zone	293	293	n. a.	458	458	458	[a] 458	[a] 458	[a] 458
Saar	4	4	4	4	4	4	4	4	4
SUB-TOTAL	1,997	2,197	n. a.	1,602	1,562	1,562	1,562	1,562	1,742
TOTAL	10,222	10,580	[b] 9,988	12,235	12,885	13,995	15,195	16,355	18,347

NON-CONTIGUOUS PARTICIPATING COUNTRIES									
Greece	8	8	8	8	n. a.	2	2	2	9
Iceland	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
Ireland	80	80	[a] 115	115	115	115	125	145	165
Norway	1,900	1,920	2,350	2,450	[a] 2,550	[a] 2,650	2,800	2,950	3,150
Portugal	73	79	105	124	130	165	175	290	340
Sweden	1,200	1,300	1,900	2,000	2,000	2,000	2,200	2,300	2,500
Turkey	6	7	10	11	11	12	13	20	47
United Kingdom [c]	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.	n. a.
TOTAL	3,267	3,394	4,488	4,708	4,806	4,944	5,315	5,707	6,211
GRAND TOTAL	13,489	13,974	[b] 14,476	16,943	17,691	18,939	20,510	22,062	24,558

[a] Rough estimates for addition in the total.
[b] 1945 totals exclude Western Germany as figures for the Bi-zone and French Zone are not available.
[c] A relatively small amount of hydro-electric plant is included in Appendix C (vii).
n. a. = not available.

APPENDIX C (ix)

Estimated Electricity Production and Requirements, 1948–53, if National Generating Plant Extension Programmes Are Supplemented by the International Programme

(Participating Countries and Western Germany)

(Millions of kilowatts. Billions of kilowatt-hours)

Year	Production from national programmes (a)	Production from international programmes (b)	Total production (c)	Requirements (d)	Net Deficit	
					Amount	Percentage of requirements
	(1)	(2)	(3)	(4)	(5)	(6)
POWER (million kw):						
1948	48.7	----------	48.7	57.0	8.6	15
1949	54.2	0.2	54.4	63.0	8.6	14
1950	59.6	0.3	59.9	67.0	7.1	11
1951	65.4	1.8	67.2	71.0	3.8	5
1952	71.0	2.1	73.1	74.5	1.4	2
1953	76.6	2.3	78.0	78.0	----------	----------
ENERGY (billion kwh):						
1948	188.7	----------	188.7	197.1	8.4	4
1949	206.3	0.3	206.6	215.6	8.0	4
1950	221.9	1.4	223.3	229.6	6.3	3
1951	236.8	2.9	239.7	242.8	3.1	1
1952	251.0	5.4	256.0	256.0	----------	----------
1953	265.0	6.2	268.0	268.0	----------	----------

(a) Figures for 1948–1951 are from Appendix C (iii) for energy and Appendix C (vi) for power. The latter thus refer to production capacity. Figures for 1952–53 are rough estimates obtained by extrapolation.

(b) From data in Table 23.

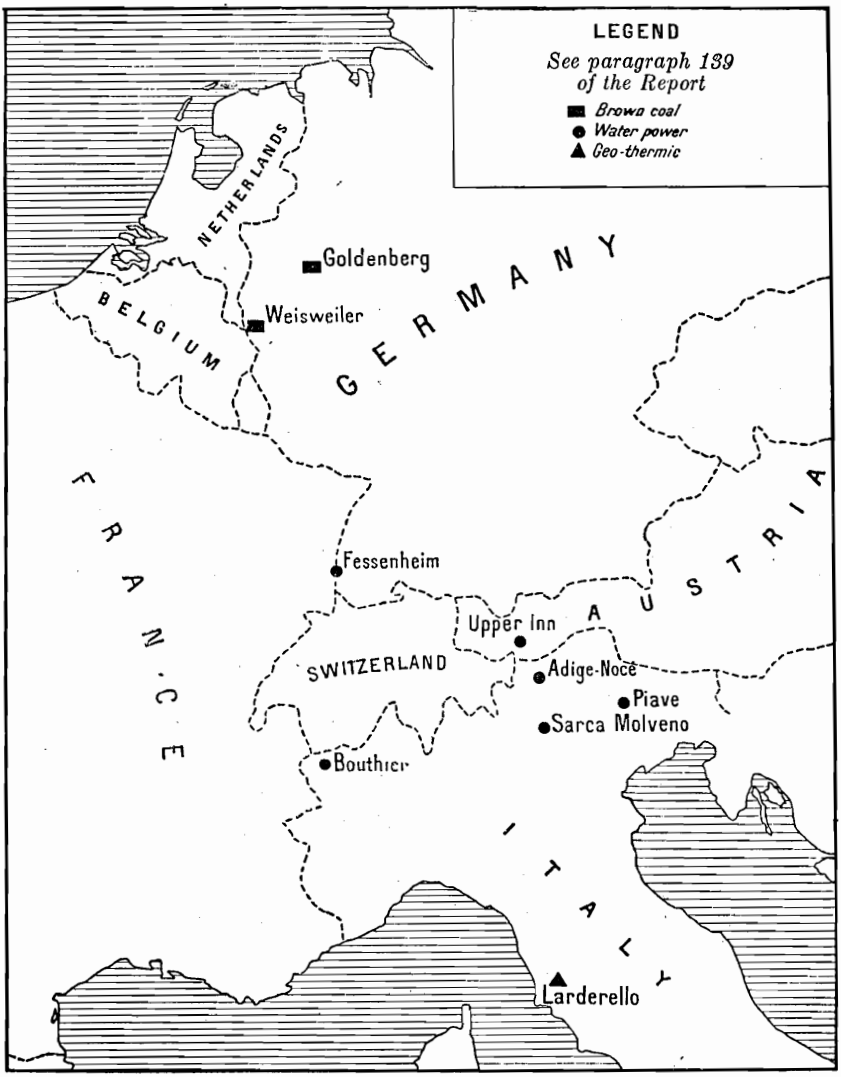
(c) Column 1 plus Column 2, or Column 4, whichever is the lesser.

(d) Figures for 1948–1951 are the sum of the totals of Appendix C (iii) and C (i) for energy (total production + total deficits); for power it has been assumed that the total percentage deficit for the participating countries and Western Germany resulting from the national programmes will be the same as the corresponding total percentage deficit for France, Italy and the United Kingdom (see footnote (b) to Table 21).

NOTE: Figures for 1952–1953 are rough estimates obtained by extrapolation.

APPENDIX C (x)

Map Showing Location of Plants in the International Generating Plant Extension Programme



APPENDIX D (i)

ESTIMATED TOTAL REQUIREMENTS FOR PETROLEUM PRODUCTS[a]

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons. Thousands of barrels)

Product	1938		1946		1947		1948		1949		1950		1951	
	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Aviation Gasolene	298	2,640	737	6,530	991	8,781	1,165	10,322	1,330	11,784	1,499	13,281	1,717	15,213
Motor Gasolene	14,495	124,077	9,904	84,778	11,416	97,721	13,795	118,085	14,196	121,518	15,056	128,880	15,789	135,154
White Spirit	188	1,498	247	1,969	262	2,088	284	2,263	298	2,376	307	2,447	313	2,495
Kerosenes	2,306	18,079	2,923	22,803	3,501	27,300	3,520	27,462	3,720	29,022	3,852	30,051	4,055	31,640
Gas/Diesel Oils [b]	6,198	45,152	8,209	60,060	9,792	71,733	10,649	77,997	11,888	87,075	13,007	95,278	13,282	97,251
Fuel Oils [b]	9,068	60,456	11,840	79,154	17,997	120,659	26,243	176,416	30,780	207,028	34,342	231,094	36,694	247,007
Lubricants	1,684	11,603	1,784	12,292	1,696	11,685	1,757	12,106	1,897	13,070	2,038	14,042	2,124	14,634
Bitumen	1,696	10,345	1,173	7,155	1,492	9,102	1,744	10,638	2,097	12,792	2,262	13,798	2,377	14,500
Paraffin Wax	154	1,212	101	795	126	992	178	1,401	196	1,543	201	1,582	202	1,590
Petroleum Coke	137	755	38	209	180	992	207	1,141	213	1,174	197	1,086	210	1,157
TOTAL	36,224	275,817	36,956	275,745	47,453	351,053	59,542	437,831	66,615	487,382	72,761	531,539	76,763	560,641

[a] Requirements represent consumption plus/minus any stock changes. Indigenous supplies and products from imported crude oil are included.

[b] Gas/Diesel Oils and Fuel Oils include bunkers at ports in the participating countries and Western Germany and the dependent oversea territories to vessels of all nationalities. Bunkers at all other ports—even for European flag vessels—have been entirely excluded.

APPENDIX D (ii)

ESTIMATED TOTAL REQUIREMENTS FOR PETROLEUM PRODUCTS [a]

(Participating Countries and Western Germany)

(Thousands of metric tons. Thousands of barrels)

Product	1938		1946		1947		1948		1949		1950		1951	
	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*
Aviation Gasolene	290	2,569	533	4,723	721	6,389	864	7,655	952	8,435	1,049	9,294	1,190	10,544
Motor Gasolene	13,503	115,585	9,182	78,598	10,663	91,275	12,506	107,051	12,751	109,149	13,472	115,321	14,149	121,116
White Spirit	188	1,498	247	1,969	261	2,080	283	2,255	296	2,360	305	2,431	311	2,479
Kerosenes	2,141	16,780	2,665	20,774	3,191	24,863	3,189	24,860	3,368	26,255	3,466	27,016	3,649	28,448
Gas/Diesel Oils [b]	5,588	40,734	7,354	53,912	9,055	66,385	9,642	70,696	10,712	78,550	11,686	85,700	11,912	87,321
Fuel Oils [b]	8,021	53,531	10,300	68,978	15,921	106,980	22,793	153,708	26,790	180,759	30,152	203,493	32,761	221,069
Lubricants	1,619	11,155	1,691	11,651	1,600	11,024	1,686	11,617	1,817	12,519	1,955	13,470	2,033	14,007
Bitumen	1,696	10,345	1,073	6,545	1,384	8,443	1,650	10,065	1,991	12,145	2,168	13,225	2,271	13,853
Paraffin Wax	148	1,165	94	740	119	937	171	1,346	187	1,473	192	1,511	193	1,519
Petroleum Coke	137	755	38	209	180	992	207	1,141	213	1,174	197	1,086	210	1,157
TOTAL	33,331	254,117	33,177	248,099	43,095	319,368	52,991	390,394	59,077	432,819	64,642	472,547	68,679	501,513

[a] Requirements represent consumption plus/minus any stock changes. Indigenous supplies and products from imported crude oil are included.

[b] Gas/Diesel Oils and Fuel Oils include bunkers at ports in the participating countries and Western Germany to vessels of all nationalities. Bunkers at non-European ports—even for European flag vessels—have been entirely excluded.

APPENDIX D (iii)

ESTIMATED TOTAL REQUIREMENTS FOR PETROLEUM PRODUCTS [a]

(Dependent Oversea Territories Only)

(Thousands of metric tons. Thousands of barrels)

Product	1938		1946		1947		1948		1949		1950		1951	
	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*
Aviation Gasolene	8	71	204	1,807	270	2,392	301	2,667	378	3,349	450	3,987	527	4,669
Motor Gasolene	992	8,492	722	6,181	753	6,446	1,289	11,034	1,445	12,369	1,584	13,559	1,640	14,038
White Spirit	----------	----------	----------	----------	1	8	1	8	2	16	2	16	2	16
Kerosenes	165	1,299	258	2,029	310	2,437	331	2,602	352	2,766	386	3,035	406	3,192
Gas/Diesel Oils [b]	610	4,418	855	6,148	737	5,342	1,007	7,301	1,176	8,525	1,321	9,578	1,370	9,931
Fuel Oils [b]	1,047	6,925	1,540	10,175	2,076	13,684	3,450	22,707	3,990	26,270	4,190	27,601	3,933	25,937
Lubricants	65	448	93	641	96	662	71	489	80	551	83	572	191	627
Bitumen	----------	----------	100	610	108	659	94	574	106	646	94	573	106	647
Paraffin Wax	6	47	7	55	7	55	7	55	9	71	9	71	9	71
TOTAL	2,893	21,700	3,779	27,646	4,358	31,685	6,551	47,437	7,538	54,563	8,119	58,992	8,084	59,128

[a] Requirements represent consumption plus/minus any stock changes. Indigenous supplies are included.

[b] Gas/Diesel oils and Fuel oils include bunkers at ports within the dependent oversea territories.

APPENDIX D (iv)

ESTIMATED TOTAL REQUIREMENTS FOR PETROLEUM PRODUCTS (BY COUNTRIES)

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons. Thousands of barrels)

	1938		1946		1947		1948		1949		1950		1951	
	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*
1. PARTICIPATING COUNTRIES														
Austria	346	2,638	927	6,932	986	7,339	959	7,071	953	7,000	881	6,456	827	6,053
Belgium	817	6,229	853	6,379	1,649	12,273	1,820	13,420	1,888	13,868	1,946	14,261	1,975	14,456
Denmark	905	6,900	743	5,556	1,441	10,725	1,928	14,216	2,144	15,736	2,381	17,438	2,382	17,425
France	7,633	58,194	4,239	31,699	6,086	45,147	8,585	62,893	10,380	75,794	11,958	87,176	13,863	101,032
Greece	385	2,935	405	3,029	683	5,083	836	6,164	892	6,552	960	7,035	1,043	7,634
Iceland	20	153	62	464	105	781	148	1,091	148	1,087	148	1,085	148	1,083
Ireland	319	2,432	256	1,914	575	4,280	845	6,203	955	6,986	1,087	7,937	1,207	8,807
Italy	2,778	21,180	2,031	15,188	3,929	29,243	4,590	33,845	4,997	36,704	5,422	39,734	5,930	43,404
Luxemburg	32	244	30	224	43	320	62	457	65	477	67	491	70	512
Netherlands	1,610	12,275	1,769	13,229	2,656	19,768	2,907	21,435	3,139	23,057	3,354	24,579	3,391	24,820
Norway	595	4,536	564	4,218	1,030	7,666	1,192	8,789	1,324	9,725	1,439	10,545	1,562	11,433
Portugal	606	4,620	573	4,285	674	5,016	884	6,518	956	7,022	1,027	7,526	1,053	7,707
Sweden	1,341	10,224	1,805	13,498	2,968	22,090	3,091	22,792	3,277	24,070	3,523	25,818	3,747	27,425
Switzerland	481	3,667	597	4,464	1,043	7,763	1,043	7,691	1,307	9,600	1,307	9,578	1,307	9,566
Turkey	202	1,540	240	1,795	283	2,106	417	3,075	610	4,481	777	5,694	940	6,880
United Kingdom	10,945	83,445	15,503	115,932	17,299	127,525	21,575	159,183	23,429	171,467	25,710	187,787	26,558	193,688
SUB-TOTAL	29,015	221,212	30,597	228,806	41,450	307,125	50,882	374,843	56,464	413,626	61,987	453,090	66,003	481,925

Estimated Total Requirements for Petroleum Products (By Countries)—Continued

(Thousands of metric tons. Thousands of barrels)

Product	1938		1946		1947		1948		1949		1950		1951	
	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels	Metric tons	Barrels
	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*	*(13)*	*(14)*
2. Western Germany														
Bi-zone	3,931	29,970	2,396	17,917	1,407	10,472	1,843	13,590	2,236	16,424	2,268	16,621	2,289	16,755
French zone	385	2,935	184	1,376	238	1,771	266	1,961	377	2,769	387	2,836	387	2,833
Sub-total	4,316	32,905	2,580	19,293	1,645	12,243	2,109	15,551	2,613	19,193	2,655	19,457	2,676	19,588
3. Dependent Oversea Territories														
Of France	1,034	8,213	1,218	9,231	1,615	11,935	2,054	15,283	2,293	17,039	2,501	18,563	2,233	16,965
Of United Kingdom	1,859	13,487	2,561	18,415	2,743	19,750	4,497	32,154	5,245	37,524	5,618	40,429	5,851	42,163
Sub-total	2,893	21,700	3,779	27,646	4,358	31,685	6,551	47,437	7,538	54,563	8,119	58,992	8,084	59,128
Grand Total	36,224	275,817	36,956	275,745	47,453	351,053	59,542	437,831	66,615	487,382	72,761	531,539	76,763	560,641

APPENDIX D (v)

Estimated Total Requirements for Petroleum Products Analysed by Method of Supply

(Participating Countries and Western Germany)

(Thousands of metric tons)

Year	Indigenous supplies		Output from imported crude oil [a]		Imports of finished products		Total requirements	
	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1938	2,191	7	11,556	33	19,584	60	33,331	100
1946	1,984	6	5,959	18	25,234	76	33,177	100
1947	1,797	4	10,150	24	31,148	72	43,095	100
1948	2,538	5	13,212	25	37,241	70	52,991	100
1949	2,589	4	16,218	28	40,270	68	59,077	100
1950	2,556	4	21,114	33	40,972	63	64,642	100
1951	2,544	4	28,144	41	37,991	55	68,679	100

[a] Crude oil imports required to produce these quantities are shown in Appendix D (vi).

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APPENDIX D (vi)

Imports Analysed by Source of Supply

(Participating Countries and Western Germany)

(Thousands of metric tons)

Year	Imports of Crude Oil				Total		Imports of Finished Products				Total	
	"Dollar" supplies		"Non-dollar" supplies				"Dollar" supplies		"Non-dollar" supplies			
	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent	Metric tons	Percent
1938	6,121	47	6,920	53	13,041	100	8,297	42	11,287	58	19,584	100
1946	2,369	36	4,149	64	6,518	100	14,070	56	11,164	44	25,234	100
1947	5,478	49	5,862	51	11,340	100	15,473	50	15,675	50	31,148	100
1948	7,680	54	6,421	46	14,101	100	16,086	43	21,155	57	37,241	100
1949	9,286	51	8,776	49	18,062	100	17,174	43	23,096	57	40,270	100
1950	11,415	47	12,518	53	23,933	100	16,506	40	24,466	60	40,972	100
1951	17,125	55	14,263	45	31,388	100	12,441	33	25,550	67	37,991	100

APPENDIX D (vii)

F.O.B. Prices Used to Value Supplies During 1948–51 From Sources Requiring Payment in United States Dollars [a]

Product	$ Per metric ton	$ Per barrel
	(1)	(2)
Aviation Gasolene	48.8833	5.5173
Motor Gasolene	30.6037	3.5752
White Spirit	31.1205	3.9047
Burning (Illuminating) Kerosene	23.5510	2.9925
Power (Tractor) Kerosene	24.7764	3.2261
Gas/Diesel Oils for inland trade	19.9533	2.7037
Gas/Diesel Oils for bunkers	16.9507	2.4250
Fuel Oils for inland trade	15.8064	2.3279
Fuel Oils for bunkers	13.9100	2.1400
Lubricants	68.9000	10.0000
Bitumen	35.0000	5.7377
Paraffin wax	230.0000	29.2250
Petroleum coke	26.0000	4.7187
Crude Oils—light/medium	14.3915	2.0016
Crude Oils—heavy/topped	10.9872	1.6800

(a) Prices are based upon market export quotations ruling on 1st July, 1947, for F.O.B. U.S. ports. No attempt has been made to forecast the possible trend of prices during the next four years.

APPENDIX D (viii)

F.O.B. Value of Petroleum Requirements Estimated to be Paid for in United States Dollars, 1948–51

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons. Thousands of dollars)

Products	1948		1949		1950		1951		Total	
	Metric tons	$	Metric tons	$	Metric tons	$	Metric tons	$	Metric tons	$
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Aviation Gasolene	507	24, 784	543	26, 544	617	30, 161	478	23, 366	2, 145	104, 855
Motor Gasolene	4, 509	137, 992	4, 307	131, 810	4, 076	124, 741	2, 810	85, 998	15, 702	480, 541
White Spirit	68	2, 116	70	2, 178	74	2, 303	25	778	237	7, 375
Kerosenes	1, 637	39, 355	1, 677	40, 344	1, 664	40, 062	1, 162	27, 833	6, 140	147, 594
Gas/Diesel Oils	3, 521	68, 839	3, 549	69, 475	3, 798	74, 414	3, 316	64, 805	14, 184	277, 533
Fuel Oils	7, 470	113, 551	8, 730	133, 579	9, 231	141, 405	7, 654	116, 396	33, 085	504, 931
Lubricants	776	53, 466	821	56, 567	793	54, 638	621	42, 787	3, 011	207, 458
Bitumen	168	5, 880	182	6, 370	162	5, 670	188	6, 580	700	24, 500
Paraffin Wax	111	25, 530	126	28, 980	130	29, 900	134	30, 820	501	115, 230
Petroleum Coke	62	1, 612	62	1, 612	67	1, 742	77	2, 002	268	6, 968
Crude Oils	7, 664	103, 614	9, 271	125, 944	10, 038	136, 080	15, 751	218, 224	42, 724	583, 862
Total	26, 493	576, 739	29, 338	623, 403	30, 650	641, 116	32, 216	619, 589	118, 697	2, 460, 847

APPENDIX D (ix)

F. O. B. Value of Petroleum Requirements (By Countries) Estimated to be Paid for in United States Dollars, 1948–51

(Participating Countries, Western Germany and Dependent Oversea Territories)

(Thousands of metric tons. Thousands of barrels. Thousands of U. S. dollars).

Country	1948			1949			1950			1951		
	Metric tons	Barrels	Value $	Metric tons	Barrels	Value $	Metric tons	Barrels	Value $	Metric tons	Barrels	Value $
1. Participating Countries	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria												
Belgium	1,142	8,366	28,362	1,184	8,609	29,577	1,181	8,576	28,752	1,198	8,638	29,242
Denmark	1,229	8,992	27,774	1,374	10,011	30,637	1,531	11,128	34,009	1,532	11,039	34,040
France	6,020	43,537	95,072	6,850	49,449	105,346	6,402	46,066	92,731	6,671	47,462	95,347
Greece	269	1,979	7,761	291	2,125	8,384	306	2,212	8,819	328	2,388	9,442
Iceland	72	529	1,629	72	520	1,629	72	519	1,629	72	515	1,629
Ireland	415	3,026	12,698	448	3,233	13,383	485	3,514	14,210	514	3,672	14,557
Italy	2,845	20,826	55,064	3,055	22,270	58,537	3,304	24,013	62,702	3,630	26,149	67,481
Luxemburg	45	333	1,233	47	347	1,479	48	338	1,547	51	375	1,646
Netherlands	1,118	8,189	27,278	1,169	8,522	28,401	1,254	9,118	28,420	1,269	9,130	28,818
Norway	596	4,369	12,740	664	4,836	13,990	720	5,236	14,925	782	5,618	15,970
Portugal	542	3,957	9,201	580	4,229	9,816	626	4,559	10,600	639	4,612	10,844
Sweden	2,329	17,045	48,755	2,636	19,213	51,792	3,112	22,614	59,588	3,245	23,363	62,726
Switzerland	387	2,841	9,591	526	3,838	11,820	526	3,814	11,820	526	3,792	11,820
Turkey	231	1,685	7,003	332	2,407	10,034	422	3,069	12,522	508	3,651	15,348
United Kingdom	5,365	39,356	138,184	5,653	40,989	139,998	6,123	44,145	148,877	6,786	48,518	111,573
Sub-total	22,605	165,030	482,345	24,881	180,598	514,823	26,112	188,921	531,181	27,751	198,922	510,483

F. O. B. Value of Petroleum Requirements (By Countries) Estimated to be Paid for in United States Dollars, 1948–51—Continued

(Thousands of metric tons. Thousands of barrels. Thousands of U. S. dollars)

Country	1948			1949			1950			1951		
	Metric tons	Barrels	Value $	Metric tons	Barrels	Value $	Metric tons	Barrels	Value $	Metric tons	Barrels	Value $
2. WESTERN GERMANY	*(1)*	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*	*(7)*	*(8)*	*(9)*	*(10)*	*(11)*	*(12)*
Bi-zone	931	6,818	22,163	1,252	9,129	29,340	1,235	8,982	28,706	1,247	8,989	29,029
French zone	224	1,646	7,229	321	2,342	10,354	325	2,347	10,466	325	2,341	10,466
SUB-TOTAL	1,155	8,464	29,392	1,537	11,471	39,694	1,560	11,329	39,172	1,572	11,330	39,495
3. DEPENDENT OVERSEA TERRITORIES												
French	1,387	10,347	35,326	1,313	9,736	33,712	1,285	9,493	31,900	1,121	8,374	28,114
United Kingdom	1,346	9,797	29,676	1,571	11,450	35,174	1,693	12,423	38,863	1,772	13,038	41,497
SUB-TOTAL	2,733	20,144	65,002	2,884	21,186	68,886	2,978	21,916	70,763	2,893	21,412	69,611
GRAND TOTAL	26,493	193,638	576,739	29,338	213,255	623,403	30,650	222,166	641,116	32,216	231,664	619,589

APPENDIX D (X)

VALUE OF SPECIALISED OIL EQUIPMENT ESTIMATED TO BE REQUIRED FROM THE UNITED STATES DURING 1948–51 [a]

(Thousands of United States dollars)

1. PARTICIPATING COUNTRIES [b]	1948 (1)	1949 (2)	1950 (3)	1951 (4)	Total (5)
Austria	600	600	600	600	2,400
Belgium	1,107	1,107	664	664	3,542
Denmark	2,000	2,000	2,000	2,000	8,000
France	42,000	34,000	24,000	20,000	120,000
Greece					
Iceland					
Ireland					
Italy	2,883	2,882			5,765
Luxemburg					
Netherlands	829	528	452	452	2,261
Norway	1,000	1,000	1,000	900	3,900
Portugal	2,400	2,400			4,800
Sweden					
Switzerland					
Turkey	542	530	1,700	750	3,522
United Kingdom	86,800	89,700	84,600	99,500	360,600
SUB-TOTAL	140,161	134,747	115,016	124,866	514,790
2. WESTERN GERMANY					
Bi-zone	34,805	20,702	9,232	8,664	73,403
French zone					
SUB-TOTAL	34,805	20,702	9,232	8,664	73,403
GRAND TOTAL	174,966	155,449	124,248	133,530	588,193

(a) (i) The above figures are after allowing for oil equipment to be available from Europe's own industrial capacity.

(ii) No figures have been included in respect of expenditure which it has been assumed will be financed by American companies as capital investments.

(iii) Figures include requirements to be used outside the participating countries and Western Germany in order that oil thus made available may continue to play a very important part in satisfying Europe's import demands for oil.

(iv) Values have been calculated at ruling United States prices, F. O. B.

(b) Including dependent oversea territories.

DIAGRAM 4

Estimated Total Requirements of Petroleum Products Analysed by Method of Supply 1938, 1946–1951

(Participating Countries and Western Germany)

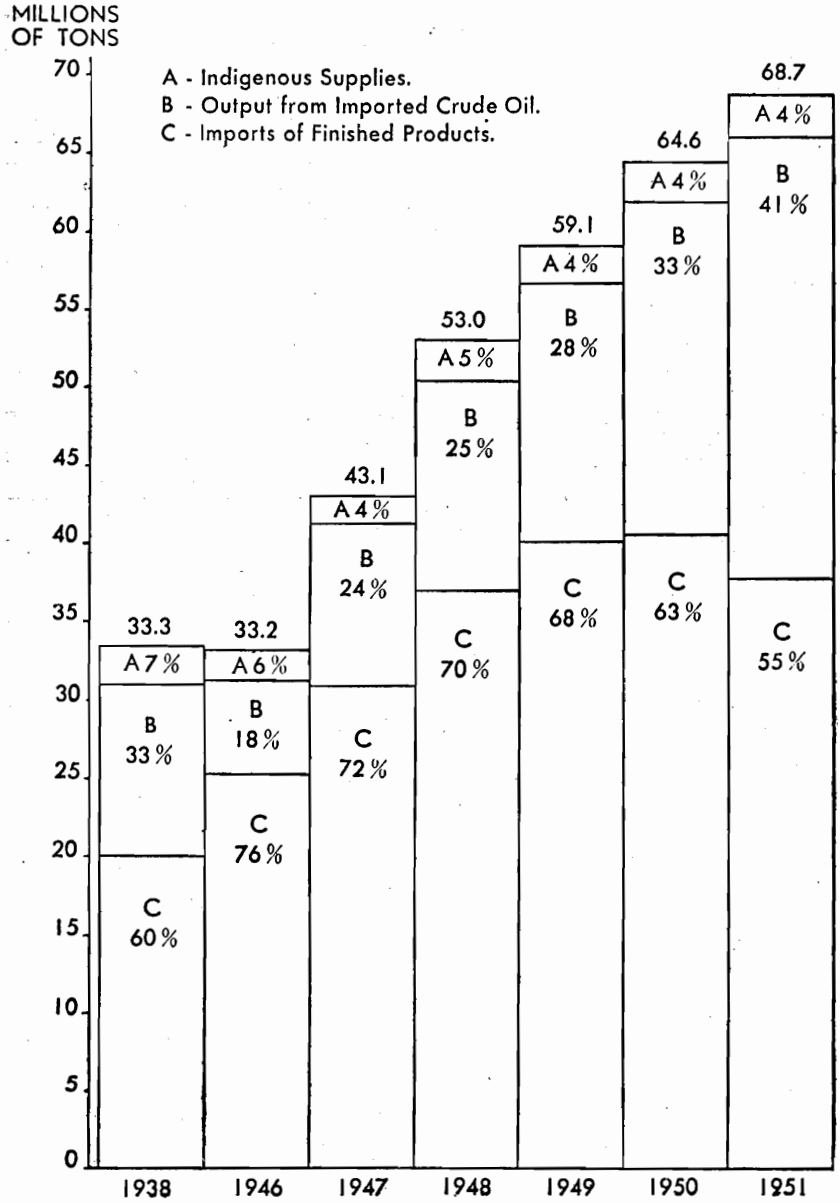


DIAGRAM 5

Estimated Imports of Crude Oil and Refined Products Analysed by Source of Supply 1938, 1946–1951

(Participating Countries and Western Germany)

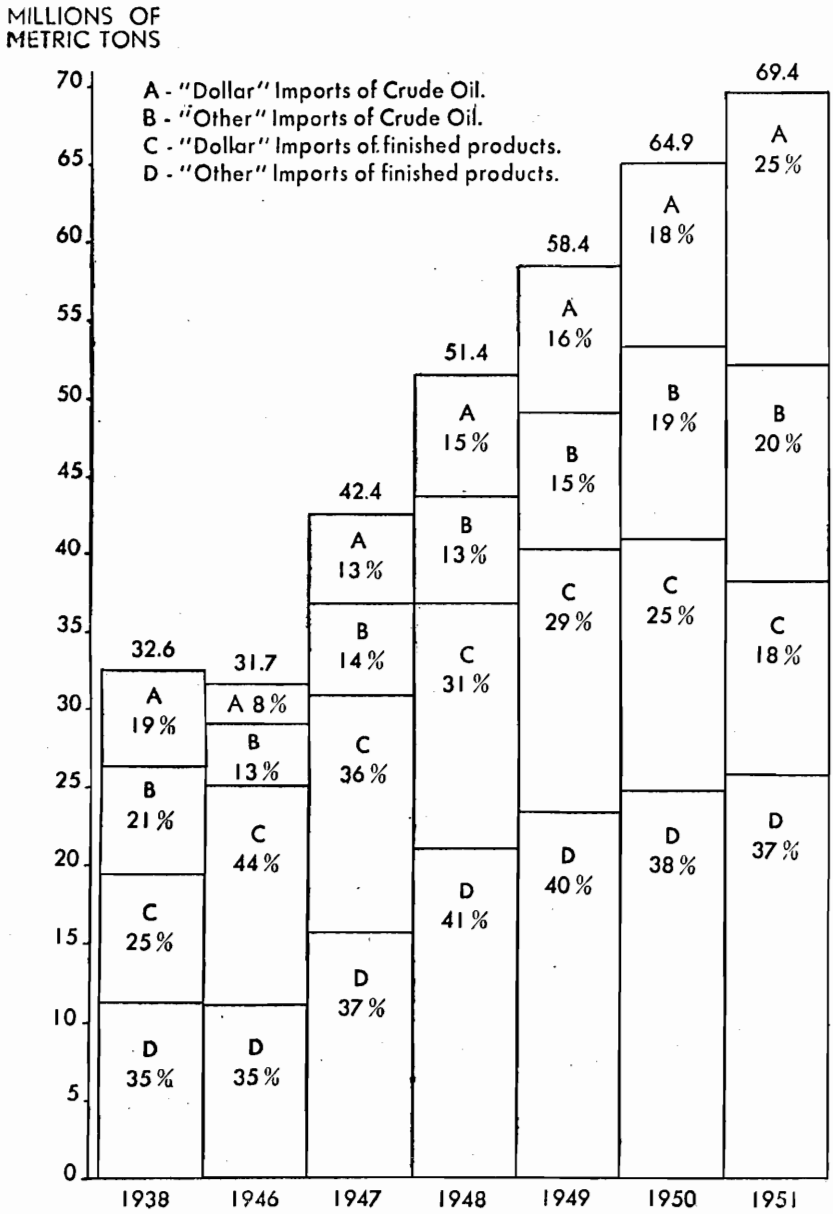


DIAGRAM 6

Estimated Total Requirements of Petroleum Products 1938, 1946–1951

(Participating Countries and Western Germany)

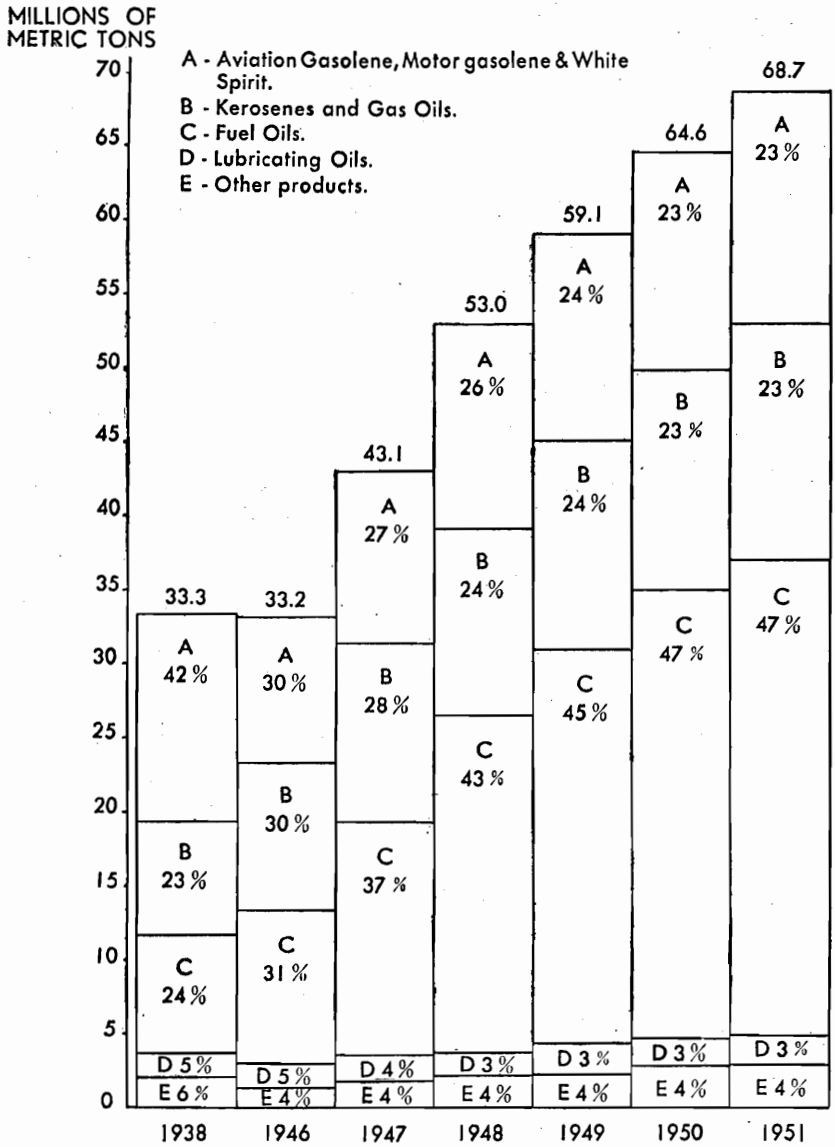


DIAGRAM 7

Estimated Cost of Specialised Equipment Required from the United States 1948–1951

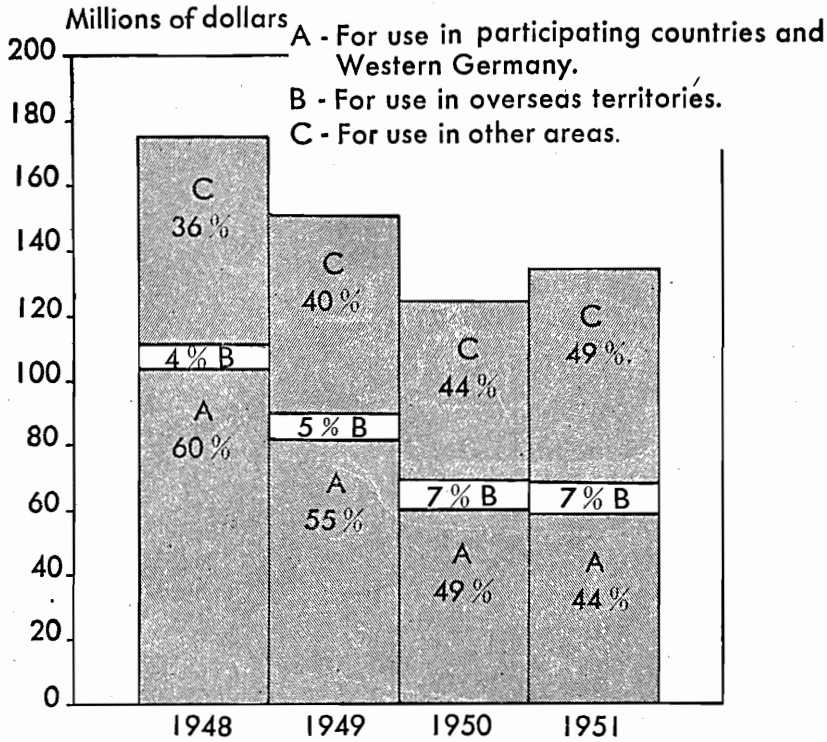
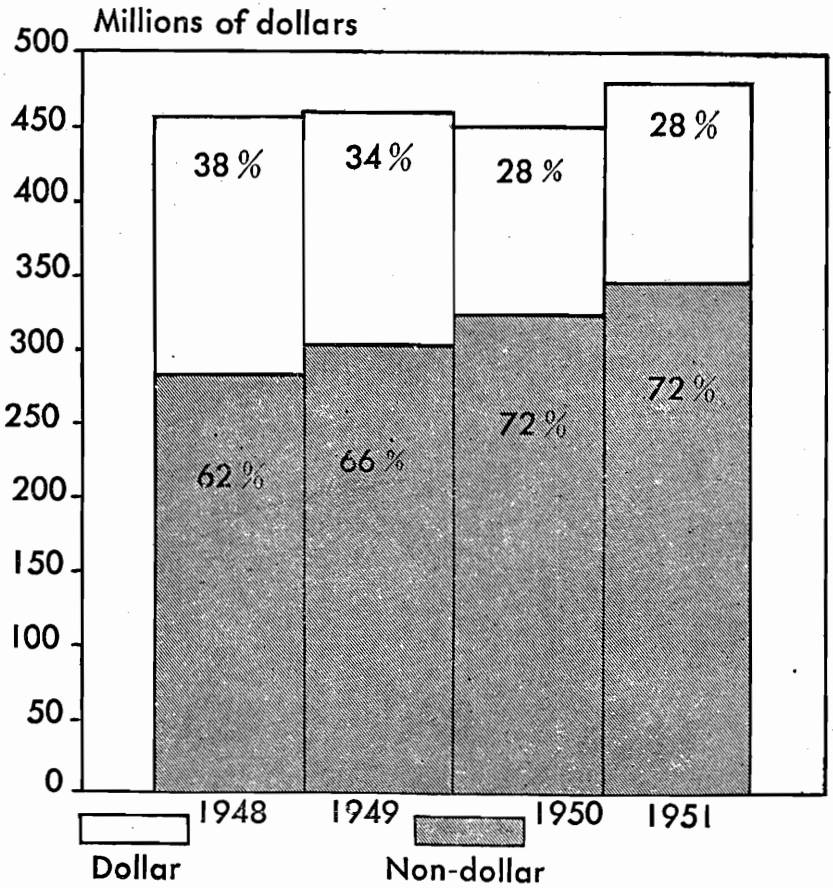


DIAGRAM 8

Estimated Total Cost of Specialised Equipment Showing Proportion from "Non-Dollar" Sources 1948–1951



TECHNICAL REPORTS

SECTION D

Iron and Steel

IRON AND STEEL

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A list of tables in the text and Appendices is given at the end of the Volume.

Note on Definitions

(i) Definitions of a number of the terms used in the report will be found in Appendix B. The terms crude steel, finished steel and ingot equivalent, which occur frequently in the report, are very briefly explained below.

(ii) Crude steel means, broadly, steel as poured from the furnace and solidified in an ingot or rough casting. Except for a proportion of scrap or waste, averaging 20 to 30 per cent. of initial weight, the metal recorded as produced in the crude form emerges eventually from the steel industry in one or other of the forms of finished steel, such as rails, beams, flat products, finished castings, forgings.

(iii) Finished steel may be reckoned either in actual weight or in "ingot equivalent," which is the estimated weight of the crude steel from which the finished steel was derived. The term applies similarly to semi-finished steel, that is steel between the crude and finished stages. When steel passes from one country to another in a semi-finished state, it is convenient for some purposes to reckon it in ingot equivalent.

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(iv) The figures in this report are derived from information which the governments concerned and the Commanders-in-Chief in Western Germany supplied specially, in reply to a basic questionnaire and later supplementary enquiries. As uniformity of definition was a necessary condition for collating information, some of the figures, especially those on past imports, exports and consumption of steel, may differ from those ordinarily given in the publications of various governments and in the technical press.

(v) In particular it should be noted that the term "finished steel" does not include tubes or wire, the materials for which have been counted as finished at the stage of manufacture preceding tube-making or wire-drawing.

(vi) Iron castings are not dealt with in this report, except indirectly in so far as their manufacture affects the consumption of pig iron. Scrap for iron-founding is excluded.

Introduction

1. The iron and steel industry is the core of the industrial system of the participating countries. If it is not able to attain a high level of output and maintain it, every form of industrial activity is adversely affected. This is what is happening in 1947. In the reports of the other Technical Committees of the Conference, each of them dealing with a vital branch of industry, it is shown that lack of sufficient supplies of iron and steel is hampering re-equipment and holding back the attainment of efficiency and self-reliance.

2. Before the war the output of the iron and steel industry in the participating countries and Western Germany was sufficient to supply the consumption needs of the area and to provide substantial exports to overseas markets. The French, Belgian and Luxemburg industries were based to a large extent on coke and coking coal from Western Germany. Now, as a result almost entirely of lack of fuel, the industry is working at a level which is inadequate to meet the wants of the participating countries as well as to provide the steel and the steel manufactures which the area must export if it is to be able to buy the foodstuffs and raw materials needed from overseas. Even with the aid of supplies of finished steel from the United States, the participating countries as a group are failing to balance their steel budget in 1947 by as much as 25 per cent.

The immediate aim must be, therefore, to bring output from existing capacity up to the maximum level. In the report which follows the

conditions necessary to achieve this are set out. The problem is one of supplies of raw materials, particularly fuel, and semi-finished steel.

3. During the period 1948–51 part of the modernization and expansion programmes which have been drawn up by a number of the participating countries are scheduled to come into operation. The achievement of production targets in 1951 depends on the realisation of these development plans as well as on the adequacy of supplies of raw materials and semi-finished steel.

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CHAPTER I

HISTORICAL

A. The Pre-War Position

4. Appendices C (i) and D (i) show production, imports, consumption and exports of crude and semi-finished steel and finished steel for the participating countries and the Western Zones of Germany in 1938 and in the most active pre-war year for each country. These tables show that the pre-war picture for all the countries taken together is of a steel production, supplemented to a small extent by imports of semi-finished products from outside, sufficient to meet demand for finished steel within the group itself and also in the outside markets traditionally dependent upon Western Europe for their supplies. The totals of production in the best year of each participating country give a measure of the output of which the aggregate capacity in these countries was capable and is the best available yardstick against which to measure output planned in 1948–51 (see Appendices C (iii) and D (iii)). Totals are inappropriate for exports and imports in the best year of each country, since different years are given and figures for individual countries would be likely to be incompatible with each other if they were supposed to have occurred concurrently.

5. Belgium and Luxemburg were big producers of steel, with a large export trade (50 per cent. of output in the case of Belgium and over 90 per cent. in the case of Luxemburg) and a relatively small home market. The United Kingdom had a substantial home production of crude steel and in addition imported semi-finished products for finishing in the United Kingdom; her export trade* in finished steel represented about 13 per cent. of her total production in 1937. France also had a considerable steel industry and in 1929 (the year of her highest output) exported* about 19 per cent. of her output of finished steel as well as substantial quantities of semi-finished steel and pig iron. Austria and Italy both depended almost wholly on their own industries for their domestic needs and normally did little trade with outside markets. Sweden met a considerable proportion of the needs of her domestic market by imports, but she had a big export trade in certain types of steel from her own industry. The other participating countries relied mostly on imports for their supplies of finished steel;

* Exports to dependent oversea territories are excluded.

the Netherlands were an importer of finished steel on a relatively large scale, but they exported pig iron. Germany was a big exporter of finished steel and also exported a certain amount of semi-finished products; in the immediate pre-war years she was much the biggest steel producer in Western Europe owing to the demands of her re-armament programme. France and Luxemburg were both dependent on Western Germany for large quantities of coke and coking coal for their steel industries.

6. Peak output was reached in France, Belgium and Luxemburg in 1929, when the industries of these countries were working not far from full capacity. The best year for the United Kingdom was 1937. Variations in the level of output before the war were a reflection of fluctuations in economic and trade activity in the world as a whole. Shortages of raw material were not a limiting factor, although a scarcity of iron and steel scrap was threatened in the immediate pre-war years.

B. The War-Time Position

General Review

7. The effect of the war upon the steel industries of all the participating countries was completely to distort the pattern of production, imports and exports, but it did not affect fundamentally the volume of the capacity existing in the various countries. There was serious damage to plant and equipment in many of the steel-producing countries, but, with the exception of Italy, not such as has not been able to be overcome by hard effort since the war ended.

8. The United Kingdom was deprived of iron ore from the Mediterranean and Sweden and of semi-finished steel from the Continent. In the latter part of the war, imports of scrap to compensate for these losses were unobtainable from any source, including the United States. Home production of lean ores was expanded by 50 per cent., scrap collection was intensified and imports of steel were obtained from the United States on a much larger scale than previously. With the aid of these imports and of a home production approximating to that of the best pre-war year, the United Kingdom maintained her supplies of finished steel at a level well above the pre-war average. Most of the steel was consumed in the war industries at home; exports were reduced to a trickle sent to various Empire and other markets to help the war effort. Output as between different types of steel and steel products altered considerably from the pre-war pattern. For example, production of shell steel went up to over 1,000,000 tons a year compared with a negligible quantity before the war, and alloy steel production increased fourfold. On the other hand, tinplate production in the United Kingdom was nearly halved during the war, and sheet production was reduced by one-third.

Changes in Capacity

9. Additions to steel-making and ancillary capacity were very small during the war in the participating countries as will be seen from Appendix F(i), which gives for various of these countries the changes in capacity during 1940–46. There were no changes in the case of the countries not shown in the table.

C. The Years 1945–47

General Review

10. The end of the war found the steel industries of the participating countries with the flow of raw material supplies and of imports and exports of steel much reduced and distorted. Appendices C (ii) and D (ii) show the position for steel, and tables in Appendices H to M give the figures for the main raw materials. In 1945 steel production in the liberated countries was reduced to a very low level. There has been a marked improvement since then and in 1947 output is estimated to be rather above the 1938 figure, but it is still badly hampered by insufficiency of fuel.

Effect on the Steel Industry of Lack of Fuel

11. The fuel position is drastically different from what it was before the war, and the present shortage of coal and coke, particularly the latter, is far the greatest obstacle to recovery of steel output in Western Europe. There has been a heavy reduction in exports from Western Germany of coking coal and coke for the iron and steel industries of her neighbours. The position is made worse by the almost complete cessation of exports of coal (in particular coking fines) from the United Kingdom and the inability of the liberated countries, with the exception of France (where output has recovered to the pre-war figure), to bring their production back to pre-war level owing to war damage, labour difficulties and lack of equipment.

12. Fuel supplies in 1946 allowed a rate of crude steel production in Belgium, Luxemburg and France of only about 45 to 55 per cent. of maximum output. An increase in supplies from Western Germany and the United States has brought some improvement in the activity of the steel industries of these three countries, but even now a rate of production of only 60 to 65 per cent. of maximum output is possible. The effect of this on the general economy of the participating countries is described in paragraph 18, but it is appropriate here to draw attention to the special position of Luxemburg, the whole economy of which depends entirely on her steel industry.

Supplies of Other Steel-making Materials

13. In the case of the other raw materials of the steel industry, changes are less marked than in the case of fuel, although there are one

or two significant alterations. The pre-war pattern of iron-ore supplies is re-establishing itself in the participating countries except that Belgium and Luxemburg have now become importers of Swedish ores in order to save fuel. For the same reason the United Kingdom has abandoned the increased use of home ores which was developed during the war and is now importing the maximum quantities of rich foreign ore that can be transported and handled at port and on the railways in the United Kingdom. Western Germany is at present importing no foreign ore, whereas before the war she took large quantities, mainly from Sweden and France.

14. The scrap position has some abnormal features at present. Consumption of scrap per ton of steel produced has been pushed to high levels in order to save fuel. In Belgium and Luxemburg scrap is being used in the blast furnaces up to 25 per cent. of the pig-iron output, compared with a normal figure of 10 per cent. to 15 per cent. On the supply side, there have been considerable accretions of scrap from surplus armaments and the like. But supplies from some of the normal pre-war sources are not at present coming forward regularly. For example, shortage of shipping tonnage has delayed scrapping of vessels and shortage of materials for re-equipment and reconstruction is extending the life of capital equipment and buildings beyond the normal term. International trade in scrap has practically ceased. The United States, which before the war was exporting 3 to 4 million tons of scrap a year, is now exporting practically none, and similarly the continental countries which before the war exported fairly substantial quantities are now keeping their supplies for their own steel industries, in order to relieve the fuel shortage.

Other Factors Contributing to Under-production in the Steel Industry

15. Lack of fuel is the primary cause of the halt in recovery of steel production in the participating countries but there are other legacies left by the war which would have made maximum output difficult to achieve even if sufficient coal had been available. Some of the plant and equipment in the steel producing countries was left in a bad condition. During the war major repairs had to be deferred, proper maintenance neglected and modernisation schemes laid on the shelf. These arrears have not yet been fully overhauled, but practically all plant has been brought back to a workable condition although not at full efficiency. In one or two cases plant transferred to Germany during the war has to be recovered and re-installed.

16. The difficulties of inland transport from which all the participating countries have suffered since the war have affected the iron and steel industry particularly severely. Its raw materials of iron ore, coal and coke, and scrap are needed not only in very large quantities,

but also in a regular flow since large stocks cannot be held and this puts a heavy strain on rail transport where carriage for any distance is entailed.

Lack of Supplementary Supplies of Steel

17. It has not been possible to obtain from abroad supplies of steel in sufficient quantities to compensate for low steel production. France, for example, has been able to supplement her home production to the extent only of about 10 per cent. of her consumption needs and her total supplies are falling short of demand by as much as 30 per cent. There is a similar shortfall in the Netherlands. In Italy supplies are falling short of demand by about 40 per cent. The United Kingdom has been unable to import more than about one-quarter of the semi-finished steel she needs from abroad to work her finishing plants to capacity; to some extent the gap in her supplies has until now been met from stocks, but this source of supply cannot be tapped much more. Supplies from United Kingdom stocks of pig iron, scrap and steel, together with exceptional post-war supplies of second-hand material, are estimated to amount to 1,360,000 tons of metal in 1947, or 15 per cent. of the weight of finished steel consumed in that country. The disappearance of these exceptional sources of supply will have to be made up in the future from imports. On the Continent, channels of trade have not yet been adjusted to the elimination of Germany as a big exporter of finished steel to some of her neighbours.

D. Present Demand for Steel

18. While the supplies of steel available to participating countries are being restricted by the effects of the war, demand has risen to exceptional heights. There is a big demand for reconstruction, to a considerable extent for repair of war damage; in addition delay in the maintenance and renewal of capital goods has to be made good and the consumer pipe-line refilled. Moreover, the present full employment of labour in most of the participating countries results in heavy pressure on steel supplies for currently arising capital and consumer needs. The fact that the supplies of steel at present available do not allow all the essential re-equipment work to be done is apparent in every branch of the industrial life of the participating countries. The reports of the other technical committees of the Conference show clearly the deterrent effect of the lack of adequate steel supplies on the recovery of their particular industries.

CHAPTER II

PROGRAMME FOR THE FOUR YEARS 1948–51

A. General Review

Steel Programmes

19. Appendices C (iii) and D (iii) show the steel supply position over the next four years as now foreseen. Appendix E gives the totals for the participating countries and Western Germany of production, consumption, exports and imports of steel for pre-war years and 1945–51. These tables are based on the assumption that in 1948 and thereafter raw materials will be available in sufficient quantities to enable full use to be made of productive capacity. The validity of these assumptions will be discussed in succeeding paragraphs. Meanwhile it is useful to study the target programme, since this represents the full use of the steel industry of the participating countries, and the effect of any failures in supplies of raw materials can best be assessed in terms of a shortfall on that target.

Production of Crude Steel

20. Production of crude steel in the participating countries is estimated to be 16 per cent. higher in 1951 than in 1948. In 1948 it will be rather above the aggregate output of the most active pre-war years and in 1951 it will be nearly 60 per cent. higher than the output estimated for 1947 and 25 per cent. higher than the aggregate of the most active pre-war year. The proportionate increases for finished steel production are slightly higher. The addition of the target figures for production in Western Germany alters the position radically. The production programmes of the participating countries and Western Germany together will give an output of crude steel in 1948 which is 7 percent. lower than in 1938 and 23 per cent. below the aggregate of the most active pre-war years. By 1951 production will about equal aggregate output in the most active pre-war years. It will not therefore be until the end of the period that capacity in the participating countries will compensate for the heavy reduction in output in Western Germany. This does not mean that the pre-war pattern of supplies will be re-established since German consumption as well as production will be lower and the incidence of consumption within the whole group of countries will be very different in 1951 from what it was before the war.

Imports of Crude and Semi-finished Steel

21. Appendix C (iii) shows that there is a net import requirement of crude and semi-finished steel by the participating countries through-

out 1948–51. Participating countries will be able to meet only about 20 per cent. of the total import requirements of other participating countries.

Imports of Finished Steel

22. If finished steel is treated globally, without differentiation by product, the participating countries would appear to be independent of imports from outside the area after 1949, provided of course that production targets can be achieved. The net import requirements would be about half a million tons in 1948 and only about 100,000 tons in 1949. These figures are reached by deducting from the figures of import requirements from all sources in Appendix D (iii) (columns (17)–(20) the estimated exports to participating countries from participating countries (columns 13)–(16) of Appendix D (iii). Exports to non-participating countries are dealt with in paragraphs 56 and 57 below. The addition of the import requirements of Western Germany would, however, add considerably to the net import requirement in 1948. The Control Authorities in the Bi-zone stated import requirements of finished steel of 1,700,000 in 1948 and 1,900,000 tons in 1949. The Saar has an export surplus of finished steel, part at any rate of which may be expected to go to the Bi-zone; but in any event it would not be large enough to meet the whole of the needs of the Bi-zone as stated by the Control Authorities. There would therefore be for the participating countries and Western Germany together, a net import requirement in 1948 of nearly 1.3 million tons and in 1949 of about half a million tons.

Sub-division of Finished Steel

23. This global treatment of finished steel is, however, misleading to some extent since it conceals deficits in particular products arising from limitation of specialised capacity. The Steel Committee obtained information from the participating countries and Western Germany about the supply position, and more particularly about the estimated imports and exports in 1948–51 of the following steel products: rails and railway material, sections and bars, medium and heavy plates, sheets, tinplate, terneplate and blackplate, wire rods, hot-rolled hoop and tube strip and tyres, wheels and axles. The information showed that, provided that steel supplies generally can be improved by larger supplies of fuel and imported semi-products, the only finished products for which there will be a net import requirement by the participating countries and Western Germany together for all or the greater part of the period 1948–51 will be sheets and tinplate.

Sheets and Tinplate

24. A special study was made of the sheet and tinplate position: This showed that in 1947 supplies from all sources, including imports,

would be likely to fall short of requirements by three-quarters to one million tons. If all the steel semi-products and fuel needed to work existing capacity to the full are available, there will still remain a net import requirement of tinplate and sheets by the participating countries throughout 1948–51. Figures of production, consumption, exports and imports, are given in Appendices D (iv) and (v) and summarized in Table 1 below.

Table 1—Finished Steel: Net Export Surpluses (+) or Net Import Requirements (−)

(Thousands of metric tons)

	1948	1949	1950	1951
Sheets:				
Participating countries	−477	−236	−121	−66
Western Germany*	+92	+56	+90	+240
TOTAL	−385	−180	−31	+174
Tinplate:				
Participating countries	−301	−300	−284	−265
Western Germany*	+10	+15	+15	+15
TOTAL	−291	−285	−269	−250
Other Finished Steel:				
Participating countries	+272	+417	+812	+1,058
Western Germany*	−868	−486	Estimates not included	
TOTAL	−596	−69		
All Finished Steel, net figures:				
Participating countries	−506	−119	+407	+727
Western Germany	−766	−415	Estimates not included	
TOTAL	−1,272	−534		

*The figures for Western Germany are subject to some uncertainty. The surplus of sheets is from the Bi-zone only; in the Saar and the French Zone combined, production of sheets is assumed to equal consumption.

It will be seen that the net import requirement of tinplate does not vary much over the period; but after 1951 it will fall substantially, and indeed will quickly disappear altogether, as new capacity comes into operation in the participating countries. Western Germany is expected to be self-sufficient in tinplate, with a small export surplus (10—15,000 tons a year). The net import requirements of sheets for the participating countries fall considerably during the period, as new capacity comes into production. It is stated by the Control Authorities that exports of sheets could probably be made from the Bi-zone in 1951 sufficient to meet the net import requirements of the participating countries. It appears that if, in the reactivation of Bi-zonal steel plants, priority were given to sheet mills, it would be possible for the

Bi-zone to make a substantial contribution to the import needs of the participating countries in the earlier years as well. If this were to be done, the net import requirements of the participating countries could be met in full from the Bi-zone in 1950 and their import requirements from other countries would fall to about 300,000 tons in 1948 and only about 60,000 tons in 1949. Accelerated exports of sheets from the Bi-zone would, however, have to be compensated by imports into the Bi-zone of a similar tonnage of other steel products. Effort on the part of the Control Authorities to help to alleviate the shortage of sheets in the participating countries would need to be met by the support of these countries in arranging compensatory imports.

25. The estimates of home production of sheets and tinplate given in Appendices D (iv) and (v) assume the importation into France and the united Kingdom from the United States of special semi-finished products. France needs 120,000 tons of coil a year and the United Kingdom 320,000 tons of sheet bars and slabs and 150,000 tons of hot-finished wide strip.

26. The Committee considered whether a redistribution of semi-finished products between the participating countries would enable a better use to be made of existing sheet and tinplate capacity, and thus help to relieve the immediate shortage of these products. It appeared, however, that unused finishing capacity was fairly widespread in the steel-producing countries so that a redistribution of the supplies of semi-products would not raise output. The only way in which production of sheets and tinplate in the participating countries can be increased in the near future is by an overall improvement in supplies of the appropriate semi-finished products.

27. The result of distinguishing the net import requirements of sheets and tinplate from those of finished steel in general appears in Table 1 above. The net import requirement of 1.3 million tons of finished steel in 1948 given in paragraph 22 above for the participating countries and Western Germany is not affected; the sheet and tinplate requirements are included in this figure. In 1949 the net import requirement of half a million tons largely consists of sheets and tinplate. In 1950 and 1951 there will still be net import requirements of tinplate, and of sheet also if supplies cannot be obtained by the participating countries from the Bi-zone. These do not show in the overall finished-steel balance-sheet because they are counterbalanced by surpluses in other products.

