

XD-APT-519-A
 PO-APT-419
 ISN-45174

CLASSIFICATION
PROJECT EVALUATION SUMMARY (PES) - PART I

Report Symbol U-447

1. PROJECT TITLE Energy Planning Component Energy Conservation and Resource Development Project, AID No. 5170144	2. PROJECT NUMBER 517-0144	3. MISSION/AID/W OFFICE USAID/DR/CRD/EGY
4. EVALUATION NUMBER (Enter the number maintained by the reporting unit e.g., Country or AID/W Administrative Code, Fiscal Year, Serial No. beginning with No. 1 each FY) 86-02-A <input checked="" type="checkbox"/> REGULAR EVALUATION <input type="checkbox"/> SPECIAL EVALUATION		

5. KEY PROJECT IMPLEMENTATION DATES A. First PRO-AG or Equivalent FY <u>82</u> B. Final Obligation Expected FY <u>86</u> C. Final Input Delivery FY <u>87</u>	6. ESTIMATED PROJECT FUNDING A. Total \$ <u>23,800,000</u> B. U.S. \$ <u>17,532,000</u>	7. PERIOD COVERED BY EVALUATION From (month/yr.) <u>Sept./84</u> To (month/yr.) <u>Aug./85</u> Date of Evaluation Review
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B. ACTION DECISIONS APPROVED BY MISSION OR AID/W OFFICE DIRECTOR

A. List decisions and/or unresolved issues; cite those items needing further study. (NOTE: Mission decisions which anticipate AID/W or regional office action should specify type of document, e.g., airgram, SPAR, PIO, which will present detailed request.)	B. NAME OF OFFICER RESPONSIBLE FOR ACTION	C. DATE ACTION TO BE COMPLETED
(A) Resolved Issues See attachment	1.-	Ramón Flores, COENER January, 1986
	2.-	Planning Staff January, 1986
(B) Computer Center Management See attachment	1.-	R. Flores, COENER Now in progres
	2.-	Planning Staff "
	3.-	R. Flores, COENER "
	4.-	R. Flores, COENER "
	5.-	R. Flores, COENER "
	6.-	R. Flores, COENER Immediately
	7.-	R. Flores, COENER Immediately

9. INVENTORY OF DOCUMENTS TO BE REVISED PER ABOVE DECISIONS

<input type="checkbox"/> Project Paper	<input type="checkbox"/> Implementation Plan e.g., CPI Network	<input checked="" type="checkbox"/> Other (Specify) <u>TA Contract</u>
<input type="checkbox"/> Financial Plan	<input type="checkbox"/> PIO/T	<input type="checkbox"/> Other (Specify) _____
<input type="checkbox"/> Logical Framework	<input type="checkbox"/> PIO/C	
<input type="checkbox"/> Project Agreement	<input type="checkbox"/> PIO/P	

10. ALTERNATIVE DECISIONS ON FUTURE OF PROJECT

A. Continue Project Without Changes

B. Change Project Design and/or
 Change Implementation Plan

C. Discontinue Project

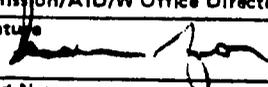
11. PROJECT OFFICER AND HOST COUNTRY OR OTHER RANKING PARTICIPANTS AS APPROPRIATE (Names and Titles)

William H. Smith - CRD/Energy Officer

Ing. Ramón Flores- Project Coordinator, COENER

Ing. Bolívar Rosario- Planning Division Chief, COENER

12. Mission/AID/W Office Director Approval

Signature: 

Typed Name: Henry H. Bassford

Date: 9/20/86

PROJECT EVALUATION SUMMARY (PES) - Part 1

A. Unresolved Issues:

1. A reorientation of the Planning component effort is required to enable a more useful "problem solving" approach by the Commission staff that will lead more directly to the National Energy Plan. Critical energy issues of "current interest" provide a more realistic starting point for the necessary, long range and comprehensive thinking, or energy planning. The challenge is to bring the broader view to the incremental decision making process which national leaders are forced to follow on a day-by-day basis in dealing with the near crisis state of the economy. In making this recommendation, the evaluators find no real conflict in this approach to arriving at a National Energy Plan, since useful planning carried out in searching for solutions to immediate problems is additive, provided the Commission carries it out in a desired direction.

2. The technical assistance consultants should view their role as assisting the Commission staff to be able to respond in a problem solving mode. This means lessening the emphasis on filling in all the elements of a formal methodology. That is cheaper to do in a university. The challenge is in teaching how the tools can be applied and results combined in a plan which deals with energy problems in the language of relevant political discourse. The next several months should deal with energy issues and the teaching of methods should arise from their use. Skills in policy formulation are needed to show how ordinary questions in the political arena can be capable of quantitative and rigorous testing.

B. COMPUTER CENTER MANAGEMENT

1. The computer center should sell or otherwise dispose of the PRIME minicomputer and purchase microcomputers capable of handling the information needs of COENER.

2. The computer center administration should be redirected to include planning to integrate hardware and software needs.

3. There is a need to integrate three major plans to redirect the computer administration: a) a purchasing plan with the specifications for the hardware configuration required by COENER; b) a software development plan suitable for the hardware configuration and COENER information needs; and c) a software training plan consistent with the hardware and software development plan. Multiple professional users, who are not specialized computer operators and programmers should be assisted to do their own work on the microcomputers.

4. It is urgent that a UPS be installed immediately for 100 volt machines.

5. A maintenance contract should be signed as soon as possible for the two existing microcomputers and their peripherals.

6. Software training for the PRIME minicomputer should stop.

7. Software development for the PRIME minicomputer should stop.

PROJECT EVALUATION SUMMARY (PES) PART II

13. SUMMARY

At this point in the Project, there is every expectation that the goals and purposes will be met. The Commission has hired intelligent and motivated staff, consultant, and technical director. The analytical systems have much improved over earlier efforts. A new contract with a dedicated consultant is being processed. The potential users of the outputs of the Commission are eager for the newly perceived dynamism of the Commission to bear fruit, though they are realistic about the time it will take. The situation is quite positive from the point of view of the development of capability to do serious energy planning and investment analysis, as established in the Project Paper.

There are, however, extenuating circumstances which could frustrate the successful completion of the Project. They are three. (1) The economy of the country is in a difficult period where there are few sources of public funds for energy investment, especially foreign exchange. (2) In a period such as this, planning horizons shorten to one year and the tools and perspectives of the Commission are designed for responding to longer term needs. (3) The current orientation and scopes of work within the Project itself call for outputs, for example, a comprehensive National Energy Investment Plan, for which there is no current known audience. Some changes are needed to deal with these potential problems.

14. EVALUATION METHODOLOGY

Team examined files and interviewed participants with the objective of answering the questions posed by the Mission, page 189 of the PP, and the PES. Questions have been asked whose answers reveal whether or not planners have been focussing on the issues normally associated with energy analysis. The team asked substantive questions requiring a planning system for a full answer. The quality of the answers indirectly indicate the quality of the information support system, its response time, and the transfer of skills.

Interviews were conducted among Commission staff members as well as institutions outside of the Commission which represent the ultimate GODR users.

15. EXTERNAL FACTORS

Economic reversals have marked the last few years and serious foreign debt has accumulated, making investments in the energy sector a difficult process.

Since the Agreement calls for a focus on energy investments, the chances of near term success are impaired.

The validity of the initial assumption that this focus should be provided is not called into question by these events. Even more care should be taken to make wise choices under difficult conditions. A new tactical approach, discussed below, is called for to realize the original goals.

There have been major changes in hardware and software since a PRIME computer was installed under the Energy Policy Development Project (EPDP). Today a more appropriate capability exists for a small fraction of the original cost.

15. INPUTS

There has been a considerable range of problems associated with the computer center that leads to the conclusion that the PRIME computer be replaced, an integrated software, hardware, and training plan be presented, and the Commission address some immediate priorities to maintain equipment. Most importantly, the change that is sought is to provide microcomputer support to analysts so they may do interactive planning to respond to urgent questions in the energy sector.

17. OUTPUTS

The most tangible output of the Project that is required is a National Energy Investment Plan and the capability to maintain updated versions. As currently envisaged, the Plan will be composed of projects now undergoing analysis. A basic supply/demand matching process is the direction that training is now taking. It is likely that the staff and consultant will succeed in producing this output for the work is being accomplished in a high quality professional manner. As an indication of progress made on the Project, the Mission requested answers to some specific questions. The first question deals with the Project's evaluation criteria for alternative investments. The primary criterion is economic. Relatively standard measures are in place in the economic and financial evaluation methodology. Social criteria are applied only in a qualitative sense, especially in the choice of technologies for rural development. Technical criteria arise from both the energy delivery agencies who supply the Commission with project data and through consultant evaluation of risks and uncertainties of certain technologies.