B. Means of Production

Raw Material Needs

28. Appendices H (ii), H (iii), J (ii), K (ii), L (ii) and M (ii) show production, consumption, exports (total and for participating countries) and imports of iron ore (all kinds, and the richer ores sep-

arately), manganese ore, pig iron, ferro-manganese and scrap for 1948–51. Figures relating to the iron and steel industry's needs for hard coke are given in the report of the Joint Coke Sub-Committee.

Coke

29. The supply prospects for hard coke are described in the report of the Coke Committee, but it is desirable to summarise the position here in so far as it affects the iron and steel industry, since adequate hard coke supplies are a vital necessity for the industry and it is to the lack of them that the present inadequacy of steel supplies in Western Europe is mainly due.

30. The first review of the hard coke position in 1948 showed a deficit of about 12 million tons a year, a shortfall of 20 per cent. on requirements. The deficit arises partly from the increased demand for hard coke in industries other than iron and steel and for domestic use, and partly from reduction in supplies. Demand in the iron and steel industry is not rising in proportion to steel production, owing to improved fuel efficiency, supplemented by higher use of rich ores.

31. The Coke Committee sought means of reducing the gap in supplies. On the one hand it appeared that if coking coal could be made available, production of coke could be increased in 1948 by bringing into operation 9 million tons of coke-oven capacity at present unused in Germany and 1½ million tons in Italy. Inquiry has shown that there is a reasonable prospect that the additional coking coal will be available, largely owing to increased supplies from the United States. On the other hand the various countries have examined the possibility of reducing the consumption of coke both in blast furnaces and in uses other than the iron and steel industry. The Bi-zonal Control Authorities have been asked, and have agreed, to examine the possibility of reducing coke consumption in the blast furnaces in the Bi-zone to 1,000 kilogrammes per ton of pig iron by using richer ores; the question of the disposal of the coke saved in this way would be the subject of later decisions. If these measures are successful the gap in coke supplies should be closed in 1948. The position is more difficult to access for the later years; there is reason to hope that the solution of the coke problem in 1948 would be repeated in 1949–51 but, as now foreseen, the uncertainties existing for 1948 are likely to be more pronounced in the future.

32. The import requirements and export availabilities of steel of the countries covered by this Report have been assessed by the Steel Committee on the assumption that fuel supplies will not restrict production. But it is not possible at this stage to be confident that this assumption will be fully justified, and the Committee has therefore thought it prudent to consider the effect in 1948 of some continuing shortfall in coke supplies. For working purposes the Committee

adopted a hypothetical figure of a deficit of four million tons in the coke supplies of the iron and steel industry in 1948. Such a deficit would mean a loss of crude steel output of about 4.8 million tons. This could only be made up by additional imports of steel or pig iron from the United States. If these came as semi-finished steel, import requirements of steel from the United States in 1948 would be increased by about 4 million tons. If supplies on this scale could not be obtained, the consumption of the countries covered by this Report would have to suffer a cut of up to 11 per cent. A reduction of this order would be bound to delay achievement of the reconstruction programmes in many fields. The Steel Committee wishes to emphasize therefore the vital importance to the iron and steel industry of the execution of the measures proposed by the Coke Committee for eliminating the coke deficit.

Iron Ore (Appendices H (ii) and H (iii))

33. The original estimates of supplies and requirements of rich ores studied by the Committee showed some surplus of supplies (including those from outside countries which are normal sources of supply for the participating countries) over needs throughout the years 1948 to 1951. In these estimates it was assumed by the Bi-zonal authorities, for balance-of-payments reasons, that steel production in the Bi-zone would be based mainly on the use of indigenous ores. In the pursuit of means of reducing the coke deficit it was suggested that there might be a higher use of rich imported ores in the steel industry in the Bi-zone. As has been said in paragraph 31 above, the Control Authorities are willing to consider this proposal favourably.

34. On the basis of a revised programme of imports of rich ores into Western Germany, the conclusion of the Steel Committee is that in 1948, 1949 and 1950 supplies of rich iron ores are likely to be available in sufficient quantities to meet the need for them. The estimates of requirements include 1.03 million tons of Swedish ore for Luxemburg, but if in fact hard coke supplies in 1948 and thereafter are adequate to meet her needs on the basis of her normal blast-furnace practice, Luxemburg may be expected to abandon or reduce the purchase of foreign ores and revert to lean ores from nearby sources.

35. In 1951 the figures show a deficit of 2.33 million tons after allowing for supplies likely to be available from all sources. Included in the anticipated supplies is an increase of 1.6 million tons in production of French oversea ore mines; this will demand a good deal of new equipment and effort. It does not seem that the gap in supplies will be able to be met in 1951 by increasing the imports coming from oversea sources such as Brazil. There is a world shortage of accessible rich ores, illustrated by the fact that the United States is now buying considerable quantities from Sweden for the American steel industry. It is unlikely that the lack of rich ores

could be compensated by increased use of scrap, as this material also is likely to be in short supply. The only way, therefore, that the gap could be met would be by increased use of some of the less rich ores on the Continent, of which there are likely to be adequate quantities. This would, however, mean some additional strain on supplies of coke.

Manganese Ore (Appendix J (ii))

36. The countries covered by this report are small producers of manganese ore. The only indigenous source of any size is British West Africa. The net import requirements from non-participating countries rise from 647,000 tons to over 900,000 tons a year during the next few years and the normal sources of supply outside the area do not at present appear to be adequate to cover this deficit. The United States has recently been seeking to purchase substantial quantities from abroad. It is likely therefore that the pressure on supplies will be considerable in 1948–51, and steel-producing countries the world over may have difficulty in meeting their needs. It is not possible for the Steel Committee to suggest means of materially easing this problem since the control of all considerable sources of supply is outside the hands of the participating countries.

Ferro-Manganese (Appendix L (ii))

37. Some of the participating countries have, since the war ended, been finding it difficult to meet their needs of ferro-manganese. The shortage arises partly from scarcity of fuel and partly from the growing tightness in manganese ore supplies. The supply position may therefore remain rather difficult for the next few years. If the needs of the participating countries cannot be met in full from their own resources they will have to look to the United States for supplies.

Scrap (Appendix M (ii))

38. The figures show a net import requirement for the participating countries and Western Germany taken together rising from 1.51 million tons in 1948 to 2.35 million tons in 1951. This increase is mainly due to the estimated decline, in the course of the period, of exports of scrap from Western Germany. The figures in the table are based on the assumption that adequate coke supplies will be available to the steel industry. If this assumption is not fulfilled, there will be a higher demand for scrap, adding to the net import requirement. On the other hand, scrap supplies are not easy to forecast accurately for any length of time ahead, and adequate coke supplies might reveal some conservatism in the forward estimates. In these circumstances the net import requirement now shown for 1948–51 might perhaps be reduced by half a million tons or more a year; but it would be unwise to count on this.

39. The only substantial exporter of scrap in the next few years amongst the countries covered by this report will be Western Germany. The Bi-zonal Control Authorities estimate that after a few years the steel industry in the Bi-zone will balance in scrap supplies. Most of the exports of scrap from Western Germany shown for the years 1948–51 are of a once-for-all nature and cannot be expected to continue on the same scale. The quantities shown allow for supplies from all the main exceptional sources such as scrap from plant destroyed as a security measure, scrap from warlike booty, scrap from damaged plant and equipment, scrap from sunken vessels. To obtain this scrap will, in any circumstances, make considerable demands on German resources of labour, transport and equipment. Consideration is being given by the Bi-zonal Control Authorities to the question of seeking more equipment for demolition work. Italy has stated that she has certain equipment of this kind available, together with the appropriate labour force, for use in other countries; and it may be possible to arrange for this equipment to be used in Western Germany or elsewhere. In the meantime the Bi-zonal Control Authorities are arranging that scrap surplus to German needs shall be made available for export from the more accessible sources in as large quantities as present transport and labour resources can handle.

40. On the most optimistic assumptions about coke supplies and scrap availability, a net import requirement of about 1 million tons a year of scrap in 1948–49 seems probable. Since it has already been assumed that blast-furnace capacity will be used to the full in this period, any relief of the scrap shortage by increased production of pig iron would not be practicable. In these circumstances, the participating countries must, as before the war, look to America for substantial supplies of scrap. Part of the scrap deficit could be met alternatively by the supply from the United States of the equivalent amount of pig iron. It is believed that lying in Europe and North Africa there is material in American ownership—booty and the residues of war—suitable for use in steel making. Any such material, whatever the quantity, would be a most welcome contribution to the European deficiency.

41. A scrap shortage in the participating countries is likely to remain after 1951. The exceptional amounts of scrap thrown up by the war will have been practically exhausted by then. The United Kingdom and Italy are the main scrap-importing countries. They will not, however, although remaining for some years substantial importers of scrap, increase their import requirements in proportion to their output of steel, since their development programmes have been designed to save the use of scrap. In 1951 their import requirements will be at a level comparable with their imports in certain pre-war years, despite considerably higher production of steel. In the United Kingdom in 1951

the scrap consumed is programmed to be 51 per cent. of steel output, compared with 60 per cent. in 1946 and about 59 per cent. before the war.

Summary of the Raw Material Position

42. The preceding paragraphs show that the achievement of maximum steel output in the next few years is threatened by raw material shortages. The most serious of these is a possible deficit in hard coke. But there are hopes, if energetic measures can be taken to increase output and exportable surpluses, particularly from Western Germany, and to decrease consumption, that the coke deficit will be overcome. If it is not overcome, steel output must be seriously affected. The orders of magnitude are indicated by the calculation that if supplies of hard coke to the industry fall short by 4 million tons (compared with the total deficit of about 12 million tons in the original overall hard coke budget for 1948) crude steel production will fall short of the target by 4.8 million tons, which will call for an appropriate increase in steel import requirements from non-participating countries.

43. The shortages of manganese and rich iron ores and of scrap are, particularly in 1948 and 1949, not serious compared with the coke deficit originally estimated, but the measures which might eliminate them are less clearly defined and there is a prospect that between them they may mean a loss of steel output in the next year or two of about 1.75 million to 2 million tons of crude steel a year, rising to about 3 million tons in 1951. This loss would be almost wholly additive to any loss which might be caused by lack of coke, since rich ore and scrap will be used as much as possible in any case, and the amount used will be independent of coke supplies within the range under discussion. Restricted supplies of rich ore and scrap would therefore mean less steel output with the available coke, whatever that might be.

44. The conclusion is that if coke can be made available to the iron and steel industry in adequate quantities, other raw-material shortages are not likely to affect steel production very seriously although, particularly in 1950–51, they may mean some loss of output, which might have to be met by imports of steel or pig iron additional to the imports stated in Sections A and D of this chapter.

Manpower

45. Although there is a possibility that, if an improvement in fuel supplies removed the present chief limitation on expansion of steel output, manpower difficulties may limit production, this does not appear a major problem. Most of the participating countries expect an improvement in output per worker. France states that in 1948 she needs an addition of 12 per cent. to the labour force in the steel in-

dustry to achieve her production programme; she expects to achieve this increase, possibly with the aid of immigrant labour. Belgium, Luxemburg and the Saar also look for the recruitment of a few thousand workers from abroad. Steel workers are available from Italy. No surplus of experienced steel workers is expected in Western Germany.

Development of Capacity and Modernisation of Existing Plant

46. The figures which have been given by the participating countries for production from new capacity coming into operation in the period 1947–51 are given in Appendix F (ii), together with estimates of capacity going out of production during the period and the net balance of new capacity. The figures in Appendix F (ii) are incomplete in the sense that they represent expansions already planned. Other expansion may take place during the period which has not already been decided upon by the countries concerned. The installation of steel-making capacity on any scale is, however, a major operation, so that any considerable expansion during the period which has not yet been foreseen would not be practicable.

Outline of the Scope of the Programmes

47. In both pig-iron manufacture and in steel making and finishing the big expansion of capacity will come in 1951 when new works now in the stage of site preparation, will come into operation. The United Kingdom and France will be the major contributors to the new capacity. The other countries concerned are Austria, the Netherlands and Sweden for general expansion of all the main stages of production, Italy for pig iron and crude steel and Denmark, Luxemburg and Switzerland for steel finishing. Greece plans the erection of a blast furnace to use high-grade indigenous ores and to enable coke-oven gas to be used in the manufacture of nitrogenous fertilizers.

48. One of the important features of the programmes is that several of them aim at achieving a balanced steel industry, concentrated round integrated plants with consequent increased fuel and labour efficiency. The United Kingdom is planning to increase capacity for crude and semi-finished steel to bring it more nearly into line with finishing capacity and to reduce dependence on imports of semi-finished products. The scheme in Belgium and Luxemburg is to increase finishing capacity, bringing it more into balance with capacity for crude and semi-finished steel. The Netherlands intend to expand production of crude and finished steel, although remaining an exporter of pig iron. The Turkish programme is to modernise the existing finishing equipment, and to extend ore mining, open-hearth furnaces and finishing mills so as to bring their capacity into line with blast-furnace capacity, which was installed in 1939 but has remained largely unused through

lack of capacity for the further processes; the extensions are expected to come into operation at the end of 1951 and allow full production in 1952. The Italian programme concentrates mainly on modernisation and repair of existing plant, but the reconstruction of pig-iron and crude steel capacity will bring this more nearly into line with finishing capacity.

The United Kingdom Development Plant

49. The main features of the United Kingdom development plan which has been drawn up by the steel industry and accepted in broad outline by the United Kingdom Government are as follows for the years 1947–51. By the end of the period a good deal of the obsolescent plant will have been replaced. There will be a high ratio of additional pig-iron capacity to additional steel-making capacity, reflecting the comparative shortage of scrap which has been assumed in drawing up the plan. In steel finishing, where capacity has hitherto always been in excess of United Kingdom crude and semi-finishing capacity, modernisation will be of more importance than extension, and the net addition to finishing capacity is only 1.3 million tons compared with replacement of 1.7 million tons of old capacity. Substantial economy in fuel will result from the United Kingdom development and modernisation plan, and there should be a saving of 6 cwt. of coal per ton of pig-iron production in 1951 compared with 1937. Among the major schemes expected to come into operation in the United Kingdom during 1951 are the hot-rolled strip mill in South Wales, integrated back to the blast furnace stage, and a broad flanged beam mill on Tees-side where a considerable proportion of the heavy structural steel output will be concentrated.

50. It is not possible in the case of the United Kingdom development plan to consider the period 1948–51 in isolation, since the plan is not expected to be completed before 1955. By that date crude steel capacity will have increased to 16.3 million tons with an output in normal times of about 15.2 million tons a year. In addition to this new capacity for steel making, balancing facilities for ore handling and treatment and for increased pig-iron production will come into operation in the 1950's. The schemes include new billet mills in Northamptonshire where a large new plant will be established on the home ore-fields providing facilities for the preparation of home-produced ore and the necessary coking ovens, blast furnaces, steel plants, cogging mill, continuous billet mill and finishing plant. Billets will also be supplied to meet the requirements of finishing mills in the Midlands. Programmes are now being prepared for the modernisation and development of steel works in Scotland and on the North East coast of England.

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The French Modernisation Plan

51. The French iron and steel industry will raise its capacity to about 13½ million ingot tons, based principally on the ore-fields of Lorraine. The Monnet plan, while envisaging an eventual expansion to 15 million tons, concentrates in the period now studied on the modernisation of present equipment and on economic rearrangement of output. The expenditure planned is altogether 130 milliard francs (rather over a milliard dollars). The basic aims are to economise both in fuel, particularly coke, and in labour. Increases of blast-furnace size and pre-treatment of the charge are the subject of special effort and the linking of groups of steel works to common electrical generating stations should also improve fuel efficiency. Several new coking installations are also proposed. Better preparation of scrap by the provision of new presses, etc., is planned. Much work will be done on installing rolling mills with the most modern techniques of electrification and mechanisation; improvements in quality of output are sought as well as in fuel and labour efficiency.

52. In view of the special shortages of sheets and tinplate, two wide continuous hot strip mills are intended, one in the North and one in the East, for the first of which preliminary work is in progress and an order has been placed in the United States. There is also a programme of two three-stand continuous cold mills and one five-stand continuous cold mill for tinplates as well as reversing cold mills. One of these continuous mills is already ordered from the United States and will link with the first continuous hot mill. In the two-year interval before the operation of the continuous mills, the intention is to alleviate the shortage of sheets by the use of mechanised 3-high mills or by mechanising existing 2-high mills. A considerable part of this equipment is ordered or must shortly be ordered in the United States.

C. Requirement for Home Use and External Trade

Development of Consumption Requirements

53. Appendix G gives finished steel consumption figures for the participating countries in pre-war years and in each year 1947–51. By 1948 an increase of 50 per cent. on 1938 consumption is estimated. By 1951 this figure will have risen to 66 per cent. These estimates assume the achievement of a high level of industrial activity and the maintenance of full employment. In 1951 consumption per head in the participating countries (exclusive of dependent oversea territories) will average 166 kilogrammes (ingot equivalent of finished steel) compared with 116 kilogrammes in 1938 and about 500 kilogrammes in the United States at the present time. The consumption per head varies very widely as between the participating countries owing to their very different economic structures. The following figures for France, Italy and the United Kingdom are illustrative.

Table 2—Consumption of Steel per Head in France, Italy, the United Kingdom and the United States

(excluding dependent oversea territories)

(Ingot equivalent of finished steel)

	Year	Kilo-grammes	Year	Kilo-grammes
France	1929	162	1951	234
Italy	1938	59	1951	87
United Kingdom	1937	263	1951	292
United States of America	1937	379	1947	Over 500

54. An adequate supply of steel is a necessary condition of the success of many of the projects and programmes put forward in the reports of the other Technical Committees. The steel consumption requirements presented by the various countries to the Steel Committee allowed for fulfilment of national programmes for improvement of transport, etc. If home production and imports of steel achieve the levels put forward in this report, the needs of these programmes can be met without detriment to other consumption. If overall steel supplies fail to reach the targets and there is a shortfall of, say, 6 to 7 million tons (see paragraphs 42 to 44 above), it should still be possible to meet steel requirements in the vital fields of transport, mining and power, and agriculture, since together these do not amount to more than perhaps 25 per cent. of total steel consumption. But there would have to be serious curtailment of consumption in other fields.

55. To some extent demands for steel will be exceptional in the years 1948–51. Deferred repairs and re-equipment during the war and restrictions on consumer goods have piled up a demand for steel at present which must be expected to fall off as soon as it can be satisfied. But this reduction in one sector of demand will be counterbalanced by the normal upward trend of consumption so that although there may be a flattening out of demand for a year or two in the early 1950's, after that the curve will rise again. No accurate forecast can be made about the distribution of steel for home consumption between end uses during 1948–51. But the general pattern seems likely to be one of relatively high deliveries in the earlier years to mining and transport, and in the latter years a greater concentration on the general engineering industries. Consumption by the building and civil engineering industries will probably remain throughout the period at about the same proportion of total consumption (of the order of 15 per cent.).

Exports of Steel to Non-participating Countries

56. In Appendices C (iii) and D (iii) estimates are given of the division of exports of steel in the future between participating and non-participating countries. These are only estimates and do not repre-

sent pre-determined allocations as between these groups of countries. The estimates of exports to non-participating countries have been made by the participating countries on the basis of an assessment of the demand, as shown by pre-war trends and present indications, and of the supplies they expect to be capable and desirous of sending to them. In the last two years of the period the estimated exports of finished steel to participating countries as given by the exporting countries somewhat exceeded the total stated import requirements. But the margin is not large—between 2 per cent. and 3 per cent. of production—and could easily be absorbed by a relatively small shortfall in production or expansion in consumption in the exporting countries. To make the table self-consistent, the total of the estimated exports to participating countries has been reduced to the total import requirement of those countries, after deduction of the sheet and tinplate imports programmed to come from outside the participating countries.

57. The finished steel exports of the participating countries to the non-participating countries in 1948–51 have been estimated to be a rather lower proportion of their total exports than in 1938 (see Table 3). If, in the event, these estimated exports in 1951 should be increased by the surplus arising from the over-estimation by the exporting participating countries of their exports to the importing participating countries, the proportion of total exports going to non-participating countries would be somewhat higher than in 1938. But the availability of these additional supplies for export is by no means certain. On the basis of the exports to non-participating countries as now estimated, the proportion of their total finished steel production which the participating countries will send to non-participating countries in 1948–51 will be practically the same as in 1938. The quantities estimated to be available for export to non-participating countries in 1951 are about double those exported in 1938; the year 1938 was for most participating countries one in which exports were rather low. The participating countries are expecting that the expansion of demand for steel in the world generally will enable them to find markets for the larger quantities, compared with pre-war, which they will be able to make available for export in 1948–51. Steel has always been an important part of Western European trade with outside markets. It is in itself an important source of foreign exchange: the value of exports from participating countries to non-participating countries might reach over $300 million in 1948, rising to $400–500 million in 1951. In addition, steel is closely linked with other aspects of Western European trade and enterprise abroad. Railway material will go to all parts of the world for railways constructed to European specifications and carrying raw materials and foodstuffs for export to

Europe. Constructional steel will be exported for the construction and maintenance of projects carried out by Western European engineers.

Exports of crude and semi-finished steel by the participating countries to the non-participating countries were, before the war, negligible and will remain so in the future.

Table 3—Export of Finished Steel from Participating Countries to Non-participating Countries 1938, 1948 and 1951

Year	Total Exports*	Exports to non-participating countries †		
		Quantity	As percentage of total exports	As percentage of production of participating countries
	Thousand metric tons	Thousand metric tons		
1938	4,121	1,929	46.8	10.5
1948	8,587	3,264	38.0	11.0
1951	9,852	3,808 to 4,866	38.6 to 49.4	11.1 to 14.2

* Includes exports to own dependent oversea territories—355,000 tons in 1938; 990,000 tons in 1948 and 1,250,000 tons in 1951.

† Includes Germany among non-participating countries.

D. Import Requirements

General Review

58. Table 4 shows the import requirements in 1948–51 of the participating countries and Western Germany together from the rest of the world including the Americas. Table 5 shows how much of these requirements will be sought from the Americas. The figures in this table have been reached after estimating the imports which the participating countries and Western Germany expect, on present indications, to be able to obtain from other outside sources. In Tables 4 and 5 the tonnage figures for crude and semi-finished steel are given as actual weight; they are derived from Appendix C (iii) where they appear in terms of ingot equivalent.

59. Except for iron and manganese ores, nearly the whole of the import requirement of the participating countries and Western Germany from the rest of the world can only come from the Americas, and indeed they must be sought almost wholly from the United States. Finished steel of the desired types, scrap, pig iron, and steel-making plant and equipment are unlikely to be obtainable at all from other parts of the Americas and only a relatively small proportion of the crude and semi-finished steel and the ferro-manganese can be expected from these other sources.

Table 4—Import Requirements of Participating Countries and Western Germany from Non-participating Countries, including the Americas

(Thousands of metric tons. Millions of U. S. dollars)

	1948		1949		1950		1951	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Crude and semi-finished steel (actual weight)	2,490	157	2,540	160	2,700	170	2,620	165
Finished steel, other than sheets and tinplate	596	55	69	6	—	—	—	—
Sheets	385	60	180	28	31	5	—	—
Tinplate	291	47	285	46	269	43	250	40
Rich iron ore	2,480	15	2,490	15	3,300	20	3,400	21
Manganese ore	648	10	776	12	841	13	921	15
Ferro-manganese	60	7	73	9	83	10	88	11
Scrap (or pig-iron equivalent)	1,514	55	1,878	68	2,206	80	2,346	85
Pig iron	193	7	79	3	—	—	—	—
Plant and equipment	—	100	—	100	—	100	—	100
TOTAL	—	513	—	447	—	441	—	437

Steel and Steel-making Materials

60. It must be emphasised that the import requirements are calculated on the assumption that raw material supplies will allow full use of iron and steel-making capacity in the participating countries. If this is not possible, a larger programme of imports of steel (or pig iron) from the United States must result. An indication of the possible orders of magnitude of these additional requirements has been given in paragraphs 42 to 44 above. If production in the participating countries can be raised to the maximum, import requirements of finished steel (other than tinplate and sheets) from the United States will quickly fall away. Import requirements of sheets continue longer, but if supplies can be obtained from the Bi-zone the need would cease about half-way through the period, or possibly earlier. Import requirements of tinplate will continue throughout 1948–51, but this need is abnormal, arising from dislocation of the tinplate industry and delays in re-equipment, both due to the war. Re-equipment and new capacity should provide for the full supply of tinplate desired by the participating countries and Western Germany after 1951.

61. The demand for imports of semi-finished steel remains fairly steady throughout 1948–51, but it will fall away thereafter as new capacity comes into operation in the participating countries, particularly the United Kingdom and Italy, and by 1955 this demand is likely to be quite small. The future trend of import requirements of

Table 5—Import Requirements of Participating Countries and Western Germany from the Americas

(Thousands of metric tons. Millions of U. S. dollars)

	1948				1949				1950				1951			
	From the United States		From other Western Hemisphere		From the United States		From other Western Hemisphere		From the United States		From other Western Hemisphere		From the United States		From other Western Hemisphere	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Crude and semi-finished steel (actual weight).	2,040	129	300	21	2,090	132	300	21	2,250	142	300	21	2,170	137	300	21
Finished steel, other than sheets and tinplate.	449	41	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sheets	385	60	—	—	180	28	—	—	31	5	—	—	—	—	—	—
Tinplate	291	47	—	—	285	46	—	—	269	43	—	—	250	40	—	—
Rich iron ore	—	—	1,180	7	—	—	1,190	7	—	—	2,000	12	—	—	2,100	13
Manganese ore	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ferro-manganese	55	6	5	1	68	8	5	1	78	9	5	1	83	10	5	1
Scrap (or pig-iron equivalent)	1,399	51	—	—	1,753	64	—	—	2,091	76	—	—	2,231	81	—	—
Pig iron	182	7	—	—	68	3	—	—	—	—	—	—	—	—	—	—
Plant and equipment	—	100	—	—	—	100	—	—	—	100	—	—	—	100	—	—
	—	441	—	29	—	381	—	29	—	375	—	34	—	368	—	35

scrap (or pig-iron equivalent) from the United States is very difficult to forecast, but it seems likely that a demand of one to two million tons a year may continue for some time.

Plant and Equipment

62. The total expenditure by the participating countries on steel-making plant and equipment from non-participating countries in 1948–51 is estimated at $400 million. It is not possible to phase this expenditure accurately year by year owing to uncertainty about delivery dates and the incidence of progress payments, etc. Equal distribution over the four years has therefore been arbitrarily assumed. The main steel-producing countries will make at home the great bulk of the plant they need for their modernisation and development programmes and will seek from abroad, mainly from the United States, only certain specialised plant and equipment. In the case of the United Kingdom and France, only about 10 per cent. of the total expenditure on their steel plans will be on plant and equipment from abroad. Some of the main items of plant and equipment which France hopes to get from the United States are described in paragraph 52 above. In the case of the United Kingdom, the chief expenditure in the United States envisaged during the next four years is on the South Wales tinplate and sheet scheme, for which a wide continuous strip mill has been ordered in the United States, and on the beam mill for Tees-side. Other countries such as Turkey, Greece and the Netherlands which lack the necessary heavy engineering industry, must import most of their plant and equipment. Some supplies are expected from the United Kingdom and Switzerland, but most of the imports could come only from the United States.

63. Plant and equipment which is surplus to the needs of the future German economy and is delivered as reparations constitutes a contribution to the productive capacity of the participating countries concerned. These countries attach importance to these deliveries and in particular to their being effected as speedily as possible. The Inter-Allied Reparations Agency has been set up to make the division of reparations plant between the Western Allies in accordance with the Paris Agreement of January, 1946. It has not, however, been possible to include in the forward import programme set out in this report any reparations plant from Germany because it is not possible for any country to count on obtaining any particular plant until plants are declared available for reparations and have been allocated.

CHAPTER III

FUTURE CO-OPERATION

64. The Iron and Steel Committee has assessed for the next few years the development of steel requirements, the resources in raw materials and the potential steel production. All these data are subject to substantial variations. In the first place the requirements of steel are subject to considerable fluctuations associated with reconstruction and re-equipment needs, and to changes which may take place in the balance between the various steel products. Secondly, possibilities of production depend upon the practical fulfilment of the equipment programmes now envisaged, the evolution of technique and, above all, the resources of raw materials available.

65. In the course of their study the members of the committee have come to the conclusion that it would be of great value to the European economy to keep the data assembled accurate and up to date. They therefore recommend that forthwith, and so far as possible within the framework of United Nations organisations in Europe, periodical meetings should be planned between delegates of the various countries which are producers and consumers, whether of raw materials or of finished and semi-finished products, with a view to studying the factors involved in maintaining a plentiful supply of iron and steel. Without prejudging the type of these meetings, or the possibility of setting up a liaison or information body, they are of the opinion that such co-operation would yield beneficial results for all those taking part.

66. The co-operation envisaged would, as seen at present, cover the following fields:—

(i) comparing requirements and possibilities of production, and discussing any means by which, in order to meet requirements, either the production of pig iron and steel generally, or the production of specific iron and steel products, may be increased;

(ii) assessing the forward position of raw material resources and as necessary discussing means of increasing the availability of such materials for the iron and steel industry, and their efficient use; and

(iii) exchanging information about the various programmes for modernisation and extension in order to help individual countries in developing any plans they may have of their own.

67. To this end a meeting of interested Governments will be convened on 18th March, 1948, by the Governments of the Benelux countries, France and the United Kingdom.

CHAPTER IV

CONCLUSION

68. Full use can be made of existing capacity in the iron and steel industry only if—

(i) there is an increase of over 50 per cent. in the supplies of coke available to the industry, compared with 1947;

(ii) imports of scrap or pig iron can be obtained from United States; and

(iii) there is a substantial increase in imports of American semi-finished steel.

Fulfilment of the two latter conditions is outside the control of the Conference, but concentrated study has been made of the measures which would reduce the deficit in coke supplies. If strong efforts can be made by the countries concerned to put these measures into effect, and in particular if exports of coke and coking coal from the Ruhr can be substantially increased, the steel supply position in the participating countries would be radically improved in comparison with 1947. If the coke deficit is not eliminated, requests for American steel or pig iron in 1948 will be increased in the proportion of 1.2 million tons for each million tons of coke.

69. If the programmes for steel production and imports are achieved, it will be possible in the year 1948 to meet consumption needs in the participating countries at a level nearly 50 per cent. above actual consumption in 1938 and over 25 per cent. above estimated consumption in 1947. The participating countries as a group would be able to meet their needs for finished steel, other than sheets and tinplate, as well as to supply those oversea markets traditionally dependent on Western Europe. The inclusion of Western Germany alters the position materially. The Bi-Zonal Control Authorities stated that the Bi-Zone would have a substantial import requirement of finished steel in 1948 and 1949. The authorities for the Saar indicated an export surplus from that area. But even if these were set off against each other, there would remain in 1948 a net import requirement of finished steel for the participating countries and Western Germany. After that these countries would between themselves quickly become self-sufficient in finished steel except for tinplate and possibly sheets.

70. The vital need for providing more steel for industry as soon as possible demands the full use in participating countries of existing plant, old and new, inefficient and efficient. This is in accord with the policy of the Conference, which emphasises the primary importance and special urgency of promoting the utilisation of existing productive capacity. A great deal of work has already been done in

repairing war damage to steel plants, but deferment during the war of repair and maintenance of the steel industry's plant and equipment as a whole has yet to be made good. Programmes for modernisation and expansion have been prepared in all the steel-producing countries participating in the Conference, and their execution will be proceeding alongside the maximum operation during the next two or three years of existing plant, whatever its condition. By 1950 and 1951 some of the new capacity will be installed, but the full effect of the development programmes on the efficiency of operation of the steel industry of the participating countries will not be seen until after the end of the period with which this Conference is particularly concerned.

71. The stated programmes of the participating countries plus Germany will by 1951 give a small surplus of production over consumption and exports as now forecast. But in assessing steel supplies for 1951 the Steel Committee has been aware that some degree of uncertainty necessarily attaches to the production targets of the steel-producing countries represented at the Conference. They depend for their achievement on the successful realisation of complex development plans which involve very considerable efforts on the part of the countries concerned. It is not possible to look ahead for as much as four years and achieve great precision on these production targets.

72. It may also prove to be the case that shortages in raw materials will be encountered which may exercise some effect in reducing the total production in 1951. There is some hope that coke supplies may be adequate by then, although it is not possible at this date to predict this confidently. Some shortage of scrap and rich iron ores is also threatened.

73. Taking these considerations together, the Steel Committee thinks it possible that there might be an overall shortfall of steel production in 1951 of 3 or 4 million tons.

74. On the other hand, the Steel Committee, while sounding this note of caution on the full realisation of the production programmes of the countries represented at the Conference, does not feel that the possible shortfall is either considerable or readily measured. It therefore affords an inadequate basis on which to plan additional import requirements of steel from America in finished and semi-finished form. If there is some lag in the fulfilment of production programmes in 1951 the resulting shortfall might possibly make less steel available for export and might also mean some degree of postponement of less essential consumption needs.

75. The Steel Committee has therefore come to the conclusion that at this time it is wise to state the programme from America in 1951 on the basis of the full achievement of the European production programmes notwithstanding the limited risks which this entails for the reasons discussed above.

76. Because of the uncertainties about the trend of demand and raw material supplies, the Steel Committee has been impressed with the need for continuing arrangements to keep under review the development of the steel supply position in Europe. The Committee has therefore included in its report proposals for periodical meeting among steel-producing and consuming countries for joint study of the balance of supply and demand and of any problems presented by scarcity of raw materials or of particular steel products. As stated in paragraph 67 above, the first of these meetings is due to take place on 18th March, 1948.

APPENDIX A

Countries Represented on the Iron and Steel Committee

France	Norway
Italy	Turkey
Luxemburg	United Kingdom

APPENDIX B

Definitions

See the note on definitions in the report, page 245

Iron Ore	Includes pyrites residue.
Manganese Ore	Ore with manganese content of 10 per cent. or over.
Spiegeleisen	Metal as prepared for increasing the manganese content of steel, and containing up to 30 per cent. of manganese.
Ferro-Manganese	Metal as prepared for increasing the manganese content of steel, and containing 30 per cent. or more of manganese.
Scrap	Any scrap for blast furnaces or for steel making, but excluding scrap for iron foundries.
Steel	Includes all special and alloy steels.
Crude Steel	Ingots and liquid steel for castings or for special pig iron.
Ingot equivalent	The estimated weight of the crude steel from which a semi-finished or finished product has been made, exceeding the actual weight of the product by the weight of the scrap, scale, etc., removed in the process of transformation.
Semi-finished Steel	Semi-finished steel for rolling or forging, includes billets, blooms, slabs, sheet bars, hot rolled coil for sheet-making; it excludes wire rods, tube strip, tube rounds and tube squares.
Finished Steel	Excludes tubes, cold drawn bars, cold drawn wire, cold rolled strip up to and including 500 millimetres in width, and fabricated steel-work. Includes wire rods, tube strip, tube rounds and tube squares, and steel castings and forgings in the finished state.
Sheets	Sheets, black, or coated, under 3 millimetres in thickness.
Tinplate	Tinplate, terneplate and blackplate.

APPENDICES C, D, E, F, G, H, J, K, L, M. STATISTICAL TABLES

APPENDIX C (i)

CRUDE AND SEMI-FINISHED STEEL—PRE-WAR PRODUCTION, IMPORTS, CONSUMPTION, EXPORTS

(Participating Countries and Western Germany)

(Thousands of metric tons, ingot or ingot-equivalent)

Country	Most active pre-war year*	Production		Imports		Consumption in finishing processes		Exports	
		Most active pre-war year*	1938	Most active pre-war year*	1938	Most active pre-war year*	1938	Most active pre-war year*	1938
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Austria	1929	632	666	—	—	612	655	20	11
Belgium	1929	4, 275	2, 324	454	100	4, 175	2, 311	554	113
Denmark	1939	6	6	—	—	6	6	—	—
France	1929	9, 711	6, 221	1	1	8, 929	6, 058	783	164
Greece	1938	20	20	—	—	20	20	—	—
Iceland	.....	—	—	—	—	—	—	—	—
Ireland	1938	—	—	—	—	—	—	—	—
Italy	1938	2, 328	2, 328	17	17	2, 345	2, 345	—	—
Luxemburg	1929	2, 696	1, 436	—	—	2, 397	1, 254	299	182
Netherlands	1937	39	57	—	—	39	57	—	—
Norway	.....	63	65	30	18	92	82	1	1
Portugal	.....	—	—	—	—	—	—	—	—
Sweden	1938	995	995	—	—	973	973	22	22
Switzerland	1938	5	5	65	65	70	70	—	—
Turkey	1939	—	—	1	1	1	1	—	—
United Kingdom	1937	13, 192	10, 564	684	408	13, 840	10, 947	36	25
SUB-TOTAL	.....	33, 962	24, 687	—	610	33, 499	24, 779	—	518
Western Germany:									
Bi-Zone	1938	17, 820	17, 820	70†	70†	17, 810†	17, 810†	80†	80†
French Zone	1938	424	424	232	232	583	583	73	73
Saar	1938	2, 538	2, 538	—	—	2, 533	2, 533	5	5
TOTAL	.....	54, 744	45, 469	—	912	54, 425	45, 705	—	676

*As selected by each country to show greatest representative pre-war activity. In most cases a single year is chosen throughout the tables, so that in some columns under this heading the figure given may be less than the figure for 1938.

†Estimated.

APPENDIX C (ii)

CRUDE AND SEMI-FINISHED STEEL: PRODUCTION, IMPORTS, CONSUMPTION, EXPORTS—1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons, ingot-equivalent)

Country	Production			Imports			Consumption in finishing processes			Exports		
	1945 (1)	1946 (2)	1947 (3)	1945 (4)	1946 (5)	1947 (6)	1945 (7)	1946 (8)	1947 (9)	1945 (10)	1946 (11)	1947 (12)
Austria	171	187	400	—	—	—	171	187	392	—	—	—
Belgium	742	2,307	2,815	40	85	135	782	2,388	2,934	—	4	16
Denmark	26	31	30	—	—	—	26	31	30	—	—	—
France	1,661	4,408	5,812	------	93	90	------	4,495	5,898	------	6	4
Greece	—	—	10	—	—	—	—	—	10	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	2	—	—	—	—	—	2	—	—	—
Italy	395	1,153	1,600	------	40	172	------	1,193	1,772	—	—	—
Luxemburg	259	1,295	1,800	------	—	—	235	1,139	1,605	24	156	195
Netherlands	13	138	207	—	—	—	13	138	207	—	—	—
Norway	34	51	57	13	3	8	47	52	65	—	2	—
Portugal	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	1,191	1,203	1,195	1	6	5	1,189	1,206	1,197	3	3	3
Switzerland	90	34	57	30	86	63	120	120	120	—	—	—
Turkey	61	81	82	—	—	—	61	81	82	—	—	—
United Kingdom	12,216*	12,949*	12,700	124	387	550	12,335	13,331	13,250	5	5	—
SUB-TOTAL	16,859	23,837	26,767	------	700	1,023	------	24,361	27,564	------	176	218
Western Germany:												
Bi-Zone	------	2,687	2,750	------	—	—	------	2,687	2,750	------	—	—
French Zone	20	14	60	10	21	41	17	35	98	11	1	3
Saar	6	285	752	—	—	—	6	250	693	—	35	59
TOTAL	------	26,823	30,329	------	721	1,064	------	27,333	31,105	------	212	280

* Includes very small quantities from stocks.

APPENDIX C (iii)

Crude and Semi-Finished Steel: Production, Consumption, Exports, Imports—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons, ingot or ingot-equivalent)

Country	Production objectives				Consumption in finishing processes				Exports: Total				Exports: Estimated exports to participating countries and Western Germany				Import requirements from all sources			
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	600	720	720	1,000	584	700	700	970	16	20	20	30	4	4	8	8	—	—	—	—
Belgium	4,250	4,250	4,850	4,850	4,383	4,383	4,950	4,950	92	92	125	125	82	82	110	110	225	225	225	225
Denmark	35	45	55	70	35	45	55	70	—	—	—	—	—	—	—	—	—	—	—	—
France	10,400	10,890	11,700	12,690	10,250	10,670	11,410	12,250	300	370	440	500	270	370	440	450	150	150	150	60
Greece	20	20	120	220	20	20	120	220	—	—	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	9	15	22	30	9	15	22	30	—	—	—	—	—	—	—	—	—	—	—	—
Italy	2,500	2,670	2,830	3,000	3,200	3,580	3,910	4,300	—	—	—	—	—	—	—	—	700	910	1,080	1,300
Luxemburg	3,000	3,000	3,000	3,000	2,730	2,730	2,855	2,855	270	270	145	145	270	270	145	145	—	—	—	—
Netherlands	303	393	473	503	303	393	473	503	—	—	—	—	—	—	—	—	—	—	—	—
Norway	67	72	92	92	97	101	120	120	—	—	1	1	—	—	1	1	30	29	29	29
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	1,300	1,500	1,760	2,060	1,300	1,500	1,760	2,060	—	—	—	—	—	—	—	—	—	—	—	—
Switzerland	*80	*80	*80	*80	120	120	120	120	—	—	—	—	—	—	—	—	70	70	70	70
Turkey	80	85	90	90	80	85	90	90	—	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	13,970	14,200	14,480	14,990	16,220	16,290	16,570	16,865	—	—	—	—	—	—	—	—	2,250	2,090	2,090	1,875
Sub-total	36,614	37,940	40,272	42,675	39,331	40,632	43,155	45,403	678	752	731	801	626	726	704	714	3,425	3,474	3,644	3,559

Western Germany:	Possible production																			
Bi-zone†	4,075	5,500	7,500	10,000	4,075	5,500	Estimates not included		—	—	Estimates not included		—	—	Estimates not included		—	—	Estimates not included	
French Zone	100	150	150	150	235	375			—	—			—	—			135	225		
Saar	1,550	2,538	2,538	2,538	1,474	2,483			76	55			76	55			—	—		
TOTAL	42,339	46,128	50,460	55,363	45,115	48,900	—	—	754	807	—	—	702	781	—	—	3,560	3,699	—	—

*1947 production figure.

†These figures are put forward by the Control Authorities in the Bi-zone as targets which could be achieved provided that certain assumptions are fulfilled. Under the March, 1946, Level of Industry Plan steel production in the Bi-zone would be limited to 4.7 million ingot tons. Production, however, might be raised to 10 million ingot tons by the end of 1951, in conformity with the level permitted in the Bi-zonal Level of Industry Plan announced by the Commanders-in-Chief of the Bi-zone on August 29th, 1947. It could certainly, with proper effort on the part of the industry, be raised to 7 or 8 million ingot tons by the end of 1951. Any calculations based on the 10 million ingot ton figure must take account of the statement that the measures about to be taken by the Commanders-in-Chief do not prejudge quadripartite decisions of the Council of Foreign Ministers in respect of the level of industry for Germany as a whole or such industrial limitations as may be imposed by the peace settlement.

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APPENDIX D (i)

FINISHED STEEL: PRODUCTION, IMPORTS, CONSUMPTION, EXPORTS—PRE-WAR

(Participating Countries and Western Germany)

(Thousands of metric tons, actual weight)

Country	Production		Imports*		Consumption*		Exports*	
	Most active pre-war year†	1938	Most active pre-war year†	1938	Most active pre-war year†	1938	Most active pre-war year†	1938
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Austria	427	467	58	6	423	409	62	64
Belgium	3,268	1,805	471	302	1,585	1,215	2,154	892
Denmark	6	6	462	337	462	340	6	3
France	6,589	4,115	76	64	5,408	3,523	1,257	656
Greece	15	15	120	120	135	135	—	—
Iceland	—	—	4	4	4	4	—	—
Ireland	3	3	45	45	48	48	—	—
Italy	1,748	1,748	168	168	1,860	1,860	56	56
Luxemburg	1,910	1,026	—	—	40	19	1,786	977
Netherlands	10	154	1,034	770	1,044	924	—	—
Norway	92	82	241	165	329	242	5	5
Portugal	—	—	100	100	100	100	—	—
Sweden	687	687	343	343	1,000	1,000	178	178
Switzerland	55	55	228	228	283	283	—	—
Turkey	—	—	147	147	147	147	—	—
United Kingdom	10,373	8,216	499	389	9,486	7,670	1,386	935
SUB-TOTAL	25,183	18,379	---------	3,188	22,354	17,919	---------	3,766
Western Germany:								
Bi-zone	13,360‡	13,360‡	250‡	250‡	12,410‡	12,401‡	1,200‡	1,200‡
French Zone	411	411	1,050	1,050	1,125	1,125	336	336
Saar	1,952	1,952	36	36	375	375	1,587	1,587
TOTAL	40,906	34,102	—	4,524	36,264	31,829	—	6,889

*Imports include imports into own dependent oversea territories from sources other than the metropolitan territories, and exports exclude exports to own dependent oversea territories. Consumption includes all imports into dependent oversea territories.

†See Appendix C (i) and Note (*) thereto.

‡Estimated.

APPENDIX D (ii)

FINISHED STEEL: PRODUCTION, IMPORTS, CONSUMPTION, EXPORTS—1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons, actual weight)

Country	Production*			Imports†			Consumption†			Exports†		
	1945	1946	1947	1945	1946	1947	1945	1946	1947	1945	1946	1947
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	80	122	286	—	—	6	80	107	216	—	15	76
Belgium	645	1,846	2,446	75	314	530	540‡	1,363	1,560	90	797	1,416
Denmark	42	−34§	91	40	325	185	82	290	275	—	1	1
France	1,120	3,036	4,090	544	451	438	1,664	3,423	4,456	—	64	72
Greece	—	—	8	—	—	50	—	—	58	—	—	—
Iceland	—	—	—	12	14	15	12	14	15	—	—	—
Ireland	4	2	2	22	29	56	26	31	58	—	—	—
Italy	293	904	1,360	—	30	200	293	934	1,490	—	—	70
Luxemburg	166	930	1,266	—	—	—	20	36	36	167	894	1,230
Netherlands	21	1	130	39	551	720	60	550	850	—	—	—
Norway	47	53	66	55	184	325	102	236	388	1	1	2
Portugal	—	—	—	40	80	100	40	80	100	—	—	—
Sweden	880	848	845	40	472	500	870	1,200	1,255	98	90	90
Switzerland	95	95	95	82	445	460	177	540	543	—	—	—
Turkey	51	56	57	19	46	69	70	102	126	—	—	—
United Kingdom	9,076‖	10,142‖	10,300‖	126	77	80	8,541	8,945	9,544	661	1,274	836
SUB-TOTAL	12,520	18,001	21,042	1,094	3,018	3,734	12,577	17,851	20,970	1,017	3,136	3,793
Western Germany:												
Bi-zone	—	1,961	2,062	—	—	—	—	1,800	1,762	—	161	300
French Zone	12	19	70	30	207	240	25	206	271	18	20	39
Saar	5	187	504	—	20	12	3	69	152	2	149	403
TOTAL	—	20,168	23,678	—	3,245	3,986	—	19,926	23,155	—	3,466	4,535

*Includes withdrawals from stocks and second-hand supplies where these figures were supplied.

†Imports include imports into own dependent oversea territories from sources other than the metropolitan territory, and exports exclude exports to own dependent oversea territories; consumption includes all imports into dependent oversea territories.

‡Excludes 90,000 tons supplied to Allied Armies in Belgium.

§Transfers to stock exceeded production.

‖Includes withdrawals from stock and second-hand supplies:—1945, 237,000 tons; 1946, 581,000 tons; 1947, 710,000 tons.

APPENDIX D (iii)

FINISHED STEEL: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons, actual weight)

Country	Production objectives				Consumption*				Exports*								Import requirements from all sources*			
									Total				Estimated exports to participating countries and Western Germany							
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	380	432	432	650	320	353	333	500	100	100	100	150	100	100	100	150	40	21	1	—
Belgium	3,650	3,650	4,123	4,123	1,770	1,770	1,780	1,780	2,475	2,475	2,938	2,938	1,775	1,775	2,013	2,013	595	595	595	595
Denmark	†−40	†−30	55	70	450	450	450	450	—	—	—	—	—	—	—	—	490	480	395	380
France	7,500	7,810	8,350	8,960	7,000	7,400	7,600	8,000	770	760	980	1,110	380	450	500	500	270	250	230	150
Greece	15	15	90	165	135	145	203	285	—	—	—	—	—	—	—	—	120	130	113	120
Iceland	—	—	—	—	15	15	15	15	—	—	—	—	—	—	—	—	15	15	15	15
Ireland	9	15	22	30	60	61	62	63	—	—	—	—	—	—	—	—	51	46	40	33
Italy	2,450	2,740	2,990	3,280	2,300	2,565	2,795	3,055	150	175	195	225	50	60	65	75	—	—	—	—
Luxemburg	2,230	2,230	2,354	2,354	36	36	36	36	2,194	2,194	2,318	2,318	1,600	1,600	1,600	1,600	—	—	—	—
Netherlands	200	300	350	400	1,100	1,150	1,200	1,300	—	—	—	—	—	—	—	—	900	850	850	900
Norway	97	101	120	120	494	448	439	439	3	3	6	6	3	3	6	6	400	350	325	325
Portugal	—	—	—	—	160	160	160	160	—	—	—	—	—	—	—	—	160	160	160	160
Sweden	950	1,150	1,280	1,500	1,355	1,410	1,470	1,530	150	150	200	200	75	85	90	100	610	460	390	230
Switzerland	95	95	95	95	595	595	595	595	—	—	—	—	—	—	—	—	500	500	500	500
Turkey	60	65	68	68	198	238	259	268	5	5	5	5	5	5	5	5	143	178	196	205
United Kingdom	‡11,980	‡12,065	‡12,265	‡12,410	10,775	10,847	11,072	11,214	1,750	1,725	1,700	1,650	345	345	345	345	545	507	507	454
SUB-TOTAL	29,576	30,638	32,594	34,225	26,763	27,643	28,469	29,690	7,597	7,587	8,442	8,602	4,333	4,423	4,724	4,794	4,839	4,542	4,317	4,067

															Adjusted Totals §3, 912	§3, 736				
Western Germany:	Possible production																			
Bi-zone‖	3,056	4,125	5,625	7,500	4,306	5,425	Estimates		450	600	Estimates		150	200	Estimates		1,700	1,900	Estimates	
French Zone	170	275	275	275	300	330	not		115	190	not		115	190	not		245	245	not	
Saar	1,179	1,889	1,889	1,889	303	529	included		956	1,419	included		920	1,346	included		6	6	included	
TOTAL	33,981	36,927	40,383	43,889	31,672	33,927	—	—	9,118	9,796	—	—	5,518	6,159	—	—	6,790	6,693	—	—

* Imports include imports into own dependent oversea territories from sources other than metropolitan territories, and exports exclude exports to own dependent oversea territories. Consumption includes all imports into dependent oversea territories.

† Transfers to stocks expected to exceed production.

‡ Includes very small quantities of second-hand material.

§ See paragraph 56.

‖ These figures are put forward by the Control Authorities in the Bi-zone as targets which could be achieved provided that certain assumptions are fulfilled. Under the March, 1946, Level of Industry Plan steel production in the Bi-zone would be limited to 4.7 million ingot tons. Production, however, might be raised to 10 million ingot tons by the end of 1951, in conformity with the level permitted in the Bi-zonal Level of Industry Plan announced by the Commanders-in-Chief of the Bi-zone on August 29th, 1947. It could certainly, with proper effort on the part of the industry, be raised to 7 or 8 million ingot tons by the end of 1951. Any calculations based on the 10 million ingot ton figure must take account of the statement that the measures about to be taken by the Commanders-in-Chief do not prejudge quadripartite decisions of the Council of Foreign Ministers in respect of the level of industry for Germany as a whole or such industrial limitations as may be imposed by the peace settlement.

APPENDIX D (iv)

SHEETS: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Production objectives				Consumption*				Exports*								Import* requirements from all sources			
									Total				Available for participating countries and Western Germany							
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Belgium	300	660	785	785	200	240	260	260	142	466	566	566	82	266	330	330	42	46	41	41
France	650	700	750	800	850	850	900	900	—	—	—	—	—	—	—	—	200	150	150	100
Italy	220	260	300	360	220	260	300	360	—	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	1,400	1,450	1,500	1,650	1,294	1,338	1,408	1,538	114	120	100	120	36	40	25	30	8	8	8	8
Other participating countries	245	269	369	372	568	578	582	585	72	72	160	160	50	43	96	96	395	381	373	373
SUB-TOTAL	2,815	3,339	3,704	3,967	3,132	3,266	3,450	3,643	328	658	826	846	168	349	451	456	645	585	572	522
Western Germany†:																				
Bi-zone‡	400	500	620	770	290	420	500	500	110	80	120	270	92	56	90	240	—	—	—	—
French Zone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saar	77	83	83	83	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

*See note (*) to Appendix D (iii).

†Full figures not being available except for the Bi-zone, no total including Western Germany is given. In Table 1 in the text the export surplus of the Bi-zone has been taken as the surplus for Western Germany as a whole.

‡See note || to Appendix D (iii).

APPENDIX D (v)

TINPLATE: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Production objectives				Consumption*				Exports*								Import* requirements from all sources			
									Total				Available for participating countries and Western Germany							
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Belgium	14	90	90	90	38	42	42	42	—	49	49	49	—	34	34	34	24	1	1	1
France	180	200	220	250	260	310	310	310	—	—	—	—	—	—	—	—	80	110	90	60
Italy	80	100	130	160	80	100	130	160	—	—	—	—	—	—	—	—	—	—	—	—
Norway	2	5	5	5	27	30	30	30	—	—	—	—	—	—	—	—	25	25	25	25
United Kingdom	800	800	850	950	628	630	683	740	172	170	167	210	20	20	20	25	—	—	—	—
Other participating countries	—	†4	—	—	192	214	222	238	—	—	—	—	—	—	—	—	192	218	222	238
TOTAL	1,076	1,191	1,295	1,455	1,225	1,326	1,417	1,520	172	219	216	259	20	54	54	59	321	354	338	324
Western Germany	-------	-------	-------	-------	-------	-------	-------	-------	There may be a net export surplus, available for participating countries, of 10,000 to 15,000 tons a year.											

* See note (*) to Appendix D (iii).

† Transfer to stock.

APPENDIX E

Crude and Semi-Finished Steel, and Finished Steel: Production, Consumption, Exports, Imports—Summary, Pre-War to 1951

(Participating Countries and Western Germany)

(Thousands of metric tons)

	Production*			Consumption†			Exports† to all destinations from:—			Imports† from all sources into:—		
	Participating Countries	Western Germany	Total	Participating Countries	Western Germany	Total	Participating Countries	Western Germany	Total	Participating Countries	Western Germany	Total
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Crude and semi-finished steel—ingot or ingot-equivalent:												
Most active pre-war year‡	33,962	20,782	54,744	33,499	20,926	54,425						
1938	24,687	20,782	45,469	24,779	20,926	45,705	518	158	676	610	302	912
1945	16,859											
1946	23,837	2,986	26,823	24,361	2,972	27,333	176	36	212	700	21	721
1947	26,767	3,562	30,329	27,564	3,541	31,105	218	62	280	1,023	41	1,064
1948	36,614	5,725	42,339	39,331	5,784	45,115	678	76	754	3,425	135	3,560
1949	37,940	8,188	46,128	40,632	8,358	48,990	752	55	807	3,474	225	3,699
1950	40,272	10,188	50,460	43,155	Estimates not included		731	Estimates not included		3,644	Estimates not included	
1951	42,675	12,688	55,363	45,403			801			3,559		

Finished Steel—actual weight:												
Most active pre-war year‡	25,183	15,723	40,906	22,354	13,910	36,264	----------	----------	----------	----------	----------	----------
1938	18,379	15,723	34,102	17,919	13,910	31,829	3,766	3,123	6,889	3,188	1,336	4,524
1945	12,520	----------	----------	12,577	----------	----------	1,017	----------	----------	1,094	----------	----------
1946	18,001	2,167	20,168	17,851	2,075	19,926	3,136	330	3,466	3,018	227	3,245
1947	21,042	2,636	23,678	20,970	2,185	23,155	3,793	742	4,535	3,734	252	3,986
1948	29,576	4,405	33,981	26,763	4,909	31,672	7,597	1,521	§9,118	4,839	1,951	6,790
1949	30,638	6,289	36,927	27,643	6,284	33,927	7,587	2,209	§9,796	4,542	2,151	6,693
1950	32,594	7,789	40,383	28,469	Estimates	----------	8,442	Estimates	----------	4,317	Estimates	----------
1951	34,225	9,664	43,889	29,690	not	----------	8,602	not	----------	4,067	not	----------
					included			included			included	

* Includes withdrawals from stocks and supplies of secondhand material where these figures were supplied.

† Imports include imports into own dependent oversea territories from sources other than the metropolitan territories, and exports exclude exports to own dependent oversea territories. Consumption includes all imports into dependent oversea territories.

‡ See Appendix C (i) and note (*) thereto.

§ Of these total exports 3,600,000 tons in 1948 and 3,637,000 tons in 1949 are estimated to go to destinations outside the participating countries and Western Germany.

APPENDIX F (i)

Changes in Annual Productive Capacity* in the Period 1940–46

(Participating Countries)

(Thousands of metric tons of annual capacity*)

Country†	Ore Mining			Pig Iron			Crude Steel			Steel Finishing		
	Increase	Decrease	Net Change	Increase	Decrease	Net Change	Increase	Decrease	Net Change	Increase	Decrease	Net Change
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	300	2,700	−2,400	700	—	+700	379	328	+51	250	281	−31
Denmark	—	—	—	—	—	—	25	—	+25	—	—	—
Greece	—	372	−372	—	—	—	—	—	—	—	—	—
Italy	—	—	—	780	1,275	−495	1,300	600	+700	100	100	—
Sweden	—	—	—	100	—	+100	170	—	+170	125	—	+125
Turkey‡	200	—	+200	320	—	+320	121	—	+121	70	—	+70
United Kingdom	4,064	3,048	+1,016	864	508	+356	1,204	559	+645	406	203	+203
Total	4,564	6,120	−1,556	2,764	1,783	+981	3,199	1,487	+1,712	951	584	+367

*Capacity means output maintainable over a period of years after deduction of losses of output through repairs, etc.

†Participating countries other than those mentioned have indicated no change in capacity in 1940-46. The Netherlands had an increase of 179,000 tons of crude steel capacity in 1939.

‡Chiefly in 1939, first production being in 1940.

APPENDIX F (ii)

Changes in Annual Productive Capacity* in the Period 1947–51

(Participating Countries)

(Thousands of metric tons of annual capacity*)

Country †	Ore Mining			Pig Iron			Crude Steel			Steel Finishing		
	Increase	Decrease	Net Change	Increase	Decrease	Net Change	Increase	Decrease	Net Change	Increase	Decrease	Net Change
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Austria	1,400	—	1,400	550	—	+550	750	—	+750	456	—	+456
Denmark	—	—	—	—	—	—	40	—	+40	40	—	+40
France	—	—	—	1,700	—	+1,700	2,000	—	+2,000	1,500	—	+1,500
Greece	340	—	+340	150	—	+150	200	—	+200	150	—	+150
Ireland	—	—	—	—	—	—	78	—	+78	—	—	—
Italy	—	—	—	915	—	+915	680	—	+680	100	—	+100
Luxemburg	—	—	—	—	—	—	—	—	—	124	—	+124
Netherlands	—	—	—	150	—	+150	195	—	+195	190	—	+190
Norway	—	—	—	—	—	—	29	—	+29	27	—	+27
Sweden	—	—	—	400	—	+400	700	—	+700	500	—	+500
Switzerland	—	—	—	—	—	—	—	—	—	10	—	+10
Turkey ‡	350	—	+350	—	—	—	240	—	+240	190	—	+190
United Kingdom	2,540	1,016	+1,524	2,642	1,118	+1,524	3,099	1,422	+1,677	2,997	1,726	+1,271
Total	4,630	1,016	+3,614	6,507	1,118	+5,389	8,011	1,422	+6,589	6,284	1,726	+4,558

* Capacity means output maintainable over a period of years after deduction of losses of output through repairs, etc.

† Belgium, Iceland, and Portugal indicated no changes.

‡ Completion intended in 1951 for production in 1952.

APPENDIX G

CONSUMPTION OF FINISHED STEEL*—SUMMARY, PRE-WAR TO 1951

(Participating Countries)

(Thousands of metric tons, actual weight)

Country	Most active pre-war year†	1938	1945	1946	1947	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Austria	423	409	80	107	216	320	353	333	500
Belgium	1,585	1,215	‡540	1,363	1,560	1,770	1,770	1,780	1,780
Denmark	462	340	82	290	275	450	450	450	450
France	5,408	3,523	1,664	3,423	4,456	7,000	7,400	7,600	8,000
Greece	135	135	—	—	58	135	145	203	285
Iceland	4	4	12	14	15	15	15	15	15
Ireland	48	48	26	31	58	60	61	62	63
Italy	1,860	1,860	293	934	1,490	2,300	2,565	2,795	3,055
Luxemburg	40	19	20	36	36	36	36	36	36
Netherlands	1,044	924	60	550	850	1,100	1,150	1,200	1.300
Norway	329	242	102	236	388	494	448	439	439
Portugal	100	100	40	80	100	160	160	160	160
Sweden	1,000	1,000	870	1,200	1,255	1,355	1,410	1,470	1,530
Switzerland	283	283	177	540	543	595	595	595	595
Turkey	147	147	70	102	126	198	238	259	268
United Kingdom	9,486	7,670	8,541	8,945	9,544	10,775	10,847	11,072	11,214
TOTAL	22,354	17,919	12,577	17,851	20,970	26,763	27,643	28,469	29,690

* Includes imports from all sources into dependent oversea territories.