Generally the measurable criteria are clearly presented. The policy issues surrounding the qualitative measures are less in evidence at this stage of the Project.

The second question asks whether investment priorities are being set. The answer is clearly yes, but in the light of today's economic situation, the decision priorities are clearly more complicated than the methods in use. The methods are good for structuring discussion, but the decisions will be based on additional factors.

The fourth question deals with pricing analysis. This area has shown little progress, mostly because the data required is not available in a useful form. The consultant is simulating data, because it is likely that the pricing issue will make little headway without greater information sharing in the petroleum sector.

The fifth question asks if the planning process is being designed to result in a national investment plan. Within the dictates of good professional definitions of a plan, the methodology being used meets all the criteria set out by the Mission. The problem to be addressed is not in a failure of good Project design, but in the discrepancy between the reality of the investment climate and the somewhat idealized view of a coherent and consistent analytical system.

The next question deals with the institutionalization of energy investment decision making. The current strategy of the Commission is to be useful to the agencies of the government by providing information and perspective not otherwise available to them. The Commission under this strategy does not seek legal power for itself, but using the power of persuasion, hopes to institutionalize its rational procedures. In interviews with agencies outside of the Commission, this strategy was eagerly endorsed and the coordinative function within the energy sector was particularly welcome. Over the long run, this strategy appears to hold much promise. It should be noted, however, that other more powerful and older agencies have been operating on the same assumption for years, and they have a great deal of frustration of their own.

Finally, there is a request for recommendations regarding changes needed. The answer is yes. There are four specific recommendations for change. Even as the evaluation is positive regarding meeting the objectives of a national investment plan, the important question is whether such a Plan will be useful in today's investment climate. Only if the Plan is constructed of a number of elements that address today's questions, such as oil substitution with a minimum drain on foreign exchange for investments, will there be a large constituency for the Plan. As of the intermediate evaluation, and in the light of the fact only months remain in the consultant contract, a shift of approach is tactically necessary to achieve interest in the Plan.

Recall that the economy is now not producing much money for investments, the time horizon is considerably shortened by the current concerns, and the list of energy sector problems is frustratingly long. In this climate, the only planning that will find a good audience is one that shows how its long range perspectives bear on the situation up close. The tactic for planning is therefore to define a set of problems that can be addressed in the time horizon of current interest, illustrate the manner in which the comprehensive view assists with setting priorities among incremental choices, and build a comprehensive plan from the small and visible blocks that are meaningful.

There are real examples of such choices in the areas of fuel substitution, rural development strategies, and conservation activities. They have been

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discussed in exit meetings and will be repeated with the resident consultant. A problem solving orientation should now be given to the definition of a Plan and the consultant should train staff to recognize how the tools being developed on the project can be applied to the concerns of the energy sector.

At the moment, there appears to be little conscious effort to do this. It is difficult. The staff is young and without the energy experience necessary to recognize the opportunities. Yet, the staff is bright and willing to benefit from management direction. The energy problems need to be defined and translated into designs for analysis so that the staff can produce useful work needed to show how ordinary questions in the political arena are capable of quantitative and rigorous testing.

18. PURPOSE

The purposes of the assistance are to create an investment plan that is of good overall quality, uses methods and techniques of general AID interest, and will be used in ongoing Dominican investment planning. (page 189 of PP)

As discussed in the previous section on outputs, it is very likely that the purposes of the assistance will be met with high quality results, using good planning methods, and having longevity of use within the Commission. The only problem with meeting these objectives is that the external changes have made it unlikely that there will be a constituency outside of the Commission that will use the investment planning. Unless it is oriented to current problem solving, the good work will not be likely to have an impact. Tactical changes to a problem orientation to work on current energy issues are needed. This will show decision makers how planners can provide a useful prospective on matters of current concern.

19. GOAL/SUBGOAL

The goal of the Energy Conservation Project is similar to the goal of the Energy Policy Development Project, to help reduce dependence on imported petroleum and increase the availability of affordable energy to all income groups of the country. This set of goals remains urgent and topical. The project is still in the tool building phase and transferring skills to planners. It is premature to expect progress toward the goal based on Commission efforts for some time. Realistically, one can expect that an extension of the support will be needed at the end of the current period. If the prognosis for quality work continues, AID should expect to play a reduced, but still important role, especially in helping provide experienced energy experts to give content to a problem solving orientation. This kind of assistance may be needed soon to facilitate the tactical changes called for in the previous discussion.

20. BENEFICIARIES

A national constituency of all income groups is called for in the PP. Social benefits are found in the composition of the energy portfolio, not through the measurement of individual projects. Generally, financial viability is the test of quality and it is assumed that is good for all groups.

21. UNPLANNED EFFECTS

The hope for transfer of good analysis and decision making from the energy sector to others remains possible, but it will be an unplanned effect. It is too early, but effort should be planned when the proof of success is assured.

22. LESSONS LEARNED

The decision structure to be served by information systems provides the framework for their design. Moving too far or too fast from the reality of decision makers will cause advice to be ignored. Models of reality are very useful, more useful than the frequently incomplete or muddled thought of a political forum. The challenge is to work in that forum. Energy planners should discuss energy issues, as a guide to analysis, as the subject of analysis, and as the outputs of analysis.

23. SPECIAL COMMENTS

The staff and executive people currently at the Commission are worthy of support. Particular emphasis should be given to policy formulation. The Commission needs skills to translate political issues into analysis designs and a translator to bring the results of analysis back to users.

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SN = 45175

not for use

FINAL EVALUATION
ENERGY POLICY DEVELOPMENT
Contract No. 517-0143

and

INTERMEDIATE EVALUATION
ENERGY PLANNING COMPONENT, ENERGY CONSERVATION AND
RESOURCE DEVELOPMENT PROJECT
Contract No. 517-0144

Submitted to:

COMISION NACIONAL DE POLITICA ENERGETICA
AND
USAID/DOMINICAN REPUBLIC MISSION

Under IQC No. PDC-1406-I-12-2166-00



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VII

**FINAL EVALUATION
FINAL REPORT**

**ENERGY POLICY DEVELOPMENT
Contract No. 517-0143**

Submitted to:

**COMISION NACIONAL DE POLITICA ENERGETICA
AND
USAID / DOMINICAN REPUBLIC MISSION**

**Under IQC No. PDC-1406-I-12-2166-00
Work Order # 12**

**Development Sciences Inc.
Sagamore, Massachusetts**

October 15, 1985

VIII

PROJECT EVALUATION SUMMARY
FINAL EVALUATION: ENERGY POLICY DEVELOPMENT (No. 517-0143)

Development Sciences Inc.
Final Report October 15, 1985

13. SUMMARY

The basic finding is that the goals of the Energy Policy Development Project (No. 517 - 0143) were not met until a final extension and a change of direction, consultants, and GODR staff occurred in 1983. At that time, progress toward the goals was accelerated and lost time finally re-gained in the Planning Component of a companion Project (No. 517 - 0144). Until then, many outputs were not well accomplished, revealing problems in the design of the project that is in large measure responsible for its lack of utility to the Commission.

The primary shortcoming was in the lack of anticipation of how the energy planning information ultimately would be used. The planning software and hardware were lacking in focus on the decision structure that would serve the Commission's client, the GODR. Consequently, much of the information generated did not address the issues of interest to the government.

A second major problem was the turnover of personnel, resulting in large training efforts, but few long term direct benefits for the Commission. This is especially true in the case of training given to use the PRIME computer and Al-Edis software. Over twenty people were trained to some degree, but no further analytical use was made of the skills developed.

On the positive side, there was a gradual growth in the number of knowledgeable people who could collect and process data as well as evidence of an increasing awareness of the national importance of dealing constructively with the energy sector. Toward the end of the project extension in 1984, the diagnostic capability of Commission spokesmen and their framing of policy issues showed some improvement. There is no evidence in writing or among current participants that the consciousness was translated into an active Commission role in policy making at that time. The conclusion must be that the Energy Policy Development Project did not itself meet the expectations expressed in the Project Paper, but it did lay the groundwork for a more successful subsequent effort to meet the goals.

14. EVALUATION METHOD

The evaluation for Project 0143 is a final evaluation responding directly to the scope of work by the Mission, the evaluation criteria on page 72 of the Project Paper, and the PES.