† See Appendix C (i) and note (*) thereto.

‡ Excludes 90,000 tons supplied to Allied Armies in Belgium.

APPENDIX H (i)

IRON ORE, ALL QUALITIES: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—PRE-WAR AND 1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons of ore)

Country	Production*					Consumption as charged					Exports					Imports				
	Most active pre-war year†	1938	1945	1946	1947	Most active pre-war year†	1938	1945	1946	1947	Most active pre-war year†	1938	1945	1946	1947	Most active pre-war year†	1938	1945	1946	1947
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	1,891	2,710	323	460	900	1,629	2,629	307	171	819	264	84	16	289	131	2	3	—	—	50
Belgium	204	174	53	84	134	10,301	6,240	1,635	4,272	4,613	—	—	—	—	—	9,000	6,115	1,797	4,396	4,452
Denmark	3	—	4	4	4	—	—	22	32	40	—	—	—	—	—	—	—	18	28	36
France‡	53,890	37,238	9,634	18,207	19,956	29,349	16,992	2,729	7,900	11,900	24,865	19,088	3,323	7,385	8,214	493	241	—	—	—
Greece	372	372	—	—	—	—	—	—	—	—	309	309	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	20	20	16	20§	25§	—	—	—	—	—	25	25	16	8	—	—	—	—	—	—
Italy	1,250	1,250	115	275	620	1,602	1,602	115	275	625	—	—	—	—	—	386	386	—	—	5
Luxemburg	7,571	5,140	1,406	2,247	1,850	10,146	5,300	1,051	3,212	3,739	2,271	2,506	610	539	500	5,125	3,057	643	1,951	2,567
Netherlands	—	—	—	—	—	542	505	46	269	431	—	—	—	—	—	542	505	46	269	431
Norway	1,548	1,548	109	121	130	60	60	50	55	65	1,571	1,571	45	13	55	2	2	4	32	10
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	13,928	13,928	3,930	7,200	9,700	1,197	1,197	1,333	1,185	1,350	12,685	12,685	1,329	5,325	8,350	12	12	4	22	15
Switzerland	50	50	18	50	60	—	—	18	25	25	50	50	—	25	35	—	—	—	—	—
Turkey	161	—	99	119	120	19	—	116	119	120	—	—	—	—	—	—	—	—	—	—
United Kingdom	14,442	12,049	14,402	12,368	10,700	21,200	17,209	17,785	18,491	16,800	9	3	—	1	—	7,560	5,657	4,201	6,512	6,100
British W. Africa	733‖	270‖	812‖	594‖	700	—	—	—	—	—	733	270	812	594	700	—	—	—	—	—
SUB-TOTAL	96,063	74,749	30,921	41,749	44,899	76,045	51,734	25,207	36,006	40,527	-------	36,591	6,151	14,179	17,985	—	15,978	6,713	13,210	13,666
Western Germany:																				
Bi-Zone	11,000	11,000	—	3,330	4,200	27,500	27,500	—	3,463	4,700	-------	—	—	—	—	16,500	16,500	—	—	1,000
French Zone	1,922	1,922	169	264	711	197	197	15	—	14	1,036	1,036	42	294	3 05	3	3	—	—	—
Saar	—	—	—	—	—	6,500	6,500	30	750	1,950	-------	—	—	—	—	6,413	6,413	—	783	1,950
TOTAL	108,985	87,671	—	45,343	49,810	110,242	85,931	—	40,219	47,191	—	—	—	14,473	18,290	—	38,894	—	13,993	16,616

* Includes in some cases considerable production for stock, especially in France, 1945 and 1946.

† See Appendix C (i) and Note (*) thereto.

‖ Exports.

§ Pyrites residue, for which no future market is foreseen.

‡ Includes North African territories. No other French oversea territory was producing.

APPENDIX H (ii)

IRON ORE, ALL QUALITIES: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

See also Appendix H(iii)

(Thousands of metric tons of ore)

Country	Production				Consumption as charged				Exports: Total				Exports: Available for participating countries and Western Germany				Import requirements from all sources			
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	1,500	1,650	1,650	2,000	1,425	1,575	1,575	1,925	150	150	150	150	—	—	—	—	75	75	75	75
Belgium	182	182	182	182	7,280	7,280	7,951	7,951	—	—	—	—	—	—	—	—	7,098	7,098	7,769	7,769
Denmark	10	10	10	10	40	40	40	40	—	—	—	—	—	—	—	—	30	30	30	30
France*	42,300	48,600	53,000	59,000	26,690	28,660	31,170	33,930	15,810	19,150	22,050	25,300	15,810	19,150	22,050	25,300	—	—	—	—
Fr. Senegal	—	—	1,000†	1,500†	—	—	—	—	—	—	1,000	1,500	—	—	1,000	1,500	—	—	—	—
Greece	100	145	170	340	—	—	170	340	100	145	—	—	100	145	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	25§	25§	25§	25§	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Italy	800	1,000	1,200	1,400	1,290	1,800	2,390	3,000	—	—	—	—	—	—	—	—	490	800	1,190	1,600
Luxemburg	6,000	6,000	6,000	6,000	8,138	8,138	8,138	8,138	3,070	3,070	3,070	3,070	3,070	3,070	3,070	3,070	5,214	5,214	5,214	5,214
Netherlands	—	—	—	—	588	589	657	726	—	—	—	—	—	—	—	—	588	589	657	726
Norway	260	710	750	900	65	65	70	70	200	650	700	850	160	550	590	700	10	10	10	10
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	13,000	13,000	13,000	13,000	1,500	1,750	1,950	2,200	11,500	11,250	11,050	10,800	8,000	7,900	7,700	7,500	12	14	14	15
Switzerland	60	60	60	60	25	25	25	25	35	35	35	35	—	—	—	—	—	—	—	—
Turkey	150	170	200	200	150	170	200	200	—	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	12,600	13,200	13,300	13,900	20,500	21,300	21,500	22,600	—	—	—	—	—	—	—	—	7,900	8,100	8,200	8,600
British W. Africa	800†	800†	900†	1,000†	—	—	—	—	800	800	900	1,000	800	800	900	1,000	—	—	—	—
SUB-TOTAL	77,787	85,552	91,447	99,517	67,691	71,392	75,836	81,145	31,665	35,250	38,955	42,705	27,940	31,615	35,310	39,070	21,417	21,930	23,159	24,039

Western Germany:																				
Bi-Zone	6,200	9,150	13,600	16,500	7,450	10,980	16,100	20,500	—	—	—	—	—	—	—	—	2,500	3,660	5,000	8,000
French Zone	1,150	1,586	1,586	1,586	100	131	131	131	1,050	1,450	1,450	1,450	1,050	1,450	1,450	1,450	—	—	—	—
Saar	—	—	—	—	4,730	7,200	7,200	7,200	—	—	—	—	—	—	—	—	4,730	7,200	7,200	7,200
TOTAL	85,137	96,288	106,633	117,603	79,971	89,703	99,267	108,976	32,715	36,700	40,405	44,155	28,990	33,065	36,760	40,520	28,647	32,790	35,359	39,239

*Includes North African territories.
†Exports.
§Pyrites residue for which no market is foreseen.

APPENDIX H (iii)

RICH IRON ORE: SUPPLIES AND REQUIREMENTS—1948–51

(Participating Countries and Western Germany)

(Millions of metric tons of ore)

	1948	1949	1950	1951
	(1)	(2)	(3)	(4)
Exports available for participating countries from participating countries and dependent oversea territories:				
Rich ores:				
Sweden	8.00	7.90	7.70	7.50
French North Africa	2.40	2.68	3.05	4.00
British West Africa	0.80	0.80	0.90	1.00
Norway	0.16	0.55	0.59	0.70
SUB-TOTAL	11.36	11.93	12.24	13.20
Less-rich ores:				
Western France	2.05	2.50	2.55	2.60
French Morocco	0.50	0.50	0.50	0.50
Konakry (French Senegal)	—	—	1.00	1.50
SUB-TOTAL	2.55	3.00	4.05	4.60
Imports expected to be received from non-participating countries	2.48*	2.49*	3.30*	3.40*
TOTAL	16.39	17.42	19.59	21.20
Import requirements:				
Belgium	2.90	2.90	3.57	3.57
Italy	0.49	0.80	1.19	1.60
Luxemburg	1.03	1.03	1.03	1.03
Netherlands	0.58	0.60	0.66	0.73
United Kingdom	7.90	8.10	8.20	8.60
SUB-TOTAL	12.90	13.43	14.65	15.53
Western Germany	2.50	3.66	5.00	8.00
TOTAL	15.40	17.09	19.65	23.53
Surplus (+) or deficit (−)†	+0.99	+0.33	−0.06	−2.33

* In 1948 and 1949 intended purchases following established channels of trade; in 1950 and 1951 the maximum expected to be available.

† The surpluses in 1948 and 1949 indicate the amounts available for export from participating countries in addition to the exports specifically estimated by these countries for delivery to non-participating countries; these latter exports, which are not included in the first section of this table, were given as 3.72, 3.63, 3.64 and 3.63 million tons respectively in the four years 1948 to 1951.

APPENDIX J (i)

MANGANESE ORE: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—PRE-WAR AND 1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons of ore)

Country	Production					Consumption as charged					Exports					Imports				
	Most active pre-war year*	1938	1945	1946	1947	Most active pre-war year*	1938	1945	1946	1947	Most active pre-war year*	1938	1945	1946	1947	Most active pre-war year*	1938	1945	1946	1947
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Belgium	10	—	—	—	—	146	80	3	21	33	—	—	—	—	—	168	80	19	33	35
Belgian Congo	—	3†	12†	14†	15†	—	—	—	—	—	—	3	12	14	15	—	—	—	—	—
Denmark	—	—	—	—	—	1	1	1	1	1	—	—	—	—	—	1	1	1	1	1
France‡	5	56	30	56	122	550	295	20	98	136	—	—	—	—	—	645	263	31	25	26
Greece	3	3	—	—	—	—	—	—	—	—	3	3	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Italy	64	64	------	30	50	122	122	------	49	80	—	—	—	—	—	58	58	------	19	30
Luxemburg	—	—	—	—	—	161	40	3	27	43	—	—	—	—	—	161	40	3	27	43
Netherlands	—	—	—	—	—	16	15	—	2	6	—	—	—	—	—	16	15	—	2	14
Norway	—	—	—	—	—	104	124	11	48	58	—	—	—	—	—	104	124	11	48	58
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	6	6	18	8	8	15	15	18	20	20	—	—	—	—	—	12	12	4	22	15
Switzerland	—	—	—	—	—	5	5	—	—	—	—	—	—	—	—	5	5	—	—	—
Turkey	—	3	4	3	5	1	—	3	3	5	—	3	—	—	—	—	—	—	—	—
United Kingdom	—	—	11	—	—	288	222	299	343	330	—	—	—	—	—	288	222	313	299	300
British W. Africa	—	80†	299†	274†	200†	—	—	—	—	—	—	80	299	274	200	—	—	—	—	—
SUB-TOTAL	—	215	------	385	400	1,409	919	—	612	712	—	89	311	288	215	—	820	—	476	522
Western Germany:																				
Bi-zone	—	—	—	—	—	233	233	—	25	28	—	—	—	—	—	—	—	—	—	28
French Zone	112	112	19	35	89	—	—	—	—	—	93	93	1	52	69	—	—	—	—	—
Saar	—	—	—	—	—	53	53	—	32	67	—	—	—	—	—	53	53	—	32	67
TOTAL	—	327	—	420	489	1,695	1,205	—	669	807	—	—	—	340	284	—	—	—	508	617

* See Appendix C (i) and note (*) thereto. ‡ Includes North African territories. † Excludes production for export to non-participating countries.

APPENDIX J (ii)

MANGANESE ORE: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons of ore)

Country	Production				Consumption as charged				Exports: Total				Exports: Available for participating countries and Western Germany				Import requirements from all sources			
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Belgium	—	—	—	—	53	53	60	60	—	—	—	—	—	—	—	—	53	53	62	62
Belgian Congo	20*	20*	20*	20*	—	—	—	—	20	20	------	------	20	20	20	20	—	—	—	—
Denmark	—	—	—	—	2	2	2	2	—	—	—	—	—	—	—	—	2	2	2	2
France †	232	242	252	262	357	369	381	393	—	—	—	—	—	—	—	—	125	127	129	131
Greece	3	3	3	3	—	—	3	3	3	3	—	—	3	3	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Italy	60	70	80	90	113	134	154	176	—	—	—	—	—	—	—	—	53	64	74	86
Luxemburg	—	—	—	—	81	81	81	81	—	—	—	—	—	—	—	—	81	81	81	81
Netherlands	—	—	—	—	17	19	24	24	—	—	—	—	—	—	—	—	14	19	24	24
Norway	—	—	—	—	74	89	105	125	—	—	—	—	—	—	—	—	74	89	105	125
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	8	8	8	8	20	22	22	23	—	—	—	—	—	—	—	—	12	14	14	15
Switzerland	—	—	—	—	5	5	5	5	—	—	—	—	—	—	—	—	5	5	5	5
Turkey	5	6	6	6	5	6	6	6	—	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	390	410	410	430	—	—	—	—	—	—	—	—	390	410	410	430
British W. Africa	200*	200*	200*	200*	—	—	—	—	------	------	------	------	200	200	200	200	—	—	—	—
SUB-TOTAL	528	549	569	589	1,117	1,190	1,253	1,328	------	------	------	------	223	223	220	220	809	864	906	961

Western Germany:																				
Bi-zone	—	—	—	—	41	55	75	100	—	—	—	—	—	—	—	—	41	55	75	100
French Zone	105	120	120	120	—	—	—	—	105	120	120	120	105	120	120	120	—	—	—	—
Saar	—	—	—	—	126	200	200	200	—	—	—	—	—	—	—	—	126	200	200	200
TOTAL	633	669	689	709	1,284	1,445	1,528	1,628	-------	-------	-------	-------	328	343	340	340	976	1,119	1,181	1,261

*Excludes production for export to non-participating countries.
†Includes North African territories.

APPENDIX K (i)

Pig Iron and Spiegeleisen: Production, Consumption, Exports, Imports—Pre-War and 1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Production*					Consumption					Exports					Imports				
	Most active pre-war year†	1938	1945	1946	1947	Most active pre-war year†	1938	1945	1946	1947	Most active pre-war year†	1938	1945	1946	1947	Most active pre-war year†	1938	1945	1946	1947
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	462	551	101	58	300	455	559	101	58	254	43	8	—	—	—	36	16	—	—	—
Belgium	4,040	2,427	700	2,161	2,707	4,215	2,300	692	2,224	2,770	74	133	15	8	—	301	110	11	59	70
Denmark	—	—	15	3	30	58	44	26	44	60	—	—	—	—	—	58	44	11	41	30
France	10,241	5,967	1,183	3,437	4,812	9,726	5,697	1,182	3,431	4,812	615	552	—	19	9	40	32	26	48	—
Greece	—	—	—	—	—	1	1	—	—	—	—	—	—	—	—	1	1	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	9	9	2	3	2	—	—	—	—	—	9	9	2	3	2
Italy	884	884	65	189	330	954	954	—	214	440	—	—	—	—	—	70	70	—	25	110
Luxemburg	2,907	1,551	306	1,378	1,908	2,891	1,512	303	1,398	1,930	56	51	15	2	—	40	12	12	18	22
Netherlands	312	254	25	187	300	61	63	16	86	117	240	218	—	116	187	16	18	—	2	3
Norway	40	37	33	80	71	39	23	30	36	29	28	26	6	45	43	27	12	2	—	1
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	668	668	789	690	720	620	620	803	770	780	94	94	4	17	10	76	76	18	97	70
Switzerland	—	—	3	12	12	60	60	45	70	80	—	—	—	—	—	47	47	16	52	60
Turkey	1	—	78	96	97	1	—	78	90	80	—	—	—	6	17	3	4	—	—	—
United Kingdom	8,501	6,765	7,010	7,846	7,900	8,741	7,072	7,054	7,877	7,900	167	101	1	92	50	649	402	97	14	10
Sub-total	28,056	19,104	10,308	16,137	19,187	27,831	18,914	—	16,301	19,254	—	1,183	41	305	316	—	853	—	359	378
Western Germany:																				
Bi-zone	15,700	15,700	—	2,215	2,160	—	—	—	2,163	2,060	—	—	—	68	100	—	—	—	—	—
French Zone	202	202	6	—	16	290	290	10	30	46	146	146	4	1	—	232	232	8	2	13
Saar	2,407	2,407	9	246	697	2,463	2,463	9	257	745	28	28	—	—	7	87	87	—	20	33
Total	46,365	37,413	—	18,598	22,060	—	—	—	18,751	22,105	—	—	—	374	423	—	—	—	381	424

*Includes withdrawals from stock where these figures were supplied. Differences between supplies (production plus imports) and disposals (consumption plus exports) may be ascribed to changes in stock and in the amounts of material in transit.

†See Appendix C (i) and note (*) thereto.

APPENDIX K (ii)

Pig Iron and Spiegeleisen: Production, Consumption, Exports, Imports—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Production				Consumption				Exports: Total				Exports: Available for participating countries and Western Germany				Import requirements from all sources			
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	480	480	480	630	415	445	445	630	—	—	—	—	—	—	—	—	—	—	—	—
Belgium	4,241	4,241	4,773	4,773	4,321	4,321	4,873	4,873	—	—	—	—	—	—	—	—	80	80	100	100
Denmark	20	20	20	20	75	77	80	80	—	—	—	—	—	—	—	—	55	57	60	60
France	10,051	10,779	11,657	12,706	9,768	10,411	11,211	12,167	283	368	446	539	180	200	260	320	—	—	—	—
Greece	—	—	75	150	1	1	75	150	—	—	—	—	—	—	—	—	1	1	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	9	9	9	9	—	—	—	—	—	—	—	—	9	9	9	9
Italy	680	950	1,250	1,570	908	1,100	1,250	1,570	—	—	—	—	—	—	—	—	300	150	—	—
Luxemburg	3,193	3,193	3,193	3,193	3,226	3,226	3,226	3,226	—	—	—	—	—	—	—	—	33	33	33	33
Netherlands	370	370	410	450	125	147	175	175	245	223	235	275	204	186	183	207	2	3	3	3
Norway	52	53	54	54	31	32	34	34	20	20	20	20	19	19	19	19	1	1	1	1
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	850	1,000	1,100	1,250	810	930	1,110	1,330	50	50	50	50	35	35	35	35	20	10	60	130
Switzerland	12	12	12	12	80	90	90	90	—	—	—	—	—	—	—	—	70	80	80	80
Turkey	110	120	138	125	100	110	125	105	10	10	13	20	10	10	13	20	—	—	—	—
United Kingdom	8,640	9,050	9,300	9,850	8,600	9,000	9,300	9,850	—	—	—	—	—	—	—	—	—	—	—	—
Sub-total	28,699	30,268	32,462	34,783	28,541	29,899	32,003	34,289	608	671	764	904	448	450	510	601	571	424	346	416
Western Germany:																				
Bi-zone	3,420	4,760	6,525	8,700	3,270	4,560	6,225	8,300	150	200	300	400	—	—	—	—	—	—	—	—
French Zone	75	100	100	100	75	115	115	115	45	55	55	55	45	55	55	55	45	70	70	70
Saar	1,566	2,401	2,401	2,401	1,638	2,519	2,519	2,519	40	40	40	40	40	40	40	40	110	130	130	130
Total	33,760	37,529	41,488	45,984	33,524	37,093	40,862	45,253	843	966	1,159	1,399	533	545	605	696	726	624	546	616

APPENDIX L (i)

FERRO-MANGANESE: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—PRE-WAR AND IN 1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons of alloy)

Country	Production					Consumption					Exports					Imports				
	Most active pre-war year*	1938	1945	1946	1947	Most active pre-war year*	1938	1945	1946	1947	Most active pre-war year*	1938	1945	1946	1947	Most active pre-war year*	1938	1945	1946	1947
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	—	—	—	—	—	4	4	—	—	2	—	—	—	—	—	4	4	—	—	2
Belgium	—	—	—6†	1	—	44	26	6	20	23	—	—	—	—	—	41	28	12	19	23
Denmark	—	—	—	—	—	1	1	3	5	8	—	—	—	—	—	1	1	3	5	8
France	75	51	2	23	32	61	40	11	30	41	14	11	—	—	—	—	—	10	8	9
Greece	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Italy	23	23	4	11	16	23	23	4	11	16	—	—	—	—	—	—	—	—	—	—
Luxemburg	—	—	—	—	—	19	12	2	10	14	—	—	—	—	—	16	11	3	6	6
Netherlands	—	13	—	—	—	1	1	—	2	3	—	11	—	—	—	‡1	—	—	‡2	‡3
Norway	68	51	1	16	26	—	—	—	—	1	67	50	1	16	25	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	7	7	7	5	10	11	11	10	12	12	5	5	—	—	1	10	10	2	6	2
Switzerland*	—	—	—	—	—	3	3	3	3	3	—	—	—	—	—	9	9	3	3	3
Turkey	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—
United Kingdom	124	106	130	136	108	—	—	105	100	98	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	297	251	138	192	192	—	—	144	193	221	—	—	—	—	—	—	63	34	49	56
Western Germany:																				
Bi-zone	—	—	—	7	14	—	—	—	7	14	5	5	—	—	—	—	—	—	—	—
French Zone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saar	—	—	—	—	—	26	26	—	1	6	—	—	—	—	—	26	26	—	1	6
TOTAL	—	—	—	199	206	—	—	—	201	241	—	—	—	—	—	—	89	—	50	62

*See Appendix C (i) and note (*) thereto.

†Transfers to stock exceeded production.

‡Consumption figures.

APPENDIX L (ii)

FERRO-MANGANESE: PRODUCTION, CONSUMPTION, EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

(Thousand metric tons of alloy)

Country	Production				Consumption				Exports: Total				Exports: Available to participating countries and Western Germany				Import requirements from all sources			
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	—	—	—	—	3	4	4	6	—	—	—	—	—	—	—	—	3	4	4	6
Belgium	—	—	—	—	35	35	40	40	—	—	—	—	—	—	—	—	35	35	40	40
Denmark	—	—	—	—	9	10	12	12	—	—	—	—	—	—	—	—	9	10	12	12
France	75	75	80	80	75	75	80	80	—	—	—	—	—	—	—	—	—	—	—	—
Greece	—	—	3	3	—	—	3	3	—	—	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	1
Italy	25	27	28	30	25	27	28	30	—	—	—	—	—	—	—	—	—	—	—	—
Luxemburg	—	—	—	—	24	24	24	24	—	—	—	—	—	—	—	—	24	24	24	24
Netherlands	—	—	—	—	3	4	5	5	—	—	—	—	—	—	—	—	*3	*4	*5	*5
Norway	33	40	54	56	1	1	1	1	32	39	53	55	12	14	15	15	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sweden	8	9	9	10	14	15	18	21	2	2	2	2	2	2	2	2	8	8	11	13
Switzerland	—	—	—	—	3	3	3	3	—	—	—	—	—	—	—	—	3	3	3	3
Turkey	—	—	—	—	—	1	1	1	—	—	—	—	—	—	—	—	—	1	1	1
United Kingdom	131	142	147	147	110	110	115	115	25	30	30	30	25	30	30	30	—	—	—	—
SUB-TOTAL	272	293	321	326	302	309	334	342	59	71	85	87	39	46	47	47	85	89	100	105
Western Germany:																				
Bi-zone	20	28	37	50	20	28	37	50	—	—	—	—	—	—	—	—	—	—	—	—
French Zone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Saar	—	—	—	—	14	30	30	30	—	—	—	—	—	—	—	—	14	30	30	30
TOTAL	292	321	358	376	336	367	401	422	59	71	85	87	39	46	47	47	99	119	130	135

*Consumption figure.

APPENDIX M (i)

SCRAP*: HOME SUPPLY, CONSUMPTION, EXPORTS, IMPORTS—PRE-WAR AND 1945–47

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Home Supply					Consumption					Exports					Imports				
	Most active prewar year†	1938	1945	1946	1947	Most active prewar year†	1938	1945	1946	1947	Most active prewar year†	1938	1945	1946	1947	Most active prewar year†	1938	1945	1946	1947
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)
Austria	278	260	72	89	210	288	330	82	87	230	—	—	—	—	—	10	70	10	—	20
Belgium	1,295	892	356	835	942	1,359	692	344	945	1,108	92	390	—	15	—	146	118	31	88	166
Denmark	117	117	45	75	65	30	30	30	30	30	89	87	16	45	35	2	—	1	—	—
France	3,794	3,062	1,046	2,424	3,299	3,459	2,735	1,046	2,439	3,284	330	440	—	2	15	25	13	—	17	—
Greece	20	20	—	—	10	20	20	—	—	10	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	25	25	25	25	35	—	—	—	—	3	25	25	3	20	10	—	—	—	—	—
Italy	1,174	1,174	—	—	1,020	1,801	1,801	375	606	1,350	—	—	—	—	—	627	627	—	—	330
Luxemburg	407	205	52	197	269	190	118	36	323	529	219	69	—	—	—	—	—	5	96	250
Netherlands	504	252	15	168	255	31	43	15	161	230	489	232	—	13	25	16	23	—	6	—
Norway	76	80	40	86	79	80	74	35	68	73	4	12	5	18	6	7	7	1	—	—
Portugal	10	10	12	11	21	—	—	—	—	—	10	10	12	11	21	—	—	—	—	—
Sweden	551	551	607	624	630	599	599	626	690	690	7	7	—	2	2	24	24	19	68	70
Switzerland	134	134	150	150	120	57	57	150	157	170	77	77	—	—	—	—	—	—	7	50
Turkey	—	—	10	12	11	—	—	10	12	11	—	—	—	—	—	—	—	—	—	—
United Kingdom	7,188	6,030	7,691	7,899	7,100	7,924	6,495	7,872	8,349	7,600	234	176	—	—	—	970	641	181	450	500
SUB-TOTAL	15,573	12,812	—	—	14,066	15,838	12,994	10,621	13,867	15,318	—	1,525	36	126	114	—	1,523	—	—	1,386
Western Germany:																				
Bi-zone	—	—	—	1,634	2,333	—	—	—	1,418	1,833	—	—	—	6	500	—	—	—	—	—
French Zone	133	133	5	10	39	327	327	14	10	52	—	—	—	—	—	210	210	5	4	12
Saar	487	487	2	77	150	630	630	1	117	233	—	—	—	—	—	133	133	1	40	83
TOTAL	—	—	—	—	16,588	—	—	—	15,412	17,436	—	—	—	132	614	—	—	—	—	1,481

* Scrap for blast furnaces and steel making.

† See Appendix C(i) and note (*) thereto.

SCRAP*: HOME SUPPLY, CONSUMPTION. EXPORTS, IMPORTS—1948–51

(Participating Countries and Western Germany)

(Thousands of metric tons)

Country	Home Supply				Consumption				Exports†				Import requirements from all sources			
	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951	1948	1949	1950	1951
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
Austria	270	320	320	400	330	400	400	550	—	—	—	—	60	80	80	150
Belgium	1,172	1,172	1,318	1,318	1,266	1,266	1,429	1,429	—	—	—	—	94	94	111	111
Denmark	75	75	85	100	35	45	55	70	40	30	30	30	—	—	—	—
France	4,057	4,189	4,375	4,612	4,057	4,189	4,375	4,612	—	—	—	—	—	—	—	—
Greece	20	20	45	70	20	20	45	70	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ireland	20	25	30	30	11	18	28	37	—	—	—	—	—	—	—	—
Italy	1,225	1,220	1,155	1,100	1,925	2,000	2,025	1,910	—	—	—	—	700	780	870	810
Luxemburg	426	426	426	426	666	666	666	666	—	—	—	—	240	240	240	240
Netherlands	283	321	357	392	303	381	451	482	—	—	—	—	20	60	100	100
Norway	85	86	80	80	85	90	105	105	—	—	—	—	—	4	25	25
Portugal	21	21	21	21	—	—	—	—	21	21	21	21	—	—	—	—
Sweden	650	680	730	810	770	880	990	1,100	—	—	—	—	120	200	260	290
Switzerland	120	120	120	120	200	200	200	200	—	—	—	—	80	80	80	80
Turkey	11	12	17	17	11	12	17	17	—	—	—	—	—	—	—	—
United Kingdom	6,900	7,100	7,300	7,500	8,200	8,200	8,300	8,400	—	—	—	—	1,300	1,100	1,000	900
SUB-TOTAL	15,355	15,787	16,379	16,996	17,879	18,367	19,086	19,648	61	51	51	51	2,614	2,638	2,766	2,706
Western Germany:																
Bi-zone	3,636	3,804	4,302	5,270	2,436	2,804	3,502	4,670	1,200	1,000	800	600	—	—	—	—
French Zone	73	107	107	107	100	144	144	144	—	—	—	—	27	37	37	37
Saar	342	519	519	519	474	773	773	773	—	—	—	—	134	254	254	254
TOTAL	19,386	20,217	21,307	22,892	20,889	22,088	23,505	25,235	1,261	1,051	851	651	2,775	2,929	3,057	2,997

* Scrap for blast furnaces and steel making.

† None of the exports shown were stated to be destined for non-participating countries.

TECHNICAL REPORTS

SECTION E

Hard Coke

HARD COKE

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A list of tables in the text and Appendices is given at the end of this Volume.

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CHAPTER I

Hard Coke Supplies

The Problem

1. In view of the importance of coke for the fulfilment of the vital steel production programme drawn up by the participating countries and the Western Zones of Germany, and without which European rehabilitation will be impossible, it was decided by the Iron and Steel and Fuel and Power Committees to set up a mixed Sub-Committee which was asked to make a survey of the production of coke and its availability in participating countries with a view to ascertaining the extent to which the steel output contemplated by these countries could, in fact, be realised.

2. These enquiries disclosed, at the outset of the examination, an apparent deficit for the year 1948 of some 12.6 million tons of coke oven coke, i. e., the difference between the total production of 53.0 million tons envisaged for that year and the total needs for all uses of 65.6 million tons (see Appendix B).

3. The countries immediately concerned, i. e., the main coke-producing countries and the main steel-producing countries, then considered jointly what measures could be taken to eliminate this deficiency, bearing in mind the paramount importance of adequate steel production for the rehabilitation of the European economy. In this connection they examined:—

(i) the economies which might be achieved either within the steel industry itself or in the use of metallurgical coke for purposes other than iron and steel manufacture;

(ii) the possibility of increasing the utilisation of existing coke oven capacity and the availability of suitable coking coal for that purpose.

4. Those countries producing steel were asked what measures they could foresee for reducing the amount of coke per ton of steel produced while those countries producing coking coal and which showed spare carbonisation capacity were asked what measures were open to them for increasing the availability of hard coke. At the same time, countries which were consuming hard coke for non-metallurgical purposes were asked what technical possibilities existed for substituting as far as possible other fuel, such as gas coke, for hard coke in order to reduce

the consumption of hard coke. The results of these enquiries are shown in Appendices C and D.

5. It will be seen from the summary picture thus presented that economies might be achieved in the following directions:—

(i) In the consumption of metallurgical coke by domestic and other non-metallurgical users, a saving of 5.0 million tons might be achieved in the main by the substitution of gas coke (Appendix D). Of this amount 4.3 million tons could be saved by France, the United Kingdom and the Bi-zone of Germany, and the gas-coke substituted for the hard coke could be provided from their respective domestic supplies. On the other hand, Denmark has pointed out that it has no indigenous production of gas-coke to be used in substitution for coke oven coke, so that such a substitution can only be effected if the necessary quantity of gas coke can be imported.

(ii) In the use of coke by the steel industry itself, a saving might be achieved by the use of a richer blast furnace charge, dependent on the availability of richer ores than would normally be used, thus reducing the quantity of coke needed for the production of a ton of pig-iron (see Appendix C).

Examination showed that the Bi-zone and Luxemburg were the principal potential contributors to this saving, which in total could amount to about 1.4 million tons of coke in 1948. The significance of this saving by increasing the charge of blast furnaces is more fully developed in the Iron and Steel Report (paragraph 31).

(iii) At this point, it was apparent that, even when account had been taken of the savings anticipated in (i) and (ii) above, amounting to about 6.4 million tons, there still remained a residual deficit of some 6 million tons of metallurgical coke.

The next step, therefore, was to consider unused coke oven capacity and the availabilities of coal of suitable qualities for carbonisation in that spare capacity.

The following were the declared surplus carbonisation capacities available for use in 1948:—

Germany (Bi-zone)	9	million tons
Italy	1.5	" "
	10.5	million tons

This 10.5 million tons additional capacity would be more than sufficient to cover the deficiency of six million tons provided the necessary coking coal were forthcoming (see Appendix E which also sets out the normally expected imports of coking coal).

In order to produce six million tons of coke, about 8.5 million tons of suitable coking coal would be required.

(iv) Information has been given to the effect that those countries with coking coal resources available for export in 1948 could provide additional quantities within the totality of their expected exports as follows:—

United States*	5 to 8	million tons
United Kingdom	1	" " †
Poland*	0.8	" "
	6.8 to 9.8	million tons

After deducting an amount of three million tons of the United States export figure already earmarked for Belgium and France, the fore-going table shows that from 3.8 to 6.8 million tons of suitable coking coal could be found in 1948. If five million tons were taken as a conservative average of this bracket, this would leave a coal deficit of some 3.5 million tons or 2.5 million tons in terms of coke.

This final deficit could obviously be met by diverting for carbonisation the necessary amount of Ruhr coking coal at present used for other purposes.

CHAPTER II

CONCLUSIONS

6. To sum up, it is considered that the 1948 deficit of 12.6 million tons of coke might be met:—

(*a*) by economies of coke in blast furnace charges;

(*b*) by the substitution of other fuels for coke used by non-metallurgical users;

(*c*) by the increased use of available coke oven capacity, for which coal in sufficient quantities and of suitable quality is available subject to diverting and replacing the 3.5 million tons of coking coal now used for other purposes.

7. Such is the situation in 1948, a situation which appears likely to continue in 1949. In so far as 1950 and 1951 are concerned, it is almost impossible to estimate requirements, taking into account the prevailing

* Figures provided by the Secretariat of the European Coal Organisation.

† Second-grade coking coal only.

uncertainty as to Western German requirements. It may be hoped, however, that a similar solution can be achieved although, at that time, there will no longer exist the same margin of unused carbonisation capacity.

It should, in the opinion of the Committee, be possible to satisfy requirements in coke for 1951, but the uncertainties existing in the assumptions for 1948 are liable to prevail to a greater degree in these later years.

8. It is realised that this solution involves many real difficulties, but the countries concerned, including the Bi-zonal authorities, have already shown their desire to co-operate and they are determined to continue their efforts to achieve a successful result. The assumption that the net deficit of coking coal requirements could be met from Western German production may lead to the necessity of revisions in the pattern of allocation by qualities within Germany for domestic and other uses.

9. The essential need from the United States is the provision of the maximum possible quantities of good quality coking coal within the total tonnage to be exported to Europe.

APPENDIX A

Countries Represented on the Coke Sub-committee

France
Italy
Luxemburg
Netherlands
Switzerland
United Kingdom

763122—47——21

APPENDICES B, C, E: STATISTICAL TABLES

APPENDIX B

Coke Production and Requirements *

(Thousands of metric tons)

Country	Total Production of Coke-oven Coke					Total Consumption of Coke-oven Coke: Requirements for the Iron and Steel Industry (Iron Foundries excluded)				Total Consumption of Coke-oven Coke: Requirements other than those of the Iron and Steel Industry				Export Possibilities + Import Requirements − (Col. I − Cols. II and III)			
	I					II				III				IV			
	1929 (1)	1938 (2)	1947 (3)	1948 (4)	1951 (5)	1929 (6)	1938 (7)	1947 (8)	1948 (9)	1929 (10)	1938 (11)	1947 (12)	1948 (13)	1929 (14)	1938 (15)	1947 (16)	1948 (17)
1. Participating Countries																	
Austria	-------	-------	340	540	740	433	459	255	510	315	220	245	230	−748	−679	−160	−200
Belgium	6,000	4,700	4,800	5,500	7,000	4,436	2,408	2,200	3,740	1,800	1,292	1,750	1,739	−236	+1,000	+850	+21
Denmark	-------	-------	-------	-------	-------	100	100	125	150	1,396	1,288	475	1,450	−1,496	−1,388	−600	−1,600
France	9,080	7,636	6,000	7,500	10,500	11,700	6,600	5,400	11,160	2,800	3,100	2,800	4,100	−5,420	−2,064	−2,200	−7,760
Greece	-------	42	34	42	330	-------	-------	-------	-------	-------	80	11	80	-------	−38	+23	−38
Ireland	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	11	21	40	-------	−11	−21	−40
Italy	791	1,739	1,000	1,800	2,800	755	800	380	695	1,008	897	750	1,000	−972	+42	−130	+105
Luxemburg	-------	-------	-------	-------	-------	3,664	1,957	1,704	3,738	80	75	75	80	−3,744	−2,032	−1,779	−3,818
Netherlands	2,403	3,143	1,575	2,070	3,120	320	320	340	425	580	880	660	925	+1,503	+1,943	+575	+720
Norway	-------	-------	-------	-------	-------	66	170	160	170	484	489	160	350	−550	−659	−320	−520
Sweden	104	112	90	100	120	193	338	385	490	1,176	1,714	515	1,535	−1,265	−1,940	−810	−1,925
Switzerland	-------	-------	-------	-------	-------	30	30	35	40	770	830	365	896	−800	−860	−400	−936
Turkey	-------	-------	340	340	340	-------	-------	98	107	-------	-------	242	233	-------	-------	-------	-------
United Kingdom	14,300	14,100	14,800	15,300	16,200	9,300	7,900	9,300	9,600	3,400	4,800	5,500	5,700	+1,600	+1,400	-------	-------
Sub-total	32,678	31,472	28,979	33,192	41,150	30,997	21,082	20,382	30,825	13,809	15,676	13,569	18,358	−12,128	−5,286	−4,972	−15,991

2. Western Germany																	
Bi-zone	35.100	35,000	13,500	16,900	29,100	† 16,900	†21,600	2,700	4,500	‡8,200	‡7,800	7,300	9,200	−10,000	+5,600	+3,500	+3,200
French Zone	-------	-------	-------	-------	-------	-------	-------	16	75	-------	-------	780	925	-------	-------	−796	−1,000
Saar	2,550	3,159	1,861	3,000	3,600	2,407	2,661	794	§1,547	175	245	168	235	−32	+253	+899	+1,218
Sub-total	37,650	38,159	15,361	19,900	32,700	19,307	24,261	3,510	6,122	8,375	8,045	8,248	10,360	+9,968	+5,853	+3,603	+3,418
Grand Total	70.328	69,631	44,340	53,092	73,850	50,304	45,343	23,892	36,947	22,174	23,721	21,817	28,718	−2,160	+567	−1,369	−12,573

* Although production figures have been shown for 1951, no such figures for requirements in the same year have been included and consequently no balance for 1951 is struck in Column IV. The reason for this is that it has been impossible to foresee what proportion of German coking coal will be destined in 1951 for Germany's own needs and what proportion for export.

† These figures include the hard coke needs of all industry, not only the iron and steel industry (see Note ‡).

‡ These figures cover only domestic consumption and consumption at cokeries. Industrial consumption in Germany during these years is included in the figures for the needs of the iron and steel industry (Column II and see Note †).

§ In the event of the Neunkirchen works remaining inoperative. If, however, the Neunkirchen is working, this figure would be 1,750 for 1948.

APPENDIX C

Specific Consumption of Coke for the Production of Pig Iron and Possible Economy

Country	Specific Coke consumption in kilograms per ton of Pig Iron			Possible economy in kilograms of Coke per ton of Pig Iron in 1948	Total economy in metallurgical Coke (Millions of metric tons)
	1938	1947	1948		
Austria	833	850	1,064	200	0.1
Belgium	994	813	882		
France	1,161	1,143	1,110		
Italy	905	890	850		
Luxemburg	1,261	893	1,170	170	.5
Netherlands	1,260	1,133	1,148		
Sweden	506	513	576		
United Kingdom	1,168	1,224	1,080		
Western Germany					
Bi-zone		1,160	1,220	220	.75
French Zone and Saar	1,106	1,139	1,111		
Total economy possible in 1948					*1.35

*This economy assumes the use of 8 million tons of Swedish ore or other high-grade ore in 1948.

APPENDIX D

Coke Needs and Economies in 1948 for Users other than the Iron and Steel Industry in those Countries which can increase the Use of Substituted Fuels

(Millions of metric tons)

Country	Needs for other than Iron and Steel	Of which	
		Can be satisfied by the use of Gas-Coke or other substituted fuels	Must be satisfied by the use of Coke-Oven Coke
Denmark	1.5	0.4	1
France	4.1	2.0	2.1
Italy	1.1	.1	1.0
Sweden	1.5	.2	1.3
United Kingdom	5.7	1.0	*4.7
Western Germany			
Bi-zone	9.2	1.3	7.9
Total	23.1	5.0	18.1

*Full allowance has been made for the use of gas-coke. There are likely to be technical difficulties in substituting gas-coke for hard coke in industries and some central heating plants. Furthermore, any increase in the availability of gas-coke could only be secured by increased carbonisation of coal at gasworks with a corresponding reduction in exports.

APPENDIX E

Hard Coke Production and Consequential Coking Coal Requirements for 1948

(Thousands of metric tons)

Country	Hard Coke Production	Coking Coal required		Unused Carbonisation Capacity	Additional Coking-Coal required for full utilisation	
		From Home Production	From Imports		From Home Production	From Imports
Austria	540	----------	760	----------	----------	----------
Belgium	5,500	5,200	2,500	----------	----------	----------
France	7,500	8,700	1,800	----------	----------	----------
Italy	1,800	----------	2,520	1,500	----------	2,100
Netherlands	2,070	2,400	500	----------	----------	----------
Sweden	100	----------	140	----------	----------	----------
United Kingdom	15,300	21,600	----------	----------	----------	----------
Sub-total	32,810	37,900	8,220	1,500	----------	2,100
Western Germany						
Bi-zone	16,900	23,700	----------	9,000	12,600	----------
Saar	3,000	4,200	----------	----------	----------	----------
Sub-total	19,900	27,900	----------	9,000	12,600	----------
Grand Total	52,710	65,800	8,220	10,500	12,600	2,100

TECHNICAL REPORTS

SECTION F

Inland Transport

INLAND TRANSPORT

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A list of tables in the text and Appendices is given at the end of this Volume.

Introduction

1. In this report the field of inland transport covers the railways, waterways, highways and ports of the participating countries and Western Germany. Among other factors, increased production is dependent on the ability to move raw materials and finished products. The economic recovery of the participating countries, most of which are highly industrialised, is therefore vitally linked with the rehabilitation and re-equipment of the close net-work of their inland transport systems. To avoid becoming a brake on economic recovery, the development of the transport systems must keep ahead of planned increases in production.

2. The volume of traffic on these systems shows how important it is to the economies of the participating countries and Western Germany that their transport systems should be put into sound working order again.

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Table 1—Volume of Traffic in 1938

(Participating Countries and Western Germany)

(Millions of metric tons)

Traffic	Participating Countries and Western Germany	United States
Railways	1,000	1,270
Waterways	260	350
Ports	460	210

CHAPTER I

Effects of the War on the Inland Transport Systems

3. The war hit the inland transport systems chiefly in three ways. Firstly, there was the destruction and damage caused by bombing and by the Armies as they fought across Europe, and the losses of equipment removed by the enemy.

(i) On the railways of all the participating countries—

300,000 freight cars (wagons) were destroyed out of a total of 2 million, and 800,000 freight cars were damaged; as regards locomotives, at the end of the war, in Greece, the number of locomotives left was only about 10 per cent. of the pre-war stock;

in the Netherlands, only about 50 per cent. of the pre-war locomotives were left, and only half of these were serviceable;

in France, only about 73 per cent. of the pre-war locomotives were left, and of these, only about 40 per cent. were serviceable;

in Belgium, only about 77 per cent. of the locomotives were left, and of these, only about 38 per cent. were serviceable;

in Italy, only about 62 per cent. were left, of which 37 per cent. were serviceable.

The maps in Appendix B illustrate the extent of the material damage in France, Belgium, the Netherlands and Italy at the end of the war.

(ii) On the waterways.

About 35 per cent. of the Rhine Fleet were lost and 15 per cent. were out of service.

Most of the important waterways were blocked and navigation was only possible on short stretches between obstructions, for example—

in France, out of 9,900 kms. of waterways, only 530 were open to traffic;

in Belgium, out of 1,600 kms. of waterways, only 380 were open to traffic.

(iii) On the roads.

There was extensive damage, for example—

in France, 7,000 bridges were destroyed;

in Belgium, 1,120 bridges were destroyed.

4. Secondly, it was not possible to make normal replacements of new equipment. This was due to the diversion of materials and labour to war plants and to the conversion of plants to war production. The result is that over-age equipment has had to be kept in service long after it became due for scrapping. For example, when the fighting stopped more than 50 per cent. of the road vehicles still in use were 10-year-old models or earlier and the rest 5 to 10 years old.

5. Thirdly, it has not been possible to keep up with normal maintenance and repairs. This is because over-age equipment requires much more than normal maintenance (an old automobile always requires more servicing) and because there have been shortages of repair shops, materials and labour all arising out of the war. The effects of this inability to keep up with current repairs are well illustrated by the figures for locomotives and freight cars. At the end of 1946, the numbers of locomotives out of service awaiting repairs varied from 15 per cent. to 50 per cent. among the different railway systems, and the number of freight cars averaged as much as 30 per cent. In a normal well-operated system these figures would be about 6 per cent. for locomotives and about 3 per cent. for freight cars. Thus, not only are the railways operating with worn out equipment but far less of that equipment can be made available for service; broadly the same conditions apply to the waterways and roads.

6. In conclusion, the effects of the war on the inland transport systems can be summarised as follows:—those systems which were bombed or fought over suffered severe destruction and damage and were brought almost to a standstill; all systems whether fought over or not suffered from a lack of replacements, maintenance and repairs which was particularly severe in those countries which were used as bases for operations. In short, the war left the transport systems badly battered and encumbered with much over-age and worn-out equipment. This was particularly the case in Greece, where almost two-thirds of the installations were destroyed.

CHAPTER II

Efforts Made to Overcome Difficulties Since the War Ended

7. By the time VE day arrived, the fighting had brought the inland transport systems practically to a standstill. Selected railway, waterway and road routes had been cleared by the armies as lines of communication, but these routes were primarily required and used by the armies. In addition, the transport administrations had been disorganised and dispersed. The general extent of the disorganisation caused by the war and the progress made to overcome the effects of

the war are indicated by comparing the traffic figures for 1938 with those of 1945 and 1946 for some of the countries (Belgium, France and the Netherlands) which were fought over.

Table 2—Volume of Traffic in Belgium, France and Netherlands

(Millions of metric tons)

Traffic	1938	1945	1946
Railways	252.6	131.1	217.1
Waterways	132.3	40.4	75.0
Ports	135.8	42.1	60.5

8. These traffic figures show the results of the combined efforts since the war ended to repair material damage, build new equipment and repair old, and to get the administrative machinery working again. An example from the waterways will show what great efforts have been made to repair material damage. At the end of the war most of the inland waterways were blocked to such an extent that navigation was only possible on short stretches between obstructions. All the bridges across the Rhine in Germany were destroyed, thus closing that great international waterway to traffic. Yet by the end of 1945, the Rhine and Elbe were opened to traffic and, by the end of 1946, most of the waterways in Belgium, France, the Netherlands and Germany were back to nearly normal navigation. In France 4,695 temporary and 1,965 permanent bridges have been built since the war. In Belgium, 700 temporary and 232 permanent bridges have been built since the war. As many of the repairs were of a temporary nature, vast engineering projects still have to be undertaken. But these projects are either held up or make slow progress due to shortages of materials, plant and equipment.

9. Considerable efforts have been made towards supplying the transport systems with new equipment to replace that which is now worn out and over-age. However, many locomotive and car building plants, automobile plants and shipyards were damaged or were short of equipment. These difficulties, combined with shortages of materials, have delayed production. But the figures for post-war production of locomotives and freight cars show what efforts have been, and are being, made to re-equip the railways.

Table 3—Production in Belgium, France, Italy, Switzerland, and United Kingdom

(Numbers)

	1938	1945	1946	1947
Locomotives	950	1,000	1,090	1,280
Freight cars	—*	32,000	36,200	78,000

*Complete figures not available as some records were destroyed during the war.

10. In addition to the efforts described above, much has been done by international co-operation which, since the war ended, has been progressive and shown positive results in the field of European inland transport. During and after the war, the engineers of the American and British armies gave great assistance in clearing and repairing the damaged ports and in opening the railways, waterways and highways to traffic.

11. The United States, through its office of the Foreign Liquidation Commissioner (OFLC) and the United Kingdom have rendered great assistance by the provision of new equipment and by making available equipment surplus to the needs of their armies. For example, over 1,000 American locomotives and 15,000 freight cars were disposed of and the United Kingdom supplied 120 locomotives and nearly 16,000 freight cars. In addition, both countries have assisted by providing railway workshops, port equipment, tugs and other craft, bridging material, as well as large numbers of road vehicles, tractors and tyres.

12. Besides assistance in the provision of equipment, much has been done in the restoration of international traffic. In this field very useful work has been done by the European Central Inland Transport Organisation (ECITO)* and by the Central Rhine Commission and other international inland transport bodies to assist international traffic. At the end of the war, most of the traffic was moved under military auspices, and such other traffic as existed was primarily internal. International traffic was at a standstill. Since then, many international passenger trains have been put into service again, but the main developments have been in international freight traffic on the railways and waterways. Monthly meetings have been held between representatives of the countries chiefly concerned and the railway and waterway authorities. At these meetings, the bids for traffic were examined in relation to the capacities of the available routes and to the capacities of the different forms of transport. Up to June, 1947, these planned programmes covered some 24,000 trains and some 1,750,000 tons of waterways traffic.

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*This Organisation was set up under an agreement dated 27th September, 1945, as a co-ordinating and consultative organ. The following countries were signatories: U.S.A., Belgium, Czechoslovakia, Denmark, France, United Kingdom, Greece, Luxemburg, Netherlands, Norway, Poland, U.S.S.R., Yugoslavia. The activities of the Organisation will cease at the end of September, 1947, and arrangements are being made to transfer them to the Economic Commission for Europe.

CHAPTER III

PROGRAMME FOR THE FOUR YEARS 1948–51

A. Volume of Traffic

13. In spite of the efforts that have been made since the war ended to restore the inland transport systems of the participating countries, much remains to be done to bring them to such a healthy condition that they can carry the traffic which will arise out of an improved economy.

14. Estimates of the development of traffic in the participating countries which will thus arise are given in Table 4 below. The requirements are based on the development of this traffic and plans for production are being made to meet these requirements.

Table 4—Estimated Volume of Traffic

(Participating Countries compared with pre-war)

(Millions of metric tons)

	1938	1948	1949	1950	1951
Railways	917*	738	802	852	854
Waterways	150	122	143	164	174
Ports	413	335	375	407	428

*The figure 917 relates to 1937 which is a more representative year for railway traffic than 1938 when volume (674 million tons) was below average.

B. Repairs

15. In spite of all the priority given to inland transport, most of the participating countries will start the year 1948 with considerable deficits of many types of transport equipment, and with much overage equipment.

16. All available materials have been allocated to repairs. Equipment has been cannibalised to try and keep the maximum in operation. The plans for the next four years concentrate on stepping up repairs and providing all the necessary materials because it is recognised that this will give quicker results and be cheaper in materials and labour than trying to meet the full requirements for new equipment. The table below shows how full requirements for new freight cars, for example, have been reduced in some countries during the next four years so as to save materials while concentrating on repairs.

Table 5—Requirements for New Freight Cars, 1948–51

Country	*Full Requirement*	*Planned Requirement*
Great Britain	340, 000	260, 000
France	100, 000	78, 000

This concentration of efforts on repairs does mean that much over-age equipment will continue to be used (at present about a quarter of the freight cars in the United Kingdom are over-age) and the burden of keeping this old equipment in service will increase.

17. Since the war, due to shortage of materials, labour and equipment, and in spite of all efforts, there has been a slight increase in the numbers of freight cars which are out of service, under or awaiting repair.

> At the end of June, 1946, there were 239,460 freight cars unserviceable; at the end of June, 1947, there were 253,901 freight cars unserviceable

in Western Germany, Austria, Belgium, Czechoslovakia, France, Italy, Luxemburg and the Netherlands.

C. Production and Requirement

18. The figures for production given in Tables 6–9 are based on the assumption that there will be full availability of materials (see Chapter V) after taking into account the availability of labour and equipment.

Freight Cars

19. The individual requirements of the participating countries and Western Germany are complicated by the fact that many of the freight cars of the participating countries are in Western Germany, and many German freight cars are outside Germany.

20. The position for Austria is particularly difficult, because Austrian freight cars were part of the German freight car pool, and the provisional arrangements made to mark the Austrian freight cars have not been accepted by many countries. The actual size of each national freight car park is dependent on exchanges between the participating countries and Germany, and requirements cannot be fully known until decisions regarding these exchanges have been made and the real size of each national freight car park is known.

Table 6—Freight Car Position

	1948	1949	1950	1951	Total (4 years)
Participating Countries only:					
Productive capacity	112,000	156,000	157,000	158,000	583,000
Requirements	93,000	132,000	123,000	111,000	459,000
Balance	+19,000	+24,000	+34,000	+47,000	+124,000
Participating Countries and Western Germany:					
Productive capacity	112,000	156,000	176,000	177,000	621,000
Requirements	159,000	198,000	190,000	177,000	724,000
Balance	−47,000	−42,000	−14,000	—	−103,000

21. Many freight car building plants in Western Germany suffered damage during the war and there is a great shortage of materials and equipment. Due also to a concentration on repairs (some 65,000 freight cars will be repaired during 1948–49), Western Germany can only expect to commence production of new freight cars in 1950 and to build 37,000 freight cars by the end of 1951.

22. Western Germany requires 265,000 new freight cars (included in Table 6 above) so that the planned increases in coal and other traffic can be carried. There will, therefore, be a Western German deficit at the end of 1951 of 228,000 freight cars (265,000 minus 37,000).

23. Table 6 above shows that the participating countries and Western Germany will between them have a deficit of approximately 103,000 freight cars by the end of 1951.

24. As production in the participating countries and Western Germany is insufficient to make good this deficit within the period 1948–51 and as it would not be economical to build new factories to meet this temporary shortage resulting from the war, the only alternative is to import freight cars of European continental standard design.

25. The allocations of such cars as may be imported could be settled by agreement between the participating countries. To make up the full deficit (103,000 cars) the cost would be about 367 million dollars.

Passenger Cars

26. Passenger cars are not as vital to a railway as freight cars. In consequence, passenger stock suffered particularly during the war because efforts had to be concentrated on locomotives and freight cars. The result is that passenger trains are overcrowded and very uncomfortable in many countries. In general, passenger cars are specialised items of equipment designed according to the standards of operation and comfort of each particular country. Due to the technical difficulties of obtaining passenger stock of suitable specification from other countries, most countries build their own whenever possible.

Table 7—Passenger Car Position

	1948	1949	1950	1951	Total (4 years)
Participating Countries only:					
Productive capacity	4,100	5,300	5,900	6,300	21,600
Requirements	4,900	6,000	5,600	5,500	22,000
Balance	−800	−700	+300	+800	−400
Participating Countries and Western Germany:					
Productive capacity	4,100	5,300	6,000	6,300	21,700
Requirements	4,900	6,700	6,400	6,300	24,300
Balance	−800	−1,400	−400	----------	−2,600

27. The balance of requirements shown above (valued at about $227 million) can only be met by importation.

28. It is not vital to the economy of the participating countries and Western Germany that the whole balance should be made up in the period 1948–51. The Committee considers that maximum efforts should be concentrated on repairs to existing passenger cars. The United States and Canada are possible sources of supply. The Committee considers that the requirements for cars do not justify the use of shipping space and the expenditure of dollars on more than 1,300 cars during this period in view of other more vital demands for shipping space and dollars. If imported from the United States, the cost would be about $112 million.

Locomotives (Steam, Electric and Diesel)

29. The productive capacity is adequate to meet requirements.

Table 8—Locomotive Position

	1948	1949	1950	1951	Total (4 years)
Participating Countries only:					
Productive capacity	2,120	2,925	3,385	3,535	11,965
Requirements	1,705	2,335	2,125	2,340	8,505
Balance	+415	+590	+1,260	+1,195	+3,460
Participating Countries and Western Germany:					
Productive capacity	2,120	2,925	3,385	3,535	11,965
Requirements	2,558	2,340	2,130	2,350	9,378
Balance	−438	+585	+1,255	+1,185	+2,587

30. In 1947, the production output is estimated at 1,280 locomotives (see Table 3). The actual productive capacity is considerably greater (see above), but it has not been fully utilised so far owing to shortages of materials.

31. The full productive capacity would be available to meet the requirements of the participating countries and Western Germany, and to meet the substantial exports which are planned to other parts of the world to help to balance the economies of the participating countries. The export proceeds are included in the balance of payments.

32. At the end of 1947, the Bi-zone will have a requirement for 843 new locomotives and the French Zone will require some new electric locomotives during the period 1948–51. No production of new locomotives is planned for Germany during this period. War-damaged locomotives will be repaired and put into service. Western German requirements for new locomotives will be met by imports from the participating countries partly in 1948 and partly in 1949.

33. Most of the participating countries have plans for making greater use of diesel locomotives for passenger, freight and switching work to replace steam locomotives. This is a world trend which is being actively pursued.

Rails and Steel Ties (Sleepers)

34. The planned production of the participating countries is adequate to meet their requirements for rails and steel ties in spite of the large amounts required to catch up with the destruction and arrears of maintenance during the war years.

35. The requirements of the participating countries and Western Germany are for some 6.84 million metric tons of rails and steel ties, and the materials to meet these requirements are covered by the plans of the Iron and Steel Committee.

Timber Ties

36. The railway tracks of the participating countries and Western Germany are constructed mostly with timber ties. The requirements of the participating countries and Western Germany over the period 1948–51 amount to 12.29 million cubic metres (=122.9 million ties).

37. The Timber Working Party report that quantities available from the participating countries and Western Germany are only 7.17 million cubic metres for the period 1948–51, thus showing a total deficiency to be made up by imports of 5.12 million cubic metres, valued at about $204 million. Details of requirements and production are given below. Unless these deficiencies can be met or very nearly met by imports, the railway tracks will not be restored to a really satisfactory condition in the period 1948–51, and this will have a considerable effect in slowing down the operation of traffic.

Table 9—Timber Tie Position

(Participating Countries and Western Germany)

(Millions of cubic metres)

	1948	1949	1950	1951	Total (4 years)
Production	2.01	1.72	1.72	1.72	7.17
Requirement	3.57	3.08	2.91	2.73	12.29
Balance	−1.56	−1.36	−1.19	−1.01	−5.12

Tugs, Self-Propelled Barges, Barges and Lighters

38. The requirements and plans for production of craft for the inland waterways are based on the special circumstances arising out of the war. Owing to the slow recovery of the economy of Western Germany, and to currency exchange difficulties, there is temporarily a surplus of craft on the Rhine.

39. As the economic recovery of the Ruhr develops, this surplus will be gradually absorbed into work provided the currency difficulties are overcome in the meantime. But the recovery of the economies of the participating countries and Western Germany which is now planned, will probably require inland waterway fleets both on canals and rivers of still greater capacity towards the end of the 1948–51 period. Since the Netherlands, Belgian and French fleets suffered very considerable losses due to the war (*see also* paragraph 3 (ii)) the plans for production are based on building new tugs, self-propelled barges and barges to restore the fleets of the Netherlands, Belgium and France, and building more tugs and concentrating on repairs in Western Germany. In that way, the capacity of the Netherlands, Belgian and French Rhine fleets will be built up to enable them to carry their full share of the traffic, while the German fleet is not increased but made a better balanced fleet by having a sufficiency of tugs in a good state of repair.

40. Among the participating countries and Western Germany there is productive capacity to build tugs up to a total of 345,000 metric horsepower, and this will meet the requirements of 300,000 metric horsepower over the period 1948–51.