It should be noted that 0143 is being evaluated well after the start up of 0144, a continuation of services. It will sometimes be difficult to know whether the goals of 0143 were met, in part, under 0143 or under the planning component of 0144. Simultaneously, the planning component of 0144 is undergoing an intermediate evaluation. It will be reported in a separate

document because there are two distinct projects. The reader may want to examine both evaluations because the impact of O143 should be found in the subsequent use of the system established for planning under O144. Cross references will be made from each report as appropriate.

The study design for both evaluations consists of interviewing the participants and examining the written record as they both apply to the specific questions in the scope of work and in the evaluators' judgement of relevance. The degree of certainty expressed in the report will be related to how many written and oral sources can give independent verification of the opinion expressed.

The resident contractor, who did not work on the contract being evaluated, but is currently on O144, Dr. Daniel Sanchez, was not in country at the time of the evaluation. He was contacted by telephone and a lengthy review of findings was conducted. Advice was sought on additional sources of information and provision made for a subsequent visit in New York. The final evaluation includes the results of that visit. A short term consultant with considerable longevity on the project, Dr. Peter Meier, made a trip to discuss O144. The names of the persons interviewed are attached on a separate sheet. All interviews were conducted in confidence and no names will be associated with points of view.

The cost of both evaluations is \$18,972, including 33 person days, travel, and per diem. Without the sincere cooperation of the Mission and hosts, the costs would be much more. The evaluators wish to express their thanks.

15. EXTERNAL FACTORS

Since the beginning of the project in 1981, there has been a worsening of domestic and international economic conditions. Fundamental assumptions about economic growth are in question and the political acceptability of pricing policy based on real costs is also limiting project goals. Whether investment funds will be available to substitute for petroleum is a major issue. Energy supply investments will seriously compete with funds for other sectors. The boundaries of the project were primarily conceived within the energy sector, but the decision process is forced by these events to include a broader constituency for competing funds.

The practical implications of these changes are more relevant for the orientation of O144 which has a more focussed target on investment levels. From the perspective of O143, these external changes made the problem more acute, but the solutions to be developed by the energy planners, more elusive. Recommendations on how to overcome these constraints are offered at the end of the evaluation of O144.

Another important external change has been the rapid growth of alternative planning software and hardware, creating new technological means of reaching project goals. These developments point to the severe restrictions of equipment purchases under O143. Recommendations concerning specific hardware and software changes are made in an addendum to the evaluation reports.

16. INPUTS

The first issue is that the PRIME minicomputer installed in 1982 has had no local service and repairs were made in Miami. A local PRIME representative has been established recently, but the price of a much needed service and maintenance contract will be \$15,000. The dealer also requires a \$25,000 upgrade (price still in negotiation) before the maintenance can begin. Thus, a substantial sum will be needed to continue the use of the previous information system. The computer is not working now and has been out of service for months. Changes in inputs are called for immediately. The addendum to the evaluations discusses the recommendations to management to replace the minicomputer with microcomputers and new software. This process of substitution actually began one year ago and is examined in the evaluation of 0144.

Another problem associated with inputs was that too low a level of technical assistance was provided. The agreement had a low level of support for such a highly technical set of requirements. There was a noticeable improvement in outputs with the granting of a new technical assistance contractor, but it was too little and too late. The problem finally was addressed with the arrival of a resident advisor, but that did not occur under Project 0143.

17. OUTPUTS

The Project Paper calls for the following:

1. Energy Information System for a) Policy Analysis, b) Technical Information Transfer and c) Outreach.
2. Technical Assistance and Training by a) needs analysis and a plan, b) technical mini-courses and c) long and short term technical assistance and training for immediate needs.

The Mission scope of work for the evaluation and the PP raise a series of questions of a more specific nature which address the desired outputs. These specific questions will be used to structure the comments.

The first question asks whether an information system had been established in the project. The brief answer is that, within the confines of a narrow definition, an information system was established. It was not, however, suitable for the uses ultimately envisaged and has subsequently been replaced by new analytical models. Al-Edis, the software provided initially, has fallen into disuse, as well as the associated hardware purchased to run it.

The second question asks whether the system established is suitable for the attainment of an investment plan. An investment plan was not a stated purpose in the 0143 project and its outputs are not sufficient for that purpose. This insufficiency is a major reason why subsequent work has been based on substitute procedures and analytical systems.

The third question addresses the stated requirement for a technical information network tied to the US by computer. No such network was established, although an effort was made to examine the cost and practical limits of the idea before it was abandoned.

The fourth question asks about Commission staff training to use the system. At this time, there are several people able to operate microcomputers and do useful analysis. This skill was attained in the last year of O143, but mostly under project O144. The people trained under O143 have left the Commission after two years of service and have moved into the private sector in related fields. There is a staff capable of operating the PRIME minicomputer, except that the computer itself has a poor in-service record.

The fifth question refers to an outreach study which has not been found after a lengthy search. There is only recollection by some individuals that considerable television and newspaper coverage was given to energy during an outreach campaign. The remaining physical evidence is slight.

The sixth question seeks to know about a study and plan for training. A study was started by a contractor and aborted in late 1981. Subsequently the Commission was relieved of the obligation to produce a broad study, instead producing a plan for the carrying out of mini-courses. The evaluators are not impressed with the coherence of the training program undertaken, nor the rationale for the numbers of people trained in particular areas. Ultimately, the project appears to have suffered from the absence of a plan, or at least a conceptual direction. The word "training" apparently was not disaggregated into functional categories and appropriate media chosen.

The seventh question addresses the Six Technical Mini-Courses. Verification exists that they were indeed held, well attended, and evaluated quite highly by most of the 233 attendees. The various subjects were relevant. The coverage of issues was reasonably defined. A survey was held after the sessions to evaluate the coverage of subjects and the teaching quality. Evaluations were very positive, though not uniformly so, thus giving credibility to the seriousness of participant measurement.

An eighth question asks if 6-8 person years of training have been provided. Verification exists that at least 7.2 person years have been given in mini-courses, in US and other out-of-country training. There is evidence of more informal training, but records do not permit a quantitative estimate.

A ninth question seeks to know if regular information sharing has been accomplished. It is difficult to answer this question with other than oral evidence from the relatively few people now available at the Commission who date back to the end of Project O143. The consensus seems to be that the Commission and its work was not very visible on the political scene, most matters being dealt with in the technical arena. A few memorable controversies, a few uses of information by the President, and a few differences of opinion with the energy delivery agencies were recalled. More contact outside the Commission is currently going on under Project O144 and a very promising strategy is being employed. It will be discussed in the evaluation of that Project.

The tenth and eleventh questions deal with the uses made of the information system developed under Project 0143 for the needs of 0144, particularly the evaluation of alternative energy investments. As can be seen in the evaluation of Project 0144, a virtually complete substitution of planning tools occurred under that contract. This was done because Al-Edis did not relate to the decisions of current interest and the computer has had frequent down time. Al-Edis describes energy flows quite well. Once that is understood, however, additional analytical tools have been needed to do something with the information. Certainly, an investment plan needs far more than an energy balancing model to accomplish its objectives.

The transition between the two projects did succeed in bringing over data for petroleum consumption, sales, and price; a 1980 survey of industry use of energy; transport sector energy data; and price series for electricity and petroleum. Much of this material and documented data found its way into the subsequent planning efforts.

The answers to these eleven questions leave one with the conclusion that most of the outputs of the Project were not satisfactorily done. There are different reasons in each case, but the major flaw is to be found in the design of the Project's focus on Al-Edis. That software and its related hardware were believed to have much promise at the time because similar software was being used by the US Department of Energy, exported to several countries, and promoted by articulate and able energy planners. Unfortunately, the system was particularly well suited to an era when people wanted to know "what hit them" during the energy price shock. Energy flows based on Al-Edis provided a good visual explanation, but they did not help enough to tell planners what to do about it. Now, in hindsight, ... then, in professional disagreements, more was judged to be needed.

18. PURPOSES

The Project Paper calls for 1) information support for policy making and data for private and public sector use and 2) upgraded management and technical skills for public and private participants in energy programs.

The achievement of these purposes has been addressed in the previous section on outputs, responding to Mission questions. In brief, the purposes were partially met: public and private sector participants both attended mini-courses; data were provided to GODR agencies and in public information campaigns; a small group of professionals remain from the early years and there has been a transition to a follow-on agreement with a good probability of achieving the original purposes.

19. GOAL/SUBGOAL

The stated goal is to help reduce dependence on imported petroleum. Recent statistics indicate a minor reduction of petroleum imports, most likely for reasons of an economic slowdown, there being only a few substitution projects. There are plans for investments in the energy sector. These plans arise from a recognition that limits on export potential and excessive foreign exchange demands will require action in the energy sector.