41. Among the participating countries there is productive capacity for self-propelled barges up to a total of 750,000 metric tons carrying capacity, and this is almost adequate to meet the full requirements of 770,000 metric tons over the period 1948–51, and imports from external sources are not considered necessary.

42. There is also productive capacity among the participating countries for barges up to a total carrying capacity of 3.3 million metric tons, and this will meet the requirements for 3.1 million metric tons over the period 1948–51.

Port Equipment

43. In the participating countries and Western Germany, the productive capacity, estimated at 9,500 cranes over the period 1948–51, shows an excess over requirements (6,000 cranes) for this period.

44. The full productive capacity would therefore be available to meet the requirements of the participating countries and Western Germany, and to meet the substantial exports which are planned to other parts of the world to help to balance the economies of the participating countries. The export proceeds are included in the balance of payments.

Road Trucks (Lorries)

45. The poor condition and over-age of road vehicles at the end of the war was described in paragraph 4 above. The requirements are very considerable in spite of the great assistance given by the United

States and British authorities after the war. For the participating countries and Western Germany the requirements are for some 1,175,000 road trucks in the whole period 1948–51, and the productive capacity estimated at 1,300,000 road trucks is sufficient to meet this need.

Materials

46. The main requirements of steel and timber to develop full productive capacity for inland transport and to meet full needs have been assessed and submitted to the Iron and Steel Committee and to the Timber Working Party. The requirements for the main items of steel and timber are summarised below.

Table 10—Requirements for Inland Transport Equipment

	1948	1949	1950	1951	Total (4 years)
Steel rails and ties (thousands of metric tons)	1,760	1,760	1,666	1,666	6,840
Rail tyres, wheels and axles (thousands of metric tons)	410	560	634	646	2,250
Sheet steel (thousands of metric tons)	260	300	330	410	1,300
Sections and bars (thousands of metric tons)	290	396	438	454	1,578
Medium and heavy plates (thousands of metric tons)	690	840	940	1,100	3,570
Timber ties (number millions)	35.7	30.8	29.1	27.3	122.9

CHAPTER IV

European Co-operation

47. Examination of the transport requirements and plans of the participating countries and Western Germany have shown ways in which these countries can get together and help each other in the field of inland transport and so assist in the economic recovery of Europe.

48. The Inland Transport Committee of the Economic Commission for Europe provides the natural forum at which nearly all transportation problems can be studied with a view to finding the best solutions. Particular advantages in referring problems to this Committee lie in the fact that many of the non-participating countries are members and that the Committee is about to take over the work of the European Central Inland Transport Organisation which has been dealing, during the past few years, with some of the problems here enumerated.

49. Interested Governments intend to raise, at the first meeting of the Inland Transport Committee of the Economic Commission for Europe in October, the following problems of European co-operation

in the field of inland transport which appear to fall within the scope of that organisation:—

(i) *International Freight Car Pool.* Most of the participating countries are short of freight cars, particularly for seasonal and special classes of freight. Much could, therefore, be done to help each other by pooling freight cars so as to make them available where they are most wanted.

An International Wagon Union (R. I. V.) was established in 1921 with the object of laying down rules for the common use of freight cars in international traffic. A Freight Car Exchange Committee was set up in 1945 under the auspices of the European Central Inland Transport Organisation to help maintain a balance of freight cars, to reduce empty running and to enable full use to be made of the stock. After consultation with R. I. V. and the Freight Car Exchange Committee, it would be possible to establish the necessary machinery to ensure achievement of these objectives.

(ii) *Study of the flows of traffic.* Owing to currency exchange and other difficulties, traffic is being compelled to flow in unnatural directions and is often being carried by the wrong form of transport. Many of the main arteries of transport, for example, the Rhine, the Elbe and the Danube, are not being fully utilised, and this is causing long hauls, longer turn-round and imposing an unnecessary strain on the already strained transport system.

(iii) *Standardisation of Freight Car Design.* The continental participating countries and Western Germany will have requirements for nearly 453,000 * freight cars in the next four years. Such a large programme of new construction gives a special opportunity to standardise design. The International Technical Standards Conference is concerned with the standardisation of design of rolling stock for international traffic. This Conference will be asked to report as a matter of urgency on the most suitable design and specifications for standard type of continental freight cars. Then, whether the new freight cars are built in Europe or imported, they will be suitable for use anywhere in Europe and standardisation will reduce many of the problems of their maintenance and repairs.

50. Plans to manufacture large quantities of all types of transport equipment are being made, and details have been given in Chapter

(*) This figure represents the total requirement of all the participating countries (724,000) less the requirement of Great Britain and Ireland (271,000) which are not of continental design.

III above. Opportunity will be taken by interested governments to examine the production resources of the participating countries and Western Germany to try and ensure that the different items of transport equipment will be manufactured in places where it is in the best mutual interest to manufacture them, and thus avoid unnecessary excess productive capacity.

CHAPTER V

Summary of Import Requirement

51. Even if the necessary materials were available, the productive capacity of the participating countries and Western Germany is inadequate to meet the requirements of freight and passenger cars. These must therefore be imported from dollar sources.

52. On the other hand, full productive capacity for locomotives and port equipment can be developed with full supplies of materials, so that there would be surpluses available for exports outside the participating countries and Western Germany. The values of these surpluses have been included in the balance of payments.

53. The special equipment required for rehabilitation works in Greece, particularly for such items as bridges, stations and telephone lines, are essential to the recovery of that country's transport system. The majority of these requirements (estimated at about 11 million dollars) can probably only be met by imports from outside the participating countries and Western Germany.

54. The requirements for timber ties cannot be met from within the participating countries and Western Germany. They will need to be imported and the deficit is dealt with in the report of the Timber Working Party.

55. The position regarding import requirements is summarised below.

Table 11—Imports from the United States

(Millions of dollars)

	Estimated Unit value	1948	1949	1950	1951	Total (4 years)
Freight cars	$3,500	168	147	52	—	367
Passenger cars	$86,200	28	28	28	28	112
Special equipment	—	7	2	1	1	11
TOTAL	—	203	177	81	29	490

APPENDIX A

Countries Represented on the Inland Transport Committee

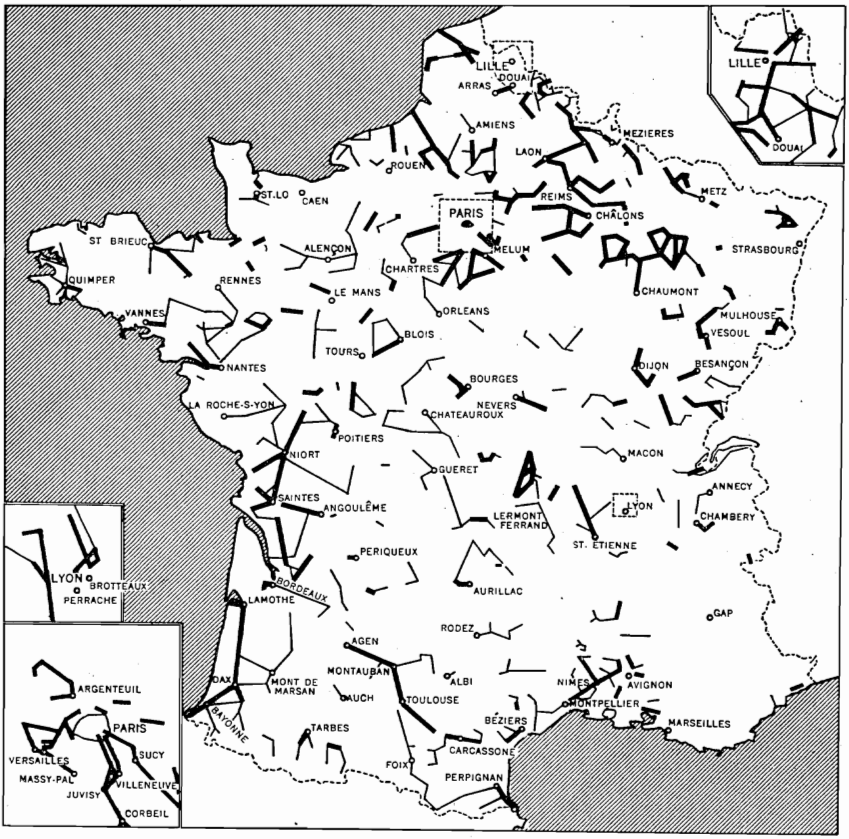
Belgium
France
Portugal
Switzerland
Turkey
United Kingdom

APPENDIX B

MAPS

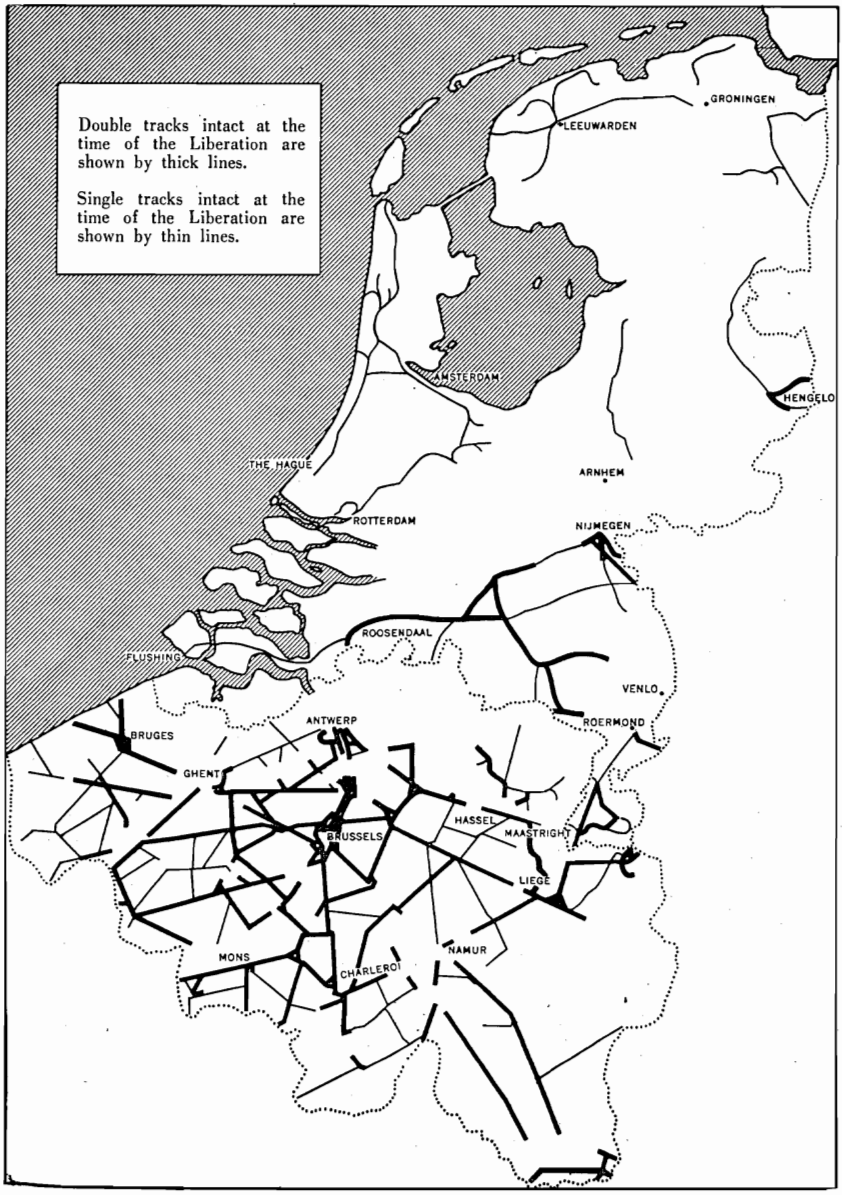
The following Maps illustrate the extent of the damage in Belgium, France, Italy and the Netherlands at the time of liberation.

FRANCE: STATE OF THE RAILWAYS AT THE TIME OF THE LIBERATION



Double tracks intact at the time of the Liberation are shown by thick lines.
Single tracks intact at the time of the Liberation are shown by thin lines.

The Netherlands and Belgium: State of the Railways at the Time of the Liberation



Italy: State of the Railways at the Time of the Liberation

TECHNICAL REPORTS

SECTION G

Maritime Transport

MARITIME TRANSPORT

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A list of tables in the text and Appendices is given at the end of this Volume.

Note

The following abbreviations are used in this section:

G.R.T. = Gross Register Tonnage.
D.W.T. = Deadweight Tonnage.
No. = Number.

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CHAPTER I

HISTORICAL

1. Shipping is of fundamental importance to the economy of the participating countries.* A high proportion of their foreign commerce is necessarily seaborne. Moreover, for some of the countries the provision of international shipping services is of great importance to their balance of payments. In 1938 the world looked to the participating countries for about 60 per cent. of its tonnage.

2. The merchant fleets of the participating countries suffered heavy war losses. Over 22 million gross tons of their ships were sunk, representing 62 per cent. of the tonnage owned in 1938. The replacement of these lost vessels and those which have grown old or suffered excessive wear and tear from their wartime use represents a major task for the participating countries.

3. To carry out this task the participating countries look naturally to their own shipbuilding yards or to those available to them in others of the participating countries. The shipbuilding capacity in these countries represented in 1938, 75 per cent. of the total shipbuilding capacity of the world. The whole of the shipbuilding requirements of the participating countries (as well as much of the shipbuilding required for other flags) were met from this capacity. So important, however, is it to get prompt ships that most of the participating countries have been compelled to spend large sums in dollars on acquiring ships built in the United States for war purposes and available for sale abroad. Up to date it is estimated that the value of such ships purchased by the participating countries is some 500 million dollars.

4. As a result of these efforts, good progress has been made in the reconstruction of the merchant fleets. In Table 1 the shipping owned by the participating countries at mid-1947 is compared with the tonnage owned by them in 1938.

*Throughout this report, wherever the requirements of Western Germany are included, specific reference is made to this fact.

For the purposes of this Table and Tables 2, 3 and 4 German tonnage has been excluded, since the disappearance of the German fleet would distort the comparison.

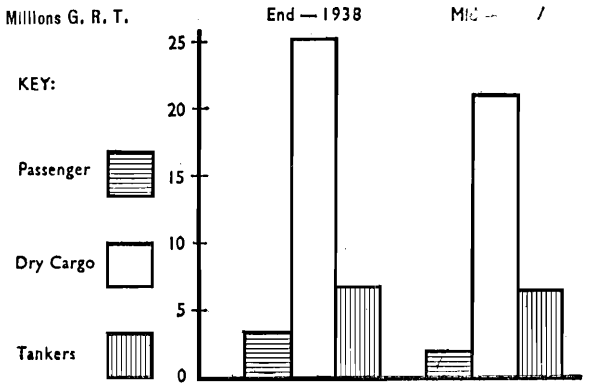
As a matter of information, the 1938 figure of the German fleet was 6.3 million deadweight tons. A certain amount of ex-German tonnage has been distributed and that received by the participating countries is included in the 1947 figures in this Table and Tables 2, 3 and 4.

Table 1—Tonnage Owned by the Participating Countries in 1938 and 1947

(Tonnage figures in millions)

Type of Vessel	End 1938			Mid-1947		
	No.	G. R. T.	D. W. T.	No.	G. R. T.	D. W. T.
Passenger*	600	3.5	2.0	300	1.8	1.0
Dry Cargo	7,000	25.5	36.1	5,150	20.8	29.1
Tankers	1,060	6.7	10.1	950	6.1	9.5
TOTAL	8,660	35.7	48.2	6,400	28.7	39.6

*For the purpose of this report, vessels classed as "Passenger" vessels include only those which have no substantial cargo capacity.



5. The Table shows that in terms of deadweight tonnage of dry cargo ships the participating countries have still some seven million tons less than in 1938. More progress has been made with tankers. The tanker fleets owned by these countries are at this time only some 600,000 deadweight tons less than in 1938.

6. It is a natural consequence that the merchant fleets of the participating countries today contain a very much higher proportion of new ships. The age distribution of these fleets is shown in Table 2.

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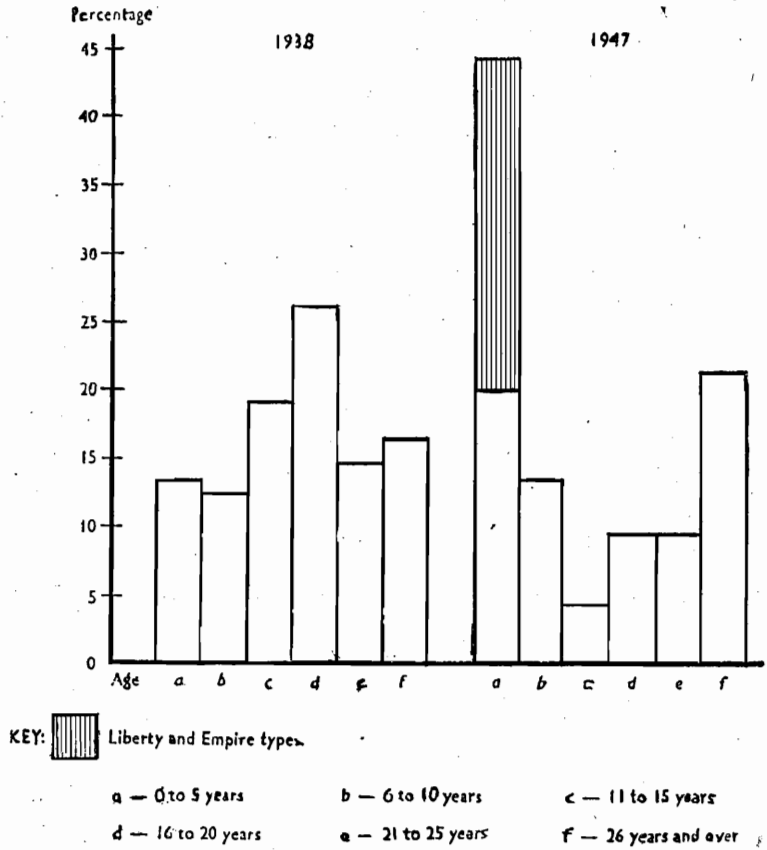
Table 2—Percentage Distribution of Tonnage in Age Groups

Age	Type of Vessel					
	Passenger		Dry Cargo		Tanker	
	1938	1947	1938	1947	1938	1947
(a) 0–5 years	15	4	13	44	33	35
(b) 6–10 years	25	19	12	13	24	21
(c) 11–15 years	22	12	19	4	19	11
(d) 16–20 years	19	21	26	9	10	18
(e) 21–25 years	4	15	14	9	7	6
(f) 26 and over	15	29	16	21	7	9



7. The high proportion of dry cargo ships in the newest age group includes a large tonnage of ships of bulk carrying standard type, built primarily for war purposes in the United States and the United King-

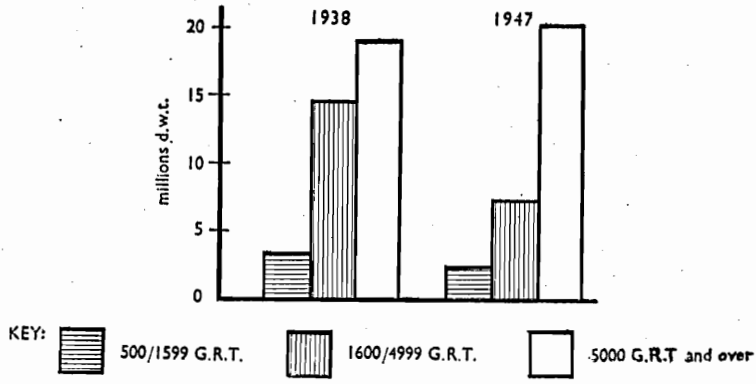
dom. The total of such ships (of Liberty and Empire classes) is seven million deadweight tons, forming 55 per cent. of the total tonnage in this age group. Building of dry cargo vessels of liner and specialised and smaller types will be necessary to redress the balance of dry cargo tonnage in the fleets of the participating countries.

8. This need is further emphasized by the review in Table 3, which shows the fleets of the participating countries in 1947 divided according to size, and by comparison with the size grouping in 1938. The shortage of vessels of less than 5,000 gross tons is apparent.

Table 3. Comparative Distribution of Deadweight Tonnage of Dry Cargo Ships by Size Groups in 1938 and in 1947

(Tonnage figures in millions)

Size Group	1938		1947	
	D. W. T.	Per cent	D. W. T.	Per cent
500/1599 G. R. T.	3.3	9	2.1	7
1600/4999 G. R. T.	14.2	39	7.1	24
5000 G. R. T. and over	18.6	52	20.0	69
TOTAL	36.1	100	29.2	100



9. Table 2 also illustrates that the proportion of dry cargo tonnage more than 25 years old is substantially larger in the existing fleets of the participating countries than before the war; and this old tonnage represents a problem of obsolescence which tends to retard the pace at which the participating countries can expect to achieve the recovery of their shipping position.

10. The war-time service of passenger carrying ships has also created a serious shortage of such tonnage. The losses were heavy in this

class and much work is necessary on the refitting and repair of those that survived their arduous war service. On the other hand there are abnormally large numbers of persons to be moved, including displaced persons and migrants, to overseas destinations. The necessity for constructing ships of this class is an important part of the task of the participating countries.

CHAPTER II

Development of Shipping Capacity

11. The participating countries are in course of rebuilding their merchant fleets. They have made estimates of the development of their merchant fleets during the period up to 31st December, 1951. The following Table shows the total as estimated for the participating countries together, at the end of each year. Estimates for each country are given in Appendix B. In the following Table no figures are included for Western German tonnage, as the construction of seagoing ships in Germany is prohibited.

Table 4—Estimate of Total Future Fleets of the Participating Countries

(Millions of deadweight tons)

	Dry Cargo	Tankers	Total
End 1947	32.0	11.1	43.1
" 1948	33.7	12.1	45.8
" 1949	35.6	13.0	48.6
" 1950	37.4	13.8	51.2
" 1951	39.2	14.4	53.6

By comparison, the 1938 figures (see Table 1) were:—

end 1938 . .	. . 36.1	10.1	46.2

or including the German fleet were:—

end 1938 . .	. . 42.0	10.5	52.5

12. These estimates take into account the additions that may be expected from new or other tonnage and the loss of ships by obsolescence and casualties. In making their forecasts the countries have for the most part assumed a high rate of obsolescence, while on the other hand it is possible that building facilities somewhat in excess of those allowed for may be available to give delivery of additional

new ships before the end of the period. Thus the forecasts can be regarded as a cautious estimate of the tonnage likely to be owned by the participating countries by the end of 1951. However, the tonnage in 1951 may include a greater amount of standard bulk carrying ships than the seven million deadweight tons mentioned in paragraph 7.

13. In spite of the disappearance of the pre-war German fleet the Table demonstrates the expectation that the participating countries will own more tonnage overall by 1951 than in 1938.

14. Since the countries covered Table 4 include some who perform world-wide shipping services it is assumed that they will be called upon to perform a greater part in the provision of such services as a consequence of the practical elimination of the Japanese and German fleets.

15. The increase in tanker tonnage estimated in 1951 compared with the tanker tonnage owned in 1938 is accounted for by the expectation that the demand for tankers will increase. (See Table 11.)

16. As to the adequacy of the merchant fleets by 1951, the review in the subsequent paragraphs of this Report demonstrates that with provision in the meantime for certain abnormal movements of bulk cargo, these fleets in 1951 will be adequate for the shipping services normally to be performed under the flags of these countries.

17. The building necessary to achieve the planned development will be mainly carried out within the participating countries. As regards second-hand ships, the forecasts presuppose that certain United States tonnage additional to that already delivered will be available. The tonnage expected from this latter source by all the participating countries together amounts to 3 million deadweight tons, involving dollar expenditure of 300 million dollars additional to that stated in paragraph 3. This item is included in the Balance of Payments figures.

18. The fulfilment of the reconstruction programme for shipping depends directly upon the ability of the shipbuilding yards in the participating countries to produce the new merchant ships in accordance with the contracts. To accomplish this it is essential that adequate supplies of shipbuilding materials, and especially steel, should be available. Some countries engaged on this work are experiencing difficulties in obtaining such supplies from the United States. Nothing could be more important to the success of the current effort of the participating countries to fulfil their programmes for recovering their shipbuilding position than the certainty of adequate and prompt supplies of these materials. In so far as they must come from the United States the provision of them is a direct help in the procurement

of the specialised types of ships most pressingly needed. The materials required are covered in the Reports of other Technical Committees.

19. The building projected also involves payments in foreign exchange by participating countries for building carried out in yards other than their own. The total tonnage to be built in foreign yards is 6 million deadweight tons, and the cost stated in dollars might be put at some 1,250 million dollars, mainly to be spent in the participating countries.

CHAPTER III

Tonnage Requirements

20. In estimating the availability of shipping services to meet the requirements of participating countries and Western Germany in the period up to 1951 account must be taken of certain general considerations which limit the possibilities of precise planning in this respect.

21. The shipping practice of the participating countries is based on the free circulation of shipping in international trades, in free and fair competition. Any interference with this free circulation is liable to reduce the efficiency of the total shipping available and hence to increase the cost of shipping services. Thus the amount of foreign flag tonnage in use at any one time or over a period in one country's trade cannot be expressed simply by the difference between the maximum services its own shipping could provide and the total services required.

22. The fundamental necessity for the participating countries is that enough tonnage should be available, under any flag, to carry the cargo required but on acceptable terms. In this connection foreign exchange expenditure is necessarily an important factor.

23. In estimating the foreign tonnage required by the participating countries (which includes both the tonnage they require from each other and the tonnage required from non-participants) a view must be taken of the amount that must in any event be available for the requirements if they are to be met, but estimates of this kind do not imply any intention to set limits to the interchanging of shipping services between the participating countries themselves, or between them and other countries, as circumstances permit.

24. Part of the tonnage under flags of participating countries will at any one time be engaged in providing services for countries other than the participating countries, since there are some among them who supply shipping services throughout the world as an essential phase of their economic activity. It is also to be expected that some of the participating countries will rely to a greater extent upon the services of foreign flag tonnage in proportion to their shipping demand than others.

Dry Cargo Tonnage

25. An attempt has been made to forecast, in terms of deadweight tonnage of ships continuously in employment, the total amount of shipping which the participating countries and Western Germany need to have at their disposition from one source or another for each of the years 1947–51. This will include the tonnage necessary to carry the essential programmes covered by the other Technical Committees adjusted to their estimates of availabilities, and the import and export trade generally, as well as the provision of shipping services to others as one item of export. The result is shown in Table 5.

Table 5—Total Amount of Dry Cargo Shipping Which the Participating Countries and Western Germany Need To Have at Their Disposition From All Sources, 1947–51

(Millions of deadweight tons)

1947	48.5
1948	50.5
1949	50.0
1950	49.5
1951	49.5

26. Each of the participating countries and the Occupying Authorities for Western Germany has made separate calculations of the tonnage under foreign flags (i. e. the tonnage they require from each other together with the tonnage required from non-participants) from which it will require to receive services in each of the years 1947–1951, and provided in these calculations for the commodity imports in its programmes. The total requirements have been adjusted to take account of changes in the programmes resulting from the work of the Conference. The sum of the requirements so adjusted is shown in Table 6.

It is not of course practicable to arrive at the figure of foreign flag tonnage required in any year by a simple deduction of the estimated

figures of total "fleets" (Table 4) from the estimated total of "requirements" (Table 5), for the reason that the "requirements" in each year represent a spread *over the whole year* whereas the "fleets" are estimated on the basis of availability at the *end* of each year. The figure for the "fleets" has therefore to be adjusted in order to arrive at the amount available during the year.

Table 6—Dry Cargo Tonnage under Foreign Flags from which Services will be Required, 1947–51

(Millions of deadweight tons)

1947	19.4
1948	17.7
1949	15.4
1950	13.0
1951	11.2

27. For the prospects of fulfilling these demands it is necessary to consider the distribution of world shipping. The participating countries currently own only 40 per cent. of the world tonnage (compared with 60 per cent. before the war). Forty-five per cent. of the world's dry cargo tonnage is now owned by the United States. Thus in current circumstances a substantial part of the demand for foreign flag shipping services must be met from tonnage under the United States flag. The process of recovery of the merchant fleets of the maritime nations, and the removal from trade of surplus United States war-built tonnage as circumstances permit, will bring about an adjustment of the extent to which the participating countries and Western Germany must rely on United States tonnage for the services of shipping under foreign flags. One abnormal feature of the current shipping situation is the large volume of tonnage required to carry coal from the United States. As it becomes possible during the period under review to meet this demand for coal from European sources, this abnormal shipping movement will be reduced. This requirement is necessarily met at present in United States flag tonnage and the reduction of this abnormal demand will affect the extent to which it is necessary to call upon the services of such tonnage.

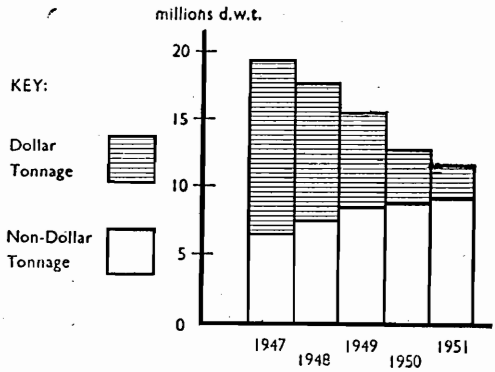
28. In the following table an estimate is made of the probable distribution of the demand for foreign flag shipping services by the participating countries and Western Germany, distinguishing United States and other tonnage the services of which are only obtainable in dollars. These estimates allow for an increased use by participating

countries of tonnage under the flags of other participating countries as the process of reconstruction of merchant fleets, in accordance with the plans in Table 4, is advanced.

Table 7—Dry Cargo Tonnage under Foreign Flags from which Services will be Required, 1947–51, Distinguishing "Non-dollar" Tonnage and "Dollar" Tonnage

(Millions of deadweight tons)

	"Non-dollar" tonnage	"Dollar" tonnage
1947	6.4	13.0
1948	7.4	10.3
1949	8.2	7.2
1950	8.5	4.5
1951	9.0	2.2



29. Shipping services under the United States flag will continue to be available to the participating countries and Western Germany as a normal feature of shipping trade, e. g. the services of lines operating under the United States flag. Tonnage of flags other than the United States requiring payment in dollars will also be available to some extent. In Table 8 an indication is given of the amount of bulk cargo carrying tonnage under the United States flag (over and above the normal provision of United States shipping services) likely to be required to meet the demand shown in the second column of Table 7. This indication shows that for all participating countries and Western Germany the abnormal demand upon United States shipping services should by the end of the period have disappeared.

Table 8—Amount of United States Flag Bulk Carrying Dry Cargo Ships (including those already Chartered) likely to be Required over and above the Normal Provisions of United States Shipping Services

(Millions of deadweight tons)

1947	7.5
1948	6.3
1949	3.2
1950	1.7
1951	—

30. It follows that it will be necessary to ask the United States to ensure that United States tonnage sufficient to meet this abnormal demand, over and above the normal provision of United States shipping services, is kept in operation. It is estimated that the cost of procuring the shipping services as enumerated in the second column of Table 7 on the assumption that they are required in the North Atlantic and if estimated average freight rates for 1947 have to be paid, would be as follows:—

Table 9—Cost of procuring Dry Cargo "Dollar" Shipping Services

(Millions of dollars)

1947	590
1948	500
1949	360
1950	230
1951	130

31. No attempt can be made to apportion the distribution between the individual participating countries and Western Germany of the services of this shipping. In Table 10 a statement is made of the dollar tonnage actually utilised by each of the participating countries and Western Germany in the first half of 1947.

*Table 10—Dry Cargo "Dollar" Tonnage Utilised, first Six Months 1947**

(Millions of deadweight tons)

Austria	0.2	Netherlands	0.9
Belgium	0.8	Norway	0.1
Denmark	0.3	Portugal	0.1
France	2.5	Sweden	0.3
Greece	0.3	Switzerland	0.2
Iceland		Turkey	
Ireland	.1	United Kingdom	4.3
Italy	1.6	Western Germany	1.2
Luxemburg			

*The above statement includes an amount of tonnage belonging to the United States and Canada on bareboat charter with hire payable in dollars.

Tankers

32. A statement compiled from the estimates made by each participating country and by the Occupying Authorities for Western Germany of the tanker tonnage which must be at its disposal in each of the years 1947 to 1951, expressed in terms of deadweight tonnage of tankers continuously in employment, is given in Table 11.

Table 11—Total Amount of Tanker Tonnage which the Participating Countries and Western Germany need to Have at their Disposition from all Sources, 1947–51

(Millions of deadweight tons)

1947, 1st half	13.2
1947, 2nd half	14.0
1948	15.1
1949	16.7
1950	18.4
1951	19.7

33. The tanker tonnage procured in the first half of 1947 was insufficient to lift all the oil available and required.

34. The sum of the estimates made by the individual participating countries and the Occupying Authorities for Western Germany of the extent to which they will need to use foreign flag tonnage is given in Table 12.

Table 12—Tanker Tonnage under Foreign Flags from which Services will be Required, 1947–51

(Millions of deadweight tons)

1947, 1st half	4.2
1947, 2nd half	3.8
1948	3.7
1949	4.5
1950	5.2
1951	5.9

35. By reference to the world tanker situation this foreign flag tonnage requirement must be provided either from the tonnage of one or other of the participating countries, or by the services of tanker tonnage which are only available in dollars, primarily from the United States. Allowing for the increased availability of tanker tonnage under the flags of the participating countries resulting from the development of their tanker fleets as at present planned during the period 1947/1951, the extent to which this demand can be met from

this source is shown in the following Table (Table 13). As stated in paragraph 12, the estimates of the tanker fleets of the participating countries towards the end of the period are on the cautious side, and there is no reason to suppose that an increased demand for tankers then would not be matched by an appropriate increase in tanker availability.

Table 13—Tanker Tonnage under Flags of Participating Countries Expected to be at the Disposition of other Participating Countries and Western Germany, 1947–51

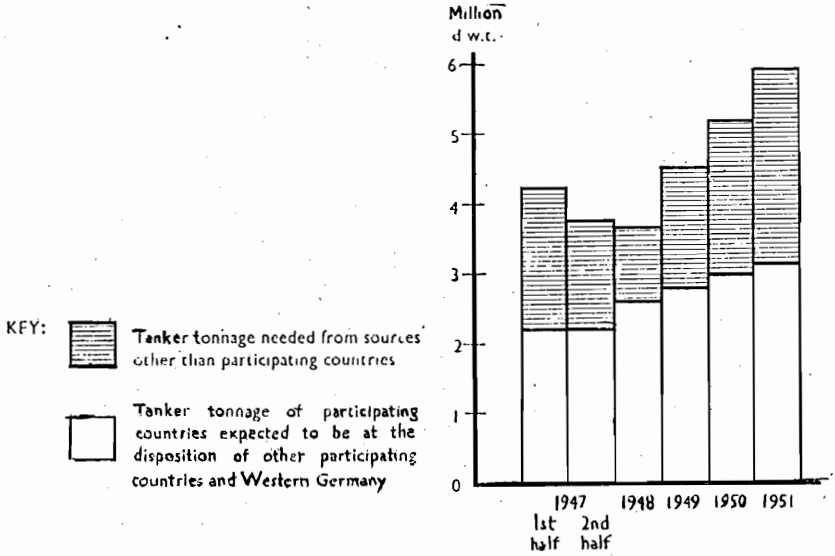
(Millions of deadweight tons)

1947, 1st half	2.2
1947, 2nd half	2.2
1948	2.6
1949	2.8
1950	3.0
1951	3.1

36. The following Table (Table 14) indicates the demand in terms of deadweight tonnage of tankers continuously in employment which would remain to be met. An estimate of the cost of obtaining the services of this tonnage if it had to be paid for in dollars at rates of freight now current is also shown in the Table.

Table 14—Tanker Tonnage (with Freight Cost) Needed by the Participating Countries and Western Germany which is not Anticipated to be Available from other Participating Countries

	Tanker tonnage (million deadweight)	Freight cost (million dollars)
1947, 1st half	2.0	60
1947, 2nd half	1.6	50
1948	1.1	70
1949	1.7	100
1950	2.2	135
1951	2.8	180



37. In the following table (Table 15) an estimate is given of the tanker tonnage likely to be required by the United States oil industry for supplying its trade to the participating countries and Western Germany on the basis of the oil import programmes.

Table 15—Tanker Tonnage Required to Provide for United States Oil Industry's Trade in Participating Countries and Western Germany

(Millions of deadweight tons)

1947	2.8
1948	3.3
1949	3.6
1950	3.8
1951	3.9

38. It will be seen that this tonnage requirement in each year is in excess of the requirement shown in Table 14. The United States oil industry may be expected in the normal course to provide for the transport of its trade to the participating countries and Western Germany. Such provision may involve a demand for tonnage additional to its own, from tonnage available for charter in the open market. World tanker resources include war-built tankers now owned by the United States Maritime Commission and it is assumed that such tankers will continue to be available as required.

39. The conclusion to be drawn from these estimates is that there will be enough tankers to provide for the oil requirements of the participating countries and Western Germany; but part of the provision of the necessary tanker services must involve the participating countries in expenditure in dollars, as shown in Table 14.

40. Account has been taken of the balance of receipts and expenditure on account of shipping services in the Balance of Payments Report. The financial estimates given in Tables 9 and 14 are, as therein stated, calculations only of the estimated cost of procuring the shipping services required if they have to be paid for in dollars at rates of freight now current.

CHAPTER IV

SUMMARY

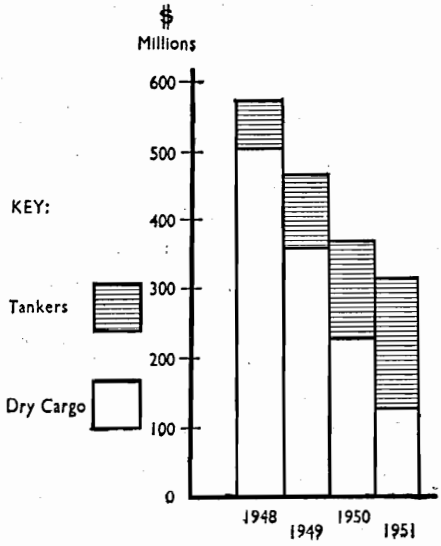
41. The preceding review shows that:—

(i) The process of reconstruction of the merchant fleets of the participating countries is in progress so that by 1951 these fleets should be adequate to cover the services normally to be performed by shipping under the flags of these countries. This is on the assumption that ship-building materials are available in the yards as and when required to ensure prompt realisation of building programmes.

(ii) Meanwhile, until this position is obtained, the participating countries will remain dependent on a substantial but diminishing volume of dry cargo shipping services from dollar sources, estimated at 10.3 million tons in 1948, 7.2 million tons in 1949, 4.5 million tons in 1950, and 2.2 million tons in 1951.

(iii) Some part of the expanding demand for tankers must be met by tonnage other than that of the participating countries. The need of these countries for such tonnage during the period is estimated at 1.1 million tons in 1948, 1.7 million tons in 1949, 2.2 million tons in 1950, and 2.8 million tons in 1951. In each year this is less than the amount of tonnage which the United States oil industry would be expected to provide in the normal course for the transport of its trade to participating countries and Western Germany.

(iv) The cost of procuring these shipping services if paid for in dollars at rates now current is estimated at 570 million dollars in 1948, 460 million dollars in 1949, 365 million dollars in 1950, and 310 million dollars in 1951.



APPENDIX A

Countries Represented on the Maritime Transport Committee

Belgium
France
Greece
Italy
Netherlands
Norway
Portugal
Switzerland
Turkey
United Kingdom

APPENDIX B

Estimate of Future Fleets of the Participating Countries

(Millions of deadweight tons)

Country	Dry Cargo					Tankers				
	end 1947 (1)	end 1948 (2)	end 1949 (3)	end 1950 (4)	end 1951 (5)	end 1947 (6)	end 1948 (7)	end 1949 (8)	end 1950 (9)	end 1951 (10)
Austria	—	—	—	—	—	—	—	—	—	—
Belgium	0.45	0.54	0.63	0.78	0.90	0.12	0.14	0.14	0.14	0.14
Denmark	1.23	1.30	1.46	1.65	1.96	0.16	0.21	0.30	0.36	0.45
France	2.43	2.76	2.95	3.18	3.49	0.53	0.70	0.80	0.84	0.99
Greece	2.30	2.49	2.68	2.86	3.05	0.18	0.20	0.22	0.28	0.32
Iceland	0.02	0.03	0.03	0.04	0.04	—	—	—	—	—
Ireland	0.05	0.08	0.10	0.10	0.10	—	—	—	—	—
Italy	2.41	2.55	2.77	2.92	3.07	0.83	0.86	0.85	0.86	0.88
Luxemburg	—	—	—	—	—	—	—	—	—	—
Netherlands	2.45	2.53	2.59	2.66	2.69	0.62	0.72	0.77	0.84	0.91
Norway	3.18	3.48	3.78	3.90	3.80	2.94	3.25	3.56	3.71	3.60
Portugal	0 30	0.38	0.41	0.44	0.47	0.05	0.06	0.06	0.06	0.06
Sweden	1.95	2.00	2.04	2.08	2.13	0.52	0.56	0.60	0.64	0.68
Switzerland	0.05	0.06	0.06	0.06	0.06	0.02	0.02	0.02	0.02	0.02
Turkey	0.15	0.19	0.23	0.27	0.30	0.04	0.03	0.03	0.03	0.03
United Kingdom	15.05	15.35	15.85	16.45	17.15	5.10	5.31	5.59	5.98	6.37
Total	32.02	33.74	35.58	37.39	39.21	11.11	12.06	12.94	13.76	14.45

TECHNICAL REPORTS

SECTION H

Timber

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TIMBER

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A list of tables in the text and Appendices is given at the end of this Volume.

Explanatory Notes

(i) In general, the period 1934–8 has been taken as a pre-war base. In some countries statistics for these years are not readily available and in such cases a representative period in the 1930's has been taken.

(ii) In the statistical tables in the text and in the appendices the figures given relate to the participating countries and Western Germany unless otherwise stated.

(iii) Values have been calculated on July, 1947, United States, f.o.b prices for sales to the United Kingdom. This basis has been adopted for the sake of uniformity.

These prices are:—

Softwood (including ties)	$140 per standard
Hardwood	$60 per cubic metre
Hardwood ties	$40 per cubic metre
Pitprops	$12.7 per cubic metre
Pulpwood	$13 per cubic metre
Plywood	$232 per cubic metre

(iv) For statistical purposes it has been assumed that all the softwood, pitprops and plywood exports of the participating countries go to other participating countries, and that 90 per cent. of hardwood exports remain within these countries. These assumptions correspond closely with the facts both for 1947 and the pre-war period.

(v) For statistical purposes it has been assumed that Sweden and Finland will receive their full requirements of coal and coke.

(vi) The conventional United States equivalent for the units of measurements used are as follows—

1 standard of softwood	=1,980 feet board measure
1 cubic metre of hardwood	=423 feet board measure
1 cubic metre of plywood (average European thickness=6 mm.)	=1,794 feet board measure
1 solid cubic metre of pitprops	=0.245 fathom
1 solid cubic metre of pulpwood	=0.414 cord
1 square metre of wallboard	=10.75 square feet
1 standard of softwood	=4.67 cubic metres

CHAPTER I

THE EUROPEAN TIMBER PROBLEM

A. Introduction

1. Timber ranks with coal and steel as one of the basic raw materials for European reconstruction, both because of its central position in economic life and because of the devastation wrought in the recent war. Housing is recognised as an essential priority in any economy and the softwood requirements of participating countries for housing reconstruction are major items for the next four years. Of equal importance is the demand for timber in the recovery of industry, transport, and even agriculture. Factory reconstruction needs timber; ties and wagon timber are a bottleneck in railway maintenance and repair, and shipbuilding makes large demands, particularly on hardwood supplies. Besides the considerable direct consumption of timber in manufacturing industries, e. g. furniture, trucks and accessories for the textile industry, there is a large demand for packing material, without which goods cannot be moved and exported. Lastly, but by no means least, increased output of coal in Europe such as is contemplated can be secured only if there is an adequate supply of pitprops—a type of wood for which the paper industry is also a claimant for the production of woodpulp. Without an adequate supply of all kinds of timber, participating countries cannot hope to attain a sufficient standard of industrial and social existence.

B. The Developments Leading to the Present Situation

2. Largely for geographical reasons Europe supplied four-fifths of the participating countries' imports of *softwood* (4,098,000 standards total) and *pitprops* (7,149,000 solid cubic metres) before the war. Among the participating countries, however, Sweden was the only major pre-war exporter. By their nature *hardwoods* are supplied from world-wide sources. Non-tropical and tropical species, although equally important, are used in very different ways. European sources of supply of non-tropical hardwoods, small in comparison with world supplies, were extremely valuable. Europe's imports of hardwood came from practically the whole world, the contribution from North America being estimated at 45 per cent. It is undoubted that Europe

will continue to look to North America as a main source of supply of non-tropical hardwoods for a very long time.

3. Prior to the war Europe produced about 90 per cent. of its own requirements of *plywood*, but the major proportion came from non-participating Northern countries. As regards wallboard, a start had also been made in the utilisation of waste timber in the production of insulating boards and hardboards, which, in some degree, can be substituted for plywood. This development, accentuated during and since the war, uses cheaper and waste forms of timber.

4. Before the war, the *U. S. S. R. and the Baltic States* supplied about 25 per cent. of Western European sawn softwood requirements, nearly 40 per cent. of plywood, and about 30 per cent. of pitprops. A comparable contribution from the present territories of the U. S. S. R. would solve the present problem, but it seems that the U. S. S. R. will only be able to spare relatively small quantities for export during the next four years. Supplies from Balkan countries have so far been negligible.

5. *Finland*, although recovering fairly rapidly in 1946–47 from the effects of the war, cannot reach her pre-war export quantity of one million standards of softwood within the period 1948–51.

6. *Sweden*, faced with over-cutting and the necessity of cutting wood for fuel, has not yet been able to export more than 450,000 standards of softwood as a maximum in any year against a pre-war total of about 800,000 standards. The recovery of production in *Austria*, where there has also been overcutting, is hampered by general disorganisation and by shortage of food and equipment.

7. The importing countries have endeavoured to supplement their reduced imports by increasing their domestic production, but with only limited success. In the *United Kingdom*, more than one half of the total growing stock of timber was felled between 1939 and 1946, and the process of destruction continues at a rate far in excess of the annual growth. Hardwood production can continue above the pre-war level for a year or two longer, but softwood and pitprop resources are practically exhausted. This is even more true of the *Netherlands*.

8. *French* and *Belgian* forests suffered from depredations during the war, and, though France is endeavoring to reduce significantly her need for imports of softwood and to resume her pre-war role of a moderate exporter of pitwood and hardwood, the quantities involved are relatively small. *Italian* timber resources, small in any case, have been greatly damaged by the war and cannot make much contribution.

9. On the positive side, *Germany* has, since the war, appeared as an exporter mainly of softwood from the Western Zones, whereas

before the war she was the second largest European importer. This contribution to European softwood and other supplies of timber has been made possible by considered policy on the part of the three occupying powers, United States, France and the United Kingdom. Obviously the position of Germany in the European timber problem for 1948–51 is a matter of major concern.

10. Before the war *Canada* supplied a substantial quantity of softwood as well as pitprops, hardwood and plywood to the participating countries. When, during the war, European timber supplies were cut off, Canada became the United Kingdom's main source of softwood and pitprop imports. In addition considerable United States supplies of both softwood and hardwood were and still are exported to participating countries. Tropical supplies of hardwood have been seriously affected by the devastation of war in the *Far East*, and the lack of equipment and transport in *French West Africa*.

11. The general decline in Europe's own sources of supply since the war has occurred at a time when requirements of timber of all kinds for reconstruction purposes are most pressing and urgent. Since 1945, it is safe to say that, with the exception of pitprops, importing countries among participating countries have had to make do with less than half of their pre-war timber consumption, in spite of considerable imports from North America.

12. The effects of the war, in reducing Europe's ability to supply a large proportion of its own requirements may therefore be broadly summarised:—

(i) a much reduced consumption at a time of greatest need.

(ii) an increased dependence upon North America as a source of supply. Roughly two-thirds of present-day imports of *softwood* by participating countries come from North America. Partly because of increased *plywood* capacity in North America, about two-thirds of present supplies are obtained from that source. Since 1945 Europe has been able to supply about 90 percent. of its *pitprop* requirements but nevertheless Canada makes an important contribution. In the case of *hardwood*, domestic production and colonial development in certain areas have been offset by reduction in supplies from the Far East, French West Africa and South-Eastern Europe, so that the dependence on North America remains. So far, however, exports from that source to Europe have been below the pre-war level.

(iii) overcutting and increasing strain on standing timber resources within the area.

CHAPTER II

Basic Factors in the Present Situation

A. Resources of Standing Timber

13. Much of the area of the participating countries and Western Germany is highly industrialised and most of the remaining land is given over to intensive agriculture. Their forest resources are necessarily limited, softwood showing an annual growth of only 4.6 million standards as against, for instance, 11 million standards for the United States. For the last century they have been managed with increasing skill and attention to the principles of sound forestry. In normal times the general objective was to improve the annual rate of growth by the application of improved forestry methods, and, depending on the age distribution of the forests, to cut each year timber roughly equal to, somewhat less, or rather more than the annual rate of growth, in order to obtain a sustained and even increased output for posterity. But over-cutting during the 1914–18 war caused much damage, and, despite vigorous afforestation, the stand of mature timber had not recovered when this unfortunate experience was repeated even more drastically after 1939. The importing countries were cut off from their normal sources of supply; some were occupied by the enemy, and their forests suffered from direct war-damage and ruthless spoliation. In *France* between 1940 and 1947 timber fellings totalled twelve times the annual growth and in *Denmark* almost ten times. Even the producing countries were compelled to increase their fellings of timber in order to replace the imports of coal which were no longer available. Lack of manpower made it impossible to maintain reafforestation. The forest resources of the participating countries have been excessively depleted since 1939 and, taken as a whole, cutting is continuing at an overall rate well in excess of the annual growth. This depletion of resources, which are already inadequate in relation to the population of these countries, means that continued over-cutting can at best be a short-term expedient, which must still further jeopardise the future. It also means that labour and equipment for re-planting is urgently needed to implement the plans for re-afforestation and to extend the work which has already been started.

14. The oversea territories of the participating countries contain negligible quantities of softwood, but the reserves of tropical hardwoods are huge in *British* and *French West Africa*, in *Indonesia* and *Guiana*. Past exploitation has, however, been generally unbalanced. The more accessible stands of the more popular species have been heavily overcut, and strict conservation is necessary. Present and future development of resources in less accessible areas is a long-term

project, requiring much new equipment and the development of new rail-road and port facilities.

15. The need for equipment to exploit the timber resources of the oversea territories is considered in Chapter IV.

B. Production of Timber

16. In the participating countries and Western Germany, production of the various types of timber even apart from fuel wood, is being maintained above the pre-war level, despite the sacrifice of forest resources involved and in the face of great difficulties in the matter of labour and equipment. In certain countries such as *France* and *Norway*, the production figures for 1948 show considerable increases over the pre-war level. In *Sweden*, production of sawn timber, pitprops and pulpwood is considerably below the pre-war level, principally because of the need to divert labour and other resources to the felling and transport of fuel-wood, instead of trees intended for the sawmills. In *Austria*, the need for fuel wood also diminishes the production of sawn timber and pitprops. Moreover, the timber production is work of a heavy and specialised character, which makes it difficult to attract efficient labour in a period of labour shortage.

C. Germany

17. Before the war Germany was an importer and not an exporter of timber. It is difficult to detect amongst imports those intended for war purposes and those requirements pertaining to peace economy. However, it may be said that during the war period Germany did not fell timber to an extent which prejudiced the future of her forests. On the other hand, she carried out what amounted to excessive exploitation in the occupied countries and wreaked destruction which reduced the normal output of forests in these territories. If European production is to be increased during the coming years to permit a general economic recovery, it is important that a continued effort should be demanded of timber production in Western Germany.

18. In Western Germany a major effort has been undertaken in the past two years, designed both to meet the needs of Germany herself and to provide supplies for other European countries which have suffered from the war.

19. In the *British* Zone, the production and utilisation of timber are strictly controlled by the North German Timber Control. This agency supervises felling and sawing of timber by the German trade, which, in the British Zone, consists primarily of small undertakings ill-equipped with experience and machinery for obtaining large-scale production or production for export purposes. This agency has also

set up a special organisation with the assistance of supervisory personnel, equipment and vehicles supplied by the United Kingdom, employing displaced persons, other specially enlisted workers, and troops. Most of the exports from the British Zone have been supplied by this special organisation, mainly in the form of round timber which is sawn elsewhere. Hitherto exports have been to the United Kingdom, but plans are well advanced to divert some exports to the Netherlands in accordance with arrangements approved by the Timber Sub-Committee of the Emergency Economic Committee for Europe. In addition, felling areas in the British Zone have been allocated to Belgium and the Netherlands and are being exploited by labour provided by those countries.

20. In the *American* Zone a system of controlled commercial exploitation is used. Agreements have been concluded for the export of sawn softwood to the United Kingdom and the Netherlands.

21. In the *French* Zone a very active policy has been pursued aiming both at ensuring high output from German undertakings and developing production, with manpower and equipment supplied by France, Belgium, the Netherlands, Luxemburg, Denmark, Italy and Switzerland; new cutting areas have been allocated or are on the point of being allocated to French, Belgian, Swiss and Dutch undertakings.

22. In all, during 1947, production in Western Germany is sufficient to cover essential internal needs, with the exception of a certain import of pitprops from the Russian Zone, and to contribute materially to meeting the requirements of other countries by exports of unsawn logs and some quantities of sawn timber and pitprops. This result has, however, involved fellings which exceed the annual rate of growth; and it has been achieved in part by the use of labour, food and equipment provided by the neighbouring countries.

23. As regards the future, it is not known for certain how long these felling operations can or ought to be continued at the present rate. As regards the *Bi-Zone*, the estimates submitted to the Committee forecast an approximate reduction of felling from 28 million cubic metres of unsawn logs in 1948 to 26.5 millions in 1949; as no figures have been given for 1950 and 1951, a progressively decreasing felling rate has been assumed for statistical purposes. For 1948 and 1949 the estimates indicate that 2,000,000 cubic metres may be available for export.

24. No programme has yet been definitely fixed for the *French* Zone. The felling rate forecast for 1947 (including felling conducted by foreign countries with their own resources) is 15 million cubic metres. Future prospects are not yet clear. However, forests in the French Zone, on account of their high proportion of heavy timber and their comparatively high rate of growth, can still make a substantial con-

tribution to European production. A return to felling equal to the annual average rate of growth may be envisaged shortly after 1951.

25. It should be noted that continuing to fell twice the average annual growth in *Western Germany* will reduce the future output of German forests by less than 1 per cent. for each year of overcutting, while procuring for Europe (including Western Germany) almost 13 million extra cubic metres of roundwood of all types, fuel wood apart. The International Timber Conference convened by the Food and Agriculture Organisation and Czechoslovakia held at Marianske Lazne in April–May 1947 recommended that "the Occupying Powers consider the great need for forest products in those areas which had suffered from the war in determining their cutting schedules for timber in Germany." If production could be maintained or increased in such a way as to secure the continuance of exports, this would have a directly equivalent result in reducing the essential requirements of the participating countries for North American timber.

D. Future Production Trends

26. As things are, the level of production achieved since the war within the participating countries is high. It has made possible, even in the importing countries, the maintenance of some minimum of essential supplies in the face of very much reduced imports from countries both within and without the area. It is, however, evident that further efforts are necessary. The need for increased production was clearly stated at the Marianske Conference, which was attended by representatives from most of the participating countries as well as from several of the other European producing countries. It recommended unanimously that during the felling seasons 1947–48 and 1948–49 all countries should increase their cutting for the production of sawn softwoods by 10 per cent, and that this increased production should be used either to increase exports or decrease imports. It was agreed that it was open to certain countries, in view of their special circumstances, to achieve the same result by other means, including measures restricting use or consumption. The importance of increasing the production of other types of timber was also stressed. The Conference recognised that certain countries would not be able to make the required effort without outside assistance, due to shortages of manpower, food, coal, machinery, credit and other physical factors; and it called the attention of the appropriate international organisations to this point as a matter of urgency.

27. The developments, as far as participating countries are concerned, following this recommendation, may be best summarised by quoting particular examples. Plans for increasing the supplies of

coal to the Baltic area have enabled the Committee to allow for more imports of softwood and pitprops from *Sweden* and *Finland*. In *Greece*, about a quarter of the forest area was damaged during the war, but much timber is now being salvaged and utilised from burnt forests. A special programme has also been worked out for the exploitation of more distant stands for which equipment is now required. Plans are already laid for increased production in *Norway*, *Denmark* and *France*. The Norwegian Government has recently decided to make every effort to increase the output of timber of all kinds from about six million cubic metres (the pre-war output) to eight million cubic metres in 1948 or at latest in 1949. In Demark, felling is now tentatively planned at a rate 20 per cent. above the annual growth for the next two years. Although French forest resources have been overcut since 1939, France is prepared to increase cuttings by 10 per cent. in Metropolitan France and to fell additional quantities in the French Zone with French means, for the years 1948 and 1949. This effort may produce an additional 285,000 standards of softwood, 200,000 cubic metres of pitprops, 800,000 cubic metres of pulpwood and 100,000 cubic metres of hardwood logs. *The United Kingdom*, the *Netherlands* and *Belgium*, unable to increase their home production significantly, have reduced their requirements of hardwoods and the United Kingdom and France their requirements of ties. Should these production plans be realised additional quantities of softwood, hardwood, pitprops and pulpwood will become available to participating countries.

28. These examples show that a definite commencement has been made towards putting into effect the Marianske recommendation for a 10 per cent. increase of fellings for 1948 and 1949. If, in spite of all the difficulties involved in cutting at above the annual rate of growth for a period of four years instead of two, the Marianske recommendation can, in practice, be applied by participating countries in 1950 and 1951, these increased cuttings would go some way towards closing the gap for sawn softwood and hardwood ties (sleepers) and may do so completely for hardwood and pulpwood. Allowance has already been made for increased supplies of pitprops from Sweden in return for coal. A 10 per cent. increase in production in the other participating countries would eliminate most of the remaining deficit which will otherwise have to be met by the substitution of steel for mining timber.

29. It is, however, clear that there are many difficulties in the way of achieving this general increase of production within the participating countries in addition to the depletion of future resources. Besides a diversion of labour, already engaged on important work, it involves large movements of people, often to remote and inaccessible places thus making a heavy demand on transport, food and materials for

temporary housing. It is also very largely dependent on the supply of tractors and saw-mill equipment.

30. The oversea territories of the participating countries are actual and potential sources of hardwoods. In the *Far East*, notably in the *Netherlands East Indies*, *Malaya* and *Burma*, war damage and disorganisation have to be overcome. Special measures have, for instance, been taken to recommence the exports of teak from *Burma*; but it will be some years before transport facilities and the long production cycle permit them to reach the pre-war level. In *British West Africa* production has been more than doubled as compared with pre-war, and further development of transport and port facilities is being pushed forward. In *French West Africa* a development programme is in an earlier stage and production is still below pre-war. But in the oversea territories trees adjacent to roads, railways and rivers have already been felled and the existing stands are less accessible. Thus the problem is largely one of supplies of locomotives, wagons, tractors, and sawmill equipment. Veneer and plywood factories are also in course of construction.

E. The Pattern of Trade

31. It is clearly essential for the solution of the timber problem to recreate the rather complicated network of trade between the importing countries. Trade among the participating countries is very important. Before the war imports from other participating countries met over a quarter of the total import requirements of softwood of all the participating countries; for pitprops, the proportion was about a fifth and for hardwood and plywood rather less. Moreover, the relationships were complicated by the different types of timber involved and by geographical reasons. France was a net importer of softwood, but quite a substantial exporter of hardwood and pitprops; there was an exchange of softwood logs and sawn timber between Norway and Sweden. Coal was at the root of most of this trade: broadly speaking, the timber-producing countries imported coal or products, such as steel and machinery for the production of which coal was essential; and exported timber which, in default of coal, they have had to burn themselves. In some cases, the connection between timber and coal was very close indeed; for instance, the same ships which carried coal from the United Kingdom to Portugal returned laden with pitwood, without which further coal could not be mined.

32. The shortage of coal and currency difficulties have hindered the re-establishment of this pre-war trade: but considerable progress has been made, largely as a result of formal or informal trade agreements between the exporting and importing countries in which exports of timber have figured as part of a general programme of trade between

individual countries. For 1948, the exports of softwood and pitprops from the participating countries are expected to be some 90 per cent. of the pre-war level, and for hardwood, plywood and wallboard well above it. With insignificant exceptions, all the timber exports of participating countries and Western Germany are to importing participating countries.

33. As regards the non-participating countries in Europe, the obstacles to the re-establishment of pre-war exchange are more serious. Much progress has already been made in restoring trade with *Finland*, largely in return for coal and steel from the West. In the case of the *U. S. S. R.* exports of timber have so far been very small in relation to pre-war levels, and any large expansion must depend on the progress of reconstruction in the U. S. S. R. and an increased flow of capital goods to the U. S. S. R.

34. Since the end of the war imports from *Canada* and the *United States* have increased markedly. Normal trade relations have continued. Imports from these countries have been restricted mainly by shortage of currency.

35. The oversea territories of the participating countries are also of importance in world timber trade, apart from supplying some of the hardwood requirements of the participating countries. The *United States* imports considerable quantities of hardwood from Nigeria and the Gold Coast; *South Africa* is substantially interested in British West Africa and the Belgian Congo; while Far Eastern territories export to many countries. Thus the oversea territories of participating countries earn valuable foreign currency by hardwood exports.

F. End Uses

36. Although a breakdown of timber consumption by end uses cannot readily be given for 1948–51, it is probable that the future pattern will be similar to the present one. Appendix K shows today's major end uses of softwood, hardwood and plywood in France and the United Kingdom, which together account for a large part of the timber consumption of the participating countries. This breakdown may therefore be regarded as representative.

37. Among the many end uses of sawn timber, *house construction* is the most important: actually roughly 45 per cent. of the total sawn timber requirements of the participating countries are for housing. These needs are more particularly pressing in those countries which have suffered war destruction; there, rebuilding of destroyed dwellings is not only a social necessity but also an essential condition for general economic recovery. Rural housing, for example, has to be adequately provided in order to secure the programmed level of agricultural pro-

duction in the devastated areas, and industrial output can only be increased if the workers have somewhere to live.

38. It may be estimated that in 1948 50 per cent. of the sawn softwood requirement and 11 per cent. of the hardwood requirement are for housing, giving overall some 45 per cent. For 1951 the figures are 53 per cent. for softwood, 11 per cent. for hardwood and again some 45 per cent. overall. Housing and other building construction also use considerable quantities of plywood, in some countries as much as 33 per cent. of total plywood consumption.

The *furniture* industry is another large user both of hardwood and plywood, though the percentage varies in different countries.

39. *Packing* is the second largest sawn timber consuming industry. The quantities of timber involved are considerable, being at least 15 per cent. of the softwood usage of those participating countries with the largest consumption. The part played by timber in packing is important as internal distribution and export of a large number of essential goods would otherwise be impossible.

40. *Shipbuilding* and *railway wagon construction* and *repair* rank amongst the important end uses of softwood. They are also considerable users of hardwood and plywood. *Ties* for railways are sufficiently important to be treated as a separate category of wood.

41. The *paper industry* is the largest consumer of roundwood. Its products are absolutely essential for the administration of our complex civilisation. The *mining industry* is the sole user of pitprops, together with a certain quantity of other kinds of timber. Apart from these outstanding items, there are innumerable uses for timber, small individually, but essential for the functioning of economic life.

G. Economy

42. Most of the participating countries were forced to institute drastic economies in timber usage in the war. In the United Kingdom, for example, economy in usage still takes the extreme form of a timber licensing system under which no person can use any timber even from his own stocks without first obtaining a licence. Applications for such licences are specially scrutinised to see whether the quantity and proposed specification of timber can be reduced. Similar measures exist in other importing countries, notably France and the Netherlands. Even in the exporting countries, Sweden and Austria, a great measure of control of consumption is in operation. In both these countries all building activities are subject to Government regulations which are designed to control the number of building operations, the size of the buildings and the quantities of timber and other materials used in construction. This control of consumption is in fact severely curtailing such important projects as school and hospital programmes.

43. The most drastic economies have been made in house construction. Modern building techniques have achieved very considerable economies in timber, by using slender sections and other constructional devices. Brick or stone houses require some one–three standards per dwelling, mainly for roof, floor and joinery needs. Timber rationing in a number of participating countries has brought the average figure down from $2\frac{1}{2}$ to $1\frac{3}{4}$ standards per dwelling. This, of course, makes necessary the substitution of timber by alternative materials for many items in building. Substitution is indeed a main method by which timber importing countries are trying to face the timber shortage, but this is usually rather uneconomical. Substitutes for timber are often heavy and costly, even when they are available at all. Also, undue economy may often lead to the use of weak sections, which require early replacement. In the same way if repairs and maintenance are deferred for too long, buildings which would otherwise have continued in use will need to be rebuilt at greater timber cost.

44. Economy obviously presents greater difficulties to producing countries where houses are normally built of timber, on ground of relative cheapness. This applies especially where transport costs would be vastly increased by the use of bricks or other stone materials instead of timber. Furthermore, the possibilities of substituting other building materials in timber producing countries such as Sweden and Austria, is restricted by the shortage of cement, iron, bricks, etc., the production of which is hampered by inadequate supplies of coal and coke. Appropriate measures are taken to ensure that foremen and constructional workers realise the need for economy in building material.

45. Packing is the second largest timber consuming industry and, as might have been expected, drastic measures of economy have been introduced in that field. Thus, for example, one participating country instituted a system of returnability enforced by deposits which are forfeited if containers are not returned. The size and strength of cases has been standardised at the minimum necessary to ensure the safety of the contents. Open crates have been substituted for closed cases and timber substitutes have been used wherever these have not been in shorter supply than timber itself. These measures which are still in full force have resulted in a saving of 50,000 standards of timber each year. Similar measures have been introduced in other countries.

46. The participating countries are assiduously following the recommendation of the Marianske Conference on economy. It is, however, difficult to compare the effectiveness of economy devices in the various countries, principally because minimum consumption of timber varies from one country to another due to climatic conditions and the supply of other materials.

47. In the period of stringent timber economy since 1939, the role of central research institutions on timber usage, e. g. Svenska Træforskningsinstitutet in Sweden, the Forest Products Research Laboratories in the United Kingdom, and the Laboratoire Central d'Essais des Bois in France, and of other organisations, has been and will continue to be of the greatest help in tackling new problems of timber economy and usage as they arise.

CHAPTER III

Timber Needs and Supplies, 1948–51

A. General

48. The Committee has collected and examined information from the participating countries on production, total requirements, total import requirements and total exports of those countries for softwood, hardwood, ties, pitprops, pulpwood and poles and plywood.

49. The Committee has not found it possible in the time available to assess the proper level of individual requirements of each participating country for each kind of timber. It will be noted that in some cases stated requirements are in excess of pre-war consumption which, for countries who suffered from the war, is quite reasonable in a period of reconstruction. In other cases, the stated requirements reflect the present bottlenecks in the utilisation of timber such as shortage of labour and complementary materials, and therefore may be below the pre-war level.

50. The stated consumption requirements of softwood for participating countries and Western Germany are in all only some 2 per cent. above the pre-war figures in 1948 rising to 7 per cent. in 1951, despite some increase in population and the great damage caused by the war. They represent in large part programmes of reconstruction and repair of houses, factories, and transport, which are the necessary result of war damage and war-time neglect of maintenance. They also reflect demands for timber for industrial construction and for export packing, which are a part of the plans for general expansion of production and trade. In spite of the spoliation of the forests of participating countries and allowing for supplies within the area, the net import requirement, so arrived at, is about the same as the average for 1934–8 and actually much below the recorded net imports for the eleven years 1925–35 as Appendices H and J show.

51. However, participating countries recognise that there is at present a world shortage of softwood, which may continue for some

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time, and they are not anxious to present important requirements of softwood at a level which might have adverse effects upon the world situation. Accordingly, in Appendix B the maximum supplies which may be anticipated from the rest of the world have been included and the quantities stated for the United States and the rest of America are the minimum which participating countries feel bound to seek from these sources of supply. Even if supplies of softwood from all sources approximately reach the level so estimated, it must be recognised that this will leave a heavy deficit of 1,150,000 standards per annum uncovered, and participating countries as a whole will have to make do with about 85 per cent. of their consumption requirements. Efforts to increase production within participating countries, outlined in Chapter II, will, it is hoped, fill part of this final gap. If the estimated supplies from the rest of the world, particularly for 1950 and 1951, do not materialise as anticipated, the whole situation will have to be re-examined in the light of such developments. In the case of hardwood and ties (both hardwood and softwood) the larger consuming countries have after review reduced their original requirements. These reductions amounted in the case of hardwood to 550,000 cubic metres per year, and for softwood ties to 93,000 cubic metres per year. For hardwood ties the reduction was made for the three years 1949 to 1951, amounting to a total of 600,000 cubic metres. The figures in the Report are given after these adjustments have been made.

52. In the case of pitprops it is absolutely essential to meet the consumption and to accumulate the necessary minimum stocks appropriate to the increased coal production, which is the prerequisite for the reconstruction of Europe. This essential demand can be met by the use of both wood and steel pitprops.

53. The plywood requirements in 1948 are lower than pre-war and rise to 28 per cent. over pre-war in 1951. This seems a logical development in view of the better outlook for plywood and of the development of its usage as a substitute for solid timber. Similar considerations apply to wall-boards.

Supplies from Non-participating Countries

54. The supplies likely to be available to the participating countries from outside the area have been estimated by the committee on the best information available and after careful consideration. It has had before it the pattern of pre-war trade, and considerable information as to actual supplies in 1946 and 1947. It has used the estimates arrived at by the Marianske Timber Conference, and various figures collected by the Timber Sub-Committee of the Emergency Economic Committee for Europe, relating to softwoods, and of the European Coal Organisation relating to pitprops. It has also had the advice of experts on each class of timber. Estimates of future supplies from

North and South-Eastern Europe are, of course, extremely difficult to make, particularly for the later years. But in this, as in other cases, the committee has endeavoured to steer a middle course.

B. Commodity Groups

55. This section is devoted to an analysis of the consumption requirements and supply position of each type of wood.

Softwood, including Softwood Ties

56. Table I and Appendix B show the salient features of the softwood position. It will be seen that estimated supplies are below the participating countries' requirements.

Table 1—Softwood—Pre-war and 1948–51 Consumption requirements, Production, Import requirements and Estimated Imports

(Participating Countries and Western Germany)

(Thousands of standards)

	Pre-war	1948	1949	1950	1951
Consumption requirements	7,577	7,744	7,905	8,025	8,110
Production	4,666	4,795	4,807	4,794	4,809
Import requirements from non-participating countries	2,911	2,949	3,098	3,231	3,301
Anticipated imports	2,911	1,799	1,948	2,081	2,151
DEFICIT	—	1,150	1,150	1,150	1,150

57. Total supplies shown above and in Appendix B leave a deficit of 1,150,000 standards annually between 1948 and 1951. This deficit represents about 15 of the consumption requirements and some 35 per cent. of imports required from non-participating countries. The main cause of it is the reduction of supplies from European non-participating countries, which are estimated to be far below their pre-war level, particularly for 1948 and 1949. Exports from the present territories of the U. S. S. R., Finland and Poland were over 2,300,000 standards of softwood in 1936, whereas the exports of these countries have not exceeded 230,000 standards annually to participating countries since 1945. This disappearance of softwood supplies equal to almost double the softwood deficit of the participating countries and two-thirds of the average import requirement for 1948 to 1951 explains the dependence of the participating countries on the American continent.

58. The supplies from Canada and the United States set out in Appendix B decline progressively throughout the period. Particularly in the latter years, it is thought that larger supplies than are stated will be available. It needs some emphasis that the United

States is the main source of particular types of softwood specifications such as clears, ships' deckings, ties, and other items which cannot be obtained elsewhere in sufficient quantities to meet the minimum essential needs of participating countries.

Pitprops, Pulpwood and Poles

59. These three types of wood are obtained from conifers which are large enough to fell but too small to produce sawn timber, and also from the top loppings of larger trees. Pulpwood for paper manufacture is an alternative way of using wood suitable for pitprops and poles. The essential problem on poles is to obtain straight trunks of the right specification. The consumption requirements and supply position of these three types of wood are set out in Tables 2 and 3 and in Appendices C and D.

Table 2—Pitprops—Pre-war and 1948-51 Consumption requirements, Production, Import requirements and Estimated Imports

(Participating Countries and Western Germany)

(Thousands of cubic metres)

	Pre-war	1948	1949	1950	1951
Consumption requirements	13,737	12,713	12,719	13,461	13,991
Production	8,287	9,053	9,019	9,008	9,049
Import requirements from non-participating countries	5,450	3,660	3,700	4,453	4,942
Estimated imports	5,450	3,230	3,490	3,630	3,770
DEFICIT	—	430	210	823	1,172

Table 3—Pulpwood and Poles—Pre-war and 1948–51 Consumption requirements, Production, Import requirements and Estimated Imports

(Participating Countries and Western Germany)

(Thousands of cubic metres)

	Pre-war	1948	1949	1950	1951
Consumption requirements	26,508	25,057	26,169	26,658	26,937
Production	23,789	22,609	23,251	23,548	23,749
Import requirements from non-participating countries	2,719	2,448	2,918	3,110	3,188
Estimated imports	2,719	1,100	1,600	2,200	2,400
DEFICIT	—	1,348	1,318	910	788

60. Before the war 60 per cent. of the requirements of pitprops were met either by home production or by imports from other participating countries; the remaining 40 per cent. came almost entirely from

European non-participating countries. The pitprop situation requires careful attention in view of the plans which have been put into effect for a substantial increase in coal production, and the dependence of coal production on pitprops supplies.

61. The low level of the present and probable future pitprop imports from the European non-participating countries is the cause of the shortage, since despite increased coal production, pitprop consumption in 1951 will be much the same as it was pre-war. At the end of the war, owing to diminished coal production, the consumption of pitprops was considerably below the pre-war level and was met mainly from indigenous production. Canada and Newfoundland developed as pitprop supplying countries during the war, however, and at the end of hostilities were sending considerable quantities to the United Kingdom. Indigenous supplies were declining rapidly in the United Kingdom—the largest consuming country. Meanwhile, in view of the great shortage of coal, the normal exporting countries were consuming as fuel vast quantities of timber suitable for pitprops.

62. In spite of all the difficulties, by continued sacrifice of immature trees for home production, increased supplies from North America and important quantities from Sweden, Finland and Germany, pitprop requirements of coal producing countries have been met. For 1947 the position appears fairly satisfactory and it is expected that consuming countries will hold reasonably good stocks at the end of the year.

63. The outlook for 1948 is that pitprop requirements will increase with rising coal production. Indigenous supplies in the United Kingdom are rapidly reaching exhaustion, and past overcutting in all available European sources has reduced resources. Exports from the Bi-Zone may cease at the end of 1947 because of rising coal production in the Ruhr. There seems little prospect of the U.S.S.R. resuming the export of pitprops on anything approaching the pre-war scale. On the other hand the anticipated increased coal production is expected to provide additional fuel supplies for timber producing countries who today are handicapped in their efforts to supply pitprops by the need for an immense production of fuel wood. This easing of the fuel situation in these countries will enable them to increase their export of pitprops.

64. The prospect beyond 1948 is that requirements will continue to increase with increasing coal production, while European supplying countries, particularly the U.S.S.R., are not expected to regain their pre-war level of exports. In addition, the competing demand for pulpwood appears likely to become an increasing obstacle. Pulping operations in Europe have been substantially below the pre-war level for many years owing to the shortage of fuel. All pitprop supplying countries are anxious to devote the maximum available raw material

to pulp production, which is, indeed, needed both to meet important demands and to earn foreign currency. On the other hand, countries which used to import pulpwood before the war will wish to resume these imports rather than to continue buying pulp or paper, both of which require more foreign currency. Consumption of pulpwood dwarfs pitprop consumption of the same kind of timber and any tendency to expand woodpulp production at the expense of pitprops needs to be carefully watched in view of the paramount need for coal. It should also be borne in mind that some hardwoods and second grade softwoods of little value for paper manufacture can be used as pitprops.

65. Consumption requirements and supplies of pulpwood have been examined in general terms in view of its close relation with pitprops, and reasonable imports from Canada and the rest of the world have been estimated in Appendix D. As regards poles, the requirement is important but no demands are likely to be placed on North America.

Hardwood (excluding ties)

66. The hardwood picture is inherently much more difficult to assess than that of softwood, pitprops and plywood, because sources of supply are world-wide and conditions differ radically from country to country. The future trends of development in British and French West Africa have had to be assessed at an early stage in the whole development scheme. Also there are over 350 different varieties of hardwoods, many of which are not interchangeable in their uses. It is believed, however, that the general picture presented in Table 4 and Appendix E is in the right sort of proportion and that the estimated requirements from the United States and the rest of the Americas are, after giving due weight to the technical factors involved and the need for species which are not obtainable elsewehere, considerably less than probable availabilities from these sources.

Table 4—Hardwood—Pre-war and 1948–51 Consumption Requirements, Production and Imports from Oversea Territories and Import Requirements

(Participating Countries and Western Germany)

(Thousands of cubic metres)

	Pre-war	1948	1949	1950	1951
Consumption requirements	9,310	9,468	10,036	10,475	10,766
Production plus estimated imports from oversea territories	6,866	7,652	7,750	7,917	7,967
Import requirements from non-participating countries	2,444	1,816	2,286	2,558	2,799

67. Among participating countries Belgium, France and Italy were much the largest pre-war exporters of hardwood and contributed about 5 per cent. of the total imports of the participating countries. Their industrial hardwood needs for reconstruction are great, and it seems doubtful whether they will be able to contribute materially to the increased needs of their neighbours during the period 1948–51. Substantial supplies of hardwood were drawn before the war from Bulgaria, Czechoslovakia, Poland, Rumania and Yugoslavia; Rumania and Yugoslavia are already exporting considerable quantities. There are possibilities of expansion of hardwood supplies in the oversea territories of the participating countries. Many of these territories were seriously damaged by the war, but in all of them the problem is the same. It is largely one of supplies of locomotives and wagons, sawmilling equipment, etc., given which a substantial increase of exports should be achieved in the later years of the period. Some allowance has been made for this in the figures of production in Table 4.

68. The import requirements of the participating countries for hardwood from non-participating countries are necessarily very large. The distribution of these requirements between the United States and other non-participating countries takes account of the fact that the various types of hardwood are far from interchangeable, and that some American species (ash, American poplar, hickory, cornel, persimmon) are needed for essential purposes. It is very difficult to obtain many specifications of oak except from the United States, which is a traditional source of supply. Wagon oak scantlings and other specifications and species for transport and shipbuilding are particular examples. Hickory (for tool handles, agricultural implements and shunt poles) and cornel and persimmon (for shuttle blocks—an essential need in the textile industry having an important bearing upon exports) are unobtainable elsewhere and are unsubstitutable.

Ties

69. The requirements of the participating countries for ties, which are examined in Tables 5 and 6 and Appendix F, are partly in softwood and partly in hardwood, according to the practice of the particular country concerned. The two kinds of ties are not interchangeable for technical reasons connected with the method of attachment of the rails.

Table 5—Hardwood Ties—Pre-war and 1948–51 Consumption requirements, Production, Import requirements and Estimated Imports

(Participating Countries and Western Germany)

(Thousands of cubic metres)

	Pre-war	1948	1949	1950	1951
Consumption requirements	1,117	1,911	1,529	1,365	1,181
Production plus estimated imports from oversea territories	986	880	664	643	644
Import requirements from non-participating countries	131	1,031	885	722	537
Estimated imports	131	380	450	550	537
DEFICIT	—	651	435	172	—

Table 6—Softwood Ties—Pre-war and 1948–51 Consumption requirements, Production and Import requirements

(Participating Countries and Western Germany)

(Thousands of cubic metres)

	Pre-war	1948	1949	1950	1951
Consumption requirements	1,415	1,661	1,557	1,552	1,552
Production	940	1,130	1,079	1,079	1,079
Import requirements from non-participating countries	475	531	478	473	473

70. As regards *hardwood ties*, the pre-war supplies came almost entirely from within the area, being largely produced in the forests by specialised labour. The present production of hardwood ties is reduced by the shortage of such specialised labour and by the competition of demand for hardwoods for constructional purposes; while the requirements have been greatly increased by the need to make good the damage done to railroad tracks in West Europe during the war, in addition to arrears of normal maintenance. Provided suitable equipment can be secured the participating countries may be able to draw to an increasing extent on their colonial territories, but this cannot yet be counted on. There remains in any case a very large deficit, after taking account of all that can reasonably be expected from non-participating countries, including the Balkans, the United States and Brazil.

71. As regards *softwood ties*, before the war the participating countries relied mainly on U. S. S. R. and Poland for supplies. These are not now available and production in other European countries is

likely to remain small. The main sources of supply are now the United States and Canada, and the estimated availabilities of softwood given in Appendix B include an allowance for softwood ties. There remains, therefore, a deficit which is part of the general softwood shortage.

72. Experiments are in progress with use of steel and pre-stressed concrete ties in order to relieve the shortage of wooden ties, and in some countries capacity has been created for their production. The materials for these substitutes are, however, themselves in short supply, and there are also technical limitations on their use.

Plywood

73. Table 7 and Appendix G show that the supply position of plywood is likely to be much easier than for softwood, sleepers and pitprops, especially if the U. S. S. R. begins to export on a large scale towards the end of the period.

Table 7—Plywood—Pre-war and 1948–51 Consumption requirements, Production and Import requirements

(Participating Countries and Western Germany)

(Thousands of cubic metres)

	Pre-war	1948	1949	1950	1951
Consumption requirements	912	845	915	1,070	1,169
Production	450	466	539	710	757
Import requirements from non-participating countries	462	379	376	360	412

It is estimated that import requirements will be fully met.

74. Prior to the war, Europe produced about 90 per cent. of its own plywood requirements, but of this percentage the major proportion was in the Northern regions, consisting of Finland, the U.S.S.R., Poland and the Baltic States. After 1940 these supplies were entirely replaced from Canada, United States and Brazil. At present these sources supply two-thirds of the participating countries' annual imports of over 400,000 cubic metres. The factories of the former supplying countries have all been ravaged by the war, but nevertheless Finland has already made a vigorous effort to get back to pre-war production and exports. It is not an economic proposition for the participating countries and Western Germany to set up capacity for large scale production of softwood plywood, since local supplies of timber are more suitable for other purposes. On the other hand, many of the participating countries have already taken steps to increase

their capacity for hardwood plywood production, either within their own borders or in oversea territories. The United Kingdom and the Netherlands have, for example, increased their plywood manufacturing capacity, and very active steps are being taken by the United Kingdom on the West Coast of Africa, by France in the Gaboon, and by the Netherlands in the Indies, to increase veneer cutting and plywood manufacturing capacity.

75. In the result, it appears probable that supplies available from the United States, the rest of the Americas, and the rest of the world will after a year or two exceed considerably the net import requirements of participating countries as a whole. Appendix G shows that, although the participating countries anticipate much larger imports from the United States and Canada than they obtained before the war, the stated import requirements from the American continent decrease progressively in the years 1948–51.

Veneer

76. As regards veneer, there is likely to be little, if any, requirement from North America if supplies materialise from Europe and the rest of the world, as anticipated.

Wallboard

77. In this field, the participating countries will be able not only to cover their requirements, but also to produce an exportable surplus rising from 11.9 million square metres in 1948, to about 24.28 million square metres in 1951. Special uses have been developed for wallboard; this material can be used to supplement plywood, and to a lesser extent sawn softwoods, for many constructional purposes.

C. Value of Import Requirement

78. In this chapter and in Appendices B–J the position of softwood, hardwood, plywood, pitprops, hardwood and softwood ties, pulpwood and poles has been reviewed and imports, by quantity and value, have been stated for each of these kinds of timber. It is now necessary to summarise the dollar value of the total imports, so stated, of all these kinds of timber from the United States, the rest of America and the rest of the world, in order to present a composite picture of this vital aspect of the timber position of participating countries. This is done in Table 8.

79. It will be seen from this table that the total value of all kinds of timber from the United States is somewhat above the pre-war level for 1948 and declines progressively for the succeeding years, when in 1951 it reaches 90 per cent. of pre-war. For the rest of America the total value of imports is greatly above the pre-war level for 1948,

and, although declining progressively to 1951, the total value in that year is still substantially above the pre-war level. The total value of imports from the rest of the world reflects the present uncertainty regarding immediate supply prospects from European non-participating countries and other parts of the world in the very low totals given for 1948 and 1949, but for 1950 and 1951 the substantially increased totals reflect a reasonable optimism on the part of participating countries regarding the recovery of timber exports from these sources of supply.

80. The grand total value of all imports from all sources in Table 8 recover slowly from a level of 67 per cent. of pre-war in 1948 to 86 per cent. by 1951. But the relative dependence of participating countries upon imports from the Americas increases from 24 per cent. pre-war to 31 per cent. in 1951, which is a reflection of the low level of supplies estimated from the rest of the world.

Table 8—Value of Timber Import Requirements From All Non-Participating Countries, 1948–51

(Value basis current United States prices)

(Thousands of United States dollars)

	United States	Rest of America	Rest of World	Total
1934–38:				
Softwood	14,210	64,260	329,070	407,540
Hardwood	60,570	23,060	63,010	146,640
Hardwood ties	—	170	5,070	5,240
Pitprops	—	1,778	67,437	69,215
Pulpwood and poles	—	4,610	30,737	35,347
Plywood	8,402	8,428	90,354	107,184
TOTAL	83,182	102,306	585,678	771,166
1948:				
Softwood	35,000	119,000	97,860	251,860
Hardwood	27,000	10,200	71,760	108,960
Hardwood ties	4,000	7,200	4,000	15,200
Pitprops	—	9,652	31,369	41,021
Pulpwood and poles	—	1,300	13,000	14,300
Plywood	29,928	23,200	34,800	87,928
TOTAL	95,928	170,552	252,789	519,269
1949:				
Softwood	28,000	119,000	125,720	272,720
Hardwood	36,000	12,000	89,160	137,160
Hardwood ties	4,000	8,000	6,000	18,000
Pitprops	—	9,652	34,671	44,323
Pulpwood and poles	—	2,600	18,200	20,800
Plywood	24,592	20,880	41,760	87,232
TOTAL	92,592	172,132	315,511	580,235

Table 8—Value of Timber Import Requirements From All Non-Participating Countries, 1948–51—Continued

(Value basis current United States prices)

(Thousands of United States dollars)

	United States	Rest of America	Rest of World	Total
1950:				
Softwood	20,440	91,000	179,900	291,340
Hardwood	42,000	13,500	97,980	153,480
Hardwood ties	4,000	8,000	10,000	22,000
Pitprops	—	9,652	36,449	46,101
Pulpwood and poles	—	5,200	23,400	28,600
Plywood	20,880	18,560	44,080	83,520
TOTAL	87,320	145,912	391,809	625,041
1951:				
Softwood	10,500	77,000	213,640	301,140
Hardwood	42,000	15,000	110,940	167,940
Hardwood ties	3,480	8,000	10,000	21,480
Pitprops	—	9,652	38,227	47,879
Pulpwood and poles	—	5,200	26,000	31,200
Plywood	19,024	18,560	58,000	95,584
TOTAL	75,004	133,412	456,807	665,223

CHAPTER IV

EQUIPMENT

81. Lack of logging equipment, tractors, locomotives, and sawmilling machinery is an obstacle to any increase of production in *Austria*, *Greece* and *Germany*. In these countries the fulfilment of the production programmes shown in the tables in Chapter III depends on the use of additional equipment. In *Austria*, for example, it is estimated that, without this extra equipment, only one half of the production programme can be achieved; while in Western Germany spare parts and reconditioning of vehicles, many of which have seen several years of war service on timber, are essential for the maintenance of present production. A large number of the vehicles in the Bi-Zone were used in the production effort in the United Kingdom before they were sent out to Germany.

82. As regards Metropolitan *France* a major need is for the replacement of the present tractors, caterpillars, etc., which due to long service are now worn out. This new transport equipment is essential to re-afforestation programmes and fire-prevention. Equipment is also

needed to modernise plywood and veneer cutting plants. The *Austrian* picture is very similar with the addition that Austria needs the equivalent of $11,000,000 to provide food, clothing and bedding to forestry workers, while in the case of *Greece* the main need is for transport, and logging and sawmill equipment. It is expected that this equipment will enable national production to be more than doubled in five years time. Other equipment urgently required by Greece is drying and preserving plant, and wallboard fabricating plant which will allow more economical use of wood waste.

83. Increased production of hardwood in *British* and *French* oversea territories is also largely dependent on the delivery of sawmill and transport equipment. Veneer cutting and plywood manufacturing equipment is also urgently needed for these areas.

84. Precise details of the equipment required have not been received from all the participating countries but for example the following list of requirements for the French and the United Kingdom oversea territories in Africa, for which the main needs are very similar, may be mentioned:—

(i) *Logging Equipment, including transport.*—Crawler tractors, wheeled tractors, trucks, road graders, locomotives, low-sider wagons, brake vans, caboose trucks, loading cranes, launches.

(ii) *Sawmill Equipment.*—Bandmills, resaws, cross-cut saws, kiln equipment, cranes and gantries, boilers, turbo-generators, electric motors, fuel logs.

(iii) *Veneer cutting and plywood manufacture, etc.*—Veneer lathes, slicers, ruling machinery, clippers and driers, knife grinders, presses, glue mixers and spreaders, boiler and electrical equipment.

85. Estimates of the value of the equipment required, by broad categories, either to maintain the present effort, or to exploit available supplies more effectively in the participating countries and their oversea territories are shown in Appendix L. These requirements are fairly evenly spread over the four-year period. It will be seen that about two thirds of the total must come from the United States. The reason is that requirements of logging equipment and transport bulk very large in the total. Of these, crawler tractors are probably the most important item and heavy crawler tractors cannot be obtained in sufficient numbers elsewhere. It is relevant to mention that tractors are also required for re-afforestation purposes and lack of this is a bottleneck in the achievement of forestry plans.

86. A summary analysis by years 1948–51 of the dollar value of equipment import requirements given in Appendix L may, for the sake of convenience, be included here.

Table 9—Equipment—Summary of Imports, 1948–51 (by Value)

(Thousands of dollars)

	1948	1949	1950	1951	Total
From United States	16,400	15,300	13,300	12,300	57,300
From Canada	70	60	40	30	200
From participating countries	8,000	6,000	5,000	4,000	23,000

This analysis is the result of a post overall survey of the equipment position. Obviously a more detailed examination of equipment requirements will be necessary by type and quantity.

CHAPTER V

International Co-operation

87. The acute shortage of timber has already lead to considerable European co-operation. Such co-operation has in fact been growing over a number of years. During the war some preliminary studies were made under the auspices of the Combined Raw Materials Board in Washington. The work was taken up by the Emergency Economic Committee for Europe which formed a Timber Sub-committee. This held frequent meetings attended by representatives of European countries (exporting as well as importing) and by observers from the United States and Canada. It has been mainly concerned with securing a satisfactory allocation of the limited supplies of softwood, and has in fact operated a system of distribution of the available supplies between the importing countries after detailed consideration of their relative needs.

88. The European Coal Organisation has dealt with pitprops as part of the European coal problem, and in 1946 arranged for additional supplies of coal to producing countries in order to assist them to increase their exports of softwood and pitprops. As a result of co-operation within the present Conference Sweden has been assured of her coal requirements for 1948–51, and Sweden, although having ample spare pulping capacity, has offered to export in each year 300,000 solid cubic metres of pitprops, a quantity 50 per cent. above her pre-war export.

89. The Marianske Conference made a thorough study of both the short and long term problems of softwood supply, and their inter-

action with labour, food and equipment questions. It emphasised the need for urgency in formulating and pressing on with programmes of re-afforestation in order to replace the timber removed during and since the war; and, as a matter of longer-term policy, it recommended various measures of control designed to increase the forest yield and to improve the methods of extraction and processing of timber. Besides initiating the proposals for an emergency increase of 10 per cent. in the rate of cutting, which has already been discussed, it requested the Economic Commission for Europe to pay special attention to the measures necessary to secure both increased production and economy in the use of timber, and to the satisfactory distribution of available supplies.

90. E. C. E. is now on the point of taking over the work on softwood and pitwood hitherto done by E. E. C. E. and E. C. O. The Timber Committee of E. C. E. will hold its first meeting in October. At this meeting the interested governments have decided to raise the following questions:—

(i) the measures necessary to realise the programme of increased production;
(ii) the improvement and extension of the present arrangements for securing satisfactory distribution;
(iii) the means of securing the maximum increase of trade in timber.

91. Apart from this co-operation within existing international organisations it is considered that future consultation between participating countries will be able to make a valuable contribution to the solution of specific timber problems.

These developments indicate clearly the importance which is attached to European co-operation for the solution of the timber problem. They have already secured personal contacts, interchange of information, and a measure of pooling of timber resources, which have done something and can certainly do more, to relieve the acuteness of the present timber shortage and to ensure that the limited supplies of timber are used to the best advantage of all the participating countries as a whole.

CHAPTER VI

CONCLUSIONS

A. Types of Timber

Softwood

92. The total stated requirements for softwood of the participating countries as a whole greatly exceed the total supplies estimated to be available from domestic production and from outside. The participating countries can themselves only reduce this physical deficit by two methods:—

(i) by increasing their own production even at the expense of permanent damage to their forest resources;

(ii) by reducing their requirements either by economy and substitution in the use of timber, or by postponing or eliminating some of the less urgent reconstruction measures requiring timber.

93. Such an effort has already been recommended by the Marianske Conference which called for an increase of 10 per cent. in fellings of softwoods for two felling seasons, 1948 and 1949, in order either to increase exports or to reduce imports—it being accepted that, in those countries where a production effort was impossible, the same result could be achieved by reduction of consumption. It has been shown in Chapter II that a substantial start has been made towards implementing this recommendation for the years 1948 and 1949, which it is hoped will result in increased availabilities to participating countries. It remains to be seen whether a 10 per cent. increase in cuttings can be continued for 1950 and 1951. This, if practicable, would go some way to close the gap between requirements and available supplies of softwood.

94. After allowing for the maximum supplies, which may be realistically anticipated from the rest of the world, the imports, which participating countries feel bound to seek from North America show a progressive decline from 1948–51. Thus the total quantity from this source amounts to 1,100,000 standards for 1948, falling to 625,000 standards for 1951. The lower figure for 1951 assumes that the supplies available from European non-participating countries will show a large increase.

95. The present dependence of the participating countries on North America is in fact overwhelming. In 1947 it is expected that imports to the participating countries as a whole will amount to about 1,250,000 standards, of which over 800,000 standards will come from North America. That the imports of the participating countries in 1946 and

1947 have been insufficient to enable them to carry out essential reconstruction is beyond challenge; it needs little effort of imagination to picture their plight if the North American supplies had not been available to them in these years, or if they should not be available in 1948 and later years.

Hardwood

96. Unlike softwood, the total estimated supplies of hardwood available to participating countries from the rest of the world cover their total estimated requirements as they have been revised after close scrutiny. This result can be achieved only if there is a full measure of domestic production by participating countries and their oversea territories, if there is full economy of use and if United States hardwood supplies are drawn on heavily. American hardwoods are in any case essential for a number of special purposes for which hardwood from other sources could not be substituted, even if it were available in sufficient quantities.

Ties

97. There is a large deficit of both hardwood and softwood ties, particularly in the early years. Hardwood ties are thus an exception to the general hardwood position as stated above, while the deficit in softwood ties is part of the general softwood shortage. In both cases there are difficulties in the way of increasing the production of ties at the expense of other specifications of sawn hardwood and softwood. Substitution of other materials, economy in use, such as relaying of worn ties in sidings, and special measures to increase the supplies of ties, particularly in oversea territories, can no doubt make a substantial contribution; but it remains true that the participating countries will have to look to North America for much help, if the lack of ties is not to hinder the recovery of the European transport system.

Pitprops and Pulpwood

98. Requirements of pitprops will increase in proportion to the planned coal targets and will progressively outstrip both the indigenous production and the exports available from non-participating countries. The figures at the committee's disposal show a physical deficit over 1948–51 of from 3 per cent. to 8 per cent. of total requirements and from 12 per cent. to 24 per cent. of the total import requirements of the participating countries. These figures have been reached after all possibilities of economy have been carefully examined, although different geological conditions and degrees of the use of steel props produce a wide variation in the amount of pitprops consumed per ton of coal produced—from 0.013 to 0.055 solid cubic metres.

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99. This gap must be closed if the recovery of coal production is not to be retarded. Though large, it is not unmanageable provided that the exploitation of all resources is further intensified and adequately supplemented from outside sources. Despite the overcutting which has undoubtedly taken place, timber suitable for the production of pitprops still exists in diminished quantities in most of the main coal producing countries and the labour required for its preparation can be to some extent unskilled. Increased home production may thus have to serve for another year or two at least to close part of the gap.

100. There is also the possibility of drawing to an extent which need be proportionately only small on the large quantities of timber which are cut in many countries for pulpwood—though it must be emphasised that this expedient has serious disadvantages in view of the world shortage of pulp and of the possibilities open to participating countries of exporting both pulp and paper.

101. An additional help in bridging any final gap is the extension of the use of steel props, the utilisation of which can be increased in most countries. It is expected that sufficient supplies of steel will be available to make good such ultimate shortfall in wood pitprop supplies as at present seems likely. But it is evident that the pitprop and pulpwood contribution which could be made available from Canada and Newfoundland will be needed.

Plywood and Wallboard

102. The probable physical availability of plywood is sufficient to cover requirements calculated on the continuance of the economy standards at present in force. It is anticipated that there will be an exportable surplus of *wallboard*. If the control over these economy standards can be relaxed during the period 1948–51, requirements of plywood may show a large and proper increase because of the expansion of the number of possible end uses. This would lead to a more economical use of raw material and help to bridge the gap between requirements and supplies of sawn soft and hard timber. Supplies of plywood from the United States, Canada, Finland, the U. S. S. R. and Japan will probably increase substantially during this period. It also seems possible that to a certain extent wallboard may be substituted for plywood. In its estimates of the sources from which necessary imports should come, the committee has reduced the demand on the Americas to the minimum which technical considerations dictate.

B. Equipment

103. Equipment is needed in the period 1948–51 to enable the participating countries to exploit their home and oversea timber resources

fully, and so reduce their dependence on other parts of the world. Although their relevant manufacturing industries are working to capacity as far as bottlenecks permit, only a quarter of the necessary equipment can be expected from them. Hence there exists an import requirement for equipment, valued at $57,330,000, for which the United States is the only possible source. It is believed that this equipment will be available in the United States during the period. In addition, certain small quantities are needed from Canada.

C. General Conclusions

104. In no type of timber (with the exception of wallboard) are the participating countries as a whole able to meet their essential requirements without recourse to the rest of the world; nor is there any prospect that they could become self-sufficient either for a short-time emergency or as a matter of long-term development. Before the war they depended mainly upon the timber resources of the European non-participating countries. In the post-war circumstances only a small and probably slowly growing part of those resources are at their disposal. In place of this, there is a great measure of dependence on Canada and, to a lesser but still significant extent, upon the United States, even after economy in use and the elimination of less essential needs has been fully allowed for.

105. The participating countries are well aware of the need for self-help in these circumstances. Strict economy in use can be retained and even extended. Increased production within the participating countries can make a valuable contribution, though only at the expense of depleting their resources of standing timber, and provided that the necessary food, coal and equipment can be made available. If these essentials are available there is no need to anticipate a shortage of labour for this increased production. An increase of 10 per cent. in the fellings of softwood for 1947–48 and 1948–49 is already accepted as an aim. At the same time, good forestry practice and sound economy necessitate large re-afforestation schemes being initiated to restore depleted resources in all the participating countries. Finally, maintenance of the present rate of production of timber in Western Germany would go a considerable way to meet the requirements of the participating countries and Western Germany. Such measures can, however, do something towards covering the deficiency of supplies of softwood, pitprops and ties. The need for the continuance of help from North America remains. The total value of import requirements of the participating countries for timber of all kinds is summarised together with that of equipment in Table 10.

Table 10—Summary in Dollar Equivalent of Total Estimated Timber and Equipment Imports, 1948–51

(Non-Participating Countries)

(Millions of United States dollars)

	United States	Rest of America	Rest of World	Total
(*a*) *Timber:*				
1948	96	171	253	520
1949	93	172	315	580
1950	87	146	392	625
1951	75	133	457	665
TOTAL	351	622	1,417	2,390
(*b*) Equipment (1948–1951)	57.3	0.2	—	57.5

106. The increase in the total value of all the import requirements of participating countries during 1948–51 is clearly in line with the anticipated recovery of coal production and transport, building and general industrial activity.

APPENDIX A

LIST OF COUNTRIES REPRESENTED ON THE TIMBER WORKING PARTY

Austria
France
Greece
Italy
The Netherlands
Sweden
United Kingdom

APPENDICES B, C, D, E, F, G, H, J, K, L, M. STATISTICAL TABLES

APPENDIX B

Quantity and Value of Imports of Softwood (including Softwood Ties)

(Non-Participating Countries*)

(Thousands of standards)
(Thousands of United States dollars)

	1948 (1)	1949 (2)	1950 (3)	1951 (4)
Total import requirements:				
Quantity	2,949	3,098	3,231	3,301
Estimated available in:				
United States of America: Quantity	250	200	146	75
Value	35,000	28,000	20,440	10,500
Rest of America: Quantity	850	850	650	550
Value	119,000	119,000	91,000	77,000
Rest of World: Quantity	699	898	1,285	1,526
Value	97,860	125,720	179,900	213,640
Deficit:				
Quantity	1,150	1,150	1,150	1,150
As percentage of consumption requirements	15	15	14	14

*The value used in the above table is $140 per standard of softwood.

APPENDIX C

Quantity and Value of Imports of Pitprops

(Non-Participating Countries*)

(Thousands of cubic metres)
(Thousands of United States dollars)

	1948 (1)	1949 (2)	1950 (3)	1951 (4)
Total import requirements:				
Quantity	3,660	3,700	4,453	4,942
Estimated available in:				
United States of America: Quantity	—	—	—	—
Value	—	—	—	—
Rest of America: Quantity	†760	†760	†760	†760
Value	9,652	9,652	9,652	9,652
Rest of World: Quantity	2,470	2,730	2,870	3,010
Value	31,369	34,671	36,449	38,227
Deficit:				
Quantity	430	210	823	1,172
As percentage of consumption requirements	3	2	6	8

*The value used in the above table is $12.7 per cubic metre.

†This represents estimated availabilities from Newfoundland and Eastern Canada. Further supplies could be obtained, at great cost in transport, from the Canadian West Coast, and the Southern States of the United States.

APPENDIX D

Quantity and Value of Imports of Pulpwood and Poles

(Non-Participating Countries*)

(Thousands of cubic metres)
(Thousands of United States dollars)

	1948 (1)	1949 (2)	1950 (3)	1951 (4)
Total import requirements:				
Quantity	2,448	2,918	3,110	3,188
Estimated available in:				
United States of America: Quantity	—	—	—	—
Value	—	—	—	—
Rest of America: Quantity	100	200	400	400
Value	1,300	2,600	5,200	5,200
Rest of World: Quantity	1,000	1,400	1,800	2,000
Value	13,000	18,200	23,400	26,000
Deficit:				
Quantity	1,348	1,318	910	788
As percentage of consumption requirements	5	5	3	3

*The value used in the above table is $13 per cubic metre.

The quantity from the rest of America represents an attempt to estimate the likely pulpwood availabilities, but if more can come from that source it could be used by participating countries to alleviate the serious paper shortage. The estimate from the rest of the World is, if anything, over-optimistic.

APPENDIX E

Quantity and Value of Imports of Hardwood (Ties not included)

(Non-Participating Countries*)

(Thousands of cubic metres)
(Thousands of United States dollars)

	1948 (1)	1949 (2)	1950 (3)	1951 (4)
Total import requirements:				
Quantity	1,816	2,286	2,558	2,799
Estimated available in:				
United States of America: Quantity	450	600	700	700
Value	27,000	36,000	42,000	42,000
Rest of America: Quantity	170	200	225	250
Value	10,200	12,000	13,500	15,000
Rest of World: Quantity	1,196	1,486	1,633	1,849
Value	71,760	89,160	97,980	110,940

*The value used in the above table is $60 per cubic metre.

APPENDIX F

Quantity and Value of Imports of Hardwood Ties

(Non-Participating Countries*)

(Thousands of cubic metres)
(Thousands of United States dollars)

	1948 (1)	1949 (2)	1950 (3)	1951 (4)
Total import requirements:				
Quantity	1,031	885	722	537
Estimated available in:				
United States of America: Quantity	100	100	100	87
Value	4,000	4,000	4,000	3,480
Rest of America: Quantity	180	200	200	200
Value	7,200	8,000	8,000	8,000
Rest of World: Quantity	100	150	250	250
Value	4,000	6,000	10,000	10,000
Deficit:				
Quantity	651	435	172	—
As percentage of consumption requirements	34	28	13	—

* The value used in the above table is $40 per cubic metres (equals ten ties).

APPENDIX G

Quantity and Value of Imports of Plywood

(Non-Participating Countries*)

(Thousands of cubic metres)
(Thousands of United States dollars)

	1948 (1)	1949 (2)	1950 (3)	1951 (4)
Total import requirements:				
Quantity	379	376	360	412
Estimated available in:				
United States of America: Quantity	129	106	90	82
Value	29,928	24,592	20,880	19,024
Rest of America: Quantity	100	90	80	80
Value	23,200	20,880	18,560	18,560
Rest of World: Quantity	150	180	190	250
Value	34,800	41,760	44,080	58,000

* The value used in the above table is $232 per cubic metre.

APPENDIX H

Quantity of Softwood, Hewn and Sawn (including Ties) Imports, 1925–35

(Participating Countries and Western Germany*)

(Thousands of standards)

Country	1925 (1)	1926 (2)	1927 (3)	1928 (4)	1929 (5)	1930 (6)	1931 (7)	1932 (8)	1933 (9)	1934 (10)	1935 (11)
Austria	10	16	14	6	7	7	4	1	1	1	1
Belgium and Luxemburg	210	210	205	261	295	234	218	222	208	181	202
Denmark	24	26	29	31	36	44	39	22	31	33	26
France	351	434	328	405	459	525	478	276	258	211	175
Greece	116	92	103	103	119	107	95	85	72	87	124
Iceland	4	4	5	6	9	7	4	4	8	8	7
Ireland	34	31	40	32	39	42	37	34	55	107	74
Italy	460	459	425	404	426	421	314	298	348	332	340
Netherlands	644	662	770	724	818	745	632	500	754	672	523
Norway	—	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—	—
Sweden	27	26	21	15	20	26	32	16	13	14	36
Switzerland	22	24	21	24	25	24	35	26	20	16	11
Turkey	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	2,525	2,410	3,046	2,328	2,642	2,450	2,156	2,135	2,830	3,184	2,810
Western Germany †	323	217	436	554	392	320	143	139	139	246	232
Total imports	4,750	4,611	5,443	4,893	5,287	4,952	4,187	3,758	4,737	5,092	4,561
Deduct exports (Appendix J)	1,874	1,705	1,878	2,000	2,147	1,800	1,300	1,224	1,400	1,432	1,210
Total net imports	2,876	2,906	3,565	2,893	3,140	3,152	2,887	2,534	3,337	3,660	3,351

* The information in this table is taken from the statistics of the International Institute of Agriculture at Rome.

† The figures given for Western Germany are two-thirds of total German imports.

APPENDIX J

Quantity of Exports of Softwood, Hewn and Sawn (including Ties), 1925–35

(Participating Countries and Western Germany*)

(Thousands of standards)

Country	1925 (1)	1926 (2)	1927 (3)	1928 (4)	1929 (5)	1930 (6)	1931 (7)	1932 (8)	1933 (9)	1934 (10)	1935 (11)
Austria	392	345	416	427	373	314	252	195	204	205	220
Belgium and Luxemburg	—	—	—	—	—	—	—	—	—	—	—
Denmark	—	—	1	2	1	2	1	—	1	2	1
France	43	39	42	49	32	20	13	8	8	8	8
Greece	—	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	—	—	—	—
Italy	7	8	5	7	10	6	5	5	5	5	5
Netherlands	1	2	3	2	1	1	—	—	—	—	2
Norway	47	58	41	43	50	43	19	13	6	8	8
Portugal	9	6	7	8	7	8	6	5	6	4	4
Sweden	1,346	1,187	1,330	1,435	1,643	1,364	964	976	1,159	1,194	957
Switzerland	2	2	3	3	3	1	—	—	—	—	1
Turkey	—	—	—	—	—	—	—	—	—	—	—
United Kingdom	9	8	6	7	6	5	5	4	4	4	3
Western Germany †	18	50	24	17	21	36	35	18	7	2	1
Total exports	1,874	1,705	1,878	2,000	2,147	1,800	1,300	1,224	1,400	1,432	1,210

* The information in this table is taken from the statistics of the International Institute of Agriculture at Rome.

† The figures for Western Germany are two-thirds of the total German exports.

APPENDIX K

Percentage Consumption of Softwood, Hardwood and Plywood by End Uses in France and the United Kingdom in 1947

End Use	Softwood		Hardwood		Plywood	
	France (1)	United Kingdom (2)	France (3)	United Kingdom (4)	France (5)	United Kingdom (6)
Housing and other building	63	61	14	8	35	33
Packing	11	15	13	16	2	3
Woodworking industries, furniture and textile accessories	—	—	23	*24	† 30	† 33
Shipbuilding and transport ‡	10	10	12	17	12	9
Vehicles, engineering, radio, general stores, clock cases, aircraft	—	—	—	—	12	16
Services, civil requirements and other uses	16	14	38	35	9	6
Total	100	100	100	100	100	100

* Furniture only.
† Furniture and schools.
‡ Ties are not included.

APPENDIX L

Value of Equipment Imports by Main Types

(Participating Countries (including Oversea Territories) and Western Germany)

(Thousands of dollars)

Country	Logging Equipment (including Transport)		Saw Mill Equipment		Veneer Cutting and Plywood Manufacture, etc.		Total	
	From Participating Countries (1)	From U. S. A. (2)	From Participating Countries (3)	From U. S. A. (4)	From Participating Countries (5)	From U. S. A. (6)	From Participating Countries (7)	From U. S. A. (8)
Austria	3,000	14,000	—	—	—	—	3,000	14,000
France	—	6,000	—	500	13,350	5,350	13,350	11,850
Greece	250	800	170	600	250	2,130	670	3,530
Turkey	1,082	1,450	—	—	—	—	1,082	1,450
Germany:								
Bi-zone	1,000	1,000	—	—	—	—	1,000	1,000
French Zone	—	500	—	—	—	—	—	500
Oversea territories:								
France	—	4,000	2,000	12,000	700	3,300	2,700	19,300
United Kingdom	—	1,400	(200A)	3,800	800	500	1,000	5,700
Total	5,332	29,150	2,370	16,900	15,100	11,280	22,802	57,330

Equipment from Canada is marked (A).

No estimates have been received from Belgium and the Netherlands. The Italian requirement is for raw material only, and so appears in the reports of other Technical Committees.

APPENDIX M 1 (a)

SOFTWOOD—SAWN (INCLUDING SOFTWOOD TIES)

(Total Home Production and Total Consumption requirements of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of standards)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria *	400	84	350	240	350	185	350	185	350	120
Belgium	† 35	222	‡ 30	325	‡ 30	325	‡ 30	325	‡ 30	325
Denmark	57	228	58	§ 409	58	§ 409	58	360	58	360
France	487	671	698	1,148	708	1,183	713	1,213	733	1,233
Greece	10	80	17	150	21	157	21	160	25	166
Iceland	—	5	—	12	—	12	—	12	—	12
Ireland	4	84	6	57	6	61	5	66	4	71
Italy	147	459	103	456	74	461	67	474	59	469
Luxemburg	1	8	1	15	1	17	1	17	1	17
Netherlands	6	380	2	363	2	383	2	407	2	432
Norway ‖	358	351	414	¶ 399	405	389	405	389	405	389
Portugal	225	300	225	275	225	275	225	275	225	275
Sweden	1,557	780	** 1,430	950	** 1,430	950	** 1,430	950	** 1,430	950
Switzerland ††	170	179	165	190	165	190	165	188	165	180
Turkey	50	55	41	91	41	98	41	104	41	111
United Kingdom	75	2,441	30	1,676	15	1,761	5	1,851	5	1,951
SUB-TOTAL	3,582	6,327	3,570	6,756	3,531	6,856	3,518	6,976	3,533	7,061

See footnotes at end of table.

Softwood—Sawn—Continued

(Thousands of standards)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
2. WESTERN GERMANY										
Bi-zone	810	900	901	701	962	762	962	762	962	762
French zone	270	250	320	155	310	155	310	155	310	155
Saar	4	26	4	26	4	26	4	26	4	26
SUB-TOTAL	1,084	1,176	1,225	882	1,276	943	1,276	943	1,276	943
3. OVERSEA TERRITORIES										
Belgium	—	—	—	—	—	—	—	—	—	—
France	—	34	—	66	—	66	—	66	—	66
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	40	—	40	—	40	—	40	—	40
SUB-TOTAL	—	74	—	106	—	106	—	106	—	106
GRAND TOTAL	4,666	7,577	4,795	7,744	4,807	7,905	4,794	8,025	4,809	8,110

* Requirement reduced from 677 to 240 in 1948, from 512 to 185 in 1949, from 434 to 185 in 1950, and from 412 to 120 in 1951, in agreement with Austrian representative.
† Including a certain quantity of poles.
‡ Of which 10 will come from the Belgian cutting area in Germany.
§ Increase in stock of 50,000 standards is included.
‖ Farmers' requirements of timber cut in their own forests included.
¶ Requirements increased from 359 to 399, in order to balance production+imports and requirements+exports
** Assuming Sweden is satisfied on coal and coke.
†† Requirements estimated as the difference between production+imports and exports.

APPENDIX M 1 (b)

SOFTWOOD—SAWN (INCLUDING SOFTWOOD TIES)

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of standards)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	1	317	—	110	—	165	—	165	—	230
Belgium	190	3	295	—	295	—	295	—	295	—
Denmark	171	—	351	—	351	—	302	—	302	—
France	190	6	450	—	475	—	500	—	500	—
Greece	70	—	133	—	136	—	139	—	141	—
Iceland	5	—	12	—	12	—	12	—	12	—
Ireland	80	—	*51	—	*55	—	*61	—	*67	—
Italy	312	—	353	—	387	—	407	—	410	—
Luxemburg	8	1	17	3	16	—	16	—	16	—
Netherlands	374	—	361	—	381	—	405	—	430	—
Norway	44	51	21	36	20	36	20	36	20	36
Portugal	75	—	55	5	55	5	55	5	55	5
Sweden	10	787	30	510	30	510	30	510	30	510
Switzerland	11	2	30	5	30	5	28	5	20	5
Turkey	5	—	50	—	57	—	63	—	70	—
United Kingdom	2,366	—	1,646	—	1,746	—	1,846	—	1,946	—
SUB-TOTAL	3,912	1,167	3,855	669	4,046	721	4,179	721	4,314	786

* Excluding for stocks 10 in 1948–51.

Softwood—Sawn (Including Softwood Ties)—Continued

(Thousands of standards)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
2. WESTERN GERMANY										
Bi-zone	90	—	—	200	—	200	—	200	—	200
French zone	—	20	—	165	—	155	—	155	—	155
Saar	22	—	22	—	22	—	22	—	22	—
SUB-TOTAL	112	20	22	365	22	355	22	355	22	355
3. OVERSEA TERRITORIES										
Belgium	—	—	—	—	—	—	—	—	—	—
France	34	2	66	—	66	—	66	—	66	—
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	40	—	40	—	40	—	40	—	40	—
SUB-TOTAL	74	2	106	—	106	—	106	—	106	—
GRAND TOTAL	4,098	1,189	3,983	1,034	4,174	1,076	4,307	1,076	4,442	1,141

APPENDIX M 2 (a)

PITPROPS

(Total Home Production and Total Consumption requirements of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	170	160	160	160	160	160	160	160	160	160
Belgium	*800	1,350	515	995	515	1,045	515	1,130	515	1,190
Denmark	—	—	—	—	—	—	—	—	—	—
France	2,700	2,400	3,000	3,015	3,000	3,045	3,000	3,175	3,000	3,225
Greece	3	3	2	2	3	3	4	4	5	5
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	11	2	11	2	11	2	11	2	11	2
Italy	50	50	230	230	260	260	300	300	310	310
Luxemburg	20	35	25	20	25	20	25	20	25	20
Netherlands†	130	380	50	255	40	277	40	287	40	297
Norway	50	—	100	—	100	—	100	—	100	—
Portugal	400	100	400	100	400	100	400	100	400	100
Sweden	209	13	‡320	20	‡320	20	‡320	20	‡320	20
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	50	150	61	210	61	216	61	215	61	223
United Kingdom	204	3,874	245	3,000	143	2,950	122	3,058	102	3,099
SUB-TOTAL	4,797	8,517	5,119	8,009	5,038	8,098	5,058	8,471	5,049	8,651

*Including a certain quantity of poles. †Pitprops and coalsharps. ‡Assuming Sweden is satisfied on coal and coke.

Pitprops—Continued

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
2. WESTERN GERMANY										
Bi-zone	2,600	4,500	3,084	3,984	2,981	3,881	2,950	4,250	3,000	4,600
French Zone	850	140	800	140	950	140	950	140	950	140
Saar	40	580	50	580	50	600	50	600	50	600
SUB-TOTAL	3,490	5,220	3,934	4,704	3,981	4,621	3,950	4,990	4,000	5,340
GRAND TOTAL	8,287	13,737	9,053	12,713	9,019	12,719	9,008	13,461	9,049	13,991

APPENDIX M 2 (b)

PITPROPS

(Total Import requirements and Total Exports of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
I. PARTICIPATING COUNTRIES										
Austria	—	10	—	—	—	—	—	—	—	—
Belgium	550	—	480	—	530	—	615	—	675	—
Denmark	—	—	—	—	—	—	—	—	—	—
France	100	400	115	100	145	100	275	100	325	100
Greece	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	—	9	—	9	—	9	—	9	—	9
Italy	—	—	—	—	—	—	—	—	—	—
Luxemburg	35	20	20	25	20	25	20	25	20	25
Netherlands	250	—	205	—	237	—	247	—	257	—
Norway	—	50	—	100	—	100	—	100	—	100
Portugal	—	300	—	300	—	300	—	300	—	300
Sweden	4	200	—	300	—	300	—	300	—	300
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	100	—	149	—	155	—	154	—	162	—
United Kingdom	3,670	—	2,755	—	2,807	—	2,936	—	2,997	—
SUB-TOTAL	4,709	989	3,724	834	3,894	834	4,247	834	4,436	834
2. WESTERN GERMANY										
Bi-zone	1,900	—	1,000	100	1,000	100	1,400	100	1,700	100
French Zone	—	710	—	660	—	810	—	810	—	810
Saar	540	—	530	—	550	—	550	—	550	—
SUB-TOTAL	2,440	710	1,530	760	1,550	910	1,950	910	2,250	910
GRAND TOTAL	7,149	1,699	5,254	1,594	5,444	1,744	6,197	1,744	6,686	1,744

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APPENDIX M 3 (a)

SOFTWOOD—ROUNDWOOD (PULPWOOD AND POLES)

(Total Home Production and Total Consumption Requirements of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	2,025	1,971	1,462	*1,462	2,120	2,120	2,420	2,420	2,620	2,620
Belgium†	14	210	—	210	—	210	—	210	—	210
Denmark	40	361	40	390	40	390	40	395	40	395
France	750	1,360	900	1,870	900	1,950	900	2,050	900	2,100
Greece	—	5	2	32	4	33	6	33	7	32
Iceland	—	1	—	3	—	3	—	3	—	3
Ireland	—	5	1	‡25	1	‡33	1	‡42	1	‡46
Italy	20	70	10	605	10	605	5	605	5	605
Luxemburg	—	1	—	1	1	1	1	1	1	1
Netherlands	—	431	—	430	—	430	—	450	—	460
Norway	3,880	4,315	3,360	3,300	3,500	3,480	3,500	3,480	3,500	3,480
Portugal					Self-supporting					
Sweden	14,660	§14,802	12,740	12,700	12,740	12,700	12,740	12,700	12,740	12,700
Switzerland	1,500	1,500	1,400	1,400	1,400	1,400	1,400	1,400	1,400	1,400
Turkey	—	------	20	103	20	103	20	158	20	174
United Kingdom	—	496	9	496	—	496	—	496	—	496
SUB-TOTAL	22,889	25,528	19,944	23,027	20,736	23,954	21,033	24,443	21,234	24,722

2. Western Germany										
Bi-zone	500	500	1,485	1,485	1,635	1,635	1,635	1,635	1,635	1,635
French Zone	370	400	1,150	465	850	500	850	500	850	500
Saar	30	80	30	80	30	80	30	80	30	80
Sub-total	900	980	2,665	2,030	2,515	2,215	2,515	2,215	2,515	2,215
Grand Total	23,789	26,508	22,609	25,057	23,251	26,169	23,548	26,658	23,749	26,937

*Requirements reduced from 2,080 to 1,462 in agreement with Austrian representative.
† Excluding poles.
‡New rural electrification scheme.
§Requirement increased from 14,000 to 14,802 in order to obtain balance between production + imports and requirement + exports.