This energy consciousness expressed by the Commission is a major step in meeting the Project goal, but how much of the recognition of the problem is attributable to Project 0143 and how much to other international and domestic sources is difficult to assess.

A second goal is to increase availability of affordable energy to low income groups. This goal is addressed directly in the technological choices which pay attention to decentralized, rural energy systems and conservation activities. Project 0143 helped place these opportunities to provide affordable energy to the poor on the agenda. How affordable they will be awaits the analyses now being done under Project 0144.

Ironically, affordable energy is the goal of current GDR non-market energy pricing policy, based on untenable subsidies and cost allocation schemes which are distorting the energy sector.

The subgoal is the development of National Energy Plans. This subgoal was far from achieved, even in competent consultant reports which lacked local roots. In retrospect it was too ambitious with so little resource commitment to define any meaningful Plan. Even now the goal seems elusive, and, as will be discussed at length in the mid-course evaluation of Project 0144, may not be meaningfully achieved even then.

20. BENEFICIARIES

Since this Project attacked the preconditions for providing assistance in the energy sector, it is too early to assess the impact on a particular group or groups of beneficiaries. In principle, the benefits would go generally to the society, for the energy costs are a major drain on the performance of the economy. More specifically, there is some focus on distributing energy to the rural parts of the country. This Project's successes and failures have major relevance for many LDC's with balance of payment problems.

21. UNPLANNED EFFECTS

No unplanned effects are identifiable. If the project goes forward and succeeds in its next steps, e.g. 0144, the benefits to the energy sector analysts may spread, by example, to analysts in other sectors and policy makers.

22. LESSONS LEARNED

1. Information systems designed to assist with policy making should be designed to work both ahead of the current policy formulation process to provide improvements, but also with the world as it is. Otherwise, the information systems are not cost effective, not well supported by the host country, and not worth AID resources.

2. Policy technical assistance requires mutual trust, sensitivity, and a great deal of time. Only a resident can usually create such a bond. The TA portion of this agreement dedicated to in-country consultancy was much too

small. Training time does not count for this function, problem sharing and mutual dedication to a goal builds trust for policy work.

3. Equipment without local maintenance support and adequate funds often become white elephants. This project has not provided an exception to that rule.

4. The training efforts on this contract illustrate that there can be a diffusion of effort and a loss of human resources to the Project without a coherent training plan. The cancellation of the training plan and the impact of proceeding without it created an unfortunate loss.

23. SPECIAL COMMENTS

The evaluators have several comments, but they are addressed in the mid-course evaluation of Project O144, where it is not too late to make specific changes, and in the addendum to the evaluations.

**INTERMEDIATE EVALUATION
FINAL REPORT**

**ENERGY PLANNING COMPONENT, ENERGY CONSERVATION AND
RESOURCE DEVELOPMENT PROJECT**

Contract No. 517-0144

Submitted to:

**COMISION NACIONAL DE POLITICA ENERGETICA
AND
USAID / DOMINICAN REPUBLIC MISSION**

**Under IQC No. PDC-1406-I-12-2166-00
Work Order # 12**

**Development Sciences Inc.
Sagamore, Massachusetts**

October 15, 1985

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PROJECT EVALUATION SUMMARY
ENERGY PLANNING COMPONENT, ENERGY CONSERVATION AND RESOURCE
DEVELOPMENT PROJECT (517-0144)

INTERMEDIATE EVALUATION

Development Sciences Inc.
Final Report October 15, 1985

13. SUMMARY

At this point in the Project, there is every expectation that the goals and purposes will be met. The Commission has hired intelligent and motivated staff, consultant, and technical director. The analytical systems have much improved over earlier efforts. A new contract with a resident consultant has been processed. The potential users of the outputs of the Commission are eager for the newly perceived dynamism of the Commission to bear fruit, though they are realistic about the time it will take. The situation is quite positive from the point of view of the development of capability to do serious energy planning and investment analysis, as established in the Project Paper.

There are, however, extenuating circumstances which could frustrate the successful completion of the Project. They are three. (1) The economy of the country is in a difficult period where there are few sources of public funds for energy investment, especially foreign exchange. (2) In a period such as this, planning horizons shorten to one year, but the tools and perspectives of the Commission are designed for responding to longer term needs. (3) The current orientation and scopes of work within the Project itself call for outputs, for example, a comprehensive National Energy Investment Plan, for which there is no current known audience. Some changes are needed to deal with these potential problems.