APPENDIX M 3 (b)

SOFTWOOD—ROUNDWOOD (PULPWOOD AND POLES)

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	—	54	—	—	—	—	—	—	—	—
Belgium	196	—	210	—	210	—	210	—	210	—
Denmark	321	—	350	—	350	—	355	—	355	—
France	610	—	970	—	1,050	—	1,150	—	1,200	—
Greece	5	—	30	—	29	—	27	—	25	—
Iceland	1	—	3	—	3	—	3	—	3	—
Ireland	5	—	24	—	32	—	41	—	45	—
Italy	50	—	595	—	595	—	600	—	600	—
Luxemburg	1	—	1	—	—	—	—	—	—	—
Netherlands	431	—	430	—	430	—	450	—	460	—
Norway	573	138	150	210	150	170	150	170	150	170
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	306	164	100	140	100	140	100	140	100	140
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	----------	—	83	—	83	—	138	—	154	—
United Kingdom	496	—	487	—	496	—	496	—	496	—
SUB-TOTAL	2,995	356	3,433	350	3,528	310	3,720	310	3,798	310

2. WESTERN GERMANY										
Bi-zone	—	—	—	—	—	—	—	—	—	—
French Zone	30	—	—	685	—	350	—	350	—	350
Saar	50	—	50	—	50	—	50	—	50	—
SUB-TOTAL	80	—	50	685	50	350	50	350	50	350
3. OVERSEA TERRITORIES										
Belgium	—	—	—	—	—	—	—	—	—	—
France	8	—	8	—	8	—	8	—	8	—
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	8	—	8	—	8	—	8	—	8	—
GRAND TOTAL	3,083	356	3,491	1,035	3,586	660	3,778	660	3,856	660

APPENDIX M 4 (a)

HARDWOOD—SAWN (EXCLUDING TIES)

(Total Home Production and Total Consumption requirements of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	44	58	89	172	53	192	58	192	58	192
Belgium	220	352	334	409	334	409	334	409	334	409
Denmark	130	155	94	140	144	190	145	165	145	165
France	1,381	1,550	2,120	2,315	2,012	2,520	2,000	2,608	2,005	2,795
Greece	37	58	21	180	37	156	61	163	67	135
Iceland	—	1	—	4	—	4	—	4	—	4
Ireland	22	35	28	55	23	55	19	55	14	55
Italy‡	880	1,520	310	990	420	980	435	1,360	410	1,360
Luxemburg	8	20	9	26	9	26	9	26	9	26
Netherlands	87	250	60	318	54	320	54	323	48	326
Norway	20	20	21	21	21	21	21	21	21	21
Portugal	75	80	75	80	75	80	75	80	75	80
Sweden	149	155	157	165	157	165	157	165	157	165
Switzerland	93	130	70	140	70	140	70	117	70	117
Turkey	200	202	31	33	31	38	31	48	31	36
United Kingdom	283	1,699	623	1,832	424	1,974	283	1,974	198	2,115
SUB-TOTAL	* 3,929	* 6,585	4,042	6,880	3,864	7,270	3,752	7,710	3,642	8,001

2. WESTERN GERMANY										
Bi-zone	2,500	2,500	2,553	2,258	2,825	2,530	2,825	2,530	2,825	2,530
French Zone	200	200	340	300	260	200	260	200	260	200
Saar	25	25	30	30	36	36	35	35	35	35
SUB-TOTAL	2,725	2,725	2,923	2,588	3,121	2,766	3,120	2,765	3,120	2,765
3. OVERSEA TERRITORIES †	212	—	687	—	765	—	1,045	—	1,205	—
GRAND TOTAL	6,866	9,310	7,652	9,468	7,750	10,036	7,917	10,475	7,967	10,766

* These figures have been increased by 300,000 cubic metres since, on investigation, the Committee has found that, owing to insufficient statistics, the figures quoted for France for pre-war were too low by 300,000 cubic metres.

† Production for export to participating countries. It is assumed that 70 per cent. of exports of oversea territories are to participating countries (see Note * on export table) and hence for statistical purposes the export to participating countries has been regarded as the national production of oversea territories.

‡ The pre-war figures given for Italy include hardwood for use in tanneries (about 400,000 cubic metres annually), whilst those given for the period 1948–51 do not.

APPENDIX M 4 (b)

HARDWOOD—SAWN (EXCLUDING TIES)

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	20	6	83	—	139	—	134	—	134	—
Belgium	179	47	79	4	75	—	75	—	75	—
Denmark	39	14	46	—	46	—	20	—	20	—
France	204	35	287	92	600	92	700	92	882	92
Greece	21	—	159	—	119	—	103	—	68	—
Iceland	1	—	4	—	4	—	4	—	4	—
Ireland	20	7	27	—	32	—	36	—	41	—
Italy	703	63	719	39	602	42	973	48	998	48
Luxemburg	19	7	22	5	22	5	22	5	22	5
Netherlands	163	—	258	—	266	—	269	—	278	—
Norway	—	—	—	—	—	—	—	—	—	—
Portugal	5	—	5	—	5	—	5	—	5	—
Sweden	6	—	8	—	8	—	8	—	8	—
Switzerland	37	—	70	—	70	—	47	—	47	—
Turkey	10	8	2	—	7	—	17	—	5	—
United Kingdom	1,416	—	1,209	—	1,550	—	1,691	—	1,917	—
SUB-TOTAL	2,843	187	2,978	140	3,545	139	4,103	145	4,504	145

2. Western Germany										
Bi-zone	—	—	—	295	—	295	—	295	—	295
French Zone	—	—	20	60	15	75	15	75	15	75
Saar	—	—	—	—	—	—	—	—	—	—
Sub-total	—	—	20	355	15	370	15	370	15	370
3. Oversea Territories *										
Belgium	—	50	—	72	—	72	—	72	—	72
France	27	55	10	452	10	550	10	900	10	1,085
Netherlands	—	—	—	30	—	30	—	30	—	30
Portugal	—	—	—	45	—	45	—	45	—	45
United Kingdom	—	198	—	382	—	396	—	446	—	490
Sub-total	27	303	10	981	10	1,093	10	1,495	10	1,722
Grand Total	2,870	490	3,008	1,476	3,570	1,602	4,128	2,008	4,529	2,237

* It is assumed that 70 percent of exports of oversea territories are to the participating countries.

APPENDIX M 5 (a)

TIES—HARDWOOD

(Total Home Production and Total Consumption requirements of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
I. PARTICIPATING COUNTRIES										
Austria	10	11	19	59	19	59	19	59	19	59
Belgium	6	75	6	150	6	100	6	75	6	75
Denmark	1	—	2	2	2	2	2	2	2	2
France	580	550	400	900	400	800	400	700	400	600
Greece	3	9	5	60	5	48	5	22	6	18
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	3	—	—	—	—	—	—	—	—	—
Italy	280	280	340	510	110	310	110	310	110	230
Luxemburg	1	2	4	4	4	4	3	3	3	3
Netherlands	—	59	—	112	—	84	—	72	—	72
Norway	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	—	—	—	—	—	—	—	—	—	—
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	20	90	20	90	20	90	20	90	20	90
United Kingdom	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	904	1,076	796	1,887	566	1,497	565	1,333	566	1,149

2. Western Germany										
Bi-zone	4	4	6	6	6	6	6	6	6	6
French Zone	52	32	39	13	40	20	40	20	40	20
Saar	26	5	39	5	32	6	32	6	32	6
Sub-total	82	41	84	24	78	32	78	32	78	32
Grand Total	986	1,117	880	1,911	644	1,529	643	1,365	644	1,181

APPENDIX M 5 (b)

TIES—HARDWOOD

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	1	—	40	—	40	—	40	—	40	—
Belgium	69	—	144	—	94	—	69	—	69	—
Denmark	—	1	—	—	—	—	—	—	—	—
France	—	30	500	—	400	—	300	—	200	—
Greece	6	—	55	—	43	—	17	—	12	—
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	—	3	—	—	—	—	—	—	—	—
Italy	—	—	170	—	200	—	200	—	120	—
Luxemburg	1	—	—	—	—	—	—	—	—	—
Netherlands	59	—	112	—	84	—	72	—	72	—
Norway	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	—	—	—	—	—	—	—	—	—	—
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	70	—	70	—	70	—	70	—	70	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	206	34	1,091	—	931	—	768	—	583	—

2. Western Germany										
Bi-zone	—	—	—	—	—	—	—	—	—	—
French Zone	—	20	—	26	—	20	—	20	—	20
Saar	—	21	—	34	—	26	—	26	—	26
Sub-total	—	41	—	60	—	46	—	46	—	46
3. Oversea Territories										
Belgium	—	—	—	—	—	—	—	—	—	—
France	—	6	—	10	—	12	—	15	—	15
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
Sub-total	—	6	—	10	—	12	—	15	—	15
Grand Total	206	81	1,091	70	931	58	768	61	583	61

APPENDIX M 6 (a)

TIES—SOFTWOOD

(Total Home Production and Total Consumption requirements of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	80	77	124	124	124	124	124	124	124	124
Belgium	—	—	—	—	—	—	—	—	—	—
Denmark	—	—	—	—	—	—	—	—	—	—
France	77	50	25	36	25	36	25	36	25	36
Greece	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	—	37	—	41	—	41	—	41	—	41
Italy	20	20	90	130	30	30	30	30	30	30
Luxemburg	—	—	—	—	—	—	—	—	—	—
Netherlands	—	25	—	48	—	36	—	31	—	31
Norway	100	100	120	120	120	120	120	120	120	120
Portugal	100	100	100	100	100	100	100	100	100	100
Sweden	286	275	300	250	300	250	300	250	300	250
Switzerland	7	7	15	9	15	9	15	9	15	9
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	467	—	459	—	459	—	459	—	459
SUB-TOTAL	670	1,158	774	1,317	714	1,205	714	1,200	714	1,200
2. WESTERN GERMANY										
Bi-zone	250	250	340	340	345	345	345	345	345	345
French Zone	20	7	16	4	20	7	20	7	20	7
Saar	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	270	257	356	344	365	352	365	352	365	352
GRAND TOTAL	940	1,415	1,130	1,661	1,079	1,557	1,079	1,552	1,079	1,552

APPENDIX M 6 (b)

TIES—SOFTWOOD

(Total Import requirements and Total Exports of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	—	3	—	—	—	—	—	—	—	—
Belgium	—	—	—	—	—	—	—	—	—	—
Denmark	—	—	—	—	—	—	—	—	—	—
France	—	27	11	—	11	—	11	—	11	—
Greece	—	—	—	—	—	—	—	—	—	—
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	37	—	41	—	41	—	41	—	41	—
Italy	—	—	40	—	—	—	—	—	—	—
Luxemburg	—	—	—	—	—	—	—	—	—	—
Netherlands	25	—	48	—	36	—	31	—	31	—
Norway	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	—	11	—	50	—	50	—	50	—	50
Switzerland	—	—	—	6	—	6	—	6	—	6
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	467	—	459	—	459	—	459	—	459	—
SUB-TOTAL	529	41	599	56	547	56	542	56	542	56
2. WESTERN GERMANY										
Bi-zone	—	—	—	—	—	—	—	—	—	—
French Zone	—	13	—	12	—	13	—	13	—	13
Saar	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	—	13	—	12	—	13	—	13	—	13
GRAND TOTAL	529	54	599	68	547	69	542	69	542	69

APPENDIX M 7 (a)

PLYWOOD

(Total Home Production and Total Consumption requirements of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	5	5	8	*8	20	*10	120	35	120	46
Belgium	10	45	10	45	10	45	10	45	10	45
Denmark	—	19	—	20	—	20	—	20	—	20
France	90	80	80	72	100	90	125	130	140	165
Greece	—	4	—	20	—	20	—	23	—	26
Iceland	—	1	—	1	—	1	—	1	—	1
Ireland	—	9	—	11	—	11	—	11	—	11
Italy	10	35	80	72	90	81	90	81	100	90
Luxemburg	—	2	—	4	—	4	—	4	—	4
Netherlands	5	48	30	†60	30	†60	30	†65	30	†70
Norway	12	11	10	12	10	12	10	12	10	12
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	29	17	31	17	35	16	35	16	35	16
Switzerland	—	—	—	2	—	2	—	2	—	2
Turkey	----------	----------	30	30	30	30	30	30	30	30
United Kingdom	4	340	59	334	59	360	59	420	59	476
SUB-TOTAL	165	616	338	708	384	762	509	915	534	1,014

2. WESTERN GERMANY										
Bi-zone	‡282	‡282	120	120	135	135	135	135	135	135
French Zone	3	3	3	3	3	3	3	3	3	3
Saar	—	7	—	8	—	7	—	7	—	7
SUB-TOTAL	285	292	123	131	138	145	138	145	138	145
3. OVERSEA TERRITORIES										
Belgium	—	—	—	—	—	—	—	—	—	—
France	—	4	4	6	15	8	60	10	80	10
Netherlands	—	—	1	—	2	—	3	—	5	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	—	4	5	6	17	8	63	10	85	10
GRAND TOTAL	450	912	466	845	539	915	710	1,070	757	1,169

*Requirement reduced from 40 to 8 in 1948, from 40 to 10 in 1949, in agreement with Austrian representative.

†Requirement reduced from 70 to 60 in 1948 and 1949, from 75 to 65 in 1950 and from 80 to 70, in 1951, in agreement with the Dutch representative.

‡The production of combined zone has been estimated at half the production of Germany pre-war. The requirements of the combined zone have been estimated at half the production of Germany pre-war.

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APPENDIX M 7 (b)

PLYWOOD

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	—	—	—	—	—	10	—	65	—	74
Belgium	*35	†	35	—	35	—	35	—	35	—
Denmark	19	—	20	—	20	—	20	—	20	—
France	2	12	4	12	10	20	30	25	55	30
Greece	4	—	20	—	20	—	23	—	26	—
Iceland	1	—	1	—	1	—	1	—	1	—
Ireland	9	—	11	—	11	—	11	—	11	—
Italy	25	—	—	8	—	9	—	9	—	10
Luxemburg	2	—	4	—	4	—	4	—	4	—
Netherlands	43	—	40	10	40	10	45	10	50	10
Norway	1	2	2	—	2	—	2	—	2	—
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	—	12	—	14	—	19	—	19	—	19
Switzerland	—	—	2	—	2	—	2	—	2	—
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	336	—	275	—	301	—	361	—	417	—
SUB-TOTAL	477	26	414	44	446	68	534	128	623	143

2. WESTERN GERMANY										
Bi-zone	—	—	—	—	—	—	—	—	—	—
French Zone	—	—	—	—	—	—	—	—	—	—
Saar	7	—	8	—	7	—	7	—	7	—
SUB-TOTAL	7	—	8	—	7	—	7	—	7	—
3. OVERSEA TERRITORIES										
Belgium	—	—	—	—	—	—	—	—	—	—
France	4	—	6	4	8	15	10	60	11	80
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	4	—	6	4	8	15	10	60	11	80
GRAND TOTAL	488	26	428	48	461	83	551	188	641	223

*Imports estimated at 35. Figure in questionnaire given in square metres.
†Exports given in square metres, considered as negligible.

APPENDIX M 8 (a)

VENEER

(Total Home Production and Total Consumption requirements of the Participating Countries and Western Germany)

(Thousands of cubic metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	8	7	2	5	5	5	30	15	30	15
Belgium	—	2	—	2	—	2	—	2	—	2
Denmark	9	11	20	30	20	30	20	30	20	30
France	205	195	170	155	190	177	205	187	220	202
Greece	—	—	—	—	—	1	—	1	—	1
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	—	—	—
Italy	4	2	5	2	5	2	5	2	5	2
Luxemburg	—	—	—	1	—	1	—	1	—	1
Netherlands	—	3	3	6	3	6	3	6	3	6
Norway	—	—	—	2	—	2	—	2	—	2
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	7	6	12	10	12	10	12	10	12	10
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	----------	—	2	2	2	2	2	2	2	2
United Kingdom	80	130	73	115	73	116	73	117	73	118
SUB-TOTAL	313	356	287	330	310	354	350	375	365	391

2. WESTERN GERMANY										
Bi-zone			5	5	5	5	5	5	5	5
French Zone	—	—	7	3	7	3	7	3	7	3
Saar	—	3	—	2	—	2	—	2	—	2
SUB-TOTAL	—	3	12	10	12	10	12	10	12	10
GRAND TOTAL	313	359	299	340	322	364	362	385	377	401

APPENDIX M 8 (b)

VENEER

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of cubic metres)

Country	Pre war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	—	1	*3	—	*2	2	*—	15	*—	15
Belgium	†2	‡—	3	1	3	1	3	1	3	1
Denmark	2	—	10	—	10	—	10	—	10	—
France	4	14	5	20	7	20	7	25	7	25
Greece	—	—	—	—	1	—	1	—	1	—
Iceland	—	—	—	—	—	—	—	—	—	—
Ireland	—	—	—	—	—	—	—	—	—	—
Italy	—	2	—	3	—	3	—	3	—	3
Luxemburg	—	—	1	—	1	—	1	—	1	—
Netherlands	3	—	3	—	3	—	3	—	3	—
Norway	—	—	2	—	2	—	2	—	2	—
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	—	1	—	2	—	2	—	2	—	2
Switzerland	—	—	—	—	—	—	—	—	—	—
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	50	—	42	—	43	—	44	—	45	—
SUB-TOTAL	61	18	69	26	72	28	71	46	72	46

2. Western Germany										
Bi-zone	—	—	—	—	—	—	—	—	—	—
French Zone	—	—	—	4	—	4	—	4	—	4
Saar	3	—	2	—	2	—	2	—	2	—
Sub-total	3	—	2	4	2	4	2	4	2	4
3. Oversea Territories										
Belgium	—	3	—	7	—	10	—	10	—	10
France	—	—	—	—	—	—	—	—	—	—
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
Sub-total	—	3	—	7	—	10	—	10	—	10
Grand Total	64	21	71	37	74	42	73	60	74	60

* Imports reduced from 30 to 3 in 1948, from 30 to 2 in 1949, from 30 to nil in 1950 and 1951, in agreement with Austrian representative.
† Imports estimated at 2. Figure in questionnaire given in square metres.
‡ Exports given in square metres considered as negligible.

APPENDIX M 9 (a)

WALLBOARDS

(Total Home Production and Total Consumption requirements of the Participating Countries and Western Germany)

(Thousands of square metres)

Country	Pre-war		1948		1949		1950		1951	
	Production (1)	Requirements (2)	Production (3)	Requirements (4)	Production (5)	Requirements (6)	Production (7)	Requirements (8)	Production (9)	Requirements (10)
1. PARTICIPATING COUNTRIES										
Austria	1	1	6,000	*4,500	9,600	*4,600	11,000	5,000	11,000	5,000
Belgium	—	—	5,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
Denmark	300	833	1,500	4,500	1,500	4,500	1,500	4,500	1,500	4,500
France	1,500	3,000	5,900	7,900	10,000	12,000	13,000	14,750	13,000	16,750
Greece	—	20	150	350	400	700	600	950	750	1,150
Iceland	—	20	—	130	—	—	—	—	—	—
Ireland	—	900	—	1,000	—	1,000	—	1,000	—	1,000
Italy	200	200	4,700	4,700	4,700	4,700	4,700	4,700	4,700	4,700
Luxemburg	—	20	—	120	—	120	—	120	—	120
Netherlands	—	2,100	1,000	4,000	4,000	4,000	5,000	4,000	5,000	4,000
Norway	2,000	†1,900	14,000	†10,000	14,000	10,000	14,000	10,000	14,000	10,000
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	27,000	‡19,566	72,000	47,000	75,000	45,000	75,000	45,000	75,000	45,000
Switzerland	3,300	3,800	6,500	8,400	6,500	8,400	6,500	8,400	6,500	8,400
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	8,000	14,600	7,000	15,000	9,000	17,000	9,000	17,000	9,000	17,000
SUB-TOTAL	42,301	51,460	123,750	112,600	139,700	117,020	145,300	120,420	145,450	122,620

2. WESTERN GERMANY										
Bi-zone	*		7,000	7,000	8,000	8,000	8,000	8,000	8,000	8,000
French Zone	24,000	40,000	3,500	3,000	4,000	3,000	4,000	3,000	4,200	3,000
Saar			2,250	2,000	2,250	2,000	2,250	2,000	2,250	2,000
SUB-TOTAL	24,000	40,000	12,750	12,000	14,250	13,000	14,250	13,000	14,450	13,000
GRAND TOTAL	66,301	91,460	136,500	124,600	153,950	130,020	159,550	133,420	159,900	135,620

*Requirements reduced from 5,000 to 4,500 in 1948 and to 4,600 in 1949 in agreement with Austrian representative.

†Requirements increased from 1,600 to 1,900 pre-war and from 9,000 to 10,000 in 1948, in order to balance production + imports and requirements + exports.

‡Requirements increased from 17,000 to 19,566, in order to balance production + imports and requirements + exports.

APPENDIX M 9 (b)

WALLBOARDS

(Total Import requirements and Total Exports of the Participating Countries, Western Germany and Oversea Territories)

(Thousands of square metres)

Country	Pre-war		1948		1949		1950		1951	
	Import (1)	Export (2)	Import (3)	Export (4)	Import (5)	Export (6)	Import (7)	Export (8)	Import (9)	Export (10)
1. PARTICIPATING COUNTRIES										
Austria	—	—	—	1,500	—	5,000	—	6,000	—	6,000
Belgium	—	—	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
Denmark	*537	4	3,000	—	3,000	—	3,000	—	3,000	—
France	1,500	—	2,000	—	2,000	—	2,000	250	4,000	250
Greece	20	—	200	—	300	—	350	—	400	—
Iceland	20	—	130	—	—	—	—	—	—	—
Ireland	900	—	1,000	—	1,000	—	1,000	—	1,000	—
Italy	—	—	—	—	—	—	—	—	—	—
Luxemburg	20	—	120	—	120	—	120	—	120	—
Netherlands	2,100	—	3,000	—	—	—	—	1,000	—	1,000
Norway	200	300	—	4,000	—	4,000	—	4,000	—	4,000
Portugal	—	—	—	—	—	—	—	—	—	—
Sweden	666	8,100	—	25,000	—	30,000	—	30,000	—	30,000
Switzerland	500	—	1,900	—	1,900	—	1,900	—	1,900	—
Turkey	—	—	—	—	—	—	—	—	—	—
United Kingdom	6,600	—	8,000	—	8,000	—	8,000	—	8,000	—
SUB-TOTAL	13,063	8,404	21,350	32,500	18,320	41,000	18,370	43,250	20,420	43,250

2. WESTERN GERMANY										
Bi-zone	—	16,000	—	—	—	—	—	—	—	—
French Zone	—		—	2,300	—	3,200	—	3,200	—	3,200
Saar	—		—	1,500	—	2,000	—	2,000	—	2,000
SUB-TOTAL	—	16,000	—	3,800	—	5,200	—	5,200	—	5,200
3. OVERSEA TERRITORIES										
Belgium	—	—	—	—	—	—	—	—	—	—
France	—	—	250	—	250	—	250	750	250	2,500
Netherlands	—	—	—	—	—	—	—	—	—	—
Portugal	—	—	—	—	—	—	—	—	—	—
United Kingdom	—	—	—	—	—	—	—	—	—	—
SUB-TOTAL	—	—	250	—	250	—	250	750	250	2,500
GRAND TOTAL	13,063	24,404	21,600	36,300	18,570	46,200	18,620	49,200	20,670	50,950

* Imports reduced from 837 to 537 in order to balance production+imports and requirements+exports.

TECHNICAL REPORTS

SECTION I

Manpower

MANPOWER

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Introduction

1. The Manpower Committee was set up by the Committee of Co-operation on the 1st August, with the task of "assessing the availabilities and requirements of labour among the participating countries and of determining ways in which the co-ordinated transfers of workers between these countries can be facilitated."

2. The Committee, which was composed of representatives of Belgium, France, Italy, Switzerland, and the United Kingdom, began by drafting a questionnaire to be sent to the sixteen participating governments, to the American, British, and French Zone Commanders in Germany, and to the International Refugee Organisation, the main object being to draw up a balance of manpower available for emigration, and manpower requirements to be met by immigration.

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3. Information was received from the following countries:—Austria, Belgium, France, Iceland, Italy, Luxemburg, Netherlands, Switzerland, Sweden, United Kingdom, and from the American, British, and French Zone Commanders in Germany*. This information enabled tables (Appendices D and E) to be drawn up showing the manpower resources and requirements of these countries as at the 1st June, 1947. Comments on these tables constitute the first Chapter of the present report.

4. The second Chapter of the report is devoted to a description of the action taken by governments to meet their man power deficiencies present or estimated up to the end of 1948, whether by a re-distribution of existing labour or by importing foreign labour. In the case of countries with a surplus of labour, action taken to find employment, either within the country or under emigration agreements with other countries, is described.

5. In the third Chapter of the report, the Committee recommends that countries whose manpower deficiencies cannot be met within their own resources should urgently examine the possibility of concluding agreements for the recruitment of manpower in other countries, including displaced persons. A series of provisions are recommended for inclusion in such agreements (see Appendix B).

6. The Committee stresses the fundamental importance of a high level of employment and the maximum utilisation of the available resources of European countries. This can be achieved by a more rational and intensive use of the capital equipment and materials which will be available in each country as a result of the carrying out of the proposed programmes for the four-year period; by improving the distribution of labour by reducing to a minimum the obstacles to the movement of workers from one country to another; by respecting the freedom of movement of the individual worker; and by stimulating a maximum effort to increase output through a rise in the standard of living. These three aims together constitute the common target of the participating countries.

7. The difficulties in the way of the movement of the factors of production are particularly important among the fundamental obstacles to European reconstruction. It is therefore essential that everything possible should be done to create conditions in which all the factors of production can be used in the areas where they can combine to achieve the maximum output. The Committee has accordingly paid particular attention to the problem of manpower require-

*Manpower in the American and British Zones is considered separately in the present report, as, unlike other economic matters, labour is not dealt with by the Combined Authorities.

ments and availabilities, present and prospective, as well as to the problem of the movement of labour between the participating countries.

8. In making the recommendations contained in the third Chapter of the report, the Committee, inspired by respect for individual liberty, has constantly borne in mind the need to reconcile the requirements of the economy of Europe and the individual national economies on the one hand, with the interest of the workers on the other.

9. Finally, the Committee wishes to call attention to the problem presented by the imminent repatriation of German prisoners of war. Apart from this, the Committee has refrained from commenting on the German manpower problem, as it considers the subject to be too hypothetical in view of the uncertainty regarding the future level of German industry.

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CHAPTER I

PRESENT MANPOWER SITUATION

General

10. As will be seen from Table 1, the replies to the questionnaire suggest, at first sight, a considerable surplus compared with immediate requirements* of foreign labour:—

Table 1—Manpower Situation as at 1st July, 1947

(Thousands of workers)

Requirements to be met by immigration		Manpower at present available †	
Austria	18.0	Italy	1,995
Belgium	61.5	Netherlands	40
France	290.0	Displaced persons:—	
Luxemburg	5.4	Austria	50
Netherlands	9.3	Italy	50
Sweden	100.0	American Zone of Germany	250
Switzerland	73.0	British Zone of Germany	150
United Kingdom	120.0	French Zone of Germany	20
TOTAL	677.2	TOTAL	2,555

† Excluding persons unfit for work owing to age or physical disability.

11. In practice, it is difficult to meet requirements as a large proportion of the available labour is not only unskilled, but has never been employed in the industries most in need, i. e. coal mining, electric power, transport, communications, etc. Although it is difficult to judge at present, on the information available, it seems probable that about 50 per cent. of the surplus workers available would be unsuitable for immediate employment in these industries.

Requirements for Skilled and Unskilled Labour

12. In the majority of cases, requirements are for skilled labour, whereas availability consists almost entirely of unskilled or semi-skilled workers. Excluding the needs of the coal mining industry (see paragraph 15 below), the requirements by countries are shown in Table 2.

*NOTE: Here and throughout this Report this term should be taken as meaning requirements up to the end of 1948.

Table 2—Manpower Requirements of Industries other than Coal Mining

(Thousands of workers)

Country	Requirements for skilled labour	Requirements for unskilled labour
Austria	17	—
Belgium	27.5	9
France	150	115
Luxemburg	1.5	3.9
Netherlands	5.3	—
Sweden	*100	—
Switzerland	60	13
United Kingdom	†115	—
TOTAL	476.3	140.9

*See reference to Sweden in Appendix C (paragraph 2(ii)).

†The requirements stated by the United Kingdom are for skilled labour. However, this country has indicated its willingness to import unskilled labour and, where necessary, to train it.

13. Table 3 shows the breakdown of the same figures by industries for the participating countries globally. It also shows estimates of skilled labour immediately available.

Table 3—Manpower Requirements by Industries

(Thousands of workers

Industries	Requirements		Skilled Manpower available
	Skilled	Unskilled	
Manufacturing Industries and Building	98.4	45.0	*73.0
Agriculture and Forestry	227.7	93.5	†40.0
Miscellaneous‡	50.2	2.4	—
Unspecified (Sweden)	100.0	—	—
TOTAL	476.3	140.9	113.0

*This figure may be an over-estimate.

†Excluding 40,000 Dutch agriculturalists who are not wage-earners, but small independent farmers whose transfer raises particularly difficult problems.

‡Domestic servants and hotel personnel (required particularly by Belgium and Switzerland) and hospital staff.

14. In considering the foregoing tables, account should be taken of the fact that in Italy, the principal supplier of manpower, the percentage of skilled labour in most trade groups (excluding agriculture and building) is only about 5 per cent. The percentage in agriculture is higher, but no figures are available. In the building trade, the percentage is 7 for general tradesmen, 3 for tradesmen skilled in one particular trade, and 10 to 12 for semi-skilled workers. Although no precise information is available, it would appear that, among the dis-

placed persons, the number of skilled workers is also very small, except in the case of agriculture.

Shortage of Underground Miners

15. In the case of certain essential industries, there is no surplus labour available to meet the considerable requirements, notably in coal mining, where underground work calls for exceptional physical endurance. Requirements for the latter are shown in Table 4.

Table 4—Requirements for Underground Miners

(Thousands of workers)

Country	Requirements
Austria	1
Belgium	25
France	25
Netherlands	4
United Kingdom	5
TOTAL	60

Most countries which have stated their requirements for coal miners would be prepared to employ unskilled workers and train them, on the understanding that they came up to the necessary physical standard.

Repatriation of German Prisoners of War

16. The shortage of labour is accentuated by the departure of German prisoners of war, whom France, the United Kingdom, the United States and the U. S. S. R. have decided to repatriate before the end of 1948. Of these, France and the United Kingdom have employed up to 500,000 and 300,000 respectively. In the United Kingdom, German prisoners of war were not employed to any considerable extent on skilled work, and no great difficulty is anticipated in finding replacements, including labour from abroad. On the other hand, Belgium and France will require to launch an intensive recruitment drive and training programme, in order to replace their prisoners of war, particularly those employed in the coal mines.

Conclusion

17. It will be clear from the foregoing that the surplus available manpower is so largely unskilled that it cannot be used to any great extent to meet immediate requirements in essential industries. Train-

ing schemes will, therefore, have to be put into urgent operation if adequate numbers of skilled workers are to be provided. (See Chapter III.)

CHAPTER II

EXISTING MEASURES TO INCREASE AVAILABILITY IN COUNTRIES WITH DEFICIENCIES AND TO FIND EMPLOYMENT FOR SURPLUS MANPOWER IN OTHER COUNTRIES

A. INTERNAL

(i) *Countries with a shortage of labour*

18. Action taken by participating countries suffering from a labour shortage includes the following:—

Increased Working Hours.—In 1938, France had a 40-hour working week, with an average of 39 hours worked per week. After the war, it was decided to develop overtime to the utmost so as to raise the average to 48 hours per week, as soon as supplies of raw materials allowed. An average of 44.8 hours worked per week was achieved in April, 1947, and the average has continued to rise.

In Switzerland the legal working week is 48 hours, but this is extended to 55 hours in certain essential industries.

In Great Britain, a special approach is being made to workers in essential industries to secure agreement to the working of longer hours.

Female labour.—In most countries short of manpower, endeavours have been made to increase the labour force in essential industries, particularly by appealing to women to enter or return to industry. In Great Britain, a special appeal has been made to women, including those who were mobilised during the war, to return to employment. In Switzerland, also, women have been brought into industrial employment, particularly agriculture.

Employment of workers in older age groups.—In Great Britain, an appeal has been made to older workers not to leave their occupations and to employers not to discharge them. In France and Great Britain old age pensioners may receive their pensions while continuing to work.

Control of Employment.—The serious consequences which the shortage of manpower entails for the countries concerned have prompted some of them to restrict the freedom of employment by measures of administrative constraint. The fact that trade unions have accepted

and even, in certain cases, suggested such measures, illustrates how far public opinion is aware of the gravity of manpower problems. In Belgium, for instance, manpower is being mobilised for key industries. In France, the engagement and discharge of workers are subject to control in most industries. Great Britain is resuming a measure of control of engagement for employment, which had been abandoned since the war except for a few essential industries such as coalmining.

Vocational training.—A special effort has been made in the various countries to ensure an adequate supply of skilled workers for key industries. Belgium has increased the number of her training and re-training centres. France has opened a considerable number of vocational re-training centres for the building industry; their number increased from 15 in July, 1946, to 115 in July, 1947. Attention is also being paid to training skilled engineers. There are altogether 200 French vocational training centres. Great Britain had developed very large scale extension of existing training schemes for both ex-Service men and other workers, particularly for building and coalmining. Vocational training has also been highly developed in Switzerland.

19. Satisfactory results have been obtained by the participating countries in making full use of the manpower available locally. In France, industrial employment has been increased by 390,000 between 1st July, 1946, and 1st July, 1947. The number of workers in manufacturing industries excluding agriculture, which amounted to 6,000,000 in 1938 and to 5,600,000 (including 250,000 prisoners of war) in July, 1946, now amounts to 5,960,000 (including 160,000 prisoners of war). A very high degree of mobilisation of labour was achieved in Great Britain for the war effort, the total working population rising from 19,750,000 in the middle of 1939 to 22,285,000 during the peak period. Demobilisation and re-conversion were smoothly carried out without unemployment to any great extent. With so little unemployment, the numbers actually working in all occupations including the Armed Forces, are now substantially higher than before the war and amounted to 19,742,000 in June, 1947, compared with 18,480,000 at mid-1939. In Switzerland, over 100,000 persons who had no occupation before the war, particularly women, have been brought into employment and are still used in highly intensified agricultural production and the more urgent requirements of industry.

(ii) *Countries with surplus labour*

20. Considerable efforts have been made in countries with a labour surplus to find employment. In the British Zone of Germany a substantial number of displaced persons have been given work. The surplus man-power problem in Italy is being dealt with as follows:—

(i) A programme of public works has already been begun.

(ii) In order to increase the supply of agricultural workers in numbers proportioned to the size of the individual undertaking and to the nature of the crops, the Italian Government has provided for the allocation of subsidies; these are intended to cover the bonuses paid to the additional workers engaged in schemes of agricultural development and reconstruction.

(iii) The production programme planned for the period up to 1951 should absorb a considerable number of workers at present unemployed. For example, it is anticipated that, between 1st July, 1947 and 1951, it will be possible to employ about 100,000 additional agricultural workers in carrying out land improvement schemes.

(iv) In order to alleviate the social effects of unemployment, a number of exceptional and provisional measures have been taken. Workers who, for reasons for which neither they nor their employers are responsible, are working less than 40 hours per week, are having their wages supplemented by the government. The discharge of workers from industrial undertakings in the North of Italy is prohibited, and training centres, especially for ex-Service men, have been opened.

B. TRANSFERS OF FOREIGN LABOUR

(i) *Agreements*

21. Formal agreements or arrangements subject to official supervision and control have been concluded by a number of the participating countries covering national workers, displaced persons, prisoners of war and Germans willing to be employed in the participating countries. Other agreements are now being negotiated or are contemplated, with a view to providing manpower needed for the production plans for the period 1948–1952, as described in the reports of the Technical Committees.

22. As stated in the first Chapter of the present report, Italy has the largest surplus labour force of all the participating countries. Consequently, it is chiefly with the Italian Government that such countries have concluded agreements, with a view to making good their manpower shortages as far as possible. Agreements have been concluded between Italy on the one hand, and Austria, Belgium, Czechoslovakia, France, Great Britain, Sweden and Switzerland, on the other. The agreements concluded between Italy and Belgium and France in

1946 concerned exclusively the recruitment of 50,000 and 20,000 workers respectively for underground employment in the coal mines. These agreements have not yet been completely fulfilled, and up to now France has only received 7,400 Italian miners. A further agreement with France provides for the transfer of 200,000 Italian workers for employment in all industries.

23. Under the agreement between Italy and Great Britain several hundred workers have been sent to Great Britain for employment in foundries. The agreement with Sweden concerns a first draft of 500 skilled workers for the engineering and ship-building industries. Two other agreements are in operation providing for the sending by Italy of 5,000 workers to Czechoslovakia and 8,400 seasonal workers to Austria. There is also a considerable seasonal movement of labour to Switzerland. Mention should further be made of the agreement concluded between Italy and Argentina, which has made intercontinental emigration possible again. In addition, the British Government has indicated the possibility of concluding with Italy an agreement for the recruitment of further workers, should the supply of displaced persons prove inadequate to meet the need for foreign labour.

24. Italy intends to develop the transfer abroad of her surplus labour in the following ways:—

(i) on a collective basis under agreements with other countries;
(ii) through transfers in response to individual requests;
(iii) by the transfer of contractors complete with labour;
(iv) by the transfer of organised labour units.

The last method would be especially suitable in connection with large scale public works, road, railway, port and hydro-electric development, etc. More than one hundred of such organised labour units are equipped to undertake large scale work. These units would total some 100,000 workers, of which over 25,000 would be skilled. With regard to (iii) above, over 300 Italian establishments of varying size are stated to be ready to move to other European countries to carry out public works. It should be borne in mind that the transfer of complete undertakings of this kind may help to overcome, in part, the problem of skilled labour, as the undertakings so transferred could take all their employees, including technicians and specialist and skilled labour.

25. In some cases important movements of labour have taken—and are still taking—place from one country to another, not as a matter of official arrangement or inter-governmental agreement, but in consequence of regulations under which the individual worker is free to exercise a personal choice subject to little or no restriction. The conclusions in the third chapter of the report are not intended to suggest any modification of the arrangements already existing in such cases.

Displaced Persons

26. The British and French Governments have been recruiting displaced persons in their Zones in Germany. In the case of France, recruitment is limited to labour for coal mining and agriculture, which are in greatest need. In the case of the United Kingdom, the displaced persons are required for a wide range of employment in under-manned industries, including agriculture. Under a recent agreement, these two governments have given each other mutual recruitment rights in their respective Zones. Under an agreement with the American authorities, France is also enabled to recruit displaced persons in the American Zones in Germany and Austria, and such recruitment has recently begun. Great Britain has made an arrangement with the American authorities for the recruitment of displaced persons in the American Zone in Austria. Negotiations are in progress for similar recruitment for Great Britain in the American Zone in Germany. Belgium has concluded an agreement with the United Kingdom and United States Governments for recruitment in their Zones in Germany, and a similar agreement is under negotiation between these two governments and the Netherlands.

Prisoners of War

27. Continued employment as ordinary civilians is being offered to German prisoners of war by some countries, for instance Belgium and France, by agreement with the International Red Cross and the United States Government, whose forces had captured the prisoners of war concerned. A similar offer has also been made in the case of nationals of other countries, who were all released in 1945 and 1946. In Great Britain, prisoners of war employed by individual farmers have been given the opportunity of volunteering for continued employment as ordinary civilians when they become due for repatriation.

Recruitment of German Labour

28. The French Government has decided to recruit volunteer labour in the French Zone of Germany for work in France. Negotiations for similar facilities in the American and British Zones are in progress.

(*ii*) *Transfers Achieved*

29. The following figures, although not on a uniform basis, will serve to give an idea of the results so far achieved:—

Belgium.—39,000 foreign workers (Italians and displaced persons) have been imported to date.

France.—63,000 workers were imported in the period July, 1946–July, 1947. 85,000 prisoners of war had, by 30th July, 1947,

volunteered to continue to work in France as ordinary civilians. Italians have been imported at the rate of 400–450 per month, and displaced persons at the rate of 200–250 per month to work in coal mines. In the course of July, 1947, 250 Germans have been recruited from Germany.

Great Britain.—24,000 displaced persons have so far been resettled in Great Britain. The recruitment of displaced persons in the British Zones of Germany and Austria has been at the rate of 1,500 male and female per week. 30,000 permits have, in addition, been issued to individual employers to engage foreign workers since the end of the war, mostly on a temporary basis. A few hundred Italian workers have been imported for work in foundries.

Netherlands.—3,750 foreign workers have been employed since May, 1945.

Sweden.—500 Italians have been recruited for engineering and ship building.

Switzerland.—70,000 foreign workers have been imported this year, mostly for seasonal work.

(*iii*) *Obstacles*

30. The reasons for these comparatively disappointing results are as follows:—

(i) Administrative experience in handling transfers of labour has still to be acquired, but the position should improve as and when this experience can be placed at the disposal of all the governments concerned. A few examples will illustrate the difficulties. It would appear that workers recruited are often inadequately informed of the conditions of work and living in the countries for which they are destined. An attempt should be made to make the position clear both in the contracts of employment and in the publicity arranged in the country of origin and the country of destination. A serious obstacle also arises from unfavourable popular reactions to transfers of labour at both ends, and governments should take all possible action to induce a better understanding of the fact that such transfers are for the economic benefit of all concerned. Another difficulty is that exchange control regulations delay the transfer of remittances to families. This is often a reason for workers refusing to stay, and helps to explain the lack of success of attempts at recruitment. This is a matter which should receive careful attention in

each individual case, and the governments concerned should do everything possible to speed up the exchange control procedure. Detailed proposals, designed to overcome these and other difficulties, will be found in Appendix B. The Committee was unanimous in considering that it was essential to include such provisions in emigration agreements if success was to be assured.

(ii) Lack of accommodation, due to wartime destruction and cessation of new building, is a most serious obstacle to the importation of foreign labour. The participating countries fully appreciate that the provision of the necessary accommodation must precede the arrival of foreign labour, and that priority for the accommodation required must be given, if use is to be made of such labour for the economic benefit of countries with a manpower shortage.

Owing to the shortage of accommodation, it is usually necessary for the worker to precede his family, and for the latter to wait until accommodation is available. In such cases it is essential that the worker should be allowed to remit a substantial part of his wages and family allowances to his dependents.

CHAPTER III

RECOMMENDATIONS

31. The full employment of the manpower available throughout the participating countries, and the transfer of the necessary manpower from surplus to deficiency areas, must be among the main objectives of any programme of European reconstruction.

32. The Committee wishes to stress that the stated manpower requirements are related to production targets up to the end of 1948, and therefore pre-supposes that the raw materials and equipment needed for the attainment of these targets will be forthcoming. Should they not be forthcoming, the employment position would be radically changed in countries with a labour shortage, and it is probable that a number of the participating countries would be faced with considerable unemployment.

33. On the assumption that the necessary raw materials and equipment will be available, the Committee recommend the following meas-

ures to ensure a satisfactory distribution of manpower between the countries concerned and to facilitate their production programmes:—

(i) Countries whose manpower deficiencies cannot be met by internal redistribution should investigate every possibility of concluding agreements for the recruitment of labour in other countries, including those with displaced persons whose transfer would lead to resettlement. Special priority should be given to the recruitment of labour for coal mines, whether trained or not, for countries whose shortage of miners may affect coal output.

(ii) Where such agreements have already been concluded, governments concerned should at once consider whether these agreements are adequate and how far they might be improved and their implementation speeded up, having particular regard to the recommendations in Appendix B.

(iii) Countries employing prisoners of war should give immediate consideration to arrangements necessary to replace them by free labour, whether by recruitment in other countries, including those with displaced persons, or by employing as ordinary civilians those prisoners of war who volunteer for continued employment; or, where essential, resort could be had to the recruitment of volunteer German labour in Germany, in agreement with the Control Authorities.

(iv) Sufficient priority should be given to the rebuilding or alteration of accommodation for foreign workers, so that they and their families may be installed without delay.

(v) Arrangements should be made to provide for the maintenance of dependants left behind in the country of origin by remittances from wages.

(vi) The International Refugee Organisation should make known as soon as possible the extent to which it will be able to contribute to the resettlement of displaced persons.

(vii) Governments should develop vocational training to the maximum possible extent both for their own existing labour, and for imported foreign labour. This is essential in view of the global deficit of skilled labour in the participating countries, and of the difficulty of employing the great bulk of the surplus manpower for lack of training.

34. The action recommended above is essential to ensure that surplus labour is transferred to areas where it can best be employed, and to restore normal living conditions to a very large number of men and women in Europe who have neither homes nor work.

35. In order to review the progress of the measures referred to in paragraph 33 above, particularly in respect of recruiting and training labour for key industries, and in order to plan and co-ordinate any further measures which may be necessary, a meeting of interested governments will be convened by the Italian Government in January, 1948. The collaboration of the international organisations concerned, such as the International Labour Organisation and the International Refugee Organisation, will be invited. The meeting will give special attention to the question of the transfer of mining and agricultural workers, in order to meet the shortages in certain coal and grain producing countries. In view of the time required to train unskilled workers up to a reasonably productive level, and in order that progress in this essential matter may be promptly reviewed, it has been considered desirable to convene the meeting for the early date given above.

APPENDIX A

Countries Represented on the Committee for Manpower

Belgium
France
Italy
Switzerland
United Kingdom

APPENDIX B

Provisions to be Included in Agreements for Recruitment of Foreign Workers*

The principles set out below should be regarded as being without prejudice to conventions or recommendations which have been, or may in future be, adopted by the International Labour Organisation.

1. Collective action for the recruitment, transfer and placing in employment of foreign labour should be governed by bilateral or multi-

* Some amendment may be required in the case of displaced persons or German civilians, as these are special categories.

lateral agreements, which should take account of the employment possibilities of the receiving country, and the surplus manpower available in the country of origin. The necessary arrangements should be made by the authorities of the countries concerned, or by organisations and institutions designated for the purpose. The individual recruitment, transfer and placing of workers in employment should be regulated, if necessary, by inter-governmental agreements.

2. Within the framework of the agreements contemplated above to govern collective recruitment arrangements, an individual worker wishing to be employed in another country should be allowed to leave his country of origin without having to obtain specific permission from the authorities of his own country. This would simplify the formalities connected with the worker's departure as far as possible.

3. If the scale of the expected transfers of labour is considerable, the bilateral agreements should provide for the setting up of standing mixed technical committees to ensure the application, and any necessary adaptation, of the agreed principles governing the recruitment, transfer, classification, employment, protection and eventual repatriation of the foreign workers and their families.

4. In the event of the transfer of a sufficiently large number of workers from one country to another, the recipient country should appoint special inspectors to ensure, at least during the initial period, that the conditions of work and living of the foreign workers, and the agreed regulations, are observed (or delegate this task to existing authorities). Appropriate officials, permanent or temporary, of the country of origin might co-operate with the authorities of the recipient country in order to ensure that the workers were settled under the most favourable conditions.

5. Countries importing labour should, at the time of the conclusion of the agreements for collective recruitment contemplated above, supply detailed information on general living conditions, wage rates applicable to each category of labour, and any other information which could help to give prospective immigrants a precise idea of the local conditions under which they would have to live. They should further specify the standards with which workers in different categories of labour would have to comply. The country of immigration must ensure the widest and most thorough dissemination of the information received.

6. The countries of origin and recipient countries should reduce administrative formalities to a minimum in order to facilitate to the greatest possible extent the transfer of foreign workers and their families. As far as possible, they should waive customs regulations in respect of the personal effects of the workers and their families.

7. All possible assistance should be given to emigrating workers not only during their recruitment but during their transfer and their settlement in the recipient country.

8. In principle workers should have all expenses incurred in their transfer to the recipient country defrayed (lodging, board, travelling expenses, etc.) as well as the expenses of their first installation. The agreement should determine to what extent the same policy should apply to subsequent moves for which the worker is not responsible.

9. The bi-lateral agreements should make provision for the sharing of the costs incurred under agreements for the collective transfers of workers.

10. Before they leave their country, emigrant workers should be given employment contracts, the terms of which should be drawn up by the countries party to the agreements.

11. In the case of workers recruited collectively, provision should be made to pay their outfit expenses and to ensure that their families remaining behind have sufficient funds to tide them over until the arrival of remittances.

12. Workers recruited collectively should have a medical examination before they leave the country to ensure that they are physically fit. The procedure for this examination should be regulated by agreement between the governments. The setting up of mixed medical boards is desirable.

13. Foreign workers and their families admitted to regular employment in the recipient country should be entitled to enjoy the benefit of the laws and regulations of that country regarding the protection of labour and engagement, as well as the right of association within the limit of the laws in force, on a basis of equality with the nationals of the recipient country. They should also be entitled to enjoy the right of joining trade unions within the framework of their statutes and the right to have recourse to the local Courts of Justice. Similarly the recipient country should grant equality of treatment with its own nationals as regards taxes and wage deductions. It should guarantee to foreign workers conditions of life similar to those enjoyed locally by its own workers in the same industry.

14. In particular, the emigrant workers should enjoy the same treatment as nationals in respect of social security instituted by the country of immigration. Reciprocal agreements should provide for such arrangements as will maintain to the maximum possible extent to a worker transferred from one country to another the advantages acquired, or in course of being acquired, in the matter of social security.

15. The bi-lateral agreements should lay down the limits and the methods for the transfer of the workers' remittances in conformity with the legislation of the recipient country. These regulations

should take account of the need to provide the means of subsistence to the workers' families, and facilitate the rapid transfer of adequate remittances for this purpose.

16. The bi-lateral agreements should contain provisions to ensure that workers recruited collectively shall not be sent back by the recipient country on account of the state of the labour market, except in accordance with an agreement on the subject between the two countries.

17. On the conclusion of bi-lateral, or multilateral agreements, the countries of origin and the recipient countries should, if necessary, take steps to provide training facilities for unskilled labour, and should endeavour to find an equitable solution of the problem of sharing expenses incurred in this respect.

18. The recipient country should take all possible steps to enable foreign workers to obtain an adequate knowledge of the language of the country.

APPENDIX C

Explanatory Note on the Questionnaire and Replies Received

1. In order to ascertain the requirements and availabilities of labour, a questionnaire was sent to the participating countries, the Commanders-in-Chief of the three Zones of Occupation in Western Germany and the International Refugee Organisation. This questionnaire asked for detailed information regarding—

(i) foreign workers whose employment is contemplated (a) before the 31st December, 1948; and (b) from that date until 1951;

(ii) the number of workers who could, if necessary, be drawn on to meet these requirements during the same periods.

In both cases, the information was to be set out by—

(a) principal trade groups (mining, electricity, transport and communications, industry, agriculture, etc.);

(b) sex;

(c) whether skilled or unskilled.

2. It has often not been possible to furnish all the information required, in particular:—

(i) Information for the period after the end of 1948 has proved too scanty to be taken into account.

(ii) Some countries have been unable to give detailed figures. This applies particularly to Sweden, whose requirements for skilled workers amount to 100,000 without it being possible to specify in which industries they would be employed.

(iii) The statistics for displaced persons do not give a sufficiently clear picture. It has therefore been impossible to give more than rough estimates on this important subject.

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APPENDICES D, E. STATISTICAL TABLES

APPENDIX D

MANPOWER IMMEDIATELY AVAILABLE

(Thousands of workers)

Occupation	Italy			Displaced persons* (estimate)			Total (estimate)		
	Men	Women	Total	Men	Women	Total	Men	Women	Total
1. *Fuel and Power:*									
Coal mining:									
Underground workers	—	—	—	4	1	5	4	1	5
Surface workers	—	—	—	—	—	—	—	—	—
Gas, electricity, oil, etc	20	0.5	20.5	—	—	—	20	0.5	20.5
2. *Transport and communications*	38	1.5	39.5	35	2	37	73	3.5	76.5
3. *Industry:*									
Engineering and metal industries	216	56	272	9	1	10	225	57	282
Quarries	35	1.5	36.5	—	—	—	35	1.5	36.5
Food	23	23	46	—	—	—	23	23	46
Textiles, leather	38	98	136	—	—	—	38	98	136
Timber	67	6	73	—	—	—	67	6	73
Chemical industry	16.5	16	32.5	—	—	—	16.5	16	32.5
Paper, printing	9.5	9	18.5	—	—	—	9.5	9	18.5
4. *Building and public works*	400	10	410	27	1	28	427	11	438
5. *Agriculture and forestry*	194	83	277	83	37	120	277	120	397
6. *Miscellaneous:*									
Domestic staff	—	—	—	—	—	—	—	—	—
Hospital staff	—	—	—	5	11	16	5	11	16
Trade and banks	109.5	42.5	152	—	—	—	109.5	42.5	152
Theatre and cinema	2.5	0.5	3	28	15	43	30.5	15.5	46
Others	311	167.5	478.5	132	129	261	443	296.5	739.5
TOTAL	1,480	515	1,995	323	197	520	1,803	712	2,515
						+ 40,000 Dutch agriculturalist = 2,555			

*There are serious gaps in these data. It must be stressed that it has only been possible to make rough estimates. The numbers of displaced persons are estimated as follows: 250,000 in the American Zone; 150,000 in the British Zone; 20.000 in the French Zone of Germany; 50,000 in Austria; 50,000 in Italy. These figures apply only to persons of working age.

APPENDIX E

MANPOWER REQUIREMENTS TO BE MET BY IMMIGRATION BEFORE THE END OF 1948

(Participating Countries)

(Thousands of workers)

Occupation	Austria			Belgium			France			Luxemburg			Netherlands			Sweden			Switzerland			United Kingdom			Total		
	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total	Skilled	Unskilled	Total
I. *Fuel and Power:*																											
Coal Mines:																											
Underground Workers	1	—	1	—	25	25	—	25	25	—	—	—	4	—	4	----	----	----	—	—	—	5	—	5	10	50	60
Surface Workers	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	----	----	----	—	—	—	—	—	—	—	—	—
Gas, Electricity and Oil	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	----	----	----	—	—	—	—	—	—	—	—	—
II. *Transport and Communications*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	----	----	----	—	—	—	—	—	—	—	—	—
III. *Industry:*																											
Iron and Steel	—	—	—	1.5	—	1.5				0.3	—	0.3	—	—	—	----	----	----	—	—	—	—	—	—			
Textiles	1	—	1	1.5	4	5.5	10	25	35	—	—	—	1.6	—	1.6	----	----	----	2	1	3	30	—	30	98.4	45	143.4
Others	3	—	3	4.5	—	4.5				—	—	—	1.1	—	1.1	----	----	----	7	3	10	—	—	—			
IV. *Buildings and Public Works*	5	—	5	10	5	15				.5	—	.5	.4	—	.4	----	----	----	19	7	26	—	—	—			
V. *Agriculture and Forestry*	8	—	8	6	—	6	140	90	230	.7	3.5	4.2	—	—	—	----	----	----	18	—	18	55	—	55	227.7	93.5	321.2
VI. *Miscellaneous:*																											
Domestic Staffs	—	—	—	4	—	4	—	—	—	—	0.4	.4	.8	—	.8	----	----	----	10	—	10						
Hospital Staff	—	—	—	—	—	—	—	—	—	—	—	—	1.4	—	1.4	----	----	----	—	—	—						
Hotels	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	----	----	----	4	1	5	30	—	30	50.2	2.4	52.6
Others	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	1						
Not specified	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	100	—	100	—	—	—	—	—	—	100	—	100
TOTAL	18	—	18	27.5	34	61.5	150	140	290	1.5	3.9	5.4	9.3	—	9.3	100	—	100	60	13	73	120	—	120	486.3	190.9	677.2

Declarations Made by Governments

ON THE SUBJECT OF INTERNAL FINANCIAL AND ECONOMIC REFORMS

See paragraph 9 of the Report of the Committee of Financial Experts (Appendix E at p. 129 of Volume I)

(i) Declaration by the Austrian Government

Internal Reconstruction of Austria

1. Ever since her resurrection, Austria has been faced with the problem of the reconstruction of her national economy. What was particularly necessary was to give a fresh stimulus to production and to establish a balanced budget as well as a stable currency both internally and in her relations with other countries.

2. The resumption of production should be the first consideration, for it is a *sine qua non* of all economic prosperity. We are all aware of the fact that, through the war and the events which followed it, directly and indirectly, the Austrian economy has suffered enormous losses and damage, the repair of which is the pre-requisite of her rehabilitation. To re-equip Industry and Agriculture in raw materials, machinery and other indispensable means of production demands an outlay which the Austrian economy cannot supply from its own means. Aid from abroad must be the starting point of our economic reconstruction.

3. In this regard it is necessary to stress the great importance of an increase in food rations, without which it would be impossible to carry out the reconstruction programme according to forecast on account of a serious decrease in working potential. The remarkable discipline of the Austrian population is shown by the fact that so far there has been no major interruption of work in spite of the recognised insufficiency of the rations.

4. From the outset, the Austrian Government understood the importance of a balanced budget for the normal functioning of the national economy; for this reason, it immediately took the appropriate measures for this purpose. The success of these measures is visible in constantly increasing revenue and especially in the establishment of a balanced ordinary budget. If there still remains a deficit in the budget, it is to be explained solely by the cost of the occupation which will cease to exist after the conclusion of the Treaty. Contrary to what happened between 1918 and 1922, it has this time been unnecessary to have recourse to the printing press.

5. The restoration of the Austrian State called for the immediate creation of a monetary and credit system, entirely separate from that

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of Germany. This was implicit in the law on the re-opening of banks (Schaltergesetz) of July 3rd, 1945, as well as in the law of the same date on the provisional regime of the National Bank. Through the first of the two laws, which has in fact only been applied in the Eastern Zone, about 60 per cent. of accounts from the period before the Liberation were completely blocked, whereas the use of the remaining 40 per cent. was subject to severe restrictions. At the same time, the banks in the Eastern Zone, which had remained closed since the end of the war, were re-opened. The law on the provisional regime of the National Bank prepares for the resumption of the activity of the Austrian National Bank, which, owing to the annexation of the country by the German Reich, had been deprived of its gold and currency reserves and had had to cease all activity, since its assets had been transferred to the German Reichsbank. The series of measures taken in this sphere was provisionally terminated by the Schilling Law of November 30th, 1945, which by the re-introduction of the Schilling currency brought about a final separation from German currency. This law also provides for the blocking of bank deposits and of all currency in circulation throughout the territory, as at the date when the law came into force; these measures take into account on the one hand the currency surpluses and on the other the special situation of the credit institutions as a result of their former connection with the German economy.

6. To make the Schilling Law, which was initiated as a Currency Law, effective, certain measures affecting prices and wages had to be applied at the same time. In this respect, the Austrian economy found itself in a far less favourable position than the former Third Reich, as it could not advocate such drastic measures as could the Reich for the punishment of economic offences. If, however, these measures have met with some success, especially in agriculture, it must be stated that this is due exclusively to the discipline of the greater part of the population.

7. It is true that the Austrian economy has allowed certain exemptions from the freezing of prices and wages, which have recently resulted in fairly important increases in price and wage levels. This can be ascribed to the following reasons: it must be first recalled that the German economy, of which the Austrian economy was an integral part during the whole time of the occupation, was heavily subsidised in agriculture, food and other industries and it was beyond the means of the Austrian State to maintain these subsidies. While maintaining in principle the blocking measures, certain price increases had to be authorised. This is also true of cases where the German Reich had fixed uniform prices for the whole of the Reich territory without

taking into account differences in costs. To mention one typical example only—that of railways—the operating costs of mountain lines are certainly far higher than those of ordinary lines.

8. It was above all the increase in exchange rates of currency fixed by the occupying powers which had a decisive influence on price levels in Austria (internal dollar quotations before 1945: 1 U. S. $=2.50 Reichsmarks (schilling): from 1945 1 U. S. $=10 schillings), as well as the world market price increases for foodstuffs, raw materials or other goods which have to be imported into Austria. When authorising the price increases that had become inevitable in certain fields, it was necessary also to adjust wages in order to compensate for the decreases in real wages due to the price increases. The Government has been able provisionally to put an end to these increases. It must be stressed that the Government has the price and wage position well in hand and that special controls have been provided for this purpose. Increased expenditure due to the increase in civil service salaries and other additional costs is still covered by the budget.

9. This increase in prices and wages has necessarily entailed a decrease of the currency excess remaining from the time of the Anschluss. The Government is firmly resolved to undertake as soon as possible a final monetary reform in the interest of the Austrian economy taking into account exchange rates and the necessity for establishing a balance of payments in equilibrium; but it is of the opinion that it would be useful to carry out this re-organisation only after the conclusion of the Treaty.

(ii) Declaration by the Belgian Government

The Internal Financial Situation in Belgium

1. The position in Belgium immediately after the liberation can be summarised as follows:—lack of equilibrium between a purchasing power on the one hand, which, at 188 milliard francs (notes, deposits, etc.) represented 3.5 times the pre-war figure, and, on the other hand, an industrial production, which did not exceed 35 per cent. of the average for 1936–1938. The contrast between these two factors is characteristic of inflation. The whole policy followed by the Belgian Government during the last three years was designed to alleviate this inflationary pressure by working on both factors of the equation, currency and goods. It dealt first with monetary reform.

I

2. Belgium's monetary experiment is by way of becoming classic. It may suffice to recall its general pattern: blocking temporarily or for good, of nearly 90 per cent. of the money in circulation, 10 per cent. of deposits being left free together with 2,000 francs *per capita* in notes.

3. A distinction was made in frozen assets between those which were declared "temporarily unavailable" and which amounted to 40 per cent. of the whole and those which were definitely blocked (60 per cent.). What were the reasons for adopting these percentages? The temporarily unavailable funds were to be released as production increased. On the contrary, 60 per cent. of the money in circulation was considered permanently superfluous and was finally blocked.

4. A few weeks after this reform the position was as follows:—"unrestricted" funds amounted to 72 milliards, funds "temporarily available" to 42 milliards and funds "finally blocked" to 63 milliards.

5. At this point three questions arose:—

(i) The gradual release of funds temporarily unavailable was effected either by general measures or by special release arrangements which reduced the total of funds temporarily unavailable from 42 milliards to the present figure of 10 milliards.

(ii) The final reabsorption of the 60 per cent. of definitely blocked funds had to be carried out without increasing the note issue. Frozen assets were therefore converted into a Currency Reform Loan at 3½ per cent. for the amortisation of which special taxes were levied: a 15 per cent. capital levy, an excess profits tax and taxes on the proceeds of transactions with the enemy; such taxes being payable in stock from the newly floated loan and cash payments being used for the amortisation of the remainder. Up to the present, revenue from these taxes has made it possible to reduce the Financial Recovery Loan from 63 to 48 milliards and it is confidently expected that this debt can be gradually reduced to between 20 and 25 milliard francs.

(iii) What was the general trend of purchasing power after this? Before the war it amounted to nearly 50 milliards; just after the liberation it had risen to 188 milliards; following the financial reform it fell to 72 milliards and afterwards rose gradually again to 156 milliards.

6. What was the origin of this increase?

(i) The unfreezing process itself accounted for 32 milliards;

(ii) The expansion of private credits accounted for another 10 milliards. This raises an interesting point in the deflation policy followed by Belgium.

Immediately after the liberation the floating debt held by the banks amounted to some 36 milliard francs. Twice the maturity date was provisionally extended, but a situation implying such grave risks of inflation of credit and currency had to be definitely settled. A neat solution was found which consisted in obliging the banks to have always on hand enough cash and government paper to cover from 50 to 65 percent. of their liabilities in Belgian francs, this percentage being fixed according to the size of the bank. This measure finally solved the floating debt problem and, at the same time, gave the monetary authorities a very efficient instrument for controlling credit policy, an instrument which, up to the present, has operated so as to restrict credit.

(iii) The third factor of expansion was the increase in gold and currency assets which in two years amounted to 2.5 milliard Belgian francs.

(iv) Finally, and above all, this was due to the needs of the Government for financing the Allied war effort, which went on several years after the country was liberated, in the shape of Reverse Lend Lease, and Mutual Aid Payments for the food supply and reconstruction of the country, etc.

7. What has the public budget looked like during the last few years? The deficit for 1945 was 39 milliard francs; in 1946 it amounted to 24 milliards, and in 1947 it was still expected to reach 8 milliards. But it is at this point that comes into play the present policy of restricting public expenditure both with regard to staff expenditure and subsidies.

8. The Belgian Government has just withdrawn the major part of its subsidies, while compensating the "economically weak", the poorer sections of the population, i. e. wage-earners, low paid employees, pensioners, and persons receiving public assistance.

9. How is this deficit of 8 milliards made up? The ordinary budget shows a surplus of nearly 9 milliards. The budget of liquidation of the war shows a deficit of 13 milliards, this means that the total of what may be called consumption expenditure shows a deficit of only about 4 milliards; the remainder being due to the deficit in the extraordinary budget. It should, however, be noted that expenditure which is classified as "ordinary" or for "liquidation of war expenses" comprises a fund of 2.5 milliards set up to finance reconstruction and the repair of war damages. When it is realised, moreover, that the policy systematically pursued by the Belgian Government is to work for a balanced budget, it can be seen that the total ordinary revenue would cover not only expenditure on current consumption, but also the cost of private reconstruction.

10. Has this expansion of monetary circulation nullified the results of the financial reform carried out in October 1944? It has not, for monetary circulation is still below what it would have been if those measures had not been applied. It is only 85 per cent. of the peak figure reached immediately after the liberation. It does not exceed three times the pre-war figure, and it is backed by gold and currency assets to the extent of about 50 per cent. All these factors are favourable.

11. Obviously, all these measures for financial recovery were carried out at the cost of a fairly considerable increase in the Public Debt. The latter should finally amount to about 220 milliard Belgian francs when the reform has been completely carried out. However, this debt does not constitute a serious problem; only an insignificant part of it is foreign debt, it being essentially an internal loan. The floating debt is practically consolidated by the obligation imposed on the banks to carry a large section of it in proportion to their liabilities. Moreover, it compares very favourably with those of the principal foreign governments.

12. Such has been the trend of events on the monetary and financial plane.

II

13. How did things develop on the economic plane? At the time of the liberation, industrial production was no more than 35 per cent. of pre-war production. Statistics would seem to suggest that it has now reached 112 to 115 per cent. A goal not reached without difficulties or obstacles.

14. There was and still is the coal problem. The soil of Belgium is certainly rich in coal, but the mines have been deserted by the foreign labour which previously worked them, with the result that coal production which before the war was about 100,000 tons per day is not more than 85,000 tons to-day. This, however, is a marked improvement on the conditions obtaining two years ago, at a level of 50,000 tons, and further, the future development of other industrial production is held up by the manpower problem. But Belgium is pursuing a very active policy of foreign labour recruitment, alike in Italy and among displaced persons including those from the Baltic countries.

15. To the proceeds of home production have been added the proceeds of imports. In the two years following liberation and ending in 1946, Belgium was able to import goods to the value of about 62 billion, herself exporting only 23 billion and, even so, without drawing on her gold reserves. Why this policy of large scale imports? Because it was absolutely indispensable for breaking down price speculation and for reviving economic productive capacity. Imports were required to prime the pump of trade.

16. How was this considerable commercial deficit covered? In great measure through the exchange earned by deliveries by Belgium to the Allied armies, either in the shape of advances for pay or in that of supplies on a lend-lease basis, or partly as mutual aid; and also in the form of loans in United States and Canadian dollars, drawn on to the amount of about 6,000,000,000 francs, and finally by various ordinary sources of revenue such as interest on capital, wages of people working across the frontier, repatriation of capital, and so forth.

17. The result of this large-scale import policy was twofold:—

(i) It effectively broke the speculative rise in prices. Yet the rate of increase in production and in imports was not speedy enough to ward off the rise in costs of production. Wage claims got ahead of the deflationary measures and of putting supplies on sale, so that wages, which it was hoped soon after the liberation would have been kept within 160 per cent. of their pre-war level (almost corresponding to the British wages allowing for devaluation of the Belgian franc in rela-

tion to the pound sterling), have kept on rising to the present level of 320, and to this must be added the high costs of the social services, so that the wage level cannot be very far from 375. Official prices stand at 332. These are certainly high co-efficients compared with other countries.

(ii) Resumption of foreign trade. Exports greatly increased during the first half of 1947 and represented 90 per cent. of of imports, that is to say that the balance of payments, after showing a seemingly large deficit in the first years, is now approaching equilibrium, mainly thanks to repatriation of a pretty big volume of capital. Nevertheless, within this general equilibrium or trend towards it, there are some partial discrepancies in the sense that Belgium is generally a creditor to other European countries, whereas to the United States she is a debtor. Thanks to this general situation, the value of the Belgian franc has remained unquestioned in official dealings. Belgian currency is much sought after in the free markets. The premium for dollars does not exceed 10 per cent. This position has allowed the Exchange Control to be fairly liberal as the two following facts bear witness:—

(*a*) Among the 16 European countries here represented, Belgium has signed 13 trade agreements, which alone involve credits for as much as 6½ milliard Belgian francs. Uncovered amounts exceed that maximum by 1.8 milliard Belgian francs. These figures proclaim how great is the contribution thus made by Belgium to the restoration of Europe.

(*b*) At the same time the Exchange Control has allowed the unlimited repatriation of the Belgian franc. For that reason in markets where it was very depreciated it has been in great demand to meet debts in Belgian francs, a fact which has favoured the raising of its rate of exchange.

III

18. The situation can therefore be summed up as follows: the position in Belgium is a healthy one. There remain however certain weak points, namely, the level of prices and wages in Belgium in relation to those of other countries, as well as the level of public expenditure which remains too high to permit of the establishment of a perfectly balanced budget.

Another weak point is the problem of investments. Estimates have been drawn up to cover about ten years, and amounting to 357 milliards. But as against these large requirements, there is little inclination for Savings and even less for Investment.

19. But how does all this justify the foreign assistance which Belgium is asking?

(i) Belgium's balance of trade with Europe is favourable, but this is offset by an adverse balance with the countries outside Western Europe. If Belgium is to continue this contribution to European rehabilitation in the shape of an export surplus, it is essential that she be placed in a position to continue, and perhaps even to increase, her credits.

(ii) It is true that the general balance of payments trends towards equilibrium, but this equilibrium is partly ensured by the accumulation of revenue from Belgian assets abroad and by the repatriation of capital. This is certainly an encouraging sign of the confidence reposed in the country; but this repatriation of capital being, of necessity, a limited process, the problem of the general balance of payments might sooner or later arise. This balance must, in the last instance, be kept in equilibrium by means of trade in the widest sense of the term.

(iii) Finally, there is the general problem of investments. Undoubtedly, within the next ten years Belgium will be able to cover a large portion of her investments; nevertheless more than 10 per cent. of the investment programme will have to be covered by imports of goods produced abroad.

20. It is for these three reasons that Belgium is interested in assistance from the United States.

(iii) Declaration by the Danish Government

Statement on the Financial Position of Denmark

I. Introductory Note

Since 1924 the Danish State Budget is divided into two sections: a Current Budget and a Capital Budget.

2. The Current Budget comprises expenditure which in principle is covered by means of current income, i.e. mainly taxes and duties, but also surplus earned by State enterprises, interest on State bond holdings, etc. Expenditure which according to its character cannot be covered by means of current income is accounted for on the *Capital* Budget.

3. This division of the Budget between a current and a capital section is of special importance as—also since 1924—depreciation charges on all capital invested in State enterprises and in other State activities are placed on the expenditure side of the Current Budget. These items are consequently covered by means of real current income, an income which is transferred to the Capital Budget.

4. In addition to this real income, since 1924 the Capital Budget is fed by proceeds of the ordinary legacy duty, which is kept completely outside the Current Budget.

5. Besides these items—depreciation charges on capital investments and the proceeds of the legacy duty—the Capital Budget has real income from the sale of State property and from repayments on loans previously granted by the State to, e. g., smallholders, co-operative building societies, etc.

6. On the expenditure side of the Capital Budget are found the sinking fund payments on the public debt which, it will be understood, become a real repayment as long as they correspond to real income on the Capital Budget. Another main item of expenditure on the Capital Budget is State investments in plants, loans, purchases of fixed property, etc. When necessary, the *Capital* Budget is balanced by means of loans constituting an increase in the Public Debt.

II. The State Budget Since 1940

7. During the years of German occupation 1940–45 Denmark was forced to finance not only the German Occupation Army but also the surplus of exports to Germany. These expenditure items were kept outside the State finances and covered by drawings on the National Bank of Denmark, which received a State guarantee for payments made in this sphere. These payments will be dealt with in a following paragraph.

8. During the years 1940–45 the Current Budget of the State was slightly overbalanced. The annual surplus was transferred to a special surplus account which at the liberation had reached an amount of about 200 million kroner (at the end of the financial year 1944–45, i. e., 31st March, 1945).

9. The first financial year after the liberation, 1945–46, showed a completely changed picture. The net result of the total State Budget was a deficit of about 600 million kroner caused mainly by a heavy increase in extraordinary expenditure, e. g., the burden of more than 200,000 civilian Germans transferred to Denmark during the early months of 1945.

10. During the financial year 1946–47 a great effort was made in order to restore the equilibrium in the State finance. As a result of a decrease in extraordinary expenditure and an increase of income—not least due to the introduction of new taxes and duties—the drawings on the National Bank were brought to an end about the middle of 1946, and the Finance Ministry was even able to increase its holdings on its current account with the National Bank by nearly 100 million kroner during the second half of 1946.

11. The accounts for the financial year 1946–47 have not yet been laid before the Danish Parliament, but the final budget estimates showed a surplus on current account of a few million kroner. There is no floating debt, either in the form of outstanding Treasury bills or of drawings on the National Bank. It must be stressed that the Danish kroner proceeds of two external State credits, Swedish kroner 110 million and U. S. dollars 20 million (used in payment of import of goods) have been paid into a special account of the National Bank and not into the current account of the Finance Ministry.

12. Efforts aiming at a monetary contraction which, as mentioned above, for 1946–47 manifested itself in the attainment of a balanced Budget, have been continued during the current financial year 1947–48, for which at the present time a certain profit is being expected.

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III. The Costs of German Occupation

13. As mentioned above, the costs of the German occupation were covered by the National Bank of Denmark under State guarantee. Already in 1942 this guarantee led to the creation of a special item, "Government Regulation Account", on the assets side of the balance sheet of the National Bank. The account showed an amount of 125 million kroner accruing from the revaluation of the Danish krone in 1942. Of this amount the State covered only 40 million kroner during the occupation years, and the amount due by the State therefore stood at 85 million kroner in May, 1945. At the same time the National Bank's German assets had reached the figure of 7,900 million kroner. After certain reductions of a more or less formal character these assets at end of 1945 were transferred to the "Government Regulation Account" which together with the old balance, 85 million kroner, stood at 7,611 million kroner at the end of 1945.

14. Since then the outstanding amount on this account has been reduced very considerably by means of various State financial measures. This effort of the State has, taken together with the restoration of the equilibrium in the State budget, directly contributed very much to the re-establishment of sound monetary conditions.

15. On the balance sheet of the National Bank as per 31st July, 1947, the "Government Regulation Account" stood at 6,004 million kroner, showing a net reduction of 1,500 million kroner. Various acts in force are expected to yield another 1,000 million kroner bringing the account down to 5,000 million kroner.

16. Among the financial measures which contribute to the reduction of "Government Regulation Account" may be mentioned the proceeds of a capital levy on the increases in wealth and on wealth in general. This tax is being levied during the present year. On 23rd July, 1945, all National Bank notes were called in and exchanged for new notes, and a general registration of bonds and shares as well as of deposits in banks and savings banks took place. At the same time taxpayers had to give an extraordinary specified declaration on their wealth. The proceeds of the cancelling of notes and the counter-value of non-registered bonds, shares and deposits and fines for tax evasion were paid to the credit of the "Government Regulation Account". The proceeds of various special acts dealing with the activities of the Germans are used in the same way. The proceeds of various taxes and duties, some of them having been collected since 1942, are kept outside the State budget and used for the reduction of the "Government Regulation Account".

IV. The Monetary Effects of the State Financial Measures

17. The comprehensive State financial measures for the reduction of the "Government Regulation Account" are in reality aiming at the reduction of the excessive purchasing power created in Denmark during the German occupation. The effect of the measures in the monetary system of Denmark is best illustrated by the following figures:

18. The sight liabilities of the National Bank of Denmark (notes in circulation and deposits belonging to the Government, to banks, savings banks and to others) show the following development since the liberation:—

	Million kroner
April 30th, 1945	7,703
December 31st, 1945	7,814
December 31st, 1946	6,231
July 31st, 1947	5,476

On the eve of the German capitulation the note circulation reached the record figure of 1,700 million kroner. On July 31st, 1947, it was 1,462 million kroner against 1,482 million kroner on July 31st, 1946.

(iv) Declaration by the French Government

The Internal Financial Situation in France*

I. Progress Since the Liberation

1. At the time of the liberation the internal economic and financial situation in France had two essential characteristics.

First of all, prices and wages were seriously dislocated. The index for wages, the latter having been maintained at a very low level during the occupation, was 165 (as compared with 100 in 1938), whereas the retail price index was 290 and the wholesale 266. Further, the purchasing power of a large part of the population was even lower, for the index figures referred to the trend of official prices, while a substantial proportion of the expenditure on food was at black market prices. Consequently, a sharp increase occurred at the moment of the liberation; wages were raised by at least 40 per cent. during August and September, 1944. Secondly, the amount of money in circulation was out of proportion to the volume of trade; in September, 1944, the index for notes in circulation was 600 (as against 100 in 1938), whereas the level of industrial production index was 21 and the average price index 278. This situation was essentially due to the high payments imposed upon the French Treasury during the occupation. For the same reasons, the floating debt had greatly swollen, rising from 90 billions in 1938 to 585 billions in August, 1944.

2. Developments during the three years following liberation were determined by three main factors.

Insufficient level of production. After a difficult start in 1945, substantial progress was made in 1946, thanks to increased production and imports of coal, so that the general index of industrial production rose to 90 towards the end of 1946 (100 in 1938); since that date, however, it has not been possible to regain the level reached in 1938, and this is all the more serious because from the point of view of production 1938 was a bad year (75 per cent. of 1929).

The burden of military expenditure required for carrying on and winding up the war: this amounted to one-third of total

*This note deals essentially with the problems of public finance, which the French Delegation deems fundamental.

public expenditure in 1945, nearly 30 per cent. in 1946, nearly one-quarter in 1947.

The costs of reconstruction and equipment. In 1946 and 1947 this outlay represented nearly a quarter of the total public expenditure, and at that rate about twenty years would be required for reconstruction.

3. Notwithstanding these difficulties, the general state of the budget has grown steadily sounder. If for 1945 and following years we distinguish between the ordinary budget and the special budget for reconstruction and national equipment—on the basis of calculation adopted for the year 1947—it will be seen that the ordinary budget showed a deficit of 281 billions in 1945 and 111 billions in 1946, whereas for the present year it is practically balanced. The percentage to which the total expenses of the Treasury are covered by revenue has risen from 39 per cent. in 1945 to 53 per cent. in 1946 and to about 70 per cent. in 1947. This result was not reached without repeated efforts in preparing each budget and those efforts were supplemented by the exceptional measures adopted in 1947.

4. In the same period the issue of public loans became more and more difficult. A great volume of savings was necessary to restart production, the more so because stocks which had gradually become exhausted during the war had to be reconstituted. Yet the rise in wages reduced the possibilities of subscription by private concerns; the increase of prices made saving by private individuals very difficult; at least it made investments at fixed rates of interest much less attractive.

The only important issue was the Liberation Loan at the end of 1944. In 1945 the budgetary deficit could be met more easily as a result of the exchange of notes which had taken place; but the Government had to have recourse to the Bank of France and ask for advances amounting in 1946 to 72 billions and in the first 6 months of 1947 to 63 billions.

The law of 25th June, 1947, provided for exceptional measures such as special taxes to meet the costs of reconstruction and equipment so as to avoid undue claims upon the Bank of issue in the last months of 1947.

Nevertheless the level of the floating debt still causes some anxiety; the amount of Treasury bonds in circulation is still over 600 billion francs, two-thirds of which are held by the banks. That is why private Treasury difficulties can bring in their train redemption of bonds on a large scale. So long as the situation is not consolidated, the Treasury equilibrium will remain precarious.

II. Future Outlook

5. Future possibilities are governed above all by the increase of production, which in turn depends mainly upon:—

the quantity of coal which the French economy will be able to get; the extent to which France will be able to go on buying abroad the supplies she needs.

6. In view of the additional burden laid upon the Treasury due to the increase of wages and prices, and the disappearance of certain exceptional resources, new and strenuous efforts will have to be made in 1948; the target to be aimed at may be defined as follows:—

(i) to cover out of current budgetary receipts all ordinary civil expenditure, the whole of military expenditure and expenditure for reconstruction, exclusive both of payments for compensation of private war damage and of expenditure for industrial equipment. This can be done by further reduction of civil and military expenditure and by increasing the revenue from taxation; to that end efforts are being made in these two directions, on the one hand, through the Committee set up to carry out the economies decided upon by the law of the 25th June, 1947, and, on the other hand, by the Committee entrusted with the preparation of the fiscal reforms which are to be submitted to Parliament in October 1947.

(ii) Assignment of all resources derived from internal or foreign loans for expenditure not covered by current receipts, i. e. for the reparation of private war damage, and for public expenditure on industrial equipment.

The Government's policy is to bring the amount of this expenditure into line with the receipts which can be expected from national savings and external assistance, in order to avoid any increase in the advance to be made by the Bank of France to the State for the year 1948.

7. In pursuance of this policy and in order to carry out its firm intention to proceed with the necessary reforms, the French Government has decided to draft, before the re-opening of Parliament, a complete programme of financial stabilisation. A Working Committee, presided over by the Prime Minister himself, and including the Minister of Finance, the Minister of National Economy, the Minister in charge of the Plan, the Governor of the Bank of France and the Commissioner General for the Plan, was created on 10th September and met for the first time on that day. This Committee will submit its first conclusions to the Government before 1st October and will finish its work in such time as to enable its findings to be submitted to Parliament immediately on its re-opening.

(v) Declaration by the Greek Government

The Economic and Financial Situation in Greece

I. The Government's Return to Greece

Liberation found Greece not only with an economy completely upset:—

production reduced to nothing;
agricultural means of production disappeared through the war (all tractors, half the draught animals and 130,000 houses destroyed);
factories and industrial buildings devastated;
communications and transport non-existent;
warehouses empty and all stocks disappeared;
no imports;
no exports;

but also with a *galloping inflation*, hence—

no currency, no savings or credit;
no public finance.

The problem which the Government had to attack on its return to Greece was not simply one of reorganisation but of the complete reconstruction of the country's economy.

II. Introduction of a New Currency

The 10th of November, 1944, marks the beginning of a new financial period. A new currency was put into circulation at the rate of 50 billion existing units in exchange for one new unit. At the same time, the parity of this new unit was arbitrarily fixed at 600 drachmas to the pound sterling and consequently 150 drachmas to the dollar.

The purchasing power of the notes in circulation scarcely exceeded, during the occupation, an amount of 400,000 sovereigns as against an amount of more than 8 million sovereigns of fiduciary money before the war. Although the volume of transactions was itself very reduced at this time and barter was widely resorted to, this amount of money was obviously insufficient. That a larger monetary circulation was not required was due to several million sovereigns which came into

circulation during the war. Inevitably, a population which had become accustomed for three years to fix prices in terms of sovereigns but was informed of world prices, was not slow, more particularly in view of the great shortage of goods, to fix internal prices at the level of current world prices, giving at the same time a value to the new currency in terms of gold.

III. Assistance in the Form of Food

Greece has had the benefit, from the date of her liberation, of external help in the form of food. It was first the relief given by the British Military Liaison and afterwards the relief given by U. N. R. R. A., but this relief has necessarily been much too small and too limited. Consequently, while it has been possible to control the price of bread, it has been impossible to control the price of other goods.

This discrepancy grew less as imports by U. N. R. R. A. increased, but it has never disappeared. The following factors were certainly not favourable to a complete economic recovery, and consequently to financial stability: the wholesale pillage of stocks during the war, the insufficient domestic production before the war, the restriction of post-war imports to bare nutrition and the limited import of reconstruction goods which resulted in a slow and inadequate recovery of the country.

IV. Public Finance

Since November, 1944, the introduction of a new currency has been accompanied by drawing up a budget based on the new drachma. Expenditure has, of course, been limited to a *famine budget.* Despite this reduction of expenditure, despite little or nothing having been allocated to the reconstruction of the country, the post-war budget problem proved insoluble. It was not a question of cutting down expenditure, but of finding any revenue for the State.

The revenue of the Government has always been based on import duties and certain consumption taxes. Before the war, there were also direct taxes, but although the rate of taxation was high, the actual amount collected was small. National income being largely made up of agricultural income which could hardly be taxed, the greater part of industrial revenue itself being derived from the processing of agricultural products or arising from products consumed by the agricultural population, almost the whole of the direct taxes fell only on certain categories of the population.

The national income as a whole being the lowest in Europe, and the agricultural income being even lower in view of the small amount of land which the agricultural producer works, these incomes themselves

having been enormously reduced by the war, it follows that, in this post-war period, there could be no hope of a stable and permanent budget equilibrium.

The post-war budgets are characterised by receipts coming largely from the sale to the public of food and equipment goods imported by U.N.R.R.A. However, these goods, being a gift, could not be subjected to taxation. They have had to be distributed at a very low price which hardly covered the expenses which fell on the State for distributing them.

V. Revolution of December 1944

Unfortunately, the discrepancy between currency and prices, particularly gold prices, which began with the introduction of the new currency, was greatly accentuated by the attack by armed communist bands which followed. The capital having been suddenly cut off and thus deprived of all foodstuffs, the rise in prices continued and was greatly accentuated, for the armed conflict lasted nearly a month. Although the National forces were finally successful, this did not mean the end of disquiet and uncertainty. The communist bands laid down their arms but lack of confidence persisted and, indeed, increased.

This lack of confidence could not fail to have a very bad effect on production, currency and prices. Thus, from the first days of the Liberation, Greece was already going down the slopes of inflation. The trouble grew worse and could not be arrested until towards the end of 1946 and the beginning of 1947.

The lack of confidence persisted because people knew only too well what would happen in the fairly near future. Some armed bands had laid down their arms, but others had fled towards the north in order to re-equip themselves, train themselves and return to the attack much better armed and prepared.

VI. A First Devaluation

If account is taken of the fact that, on 10th November, 1944, there was no currency, the post-war volume of circulation represents at any moment the accumulated budget deficits, together with the advances and credits which the Bank of Greece has had to make to public institutions and various organisations in order to get production started again and to get goods into circulation.

The circulation of currency, including these advances, has never since the war exceeded the pre-war amount. It has been less and remained less, because the volume of transactions itself has been, and still is, very much reduced, and also because sovereigns have continued

to form the chief currency in which business is done and money hoarded.

The great gap between prices and the purchasing power of currency was corrected (or at any rate an attempt was made to fill the gap) by a devaluation which took place in the month of June, 1945. These hopes were vain no doubt because devaluation did not go far enough, but also because the conditions required for a reliable and lasting stabilisation of the currency did not exist.

VII. No Exports, No Foreign Exchange

Even if it had been possible to hope to balance the budget, even if it had been possible to keep the volume of the currency in circulation within reasonable limits, even if this volume could have been increased in anticipation of an increase in business, other conditions were lacking, namely, a plentiful supply of goods and confidence.

Owners of sovereigns were willing enough to part with this unproductive form of currency, and farmers or those who market foodstuffs or owners of other goods were willing to part with them, but they wanted in exchange foreign currency or goods. But they were only offered paper currency, the fate of which was unknown and uncertain. Bank notes were in principle convertible into foreign exchange at the Bank of Greece, but in fact they were not, since the Bank's foreign exchange resources would soon have been exhausted. Warehouses were empty, imports had ceased for five years, there was a world shortage of consumption goods, and the country required capital goods. Thus, even those who possessed foreign exchange or gold, were not able to import goods.

The fundamental fact in the position is that no central bank in the world can meet a continual stream of imports if there is not at the same time a continual inflow of foreign exchange. But nothing was being exported. It is true that there was not much to export, but it is also true that nobody at present wants Greek goods; Greek exports never having been goods of prime necessity.

VIII. The Volume of Imports

It is true that the immediate post war period was characterised by an inflow of foreign exchange, especially of dollars coming from emigrants living in America, but this inflow was not comparable with that of 1938 and 1939, particularly not in terms of purchasing power. The other invisible items in the balance of payments are insignificant or non-existent. The greater part of the merchant shipping, which was

once flourishing, is now at the bottom of the sea. It yields nothing or practically nothing. In addition, there are no receipts from tourists.

The above sources of foreign exchange were vital to the country to pay for essential imports. No doubt U.N.R.R.A. imported a lot, but it is quite certain that these goods did not always arrive at the proper time and that they did not cover all categories.

Such foreign exchange as does come in is precious, and is very carefully spent. The Central Bank possessed at the beginning of the war foreign exchange worth not more than $50 million at the par rate, when annual pre-war imports of agricultural products or of agricultural means of production alone amounted to something approaching this sum. Of course, to-day many more dollars are needed to import the same quantity of goods as pre-war. Many more dollars still would have been needed to import manufactured goods or equipment for production.

No-one denies the valuable help which U.N.R.R.A. gave to devastated Europe. Its help has been appreciated and recognised in Greece more than anywhere else, but in fact U.N.R.R.A. only imported an average of 1,500,000 tons of goods and equipment as against 3,000,000 tons of current imports before the war. Moreover, these imports consisted mainly of cereals and wheat, and hardly at all or not at all of manufactured and capital goods. These figures speak for themselves, but one must remember, in order to form an exact view as to the relative importance of this help, that post-war needs were and are larger than pre-war needs. One must not forget that post-war internal production is smaller than pre-war. This is particularly true of agricultural production. On the other hand, equipment needs cannot be compared with those before the war. Must not the destruction and losses suffered by Greece be translated into imports; must they not be made good by an increased volume of imports? Greece not being sufficiently industrialised cannot by its own means build up again the capital equipment destroyed and lost through military operations, but this equipment must nevertheless be restored sooner or later if there is to be any hope of re-gaining pre-war production.

IX. Efforts at Recovery

In considering the post-war financial difficulties of Greece, it must not be supposed that there has been any failure to make all possible efforts required for the economic recovery of the country since 1945–46.

(*a*) Agricultural production has been better than during the war, but still cannot be compared, even remotely, with the pre-war standard. It is true that the communist insurrection was sup-

pressed at the end of December, but it was only much later that order and security were enforced in the country districts. The season for sowing wheat was already passed. Nevertheless, a very considerable area has been cultivated.

Areas Cultivated for Cereals in Greece, 1938 and 1945–46

(Hectares)

	1938	1945	1946
Wheat	861,744	675,553	760,811
Barley and oats	332,409	257,630	268,499
Other cereals	123,382	89,287	101,626
Maize	280,051	205,179	208,300
Potatoes	—	15,800	26,200

But a satisfactory output was not to be expected. It must not be forgotten that all the tractors have been destroyed, lost or pillaged as the result of the war. Out of 802,600 draught animals which the country possessed before the war, there remained only 485,000, all in a deplorable state through under-nourishment during the four years of occupation.

The import by U.N.R.R.A. of concentrated fodder has greatly helped to restore these animals. Since the spring of 1945, U.N.R.R.A. has imported some tractors. Later on, other agricultural machinery also arrived. By the middle of 1946, there were again 1,450 tractors. Recourse was had to tractors because there is as yet no possibility of importing animals. In fact, it has only been possible to import about 20,000 animals. The gap brought about by the war has not been bridged. Despite the use of a considerable amount of chemical fertilisers, production has been smaller than was hoped, and also less than pre-war.

Production of Cereals in Greece, 1938 and 1945–46

(Metric tons)

	1938	1945	1946
Wheat	980,000	375,040	700,000
Barley and oats	586,000	127,000	250,000
Other cereals		42,833	100,000
Maize		141,000	160,000
Potatoes	—	128,100	230,000

But one must have no illusions as to the extent of the results achieved. 1946 was a year of exceptional harvest, and at the same time it was a year of rains which were not torrential.

A large part of this harvest would have been lost if the rains had flooded the plains. The work on land reclamation successfully achieved after so much effort and as the result of very burdensome loans, largely destroyed as the result of war, required the re-importation of the greater part of the equipment for construction and maintenance which had been used and was still being used for the completion of this work. There will never be any security for agricultural production if these hydraulic works are not re-built and developed.

Moreover, it must not be forgotten that little or nothing has been achieved as regards the reconstruction of houses and and agricultural buildings.

Production is greatly hindered by the fact that a large number of agricultural workers have not yet been able to find a home near their fields again, or else live under deplorable conditions and work their fields under uneconomic conditions. Much less satisfactory results were achieved in other categories—tobacco, dried or fresh fruit, etc.—which are the most valuable products of Greece. The incentive was lacking. Production was not increased because it was realized that there was no possibility to export, but these products constitute the chief, not to say the only, items on the receipts side of the trade balance.

(*b*) Immediately after the Liberation, the greatest attention was paid to putting back into a working condition railways, roads, *ports and canals* damaged on a very large scale during the war.

Since the railways could not be brought back even temporarily into working condition in any short space of time, in view of the total destruction of bridges and technical installations and the carrying off of all the rolling stock to the countries north of Greece, particular attention was paid to re-making the roads. To make use of the roads, it was easy to obtain new lorries and the lorries made unusable during the war could be repaired. Some months after the liberation, more than 10,000 lorries were in circulation, of which about 1,000 were provided by the British Military Liaison, and about 5,000 by U.N.R.R.A. Simultaneously, a large part of the network of roads had already been made usable.

At the same time, a start was made with *rebuilding the railways.* In the autumn of 1946, the following results had been obtained:

Length of railways in 1939	2,679 kms.
Part usable at liberation	680 kms.
Temporarily repaired	2,232 kms.
Percentage repaired	83 per cent.

But we must not be deceived. The small percentage missing (17 per cent.) represents *destruction of great importance.* On the principal line in the country coming from the north to south (Salonika-Athens) there were lacking in July, 1947, all the large bridges and viaducts, and the tunnels are still obstructed. The line is worked in sections. There is *no through running.* It is the same for the line going east to west in Macedonia. Salonika is not and will not be connected with the west of the country for some time. Several large bridges will have to be imported complete.

The position as regards rolling stock is very much the same. In one way or another, about half the locomotives or wagons which were destroyed or damaged by the enemy have been restored. *Two-thirds of the pre-war* rolling stock are missing. Temporary repairs have also been undertaken at *the ports.* Means have been found to make them usable, if only partially. Their final reconstruction is held up by lack of construction equipment (cranes, etc.). Such is also the case of the Corinth Canal, although this canal is a link in the east and west sea routes. Transport by sea is made difficult or impossible, and consequently land transport is over-burdened.

X. Restrictions and Regulations

Similar efforts have also been made as regards other sectors of activity. But the results were not better than those achieved in agriculture and transport. A year after the liberation, there were exactly the same economic difficulties and consequently the same financial difficulties as the day after liberation.

Thanks to the help given by U.N.R.R.A., a more or less adequate food ration has been assured for the whole of the population, but it has not been possible to get the economic life of the country *moving in a regular or quick way*, and it has not been possible to provide incentives to production or to business. This means disaster to public finance and to currency.

The regular and prompt distribution of food no doubt is the first effort to make, and is of the greatest help, but it is not enough. The needs of the people are not limited to bread, particularly when these people have been *deprived of everything* during four years of the *most cruel occupation* which had only just come to an end. A people deprived of everything for four years needs something else than bread. They need clothes, boots, etc. But the country produces *little or nothing in the way of manufactured goods*, and the imports of such goods are very insufficient.

The consequence has been that, save for a ration given by U.N.R.R.A. at a low price, all other goods were sold at exorbitant prices, whether

these goods were agricultural or industrial, whether they were made at home or imported, whether newly manufactured or taken from private stocks which the enemy had been prevented from stealing. It would surely have been much better to have had much less help in the way of consumption goods and *much more help in the way of capital goods.* Greece *does not want charity.* It is the capital which Greece needs in order to recover and to work to produce, to export and to import, to be of use during the peace as she has been of use and value during the war.

Restrictions and controls—that is the watchword of this epoch—steps sometimes justifiable but more often unfortunate. When the State controls all imports or when domestic production can be exactly known and this production is concentrated or directed by a small number of people, controls and restrictions are always possible even though they do not always lead to fortunate results.

When the active population of a country is composed only of small producers whose production is scarcely sufficient for their own needs and when theft and pillage are fresh in their memory, compulsion produces results very different from those intended. This was the case in Greece in 1945. Production not only did not increase, but it diminished. Business fell off, credit never existed, the population preferred to hold its sovereigns or goods rather than to acquire a currency which lost value every day. A year after liberation, the currency had already lost 97 per cent. of its value.

XI. The Second Devaluation

The month of January, 1946, saw a second official devaluation of the currency; the pound sterling passed from 2,000 to 20,000, and the dollar from 500 to 5,000 drachmas. At the same time, the British Treasury granted a loan of £10 million to support the currency. The period which followed this second devaluation, inspired by a *more liberal* policy from several points of view, is above all characterised by a currency policy based on the sale of sovereigns to the public. In fact, in 1946/47 the currency remained stable in relation to gold.

The liberal policy followed in 1946 also influenced both production and business within the country and also imports. As the result of very considerable imports, a part of the money in circulation was turned into goods or foreign exchange. A further part was turned into sovereigns. Even prices showed a tendency to fall. The budget developed in a satisfactory direction. In a word, relative confidence prevailed. At the same time, since there were no exports, the foreign exchange holdings of the Bank of Greece decreased.

But we must make no mistake. Stability, even in a relative sense, had not been reached. The liberal steps taken in 1946 re-started trade, goods came on to the market, buyers were found here and there, but the general level was always very low.

Domestic production is far from having reached satisfactory results. It is about 75 per cent. in relation to 1938. It cannot be got further beyond this point. The means of production, which were devastated, destroyed or stolen, have only partly been restored. This is, thanks to the help of U.N.R.R.A., indicated above. The national income has always been much too low to permit investments. These unfavourable conditions arising from the nature of the country are without doubt more burdensome now that the income is below the average.

Even if the income at the present time were sufficient, one could not hope for a rapid reconstruction of the country. Without exports and without foreign exchange it is difficult, not to say impossible, to obtain reconstruction goods, but if the country is not reconstructed, how can it return to the pre-war level? How can it hope for even partial recovery or for financial stability?

Conclusions and Prospects

(a) Security above all

From what has been said, numerous conclusions can be drawn, but certainly one comes first, and is most important. As the first priority, it is necessary that order should be re-established in the country and that security should prevail. Unfortunately, to bring back security does not rest with Greece. This security is indispensable not only from the economic point of view, but also from the financial point of view above all. More particularly, production can never improve so long as the farmer is not sure whether he will be able to bring in his harvest at the right time, whether he will recover from his harvest the cost of the fertilisers and the work which he has put in to reap the harvest. Production will never increase so long as the agricultural worker is not sure that he will be able to reap the fruit of his money and of his work.

Goods will never circulate freely, transport will always cost more and more, prices will never be stable and tendency for prices to rise will never be checked until there is security for goods and persons to move about.

Until there is security there will never be sound and stable finance. One cannot count on one's plans being realised any more than one can count on collecting taxes under a reign of distrust and fear. So much for receipts. But there is also the other side of the picture.

When already before the war the budget was so slender, because the national income was insufficient, that it was never possible for extraordinary expenditure, such as that of a war, to be covered by ordinary or by purely domestic receipts, it is evident that expenditure of the magnitude at present required can certainly not be covered out of the resources of the country alone when the national income is much less even than it was before the war. A budget deficit means issue of paper money, inflation, financial disaster, economic catastrophe, while a balanced budget means just the opposite.

(b) War Devastation

The question of security apart, the next major problem is that of reconstructing the country; the problem of knowing how and when this country will one day find again its pre-war productive capacity and thereby its economic and financial stability.

Of course, all the countries of Europe have suffered devastation. Whether a country has or has not had war on its territory, whether a country has or has not been occupied for a long time, everyone knows, and it has been too often repeated that Europe is impoverished. The figures of the Reparations Conference, incomplete and inexact as they are, bear witness both to the extent and character of the damage and the extent of this impoverishment.

The losses suffered by Greece are shown as amounting to 15 billion pre-war dollars and this figure has since been shown to be much below the truth. Since the pre-war national income hardly exceeded 550 million, this loss represents nearly 30 years' income.

However striking this figure of 30 years may seem, one can only form a concrete and exact idea of the loss suffered by the country if one remembers how this national income was made up, and the part of this national income which, before the war, could be directed into investment, whether in capital goods, stocks of commodities, capital works, machines, trees or houses. For the rich countries with a large income and consequently with large investments, this loss represented the savings of 5 or 10 years, and consequently these losses could easily be made good by a slight reduction in the level of the standard of living. For a country like Greece, where almost the whole of the national income was barely enough to provide even a modest standard of nutrition, where investment was more modest still; for a country like Greece, where land improvements and public and private works were largely carried out by foreign capital, where the capital of banks, businesses and industries, machines and goods was still imported; a country where even private houses, hospitals and charitable institutions are also equipped with imported capital and material, losses

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and damage to the extent of 15 billion represents the saving and economies of several decades, if not of a whole century.

These losses are all the greater for a country such as Greece, where savings do not always represent savings made within the country itself, but to a large extent come from savings made outside the country and which cannot be made over again since those who made them are no longer in the place where these savings were acquired.

(c) The Problem of Reconstruction

To the above consideration, one must add that the construction of all the large public works in Greece has always been made dependent on the amount of the surplus on its balance of payments. Since the balance of payments has never shown a surplus, all the major works have been carried out with equipment, material and machines supplied on credit from abroad.

Hence in the present circumstances, where the national income is half what it was and the balance of payments not only shows a deficit but there are no reliable receipts (*i. e.*, no exports), it is obviously impossible to reconstruct the country even in an elementary sense without external aid or credits, particularly as regards equipment, construction materials and machinery.

Even so the reconstruction of the country will be long, and will never be complete. One can only recover what has been lost after very many years, one cannot yet say how many years. For in considering the pace of reconstruction, we must remember the internal factors; that is to say, the availability of labour and resources, not to speak of even more decisive factors, namely, the financial situation of the country, the stability of the currency and the development of public and private credit.

But has not the financial situation in fact been affected by the slow pace of reconstruction? Is not the financial situation bad to-day precisely because it has not been possible to make any serious progress towards the economic reconstruction of the country? No doubt something has been done as stated in paragraph 9, but there is still much left to be done. It has not even been possible to restore the system of communications, internal transport and sea transport; the most elementary means of agricultural production are still lacking, industrial production is far from having attained its pre-war level, and the fishing industry is languishing.

(d) The Development of Exports

Economic recovery in Greece and the restoration of its productive capacity really depends on the reorganisation of its agricultural production. As stated above, the national income was mainly derived from agriculture (37 per cent.); the revenue from trade, credit oper-

ations or even in certain cases industry is also largely derived from dealings in agricultural products or the processing of these products.

Let us go a step further. When we speak of the pre-war level of production we do not only mean wheat, cereals or vegetables. The analysis of agricultural production shows that the agricultural income was for the greater part made up of produce other than cereals. Tobacco, fruit and olive products were the most important.

Tobacco leaf	$41.1	millions
Dried fruits	30.5	"
Wines and spirits	20.4	"
Olive oil and olives	20.3	"
Wheat	41.0	"
Cereals	30.0	"

Now let us see what has been the position as regards the production of goods like tobacco, fruits, etc. As concerns dried fruits, olive oil, etc., it may be said that a certain proportion used to be exported. In the case of tobacco, however, nearly the whole crop was exported.

Pre-War Production of Tobacco and Fruits in Greece

	Production	Exports	Percentage Exported
	Metric tons	*Metric tons*	
Tobacco	52,000	45,000	86
Dried fruits	250,000	135,000	54
Fresh fruits	420,000	21,000	5
Olive oil and olives	150,000	30,000	20

It must be remembered that the principal items of the Balance of Payments itself were made up by the export of these goods:—

	(Millions of dollars)
Tobacco	74.6
Fresh and dried fruits	
Oil and olives	
Wines	
Minerals, skins	15.5
Sponges and manufactured goods	
Invisible receipts	54.7

The conclusion is that everything possible must be done to return to the pre-war level of production but also to find markets for these goods.

(e) Possible Markets

In paragraph 10 it was shown that before 1930 the greater part of the produce traditionally exported was taken by the countries of the West. Without going back so far, we see that in the years before the

war these products were normally exported to the following countries:—

Pre-War Destinations of Greek Exports of Tobacco and Dried Fruits

Product	Countries	Metric tons
Tobacco	Germany	27,000
	U. S. A.	9,000
	Participating countries (total) of which	7,500
	Italy	1,400
	Sweden	1,200
	Austria	1,100
	Belgium and Luxemburg	1,100
	United Kingdom	500
	Switzerland	400
	Denmark	270
	France	400
	Norway	150
	Non-participating countries (total) of which	4,000
	Poland	900
	Finland	1,000
	Czechoslovakia	1,200
	Hungary	350
	Egypt and others	3,500
Dried Fruits	United Kingdom	50,000
	Germany	35,000
	Netherlands	12,000
	France	2,500
	Czechoslovakia	1,500
	Poland	1,500
	Hungary	1,200
	U. S. A. and others	3,500

In the case of tobacco, it must be remembered that the tobacco imported by Germany was not entirely consumed in that country. Part was re-exported to Germany's neighbours. Germany acted as distributor and banker. Hence it may be inferred that the countries of the North Sea and Central and Eastern Europe consumed larger quantities than are shown by the statistics. All these countries, not being themselves producers, could certainly consume much larger quantities of European tobacco mixed, if necessary, with other tobacco.

The future import needs of the various participating countries for tobacco may be estimated as follows (left hand column). The right-hand columns show respectively the amounts actually taken in 1938 and those which might be taken in 1949 from Greece.

Estimates of Future Exports of Greek Tobacco to Participating Countries

(Thousands of metric tons)

	Needs	1938	1949
United Kingdom	134.0	0.5	10.5
France	—	.4	5.0
Netherlands	30.0	.9	3.0
Belgium	25.0	1.1	2.5
Denmark	10.0	.3	1.0
Switzerland	10.0	.4	1.0
Sweden	9.0	1.2	.9
Austria	9.0	1.1	.9
Iceland	6.0	—	.6
Italy	56.0	1.4	.5
Portugal	5.0	—	.5
Germany	150.0	24.0	20.0

(f) Balance of Payments

The balance of trade has always shown a deficit in Greece as was indeed the case for all the countries of Europe. For example, the balance of 1938 is as follows:—

Excess of Greek Imports over Exports in 1938

(Millions of dollars)

Imports:	
Food	37.8
Agricultural machinery	3.8
Various fuels	13.2
Iron and steel	7.3
Transport	9.0
Timber	5.2
Other raw materials	16.1
Manufactured goods	41.8
TOTAL IMPORTS	134.2
Exports:	
Tobacco	46.5
Dried fruits	15.0
Olive oil and edible olives	7.8
Fresh fruits, fresh vegetables, wines, etc	5.3
Minerals, skins, sponges	6.8
Manufactured goods	8.7
TOTAL EXPORTS	90.1
DEFICIT OF THIS BALANCE	44.1

Obviously there is no hope of surpluses in the years to come at a time when domestic production is and will for several years be a great deal below pre-war; as goods at present imported cost a great deal

more than before the war, while exportable agricultural goods command a very low price in relation to the price of imports. The following table of the pre-war balance of payments and estimated future balance is the best possible evidence. The points to remember about these pre-war figures are:—

(i) that the total receipts from miscellaneous exports (other than tobacco) have always served to cover the value of food which the country needed to import;

(ii) that the value of tobacco exported did not quite cover the value of manufactured goods imported, and

(iii) that the invisible receipts as a whole covered imported raw materials.

Greek Balance of Payments for 1938 and Estimates for 1948–51

Receipts

(Millions of dollars)

	1938	1948	1949	1950	1951
Various exports	43.6	103.2	115.7	144.3	173.3
Tobacco leaf	46.5	66.0	96.0	110.0	120.0
Invisible items	54.7	47.5	49.7	57.0	62.5

Expenses

	1938	1948	1949	1950	1951
Foodstuffs	41.6	236.9	180.6	169.8	165.6
Manufactured goods	50.8	70.3	80.5	91.6	103.2
Raw materials	44.8	70.7	76.4	83.8	93.7

One certainly cannot expect to see this situation repeat itself in 1948 or 1949, always assuming, in any case, that the reconstruction equipment could not be covered by normal receipts in the balance of payments. The coming years will leave a deficit both in the balance of payments as a whole and in the categories set out above taken individually. The deficit in all probability will continue up to 1951 inclusive, although the volume in tons of the imports will remain, for current needs, less than the pre-war volume, and although every effort will be made to produce the greatest possible quantity of exportable agricultural products. (See Tables 3 and 4 of the Balance of Payments Report, pages 113 and 114 of Volume I.)

Moreover the items examined above individually will be less unfavourable in 1951 than the balance of payments taken as a whole. In fact if markets could be found for the various products included in the item "miscellaneous exports," it might be hoped to cover by degrees

the imports of raw materials, although in 1951 it will still be necessary to import very large quantities of these materials. It should be mentioned, however, that their value has been taken on the basis of present prices. The amount shown in the balance of payments could be reduced if the prices of imported agricultural products move downwards; it may be assumed that the price of the products exported would also in that case have to be reduced.

As regards the second item, tobacco—manufactured products—the situation will also be favourable, provided that one can assume that around 1951 economic equilibrium will be restored, and that from then onwards prices will also vary in the same proportion both for tobacco and for manufactured goods.

One cannot express the same degree of optimism as regards the third heading. Greece will not be able to obtain the necessary raw materials because the invisible receipts have fallen since the war and will certainly not return to their former level. As the result of this, the deficit in the balance of payments will in all probability continue up to 1951.

(g) Necessity for Industrialisation

The pre-war balance of payments, such as it was, had been achieved thanks to the methodical and continual industrialisation of the country during some 15 years. Efforts were mainly directed towards the processing of the agricultural products of the country or finishing imported agricultural products. This refers in particular to the cotton, wool and leather industries. These industries alone covered 72 per cent. of the total industrial production.

	(*Millions of dollars*)
Food	21.6
Textiles	33.7
Agriculture	9.1
Wood	9.6
Leather	9.3
Paper	3.9
Tobacco	2.1
TOTAL	89.3
Other industries (chemical, engineering, metallurgical)	34.4
TOTAL	123.7

Industrialisation on similar lines will, no doubt, continue in future, so that the total volume of industrial production will increase. It must not, however, be forgotten that the population of the country will increase also. Consequently the needs will increase in proportion.

However satisfactory the above efforts may appear, they do nothing to solve the fundamental difficulties of the economic situation. Even

if by these new efforts the constantly increasing needs of the population for industrial products can be met from home manufactures, there is no quick way of bringing about an increase in agricultural production and thus covering the continual increase in the needs of the country for foodstuffs. The country will therefore have to import larger and larger quantities of foodstuffs.

The conclusion to be drawn from the above, taken in conjunction with the observations made in the paragraph on the balance of payments, is that industrialisation must move forward at a more rapid pace, and if possible, towards the production of raw materials, most urgently needed for reconstruction, which, as the Reports of the Technical Committees show, are in short supply on the world market and, therefore, difficult to import.

A brief analysis of the raw materials imported before the war and to be imported in the future (including reconstruction needs) gives the following figures in millions of dollars.

Imports of Raw Materials into Greece: Figures for 1938 and Estimates for 1948–51

	1938	1948	1949	1950	1951
Fuel	13.2	19.3	29.5	34.9	41.1
Steel	7.3	24.2	26.2	37.6	54.0
Wood	5.2	34.4	36.3	37.4	37.0
Non-ferrous metals	2.7	6.0	6.0	8.0	10.0
Leather and hides	3.0	6.8	7.0	7.2	7.5
Wool	5.4	12.4	13.0	14.0	15.0
Cotton	2.1	8.3	5.8	3.7	2.2
Miscellaneous	2.9	6.4	6.8	7.3	7.8
TOTAL	41.8	117.8	130.6	150.1	174.6

From this table it follows that already before the war the greater part of imported raw materials was made up of fuels or metals rather than agricultural products or products of agricultural origin such as cotton, wool and leather. The explanation is simple—it has always been much easier to obtain the latter raw materials than the former. But the limit has been reached of what the country can do in this direction. By 1950/51 scarcely any more raw cotton will be imported. The figures in the foregoing table will relate at that date only to cotton thread. As regards wool, leather and hides one cannot be equally optimistic. Wool and especially woolen yarn will always have to be imported, just as recourse must always be had to foreign countries for semi-manufactured skins or leather, in spite of the utmost possible development of the tanning and leather industries.

(h) Fuel, Steel and Wood

It follows that all efforts must be concentrated on the remaining items. The first three items in the preceding table expressed in thousands of metric tons would give the following figures:—

Imports of Fuel, Iron and Steel and Timber into Greece: Figures for 1938 and Estimates for 1948–51

(Thousands of metric tons)
(Thousands of cubic metres)

	1938	1948	1949	1950	1951
Fuel:					
Coal and coke	835	440	777	1,043	1,360
Petrol products	385	636	892	960	1,043
Iron and Steel	56	56	63	98	152
	40	40	42	50	60
Wood (thousands cubic metres)	456	892	884	920	922

Speaking of local fuel production possibilities, we mean only solid fuel. Prospecting for oil has not so far produced very encouraging results. It will no doubt be necessary to proceed with plans for building refineries in order to reduce the amount of foreign exchange required for these imports, but plans will take time. All such plans have not been included in the present statement of requirements.

Greece is not rich in solid fuels, but possesses lignite deposits, to the exploitation of which importance has always been attached. But there are also deposits at Ptolemais, which can be mined by opencast methods, and it is estimated that the deposits in this area amount to more than one hundred million tons. The working of this deposit has therefore been included in the present programme (see paragraph 47 of the Report of the Committee of Fuel and Power). It is hoped to extract 1,500,000 tons per year, which is the equivalent of 500,000 tons of hard coal.

Besides these solid fuel schemes, Greece has a programme for exploiting hydraulic power (see Part II of the Technical Report on Fuel and Power). This programme has been brought before this Committee, and account has been taken of it in the estimates of the Committee.

As regards steel, efforts will be directed towards partially satisfying the total needs of the country by domestic production. The year before the war saw the creation in Greece of a steel plant for the conversion of scrap iron. It is hoped that it will be possible in the coming years to produce a very large part of the fine steel required for the reconstruction of the country by using the iron ore available in Greece,

which is fairly rich in content. The Iron and Steel Committee has already taken account of these requirements and includes also in its report figures dealing with the proposed production, and the necessary equipment for carrying into effect the programmes which are being examined.

It should be stressed that steel production in Greece is linked with the nitrate industry. The experience of many years shows that the Greek soil very urgently needs nitrogen fertilisers, in order to obtain an adequate agricultural production. The nitrate factory will obtain its raw materials from coke oven gas, the coke being necessary to treat the domestic minerals referred to above.

As regards wood, efforts will be made to exploit the forests which have hitherto remained inaccessible, being situated in the mountainous regions in the furthest parts of the country (Northern Pindus). Despite the difficulties which this task presents, it is hoped that domestic production will be more than doubled in the next five years, a fact of which the Timber Working Party took account and indicated the equipment required to carry out the programme.

Despite this increase in production, Greece will remain mainly an importer of wood, since its domestic resources are relatively limited (in spite of what has just been said about the inaccessible forests), and its needs are increased as a result of problems involved in reconstruction, particularly of rural dwellings. The level of agricultural production aimed at can only be reached if building, to which the shortage of timber is the chief obstacle, can be accomplished as quickly as possible. Further, the reconstruction of transport (railway sleepers, ships, etc.) and packing agricultural goods require considerable quantities of timber.

In conclusion, it should be said that projects are also under way to exploit more fully the numerous metallic minerals available in the country. Several mines have been exploited for some decades. But the minerals are exported without any processing.

In the paragraph about the industrialisation of the country it has already been mentioned that the iron and steel industry, as well as heavy industry in general, has not been developed up to the present, despite the considerable possibilities which exist. As an example of metallurgical industry, the factories at Laurium, which have long been worked by a French company, may be cited.

The projects which are being studied include the majority of these minerals. There are more immediate and concrete possibilities as regards zinc concentrates, at present exported in unworked form, antimony, nickel, chrome and manganese ores. The prospects as regards bauxite and magnesites are more distant, as the industry for working

these metals is dependent on the starting of the hydro-electric factories mentioned in the paragraph above dealing with fuel and power.

The value of the equipment necessary for this purpose is included in the attached balance of payments table. It may be noted that the refractory material necessary can, to a great extent, be obtained from domestic production, since the country possesses adequate raw material such as silex, chromites and magnesites.

Table Annexed to the Declaration by the Greek Government

Total Balance of Payments for Greece, 1938 and 1948–51

(Including goods dealt with by the Technical Committees)

(Millions of dollars)

Receipts	1938	1948	1949	1950	1951
A.—Exports:					
Agricultural Products:					
Tobacco Leaf	46.5	60.0	76.0	96.0	110.0
Dried Fruits (figs, currants, etc.)	15.0	36.4	47.6	54.6	58.8
Fresh Fruits (grapes, oranges, etc.).	2.5				
Olive Oil	5.2	55.5	30.0	42.0	49.0
Edible Olives	2.6				
Fresh Vegetables	.1	.9	2.3	3.3	4.5
Wines and Spirits	2.7	5.6	6.3	7.0	8.4
Fish (fresh and frozen)	—	1.5	3.0	4.5	6.0
Iron and Manganese	.5	.4	1.2	1.8	2.0
Other Minerals and quarries	2.9	5.3	8.3	14.9	14.9
Skins, sponges and miscellaneous	3.4	10.9	12.0	13.2	14.5
Manufactured goods	8.7	13.3	15.0	16.5	18.1
B.—Freights. Invisible receipts from ship owners and crews of ocean-going merchant shipping	10.3	14.0	16.0	18.0	18.0
C.—Interest Dividends. Repayment of capital invested abroad	11.4	7.0	7.0	7.0	7.0
D.—Emigrants. Invisible receipts from repatriation of capital or savings from wages	24.7	25.0	25.0	30.0	35.0

Expenditure	1938	1948	1949	1950	1951
A.—Technical Committee Goods:					
Foodstuffs	37.8	230.5	224.1	210.5	197.3
Agricultural Equipment:					
Fertilisers, nitrates, phosphates, etc	.8	16.4	18.8	21.4	23.4
Machines included in the Committee's estimates	*1.5*	*41.3*	*30.8*	*35.4*	*32.4*
Machines not included in the Committee's estimates	—	*21.5*	*21.5*	*21.4*	*21.4*
Insecticides, pesticides	1.5	—	—	—	—
Fishing, machines, tools	—	2.0	3.0	1.5	1.0
Fuel and power. Normal needs	13.2	29.7	32.7	35.2	38.1
Equipment of mines and factories	—	*21.9*	*16.0*	*12.5*	*15.0*
Iron and Steel. Normal needs	7.3	15.7	17.3	19.0	19.8
Mines and steel plants	—	*44.0*	*40.0*	*7.6*	—
Transport. Normal needs	9.0	9.9	10.9	12.0	13.2
Reconstruction	—	*93.2*	*79.9*	*56.2*	*60.0*
Wood. Normal needs	5.2	16.8	18.5	20.3	22.3
Reconstruction	—	*26.6*	*24.0*	*22.5*	*21.0*
B.—Other Current Imports:					
Raw materials	16.1	27.9	30.7	33.8	37.1
Manufactured Goods	41.8	50.3	55.4	60.9	67.0
Equipment and Production	—	11.0	12.1	13.3	14.7
C.—Freights on imports	—	41.0	42.4	42.8	43.4

E.—TOURISTS. Total receipts including receipts and expenses of foreign missions in Greece	6.7	.5	.7	1.0	1.5
F.—GOVERNMENT RECEIPTS and Miscellaneous	1.6	1.0	1.0	1.0	1.0
G.—*EXTRAORDINARY RECEIPTS for costs of Reconstruction*	—	*248.5*	*212.2*	*155.6*	*149.8*
H.—RECEIPTS required to cover deficits in the balance of current payments	15.8	227.0	227.6	173.6	142.3
TOTAL	160.6	712.9	691.7	640.0	640.9

D.—PUBLIC DEBT	9.2	1.2	1.7	1.7	1.9
E.—PRIVATE CAPITAL. insurance	3.6	.4	.5	.5	.5
F.—GOVERNMENT EXPENDITURE	9.7	6.4	6.4	6.4	6.4
G.—TOURISTS and Miscellaneous	3.9	5.0	5.0	5.0	5.0
TOTAL	160.6	712.9	691.7	640.0	640.9

(vi) Declaration by the Italian Government

The Italian Internal Financial Situation

1. The present memorandum will show:—

   (*a*) that, as a consequence of the war and of the unchecked printing of paper money by the armies of occupation, Italian public finances were completely disrupted, thus obliging the State to fall back on measures which were in themselves a springboard toward further inflation;

   (*b*) that to-day, particularly following the contraction by one-third of national income due to the war, the pressure of taxation has attained, in spite of the above mentioned drop, a percentage level almost equal to the pre-war one. On the other hand the retrenchment of State expenditures is fatally limited by the needs of reconstruction;

   (*c*) that the Italian Government has now adopted a policy and taken steps capable of replacing the State Budget in a position which will make it possible to meet all normal expenses through ordinary taxation and to keep all further deficits—due to the exceptional requirements of reconstruction and post-war assistance—within limits which will allow them to be met through extraordinary taxation already levied and through recourse to domestic and foreign capital markets;

   (*d*) that the indispensable conditions for a further step toward balancing the budget lie in a substantial increase of production and thereby of national income. This, by raising the people's standard of living from its present depression, will afford the State a wider possibility of taxation with which to meet the requirements of public finances. The reconstruction programmes drafted by the Italian Government in the different economic fields are aimed at just such an increase. The amount of reconstruction and the time lag in which it can be accomplished are tied to the amount of aid which Italy receives from other friendly nations, for it is obvious that in the current Italian economic position neither State nor private initiative are capable of solving, within a reasonable time limit and drawing on domestic sources alone, the grave

problem of rebuilding the capital and income destroyed by the war.

2. In examining the Italian financial situation, one should not forget certain characteristics of the country's economy: a growing pressure of population, lack of balance between supply of manpower and of capital, and an average standard of life which is among the lowest in Europe. The exceptional conditions in which Italy has found herself after the liberation, following a long period of Fascist government and war, have only aggravated the typical problems of the country's economy while increasing the social charges of the State.

3. It is common knowledge that the level of Italian national income is lower than that of almost all the countries taking part in the Conference. According to rough private estimates, this income, in 1938, was around 110–125 billion current lire; in 1946 it had fallen to about two-thirds, so much that average income per person could be figured at one-third of a dollar a day. It is estimated that, compared to the 1914 buying power of money, the average individual income had dropped by more than half (from 667 lire for 1914 to 322 lire for 1946, calculated on a base of equal buying power). All figures relating to taxation must be referred to this extremely low income *per capita.*

4. The material living conditions of the population are all governed by this low average income and they underline how important it is for the State to see to it that these circumstances of dire indigence should not endanger the peace of society as a whole. Hence the particularly important responsibility which falls on the State faced with the task of roughly equalising incomes through taxation and of providing for and possibly forestalling unemployment which, in certain months reaches and even exceeds the figure of two million. For the year 1947–48, the total number of calories per head obtained from the national production is estimated at not more than 1,500:1,000 of these should be supplied out of rationed goods.

5. The heavy burden accruing to the State under these conditions has been made even heavier by the dislocation of its own machinery which had to be almost entirely rebuilt and restarted after the political and military events of the past few years. The Italian budget has suffered gravely, not only from causes which in all the countries drawn into the war have increased expenditure and reduced income, but also from factors more particularly inherent in the situation described above.

6. The last balanced budget in Italy was that of 1928–29*—19.8 billions receipts against 19.7 billions expenditure. Since then the deficit has steadily increased as a consequence of the policies pursued by the

* The financial year in Italy begins on July 1st.

Government: in 1938–39, the last financial year before the war, receipts amounted to 27 billions, with an expenditure of 39.8 billions.

7. This policy was even more marked during the war years until the autumn 1942, when, with the beginning of mass bombing of Italian cities, the note circulation got completely out of hand and continued to increase until the armistice.

8. The second stage of inflation coincided with the Occupation; it developed still further during the 20 months' fighting on the Italian peninsula (September, 1943–April, 1945), when the Allies printed 103 billions AM lire, while the Italian administration in Northern Italy granted an advance of 189 billions to the German authorities; these advances represented an increase in the Italian note issues, from 114 billions as at 31st August, 1943, to 284 billions as at 30th April, 1945.

Inflation on this scale reduced the actual burden of the monetary debts of the State to its suppliers and to bondholders; it decreased to an incredibly low level the value of salaries and of pensions paid to its dependents. But the advantages in certain respects to the Treasury did not compensate the reduction in the actual revenue owing to the disorganisation of the revenue offices and of the fluctuations in private fortunes, due to the war and inflation; this made it impossible to take prompt steps to bring taxes into line with the decrease in the value of the currency.

9. The effects on direct taxation were particularly serious. In the financial year 1945–46, revenue from this source was only 3½ times that of 1938–39 (the price level being roughly 20 times that of pre-war).

The total receipts for the financial year amounted to 128 billions against 501 billions expenditure.

This breakdown in the system of taxation was compensated by a considerable flow of savings spontaneously directed towards the Treasury. It was due to the abandonment of the policy of hoarding notes which accompanied the return to more normal life, and to the slump in industrial and commercial activities, which had descended to a very low level, owing to the lack of coal and of other raw materials, this in its turn releasing a part of the working capital. A loan floated in the spring and summer of 1945 brought in 106 billion lira, and, in the first half-year of 1946, the Treasury was able to draw about 20 billion per month from different floating debts. It was by these means alone that the deficit was covered.

Inflation was therefore effectively controlled; note circulation increased from 360.7 billions at the end of April, 1945 to only 385.6 billions at the end of May, 1946.

10. Both the resumption of private economic activity and the requirements for reconstruction and social assistance soon made themselves felt in the Budget and the Treasury by increasing on one side public expenditures and compressing the available money market on the other.

Thus, the State's financial situation worsened and the Budget deficit increased progressively until in the 1946–47 financial year it reached roughly 610 billion lire (with an expenditure of 932 against a revenue of 322 billions).

A part of this deficit was due to expenditures to be paid during the following financial year (deferred liabilities) while the remaining deficit could not be met entirely through Treasury measures, and a new trend toward increased circulation and prices took place.

This happened because the flow of paper currency from the market to the Treasury, which had characterised the previous financial year, died down, and, in fact, was overtaken by the new wave of private economic activity which called for increased credit and induced the banks to meet the demand by dipping into deposits made with the Bank of Issue and by recourse to discount and the opening of credits with this same Bank of Issue.

11. Faced with these circumstances, the Italian Government adopted a number of measures in order to obtain a substantial improvement of the financial situation. Its policy in this field was aimed at the following targets:—

(*a*) to re-organize gradually the tax machinery which had been thrown completely out of gear by the war;

(*b*) to revise all standing taxes in relation to the devaluation of currency and enforcement of new taxes both of the ordinary and exceptional type (see paragraph 12 below);

(*c*) restriction of expenditures within limits compatible with the the current economic and financial position even at the cost of slowing down the work of reconstruction (see paragraph 13 below);

(*d*) enactment of measures to limit recourse to loans drawn from the Bank of Issue and of measures aimed at controlling and limiting the expansion of credit (see paragraph 14 below).

12. With regard to revenue, all existing taxes have been modified and jacked up to bring them into line with the current situation. In the field of direct taxation, considerable increases have been enacted with regard both to property and personal taxes. The same was done in the field of indirect taxation; new taxes were levied and old ones increased—especially taxes on manufactured goods—in relation

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with the new monetary values. The price of State monoply goods has been increased. Finally the levying of sale taxes—a form of taxation extremely sensitive to price trends and which represents to-day the principal Italian source of revenue—has been improved and made more efficient.

Still in the field of revenue, railway, postal and telegraph rates have been raised.

In the field of exceptional taxation, two taxes have been enacted on capital; the first, a proportional one which is at present being levied and a second, progressive tax for which taxpayers must file their statements during the current month of September.

13. While these measures were being adopted in the field of revenue, all possible measures with regard to public expenditures were equally not forgotten. Here, the continued and swelling volume of expenses which took place toward the end of 1946, both because of the exceptional requirements of reconstruction and of post-war social assistance, called for a stringent check-up not only on the size of these outlays but also on their allocation between money earmarked for current consumption and money to finance production.

All expenditures were again revised—especially those of an exceptional character. So-called "political" prices were sliced or cancelled, and the whole programme of reconstruction was cut down to a point beyond which the entire effort to return to normal production would have been compromised. This cut was enacted pending foreign aid, which alone can give full breath to the whole process of recovery. Thus, rigid restrictions have been imposed in the field of productive financing under a policy of estimating priorities of urgency and of postponing recovery in certain fields till foreign or domestic loans can be obtained. Application to the International Bank of Reconstruction has been made for help in still other fields of recovery.

Moreover, in order to provide for certain possible increased expenditures which may become unavoidable, it has been enacted that no increased expenditure can be authorized until a corresponding increase in revenue has been found, in order that the sum total of the deficit for the current financial year, of roughly 310 billions, shall remain unchanged. To this effect a special committee for the reduction and control of State expenses has been appointed.

14. Other financial measures concerning the limitation of advances from the Bank of Italy and the restriction of bank credit have been enacted.

The Italian Treasury was authorised to obtain from the Bank of Issue currency needed to cover the balance between receipts and expenditures. This was known as extraordinary advances from the Bank of Issue to the State. A recent enactment provides that the

Bank of Italy can no longer advance this currency to the Treasury upon the latter's simple request. To obtain these advances the Treasury must have a special law passed with all due formality and publicity, so that the taxpayers can enjoy full control of the Government in such an all-important matter. This should prove an efficient brake on further issues of paper money.

There existed, however, still another drain through which the State could obtain currency from the Bank of Italy, but now this too has been plugged. In Italy the Bank of Issue functions also as the State's banker. Tax-collectors pay in to the Bank of Italy, and the Bank carries out payments under orders of the several State Departments. Whenever payments were higher than remittances, a non-declared advance took place on the part of the Bank to the State covered by issue of paper money. A further order has now, therefore, been issued that the balance of the State's debt toward the Bank cannot go beyond 5 per cent. of the total yearly expenditure.

In the field of credit, moreover, it has been enacted that 15 per cent. of all deposits existing with banks must be turned over to the Bank of Italy before the 30th of the current month of September, and that, starting with 1st October, new deposits must be paid into the Bank of Italy to the rate of 40 per cent., up to 20 per cent. of the total amount of deposits.

15. Further measures are now being devised to mobilise and exact higher revenue from State-owned property and thus bolster the State finances. Still other improvements in the budget may be obtained by reorganising the autonomous State enterprises so that they may be conducted along lines similar to those prevailing in private industry.

16. The restored rigour in tax-collecting, and the whole body of measures enacted have not failed to make their beneficial effects felt, so much so that the situation could already be said to have improved even before the end of the 1946–47 financial year.

The results can be seen:—

(*a*) In the drastic reduction of exceptional expenditures, especially with regard to reconstruction. In the 1946–47 budget these amounted to 480 billion lire, and in the current budget have been cut to 251 billion.

(*b*) In the monthly trend of taxation revenue, which has tripled from January, 1946, to July, 1947, while during that same time wholesale prices merely doubled. This goes to show that the increase in revenue which has taken place in the last few months and is still under way is real and not due to a monetary illusion.

The increase in tax revenue during the period quoted above has shown the following trend:—

January, 1946	13.0
February, 1946	12.5
March, 1946	14.2
April, 1946	15.4
May, 1946	14.8
June, 1946	15.6
July, 1946	16.5
August, 1946	18.0
September, 1946	18.4
October, 1946	22.5
November, 1946	25.3
December, 1946	24.5
January, 1947	25.6
February, 1947	26.2
March, 1947	27.3
April, 1947	32.4
May, 1947	36.9
June, 1947	48.5
July, 1947	54.2
August, 1947	57.1

The receipts for the last three months include respectively 8.7 billions, 7.1 billions and 11.8 billions from the extraordinary capital levy (part of the Proportional Tax on capital).

17. On the basis of revenue exacted during the last few months and of its foreseeable increase due to the enforcement of measures enacted, it can be estimated that, in the current financial year, State receipts may reach the 700–750 billion mark, 150 of which coming from the extraordinary capital taxes, so that all budgeted expenditures will be covered, barring the exceptional expenditures called for by the reconstruction effort, which will be met by recourse to domestic or foreign capital. Therefore the deficit—bearing in mind the Government's pledge not to propose to Parliament any new expenditures uncovered by new revenue—should not exceed the budgeted figure of roughly 311 billions.*

18. Italy's financial problem presents, therefore, as it stands to-day, the following characteristics:—

(*a*) a tax pressure which—if we include local taxation—has already reached pre-war percentage levels, notwithstanding the fact that national income, compared with the already low

*The need to pay back Italian citizens the value of their goods seized abroad as a consequence of the Economic Clauses of the Peace Treaty, as well as payment of reparations in general, would of course weigh heavily on the trend of expenditures.

pre-war level, has been cut by 30–35 per cent. The fact that the *per capita* income was so low means that the Italian taxpayer is bearing a load comparatively much bigger than the simple numeric proportion between revenue and national income can possibly show.

(*b*) A total of public expenditures which the Government is trying to compress to a minimum. It should not be forgotten, however, that the Government must bear in mind the responsibilities which the present times lay on its shoulders, especially with regard to reconstruction, social assistance and the need to see that the productive sources of the country do not run dry.

19. We have outlined three problems: the problem of revenue, which is limited by the low level of effective national income; the problem of expenditures, governed as they are by certain exceptional reconstruction and social assistance requirements; the problem of stabilising prices, which also implies a re-establishment of confidence in the currency and savings. The solution of these problems is substantially dependent on an increase in national income.

This target—to be achieved through the mobilising of all productive resources, including the maximum utilisation of man-power—is the aim of all the reconstruction programmes presented by the Italian Government to the C.E.E.C. in the framework of the Marshall plan and of a closer European economic co-operation.

(vii) Declaration by the Government of the Netherlands

The Internal Financial Situation in the Netherlands: The Danger of Inflation and the Measures Taken to Remove This Danger

A. The Situation at the Moment of Complete Liberation

1. After their complete liberation in May, 1945, the Netherlands faced a serious danger of inflation. The circulation of money had risen to more than four times 1940 level. The circulation of banknotes, which on April 30th, 1940, amounted to 1,166 million guilders, had swollen to 5,517 million guilders. The total quantity of money in existence had increased from about 2.6 billion guilders to 11 or 12 billion.

2. This unfavourable development had two main causes:—

(i) the partial financing of the budgetary deficits (caused especially by the costs of occupation) by means of the placing of treasury bills with the banks; and

(ii) the forced exportation of merchandise, services and capital to Germany, which compelled the Netherlands Bank to furnish guilders to the suppliers of these assets, and against which she received a claim in valueless marks.

3. The abnormal increase of the circulation of money was accompanied by a disastrous decrease of goods available. In these circumstances only a severe price control and the continuation of very strict rationing after the war made it possible to avoid a powerful rise in prices.

B. The Monetary Rehabilitation

4. Drastic measures were necessary to put an end to this abnormal situation which fatally checked enterprise and paralysed economic restoration. In the first place the circulation of money had to be curtailed in order to do away with the huge "unspendable" balances in existence. This could be accomplished only by blocking a large part of the money in circulation. To reach this goal, it appeared necessary

to withdraw all circulating money, with the exception only of coins. A big difficulty presented itself in this regard, since the printing of a sufficient number of new banknotes, to be issued instead of those to be withdrawn, required four or five months. The total withdrawal thus perforce had to be delayed. Nevertheless it was necessary to make a start; this is why between 9th and 13th July 1945, all notes of 100 guilders were withdrawn and credited to a blocked account. At the same time, all Dutch banknotes in foreign countries were called in. These measures already caused a considerable amount (about 1,688 million guilders) to be withdrawn from circulation.

5. The big "assainissement" began at the end of September 1945, the same method being applied. Beforehand, the public had already been urged to deposit with the banks the superfluous cash in hand. As from 26th September all paper money was declared valueless and all accounts were blocked. The paper money could be deposited and was credited to a blocked account. During one week every Dutchman disposed of 10 guilders only, on which he had to live until his revenues in new money had started to flow.

6. After 3rd October, 25 per cent of every blocked account was freed, whilst the Netherlands Bank was given power to effect additional deblockings, to be judged on their individual merits. The circulation of money thus increased gradually, and at the end of 1945 it was deemed necessary to authorise further deblocking in exceptional cases only.

C. The Liquidation of the Monetary Rehabilitation

7. As a consequence of the measures described above large amounts of money still remain blocked. With a view to liquidate these blocked accounts and thereby definitely to destroy the abundant purchasing power resulting from the war, two special taxes will be levied, viz., the capital increase tax and the capital levy. They will serve both to diminish the public debt, which has strongly increased during the war (from 4.2 billion guilders on 31st December 1939, to 21.5 billion on 30th June 1945), and to liquidate the blocked accounts. It is intended that the special levies will be paid in the first place in blocked guilders which will be used by the State to pay off treasury bills placed with the banks. In this way the reduction of public debt and the liquidation of blocked accounts will go hand in hand.

8. The proceeds of the two levies are estimated at about 5 billion guilders. The total blocked accounts, still existing at this moment, are also estimated at 5 billion guilders. Nevertheless, the two levies will not completely liquidate the blocked accounts, since the tax assessments do not necessarily hit all the holders of blocked accounts. In

order to liquidate the remaining blocked accounts measures will be taken for a gradual conversion partly in free accounts and partly in Government bonds in such a way as not to disturb the monetary equilibrium.

D. The Present Situation

9. As a result of monetary measures described above the serious danger of imminent inflation has been averted and the monetary situation has improved considerably.

10. The circulation of banknotes since the monetary rehabilitation has been developed as follows:—

End of October, 1945	748 million guilders (new notes).
End of December, 1945	1,386 million guilders (new notes).
End of March, 1946	2,096 million guilders (new notes).
End of June, 1946	2,338 million guilders (new notes).
End of September, 1946	2,554 million guilders (new notes).
End of December, 1946	2,744 million guilders (new notes).
End of March, 1947	2,766 million guilders (new notes).
End of June, 1947	2,760 million guilders (new notes).

11. The figures show that during the year 1946 the circulation increased gradually. Since then it has been practically steady.

12. It is estimated that the total quantity of money has developed as follows:—

End of October, 1945	3,346 million guilders.
End of December, 1945	4,572 million guilders.
End of March, 1946	5,447 million guilders.
End of June, 1946	5,893 million guilders.
End of September, 1946	6,193 million guilders.
End of December, 1946	6,569 million guilders.
End of March, 1947	6,714 million guilders.
End of June, 1947	Not available.

13. This quantity is still growing slowly. The chief cause is the deficit of the budget still in existence. The budgetary deficits for 1946 and 1947 amounted to 2,634 and 1,967 million guilders respectively. Though strong measures are being taken equilibrium has not yet been attained. The budget strongly reflects the great disturbances which the war has inflicted.

14. The budgetary situation clearly constitutes one of the weak points of the general economic picture, and the Government are fully aware of the urgency to restore the balance. The inflationary influence of the uncovered budget, however, is being counteracted by the grant of foreign credits which serves to finance the bigger part of the import surplus.

15. The development of the level of prices and wages is well in hand, as the following figures illustrate:—

Index-numbers of Prices and Wages in the Netherlands

	1945	1946				1947	
	December	March	June	September	December	March	June
Wholesale prices	216.7	241.7	249.1	259.2	265.9	268.9	269.7
Cost of living	178	183	196	196	197	200	*200
Wages:							
Industry	150.83	162.1	164.2	164.8	164.8	165.1	166.3
Agriculture	224.6	224.6	240.5	240.5	240.6	240.6	241.0
TOTAL	160.7	170.9	173.9	175.4	175.5	175.7	176.8

* May 1947.

16. The cost-of-living index is now essentially stable in the Netherlands. However, in view of the continuous rise in international prices, this result is possible only by the granting of state subsidies with regard to numerous products. For the year 1947 the total of these subsidies is estimated at about 500 million guilders.

(viii) Declaration by the Norwegian Government

Concerning interior monetary and financial sanitation and stabilisation in Norway since the liberation the Norwegian Government wish to refer to the *exposé* given in the "Post-War Problems caused by the War and the Occupation," and to the summary of "The Norwegian National Budget for 1947," annexed thereto, which are included in the archives of the Paris Conference. The Norwegian finances are again in a sound condition, which may be judged from the fact that Norway could, as the first European country after the war, in April 1947, successfully emit a regular 3½ per cent. 10 years' bond issue on the New York market. The registration statement filed with the United States Securities and Exchange Commission (and printed with the prospectus) contains exhaustive data and full information on the various aspects of Norway's financial position and development up to the spring of 1947. Satisfactory progress in the interior financial system, including the national budgetary position, has since been realised and is expected to continue.

(ix) Declaration by the Portuguese Government

The present Portuguese financial situation, which is the result of the reforms effected since 1928, with severity as the keynote, can be summarised as follows:—

1. It is now nearly 20 years since Portugal embarked upon a policy which made a balanced budget its main aim.

2. This was a striking reaction from a hundred years of financial disorder, which after the war of 1914 increased at a disastrous pace.

3. The results achieved since 1928 are illustrated in 18 budgets, each showing surpluses, which together amount to 2,775 million escudos.

4. The stability of this budget surplus is illustrated by the wide margin of ordinary revenue over ordinary expenditure (854 million escudos in 1946).

5. The surplus from the ordinary budget has always been sufficient to cover the deficit in the extraordinary budget (in 1946, 854 million as against 797 million escudos).

6. This is also a notable improvement on the pre-war position. Whereas in 1946 the surplus balance from the ordinary budget amounted to 854 millions, in 1938 it only amounted to 334 millions.

7. Since 1940 ordinary revenue has increased substantially more than ordinary expenditure and this has made it possible to cover to a large extent the growing increase in extraordinary expenditure.

8. However, if we take the four main items of ordinary revenue (which account for over 85 per cent. of the total), it is possible that the impact of general conditions will be to reduce this by 450 million escudos. If we add to this figure 50 million escudos for other items of minor importance we then have a margin of uncertainty for ordinary revenue of 500 million escudos. The stable surplus fund for 1946 amounts to approximately 350 million escudos.

9. Of ordinary expenditure, that for public health and social services shows the highest percentage increase in 1946. In this way an attempt is being made to catch up arrears somewhat more quickly.

10. Three hundred and fifty million escudos have been granted yearly for the improvement of civil servants' salaries to help them in some measure to meet the increased cost of living. This concession of 50 per cent. is well below actual price levels. It has been felt that

to do more than this would only promote inflation, since the problem is mainly conditioned by food supply resources.

11. It has not been considered possible to equalise the level of ordinary revenue with normal expenditure. The estimated stable surplus from the ordinary budget (350 million) is necessary for the execution of present programmes. It is only so much of the gain from the margin of 500 millions from uncertain revenue as is absorbed by extraordinary unproductive expenditure that will constitute cover for an increase in normal expenditure.

12. Under the heading of extraordinary expenditure, which is the crucial point of the whole position, so-called development expenditure (fomento) has already filled the gap created by the decrease in military expenditure between 1943 and 1946. Nevertheless, military expenditure must be substantially decreased if the still unduly low level of economic expenditure is to be maintained under future conditions. It is hoped to attain satisfactory results in this connection in 1947.

13. The list of extraordinary expenditure classified as development (fomento) gives easily the highest priority to economic expenditure (495 million escudos out of a total of 718, in 1946). Next in importance is the expenditure on cultural and social objects (124 millions) and relief and public health (72 millions). In those two last fields appreciable progress in being made (plans for the building of schools and hospitals are being carried out). As for economic expenditure, the highest outlay is on roads (220 millions). Then come agricultural water supply, hydro-electric development, ports, forests, internal settlement. Increases on nearly all those items are highly desirable.

14. In 1946 extraordinary expenditure (1,396 million escudos) was covered almost entirely from the three following sources: surplus from the ordinary budget, 854 millions; loans and sale of bonds, 514 millions; balance from previous financial years, 20 millions. Care was always taken not to have recourse too freely to that last item.

15. Costs of servicing the public debt are less than 10 per cent. of ordinary revenue. Readjustments of the debt since 1928, in spite of new loans, have increased the interest on the debt by only 39.5 millions out of the 365 millions paid in 1946. This result was made possible through reimbursement of the floating debt and conversions. Allowing for treasury resources the real burden of the debt, in spite of an increase of 2,882 millions in its capital value, has even diminished by 76 millions since 1928.

16. The recent economic situation has been marked by considerable surpluses in the balance of payments, due above all to the increase in value of certain exports. There has been a consequent increase in note circulation. To that the State has never contributed. The proof lies in its considerable surpluses. The State has even tried to put a brake on inflation by issuing successive loans.

17. The change in the situation is only too clear. The increase in gold reserves and foreign credits greatly surpassed, between 1940 and 1945, the increase in circulation. In 1946 increase in the gold reserve accounted for only half of the increase of circulation. The reserves diminished in 1947. In all this the State is in no way involved; it continues to play the role of the brake on inflation in spite of increased expenditure.

18. Banking business has also suffered from the economic situation. Discount and guaranteed loans increased more than deposits (200 million excess for 1946); the cash position of the banks had to bear the consequences. But the banking structure remains sound. The cash proportion was at the end of 1946 62.5 per cent. as against 28.2 per cent. at the end of 1939. Reserves in the issuing bank, and in the last resort the State which could increase the liquid resources of the market, remove all grounds for anxiety about draconian restrictions of credit.

19. The trade balance has come back to its previous position and is definitely adverse. In 1946 the deficit appreciably exceeded that of 1939, the most unfavourable in the whole picture. The global figures would seem to suggest a return to the pre-war situation particularly with respect to the value of the trade deficit in relation to the value of imports and exports together, and even with respect to quantities. But high-value imports are tending to take the place of coal of which only about half the amount is now coming in. As regards exports, we have not only come back to exporting low-value products (that is to say of great quantity and low value); the falls in price and the restrictions imposed by several foreign countries are causing us considerable harm.

20. Public reserves in gold and paper have dropped for the current year as a result of the general situation by 72 million dollars.

21. In short:—

(*a*) The budgetary situation remains sound;

(*b*) But there are clear signs of a change in the trade cycle;

(*c*) Merely to maintain general progress at its present rate (allowing for the level of extraordinary expenditure), it will be necessary to diminish appreciably military expenditure—which, however, is never excessive with us;

(*d*) National equipment is clearly insufficient. The difficulty in making faster progress comes from the fact that the normal possibilities of expenditure must not be exceeded and for the time being that does not permit us to contemplate a more rapid advance on the strength of the native resources of the country, which in fact have alone contributed to our recovery;

(*e*) Currency remains sound;

(*f*) The banking structure also inspires confidence.

(x) Declaration by the Swedish Government

Internal Financial Position of Sweden

1. The problem of economic stabilisation in Sweden mostly reflects difficulties found on a larger scale in other countries.

2. All through the war the central budget had to be heavily unbalanced in order to meet considerable expenditure for defence purposes and various emergency measures in the economic field, made necessary by the blockade. Only to a limited extent the rising government expenditure could be balanced by increased taxation. This financial development led to important changes in the circulation of means of payment and in the situation on the money market, the budget deficit as usual making the whole financial situation very liquid and tending to reduce the rates of interest.

3. Already before the cessation of hostilities the general shortage of commodities as well as increasing import prices exerted an important influence in the direction of a general increase of the Swedish price level. From 1942—when prices had risen considerably with wages mostly still lagging behind—and to the winter 1944–45 Sweden succeeded in maintaining a stable wage and price structure. After the war considerable wage increases have taken place in order to meet the higher cost of living. At the same time private investments have tended to expand rapidly.

4. At present the Swedish budget is balanced. However, inside a financial frame which, due to the development during the war is very wide, the combined influence of high world market prices, the continued shortage of various key commodities, the adjustment of wages to increased consumption prices and considerable new investments leads to an inflationary pressure which, although probably much less significant than in many other countries, puts Sweden before some very real difficulties. The way in which Sweden grapples with those problems can best be seen from the annexed excerpt from a declaration made by the Banking Committee of Parliament on the basis of a Government bill laying down a programme for Swedish economic policy. This declaration has been approved by the Swedish Parliament.

Excerpt from a Statement of the Banking Committee of the Swedish Parliament, dated 19th June, 1947.

1. The main condition for the re-establishment of domestic economic equilibrium is that prices, wages and profits be stabilised. Such stabilisation would help to avoid further increase in purchasing power and at the same time limit cost increases. The Committee has repeatedly pointed to the close connection between price and wage policies and has warned against the consequences of such wage policies which lead to price increases. In to-day's situation these warnings have particular emphasis.

2. A restrictive wage and price policy must be based on a reduction of present large demands for labour and materials. In this connection the Committee has taken note of the greatly expanded investment activities. The Committee feels that it will be necessary to bring about immediate and heavy cuts in non-vital construction activities in order to relieve the strain on the labour market and the excessive demand for materials. No exception can be made for housing, with the possible exception that special considerations have to be given to housing conditions in certain industrial communities. The Committee feels that the disadvantages connected with a delay in the fulfilment of housing programmes are compensated by the advantageous stabilising effects on the general economic situation that such restrictive investment policies would have.

3. The Committee also finds it very important that decisions in favour of construction projects to be realised at some future time should be avoided as far as possible. Such decisions tend to have secondary effects in those communities where the projects are to be located inasmuch as material and labour are often tied down there already in advance of the beginning of actual construction work.

4. The question of limiting investment activities is closely related to the possibility of increasing interest rates as a means of combating inflation. The Board of Governors of the Sveriges Riksbank has come to the conclusion, after a thorough study of the problem, that in the present situation such an increase would not be appropriate. The Minister of Finance has endorsed this opinion. The Committee feels that in so far as investments are concerned an increase of interest rates of the limited size discussed would have its main effect in the field of housing. This field is at present subject to close government regulation. An increase of rates would in fact only be advocable if home construction regulations were to be repealed entirely. Furthermore, it should be recalled that increased interest rates may influence adversely the stabilisation efforts by increasing costs.

5. It is very important to pursue such monetary policies which do not give the feeling of plentiful money supply in the capital market. A moderate shortage of money supplies at the credit institutions may have a restrictive and sanitary effect on some private investors. The activities of the Riksbank in the money market should be adapted to these policies. These activities are, of course, intimately related to the development of interest rates; in the present situation, however, there does not seem to be reason enough to bring about or otherwise accept an increase of the general interest rate level.

6. In addition to the very restrictive investment policies outlined above, the Committee recommends that government agencies and local authorities co-operate in the stabilisation efforts by limiting as far as possible their expenditure. As already stressed by the Riksbank, expenditure cuts have a favourable effect only to the extent they reflect in a budget surplus. The Committee presumes that the budget for next year will be planned accordingly. Thus, a substantial surplus should be envisaged and government capital investments should be cut as much as possible.

7. Given the present shortage of goods it is important that the public limit their demand for goods. The Committee notes with satisfaction that steps have already been taken by the appropriate government agencies with a view to encouraging private savings.

(xi) Declaration by the Swiss Government

Concerning the Internal Situation, Financial and Monetary, of Switzerland

1. Public Debt

The cost of national defence, both military and economic, has resulted in large deficits since 1939, in that year it reached 453 million Swiss francs, rising to 1,240 million in 1944.

As a result the Confederation's public debt rose from 2,750 million in 1938 to 11,490 million at the end of 1946. If the cantonal debt is added, the total at the end of 1946 approaches 19 billion Swiss francs. The debt *per capita* is extraordinarily high, although practically the whole of these engagements, federal or cantonal, are consolidated. Despite the considerable obligations resulting from service of the debt, the return to a balanced budget is almost an accomplished fact at the present moment, thanks to heavily increased taxation and severe cuts in expenditure.

The deficit in the Federal budget was not more than 1,076 million in 1945, 234 million in 1946, and 97 million in 1947; but, in spite of this, the situation remains precarious because of the very weight of the debt.

2. Monetary Situation

In all countries monetary stability is an essential condition to industrial production. But this factor is all the more indispensable in a country which, like Switzerland, has no raw materials, has neither a fertile soil nor access to the sea, and which could not live within an enclosed economy, even if it so desired.

Despite the fact that public finances have been put in order, the monetary situation is causing the Government considerable anxiety for the following reasons. It is true that the monetary circulation is covered to a large extent by the reserves of the Central Bank, but there remains a gap between purchasing power and the amount of goods available.

This gap is due to the fact that after the war Switzerland made a great effort to export essential goods to the war-devastated countries. At the same time these latter countries having lost their productive

capacity, the Swiss market could not obtain goods in return. This threat of inflation is plainly shown by the fact that, during the last six months of 1945, Switzerland, whose commercial balance is normally in deficit, had a surplus of exports of about 250 million Swiss francs. To guard against this threat, the Government, with the aid of the National Bank, took measures to sterilize the purchasing power which was involved by the exports. But these measures are merely palliative, and to re-establish the basic equilibrium of the market the only solution, if one wishes to avoid being forced to limit exports, is an increase in imports.

To reconcile this policy with the possibility of deliveries from countries which suffered directly from the war, Switzerland has shown great liberality as regards importing goods of secondary necessity, and indeed luxury goods. Substantial results have already been achieved. During the first six months of 1947 the excess in imports exceeded 630 million Swiss francs and for July, 1947, alone, it was over 135 millions.

It should be pointed out, however, that Switzerland also has need of raw materials and foodstuffs, and that she still finds great difficulty in procuring them in the world market. Thanks to her reserves of resources to cover international payments, Switzerland is in a position to pay for all imports of which she may be in need, and in consequence, as in the past, she has no intention of contracting public debts abroad.

(xii) Declaration by the Government of the United Kingdom

The Internal Financial Position of the United Kingdom

1. During the war and since the end of the war the United Kingdom has been faced with the problem of too much money chasing after too few goods.

This problem has been dealt with by retaining for the time being a number of controls on expenditure, by balancing the Budget, by the National Savings Movement and by stabilising the cost of living (and thus reducing pressure to increase wages). As a result, inflationary pressure has been kept within moderate limits. Between June, 1945, and June, 1947, the Cost of Living Index (1st September, 1939=100) has been stabilised at 132, the Index of Weekly Wages (1st September, 1939=100) has risen only from 149 to 166 and the Index of Wholesale Prices (1938=100) from 168 to 187.

Thus we have achieved a Balanced Budget and arrested a runaway inflation.

The Budget

2. For the current year the Central Government Budget is in balance. The Budget estimates for the financial year 1947–48, as presented to Parliament in April, show a surplus of £270 million (as compared with a deficit of £570 million in 1946–47 and one of £2,200 million in 1945–46). There is, in addition to this Budget surplus, likely to be a surplus on the Accounts of National Insurance Funds and on the budgets of local authorities of about £100 million.

The surplus on the Central Government Budget has been facilitated by the "cheap money policy." While the internal National Debt is now three and a half times larger than before the war (£24,850 million at the end of March, 1947, as compared with £7,100 million at the same date in 1938), the service of the Debt has only increased two and a quarter times (£500 million in 1946–47 as compared with £215 million in 1937–38).

Savings

3. During the war part of income tax was treated as forced savings and credited to blocked accounts, and the £800 million accumulated in

this way has not yet been released (except for payments to people of pensionable age). Voluntary savings are encouraged by the National Savings campaign, for which the target for 1947–48 is £366 million. Also any increased distribution of profits is officially discouraged and distributed profits are subject to a differential rate of profits tax.

Investment

4. On the physical side, the volume of investment is restrained by controls, including those on building and the supply of materials. On the financial side it is restrained by controls on issues of capital.

Cost of Living, Wholesale Prices and Wages

5. In order to prevent a dangerous spiral of rising wages and prices the Official Cost of Living Index has been stabilised by means of subsidies.

	*Official cost of living index**
1939	102
1944	130
Thereafter	131–132

* This index based on 1914 weights has recently been discontinued and a new index based on 1937–38 weights initiated.

The cost of subsidies has, however, been a heavy and increasing burden on the Budget and it is estimated to be well over £400 million in 1947–48. While the Government is not committed to increasing the subsidies in face of a further rise in prices, the stabilisation policy to date has undoubtedly played an important part in moderating wage demands.

The increases in wholesale prices and in weekly wage rates have been successfully kept under control as the following figures show:—

	Weekly wage rates (Sept. 1939=100)	*Wholesale prices (Av. 1938=100)*
Pre-war	100	100
1945—June	148–49	167.9
December	152–53	167.2
1946—June	160–61	171.2
December	165	177.3
1947—June	166–67	186.7

ADDENDUM TO VOLUME II

REPORT OF THE COMMITTEE ON

Payments Agreements

PAYMENTS AGREEMENTS[1]

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Introduction

1. Paragraph 17 of the Report made to the Paris Conference by the Financial Committee recommended that a meeting of experts should take place in London on 22nd September 1947, to work out the technical details of the system described in Chapter II of the Report which is reproduced in Appendix B to this Report. This meeting of experts has been held accordingly. We decided to give to the meeting the name "Committee on Payments Agreements". We have agreed upon the present Report.

[1] This Report was not included in Volume II as printed by the United Kingdom and France.

Transferability of Currencies

2. (i) The Committee on Payments Agreements (hereinafter referred to as "The Committee") considered what technical arrangements should be made to permit a participating country which has a surplus in its relations with another participating country to use that surplus to settle a deficit resulting from current payments to a third participating country.

(ii) The transfer of currencies requires the consent of the country which accepts the currency and also of the country whose currency is being transferred. The Committee examined the proposals contained in Appendix C whereby the practice of transfers could be generalised by the conclusion of an agreement between a group of countries and the creation of a central organisation to act as a Clearing House so that surpluses and deficits may be off-set on a multilateral basis.

(iii) Certain Governments would be ready in principle to conclude such an agreement as soon as other participating countries covering a sufficiently large volume of trade are ready to do so. The functions of the suggested central organisation need to be carefully considered and worked out; this is to be done at a meeting which is to be held in Paris on the 15th October 1947 to which all participating Governments are being invited to send representatives. The United States Government and the International Monetary Fund are being invited to send observers. In the meantime the Governments of Belgium, France, Italy, Luxemburg and the Netherlands are ready immediately to examine the possibility of concluding an interim agreement on the lines indicated in paragraph 14 of Appendix C, which does not contain any fresh obligation to settle in gold or convertible currency the balances in excess of the existing credit margins, but is limited to a system of off-set.

The first work of this meeting will be to work out the functions of a Central Agency in order to give effect to an interim agreement on the lines indicated in paragraph 14 of Appendix C.

(iv) The delegates of the participating countries, other than those named in (iii) above are ready to recommend their Governments to co-operate fully with such a group, while—for the present at any rate—reserving the right to require their consent to the transfer of their currency in each case or class of cases.

Payments Agreements

(*i*) *Data and Statistics*

3. (i) The Governments represented on the Committee have agreed to exchange information as to the credit margins under their Payments Agreements and the surpluses and deficits shown on June 30 and August 31, 1947. The Questionnaire to which replies will be sent is set out in Appendix D.

(*ii*) *Unification of Definition of Current Payments*

(ii) The Committee recommend that the participating Governments should consider the desirability of including in their existing or future payment agreements a list of current payments similar to that contained in Appendix E.

Maintenance or Increase of Credit Margins

4. Arrangements about the maintenance or increase of credits and credit margins under a bilateral payment agreement can only be made between the two countries concerned, with whom it rests to discuss such arrangements in appropriate cases, having regard to relevant circumstances and in the light of payments arrangements as a whole.

If during the period of European recovery, which should be completed by 31st December, 1951, proposals for the maintenance or increase of credit margins are made, it is desirable that, in order to increase trade, the participating countries should give them careful consideration within the limits of their own possibilities in each case.

Arrangement of American Aid

5. The primary purpose of American aid is to enable the participating countries to obtain from the American continent what is needed for their production programmes. But a number of the Governments represented on the Committee desire that American aid should serve a double purpose and also be used to reduce payments difficulties as between the participating countries and restrictions on the inter-

change of goods and services between these countries, so far as these restrictions arise from payments difficulties.

Accordingly these Governments desire that some part of American aid should take the form of dollars which can be used, first in making payments for goods supplied by one of the participating countries (including Western Germany) to another, and subsequently by the country which receives such payments to cover supplies from the American continent. It is, for example, clear that if one of the participating countries has coal or steel which it is able and ready to sell to another participating country, the latter should not be compelled by payments difficulties to refrain from buying steel or coal from a participating country and be forced to continue to buy them from the United States. This would be inconsistent with the programmes formulated by the Technical Committees of the Paris Conference, which assumed that no payments difficulties would prevent participating countries from supplying key commodities to each other.

To achieve the desired result, it is not suggested that additional American aid should be granted, but that American aid should be so arranged that it will serve both purposes instead of one purpose only.

Further Meeting on Method of Arranging American Aid

6. It will be desirable to draw up more detailed proposals as to the method of arranging American aid after it has been decided whether American aid will be given and, if so, in what form, and after any views, which the U.S. Government wish to express, have been stated. It is probable, therefore, that a further meeting of the Committee will be necessary at a later date.

APPENDIX A

PAYMENTS ARRANGEMENTS COMMITTEE

List of Delegations

Chairman: Sir David Waley, K.C.M.G., C.B., M.C.

Austrian Delegation (Observers)
Dr. W. Wodak
Dr. Gudenus

Belgian and Luxemburg Delegation
Messieurs H. J. N. Ansiaux
C. de Strycker
Mlle. Anna Allaert

Danish Delegation
Monsieur S. Hartogsohn

French Delegation
Messieurs Pierre Calvet
F. Le Norcy
Lagarde
Mitzakis

Greek Delegation
Monsieur Sbarounis

Icelandic Delegation
Monsieur Benedikz

Irish Delegation
Messieurs J. J. McElligott
G. P. S. Hogan
T. K. Whitaker

Italian Delegation
Dr. Rinaldo Ossolo
Professor Pietro Stoppani

Netherlands Delegation
Professor S. Posthuma
Professor F. A. G. Keesing
Professor Hendrik Riemens

Norwegian Delegation (Observer)
Monsieur Eriksen

Portuguese Delegation
Monsieur A. Cabral Pessoa

Turkish Delegation
Monsieur Ertugruloglu

Swedish Delegation
Messieurs Ericsohn
Ryding
Äkermalm

Swiss Delegation
Messieurs de Graffenried
Umbricht

United Kingdom Delegation
Messieurs J. Penton
J. Lithiby
A. I. Grafftey-Smith

United States Delegation (Observers)
Messieurs John Parke Young
J. Gunter
H. Spiegel
V. Longstreet
W. Bray

International Monetary Fund (Observers)
Messieurs L. Rasminsky
E. M. Bernstein
H. Van der Valk
R. Bertrand

Bi-zone of Germany (Observer)
Mr. H. M. Montford

Secretariat
Monsieur Dangelzer
Miss C. M. W. Joseph

APPENDIX B

REPORT OF FINANCIAL COMMITTEE TO THE PARIS CONFERENCE

Chapter II

Inter-European Payments Arrangements

10. The present section deals with the problem of how to enable European countries to develop trade between each other so far as this result can be achieved by making inter-European payments agreements more flexible, and the problem how to meet in gold or dollars deficits resulting from such trade in so far as these deficits exceed the credits provided for in these payments agreements.

11. The system [1] which we are about to describe is an essential step towards establishing a more liberal commercial policy within Europe. It will enable countries, within the limits of what they can afford to import, to reduce barriers to inter-European trade, and to develop this trade at a higher general level and more on the multilateral basis which is the objective of the proposed International Trade Organisation. This system cannot achieve its object unless it is accompanied by the progressive relaxation, and eventually the complete abolition, of quantitative restrictions due to balance of payments difficulties and to exchange restrictions due to such difficulties—at any rate for all transfers which correspond to payments for current transactions. The practical importance of the proposals described below will be determined by the extent to which they will enable the European countries to liberalise trade between themselves.

12. The principal obstacle to the development of inter-European trade lies in the insufficiency of European production, but the position is aggravated by certain defects inherent in the mechanism of the payments arrangements now in force. Trade between European countries is organized to-day by bilateral agreements, which generally provide for settlement in gold or in convertible currencies of the debit balances in excess of the credit margins granted under these agreements. These agreements have proved useful in so far as they make it possible to surmount the basic difficulties due to insufficiency of production and to weakness of currency and gold reserves. But owing to the limited possibilities of combining these various agreements most countries are anxious to make sure that the transfers between each pair of the European countries concerned reach an

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[1] The remarks contained in the following paragraphs do not necessarily all apply to the payments agreements concluded with countries whose currencies are convertible.

exact balance in order to economise their gold and foreign exchange reserves. This deficiency in the system of bilateral agreements has contributed, to a certain extent and in certain cases, to hamper and distort the development of trade.

13. Clearly, therefore, these defects should be corrected in order that countries which now have a surplus production, or which as the result of American aid will in future have a surplus production, should, as the result of greater freedom of international trade, be able to place their export capacity at the disposal of countries which can make use of it.

14. This object could be attained through the more efficient utilisation of exchange reserves, if each country could set off debits against credits by means of the transferability of European currencies between each other. The transferability of European currencies would permit a country which has a credit in its relations with another country to use it to settle a debit resulting from current payments to a third country. A set-off of this nature would reduce to a minimum payments in gold and convertible currencies which at present European countries are generally required to make to settle the balances which occur periodically owing to the working of bilateral agreements. This system would make it possible to abandon the existing procedure for a bilateral balance of trade and to deal only with the disequilibrium of the trade of a given country in relation to other countries of Europe taken together.

15. The transferability of currencies requires the consent of the country which accepts the currency and also of the country whose currency is transferred. Possibly, as a first step, this consent might be given in each particular case, but in order to make transferability really effective, it is necessary that the practice of transfers should be generalised by the conclusion of agreements between the countries concerned.

16. Transferability as described above must ultimately rest on the principle that the amounts owed to a country in excess of the margins provided for by payments agreements should be convertible into gold or United States dollars. This possibility of conversion is essential, for, if (as is assumed) certain European countries are in a debtor position towards other European countries as a whole, other countries must necessarily have a creditor position. The creditor position which they build up in relation to European countries as a whole is generally accompanied by a debtor position in regard to extra-European countries, and it is therefore essential to allow them to mobilise their credits in Europe in order to enable them to discharge their debts outside Europe. This conversion should of course be arranged in such a way

as to reduce to the greatest possible extent the necessity to utilise gold and dollars.

17. The Financial Committee recommend that steps should be taken to work out the technical details of this system. Accordingly, they recommend that a meeting of experts should be arranged in London on the 22nd September next.

18. Assuming that adequate American aid is received in respect of the deficit of the participating countries taken as a whole, this system does not require any net addition to such American aid. It does, however, require that American aid should be so arranged as to provide an adequate guarantee for the conversion of the amounts due in excess of the credits provided for in the payment agreements. A portion of the aid should be set aside for this purpose; and should be calculated, in the case of countries having net deficits towards other participating countries as a whole, on the basis of those deficits.

19. The Committee accordingly recommended that the Committee of Co-operation should—assuming that the American aid will be available—decide to adopt the Proposal in regard to payments arrangements between the European currencies made by the Delegations of Belgium, the Netherlands and Luxemburg, in the form set out in this Chapter, and to approve the recommendation made to work out the technical details of this proposal.

APPENDIX C

Technical Note on the Transferability of European Currencies Presented by the Delegations of Belgium, the Netherlands and Luxemburg

1. The object of this note is to set out briefly the technical arrangements for a system of automatic transferability of European currencies in order to promote the development of inter-European trade.

2. The fundamental object of the system is to enable a country to use its surpluses with other participating countries in order to meet its deficits with other European countries, and thus to ensure a greater exchange of goods than is possible under the present system of bilateral settlements.

3. The system is based on the maintenance of the present bilateral Payment Agreements, but it gives to these Agreements more flexibility, in order to make them more efficient in practice.

4. Each country would continue to settle its payments with other partners through the present Payment Agreements, and in particular would use for the purpose the credit margins provided for by these Agreements. But instead of the periodic settlements of debit and credit balances in excess of the credit margins, as provided for under the present Agreements, there would be substituted a system by which settlement would be made through a central organisation, whose task it would be to arrange a multilateral set-off of the balances shown at the end of each period (e.g. monthly).

5. For this purpose, each of the participating countries would communicate at the end of each period to the central organisation, its surplus or its deficit under each of the Payment Agreements, and the central organisation would add up all the deficits and the surpluses of each country and would thus establish the net surplus or deficit of each member of the group in relation to the group as a whole. The total net surpluses would obviously be equal to the total net deficits.

6. The central organisation would then allocate to each of the surplus countries a percentage of the currencies of each of the deficit countries proportionate to the share of the surplus country in the total of the surpluses.

7. After this set-off, each of the net surplus countries would thus have a claim on each of the net deficit countries, in the same way as happens under the present Payment Agreements. The balance resulting from the set-off of deficits and surpluses would be dealt with by the normal arrangements provided for in the Payment Agreements. If a country has a surplus in relation to another country, this surplus would or would not give rise to a settlement in gold or in convertible exchange, according to whether the surplus is or is not greater than the credit margin provided for in the relevant Payment Agreement.

8. Thus, the credit margins provided for by each of the Agreements would be maintained and continue to govern the relations between each of the countries and each of their partners individually.

9. It would be stipulated that countries having a surplus in excess of the credit margins provided for under the Payment Agreements, would not ask for the conversion of such surplus into gold or into convertible currency, except to the extent that they need this gold or convertible currency in order to make current payments to countries outside the group.

10. This system would not prevent one of the participating countries from granting to another participating country a credit margin higher than that provided for by the Payment Agreement with the latter country. Accordingly, there might be credits outside the Payment Agreement, or the creditor country might agree not to com-

municate to the central organisation the whole of its surplus with the country to which it desires to make a concession. Each country would thus be free to agree with one or more of its partners on arrangements calculated to facilitate mutual trade.

11. The system involves an undertaking by each member of the group to:—

(a) Allow the transfer of its currency to each of the other members of the group up to the amounts of the balance shown by the periodical set-off calculations;

(b) accept the currency of each of its partners in accordance with the result of this set-off;

(c) settle in gold or convertible currency the balances in excess of the credit margins laid down in the payment agreements to the extent that the surplus countries are entitled to ask for such settlement.

12. Under this system no surplus or deficit country incurs greater risks than under the way in which the payment agreements work out at present, since the credit margins laid down by each of the agreements are left unchanged. Moreover, a country only risks having to pay in gold or convertible currency in so far as it has a net deficit in excess of the credit margins granted to it by the surplus countries.

13. This system would give rise to deficits or surpluses different from those which would result from the bilateral application of the present Payment Agreements and trade agreements. This apparent anomaly is open to no objection whatsoever, for the system works in such a way that it makes practically no difference to any country whether it holds the currency of one member of the group rather than that of another member. The exact result of the system would be that trade policy could be based on the situation of each country in relation to all the others instead of only on bilateral relations. The system involves no modification of the commercial policy of a country in relation to the members of the group taken as a whole, particularly in comparison with the commercial policy adopted in relation to non-members of the group; on the contrary, within the group it allows a greater amount of trade on a multilateral basis.

14. As an interim arrangement, it seems that a certain number of countries could immediately agree to automatic off-sets in all cases in which it is found that at the end of a stated period, out of a group of, say, three countries, each has a surplus with the other two and a deficit with the third, on condition that the set-off only applies to the smallest balance. Under this system the set-off would result in an all-round reduction of surpluses and deficits, and consequently would set free, for each country with a deficit, a part of the credit margin

originally granted to it, or would relieve it, wholly or partly, from the settlements in gold which it would have had to carry out in the absence of such a set-off.

On the other hand, in so far as a country continued to have a surplus, this surplus and its claims would remain expressed in the same currency as before; but the amount would be smaller.

Annex to Appendix C

Table I. Reciprocal credits granted under payment agreements

Agreement between	A and B 30	Agreement between	C and A 50
" "	A and C 50	" "	C and B 20
" "	A and D 20	" "	C and D 40
Agreement between	B and A 30	Agreement between	D and A 20
" "	B and C 20	" "	D and B 40
" "	B and D 40	" "	D and C 40

Table II. Position of the agreements at the end of the period

Position of country A towards	B + 25	Position of country C towards	A + 40
"	C − 40	"	B − 30
"	D + 30	"	D + 25
Position of country B towards	A − 25	Position of country D towards	A − 30
"	C + 30	"	B − 20
"	D + 20	"	C − 25

Table III. Settlements in gold or in convertible currencies in the absence of transferability

RECEIPTS +	PAYMENTS −
For A under its agreement with B	—
" " " " C	—
" " " " D	+ 10
For B under its agreement with A	—
" " " " C	+ 10
" " " " D	—
For C under its agreement with A	—
" " " " B	− 10
" " " " D	—
For D under its agreement with A	− 10
" " " " B	—
" " " " C	—

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Table IV. Results of Transferability

Calculation of the net position of each country.	Allocation of the currency of the deficit country to surplus countries.	Credits under agreements between surplus countries and the deficit country.	Settlements in gold.
A + 15	A + 15 (D)	20	
B + 25	B + 25 (D)	40	
C + 35	C + 35 (D)	40	
D − 75			

Addendum to Annex to Appendix C

The system described in paragraph 14 of Appendix C can be applied to the example given in the Annex to that Appendix.

In that example, three out of four countries are at the same time in surplus and in deficit with two others.

Call the countries, A, B and C.

The off-set to be made applies to the smallest of the balances (25, 30 and 40), namely 25.

The off-set would reduce the balances between A, B and C as follows:

the surplus of A with B is reduced from 25 to 0;
that of B with C from 30 to 5;
and that of C with A from 40 to 15.

The credit margins granted by each of the three countries to the two others are increased and the three countries are in a position to buy more goods from each other.

APPENDIX D

Supplementary Information Requested in Respect of Payments Agreements

The Governments of: Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, the Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, United Kingdom and the control authorities in the Bi-zone and the French zone of occupation in Germany; are invited to state:

a) The maximum amount of credit margins provided for in bilateral payments arrangements with each of the afore-mentioned countries; where the credit margins granted by each of the two parties are not equal, state the amount granted by each party to the other. Amounts should be converted into U.S. dollars, the rate of exchange used being stated.

b) Whether settlement in gold or convertible currency is obligatory when the credit margins have been exceeded.

c) For single account agreements state the balance of the account at June 30th and August 31st, 1947, expressed in U.S. dollars and preceded by (+) when the balance is in favour of the country interrogated and by (−) when in favour of the other party.

For double account agreements indicate the holdings of the other countries' currencies expressed in U.S. dollars, before off-setting one account against the other, at June 30th and August 31st, 1947.

Answers should be addressed in triplicate—as soon as possible—to Sir David Waley, Chairman of the Payments Agreements Committee, Treasury Chambers, Great George Street, London, S.W. 1.

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IN TEXT OF REPORT

Table 5

Nitrogen requirement: *for* 1,896 *read* 1,964 ([b]).

Net export surplus: *for* 107 *read* 39.

Insert footnote to Table 5 as follows: ([b]) Including exports to non-participating countries.

Table 6

Nitrogen: *for* 290, 229, 81, 107 *read* 339, 297, 149, 39.

Paragraph 45

Line 3: *for* 290 *read* 339 *and for* 19 per cent *read* 23 per cent.

Table 8

Insert new line between Requirements and Production as follows: Exports to non-participating countries 25, 50, 65, 75.

Net import requirements: *for* 550, 428, 294, 156 *read* 575, 478, 359, 231.

Value: *for* 275, 214, 147, 78 *read* 287, 239, 179, 115.

Paragraph 55

Line 6: *for* 1.4 *read* 1.6 *and for* 715 *read* 820.

Table 18

Nitrogen, quantities: *for* 290, 229, 81, ---- *read* 339, 297, 149, ----.

Nitrogen, estimated cost: *for* 58, 46, 16, ---- *read* 68, 59, 30, ----.

Other agricultural machinery, quantities: *for* 550, 428, 294, 156 *read* 575, 478, 359, 231.

Other agricultural machinery, estimated cost: *for* 275, 214, 147, 78 *read* 287, 239, 179, 115.

Paragraph 103

Line 7: *for* 290,000 *read* 339,000 *and for* 19 per cent *read* 23 per cent.

Paragraph 104

Lines 1 and 2: *for* 229 *read* 297 *and for* 13 per cent *read* 17 per cent.

Paragraph 110

For 700 *read* 800.

IN APPENDIX C

Table VI (a)

Nitrogen, estimates: *for* 184, 291, 399, 495 *read* 120, 223, 331, 427.

Other agricultural machinery, estimates: *for* 124, 168, 214, 270 *read* 149, 193, 249, 320.

Table VI (b)

Nitrogen, estimates: *for* ----, ----, ----, 182 *read* 68, 68, 68, 68.

Other agricultural machinery, estimates: *for* 50, 75, 100, 125 *read* 25, 50, 65, 75.

Table VII (a)

Western Germany, French Zone, 1947/48: Import, *for* 14.4 *read* ----; Export, *for* ---- *read* 4.8; Requirements, *for* 68.4 *read* 49.2.

Sub-total Western Germany, 1947/48: Import, *for* 135.2 *read* 120.8; Export, *for* ---- *read* 4.8; Requirement, *for* 392.4 *read* 373.2; Net import, *for* 135.2 *read* 116.0.

Total participating countries and Western Germany, 1947/48: Import, *for* 415.5 *read* 401.1; Export, *for* 183.5 *read* 188.3; Requirement, *for* 1,449.4 *read* 1,430.2; Net import, *for* 232.0 *read* 212.8.

Last line (net import requirement), 1947/48: *for* 290.0 *read* 270.8.

Timber Report

Table 24, (Volume I)

Hardwood 1934/38, production, *for* 6.9 *read* 7.2;
import, *for* 2.4 *read* 2.1.

Table 4

"Production etc. for 1934/38" *for* 6,866 *read* 7,213;
"Import requirements for 1934/38 etc." *for* 2444 *read* 2,097.

Table 8

"1934/38, rest of the world, hardwood" *for* 63,010 *read* 42,190;
"1934/38, rest of world, total" *for* 585,678 *read* 564,858;
1934/38, total, hardwood" *for* 146,640 *read* 125,820;
1934/38, total, *for* 771,166 *read* 750,346."

Paragraph 80, first sentence, (Volume II)

For 67 per cent *read* 69 per cent, *for* 86 per cent *read* 88 per cent.

Appendix M4 (*a*)

Sub-total "overseas territories", *for* 212 *read* 559;
Grand total, *for* 6,866, *read* 7,213.

Appendix M4 (b)

"Overseas territories, France, pre-war export"
for 55, *read* 550;
Sub-total, *for* 303, *read* 798;
Grand total, *for* 490 *read* 985.

Errata in Volume I

Paragraph 97

In the first sentence, *for* between the countries *read* between countries.

Table 5

In the column headed "Rest of American Continent" under 1951, the figures for "Food, feeding-stuffs and fertilisers" *should be* 2.2 *not* 1.2.

CONVERSION TABLES FOR MEASUREMENTS

Table 1—Length

U.S. Miles (mi)	Kilometers (km)	U.S. Miles (mi)	Kilometers (km)
1	1. 609347	0. 621370	1
2	3. 218694	1. 242740	2
3	4. 828042	1. 864110	3
4	6. 437389	2. 485480	4
5	8. 046736	3. 106850	5
6	9. 656083	3. 728220	6
7	11. 265431	4. 349590	7
8	12. 874778	4. 970960	8
9	14. 484125	5. 592330	9

Table 2—Area

Acres (acre)	Hectares (ha)	Square miles (sq. mi)	Square kilometers (km^2)
1	0. 4047	1	2. 5900
2	0. 8094	2	5. 1800
3	1. 2141	3	7. 7700
4	1. 6187	4	10. 3600
5	2. 0234	5	12. 9500
6	2. 4281	6	15. 5400
7	2. 8328	7	18. 1300
8	3. 2375	8	20. 7200
9	3. 6422	9	23. 3100
2. 471	1	0. 3861	1
4. 942	2	0. 7722	2
7. 413	3	1. 1583	3
9. 884	4	1. 5444	4
12. 355	5	1. 9305	5
14. 826	6	2. 3166	6
17. 297	7	2. 7027	7
19. 768	8	3. 0888	8
22. 239	9	3. 4749	9

Table 3—Weight

Avoirdupois lbs.	Kilograms	Short tons	Long tons	Metric tons
2240	1016.05	1.12	1	1.01605
4480	2032.09	2.24	2	2.03209
6720	3048.14	3.36	3	3.04814
8960	4064.19	4.48	4	4.06419
11200	5080.24	5.60	5	5.08024
13440	6096.28	6.72	6	6.09628
15680	7112.32	7.84	7	7.11232
17920	8128.38	8.96	8	8.12838
20160	9144.42	10.08	9	9.14442
2204.62	1000	1.10231	0.98421	1
4409.24	2000	2.20462	1.96841	2
6613.87	3000	3.30693	2.95262	3
8818.49	4000	4.40924	3.93683	4
11023.11	5000	5.51156	4.92103	5
13227.73	6000	6.61387	5.90524	6
15432.36	7000	7.71618	6.88944	7
17636.98	8000	8.81849	7.87365	8
19841.60	9000	9.92080	8.85786	9

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