14. EVALUATION METHODOLOGY

Simultaneously with the final evaluation of Project 0143, the evaluation team examined files and interviewed participants with the objective of answering the questions posed by the Mission, page 189 of the PP, and the PES. Questions have been asked whose answers reveal whether or not planners have been focussing on the issues normally associated with energy analysis. The team asked substantive questions requiring a planning system for a full answer. The quality of the answers indirectly indicates the quality of the information support system, its response time, and the transfer of skills.

Interviews were conducted among Commission staff members as well as institutions outside of the Commission which represent the ultimate GDR users. A list of interviewees follows at the end of this report.

The cost of this intermediate evaluation is included in the contract for the 0143 final evaluation, at a total cost for both of \$18,972.

15. EXTERNAL FACTORS

Economic reversals have marked the last few years and serious foreign debt has accumulated, making investments in the energy sector problematical. Since the Agreement calls for a focus on energy investments, the chances of near term success are impaired.

The validity of the initial assumption that this focus should be provided is not called into question by these events. Even more care should be taken to make wise choices under difficult conditions. A new tactical approach, discussed below, is called for to realize the original goals.

Another major external change has occurred in hardware and software since a PRIME computer was installed under O143. Today a more appropriate capability exists for a small fraction of the original cost. The impact of this factor will be discussed in detail in an addendum to the evaluation. A brief assessment of the need for change is addressed in the following section.

16. INPUTS

There has been a considerable range of problems associated with the computer center that leads to the conclusion that [the PRIME Computer be replaced, an integrated software, hardware, and training plan be presented,] and the Commission address some immediate priorities to maintain equipment. Most importantly, the change that is sought is to provide microcomputer support to analysts so they may do interactive planning in response to urgent questions in the energy sector.

The resident consultant is now operating on a scope of work oriented to producing a National Energy Investment Plan. A reorientation of inputs toward more urgent problem solving should not require a scope change, but [the interpretation of the requirements of such a Plan should be addressed in the light of today's investment climate.]

17. OUTPUTS

The most tangible output of the Project that is required is a National Energy Investment Plan and the capability to maintain updated versions (page 18 of the PP). As currently envisaged, the Plan will be composed of projects now undergoing analysis. A basic supply/demand matching process is the direction that training is now taking. It is likely that the staff and consultant will succeed in producing this output for the work is being accomplished in a high quality professional manner.

As an indication of progress made on the Project, the Mission requested answers to some specific questions. The first question deals with the Project's evaluation criteria for alternative investments. The primary criterion is economic, as is the case everywhere we visited. Relatively standard measures are in place in the economic and financial evaluation methodology. Social criteria are applied only in a qualitative sense, especially in the choice of technologies for rural development. Technical criteria arise from both the energy delivery agencies who supply the

Commission with project data and through consultant evaluation of risks and uncertainties of certain technologies. Generally the measurable criteria are clearly presented. The policy issues surrounding the qualitative measures are less in evidence at this stage of the Project.

The second question asks whether investment priorities are being set. The answer is clearly yes, but in the light of today's economic situation the decision priorities are clearly more complicated than the methods in use. The methods are good for structuring discussion, but the decisions will be based on additional factors.

The third question deals with financial schedules. The components to do this are present, although no document is yet available to illustrate results. Since the timing of this report permits only an intermediate evaluation, the progress is noted as positive as of this date, with little doubt of completion by the end of the Project.

The fourth question deals with pricing analysis. This area has shown little progress, mostly because the data required are not available in a useful form. The consultant is simulating data, but it is likely that the pricing issue will make little headway without greater information sharing in the petroleum sector.

The fifth question asks if the planning process is being designed to result in a national investment plan. Within the dictates of good professional definitions of a plan, the methodology being used meets all the criteria set out by the Mission. The problem to be addressed is not in a failure of good Project design, but in the discrepancy between the reality of the investment climate and the somewhat idealized view of a coherent and consistent analytical system. This point is addressed below in response to the last question asking for changes needed.

The next question deals with the institutionalization of energy investment decision making. The current strategy of the Commission is to be useful to the agencies of the government by providing information and a perspective not otherwise available to them. The Commission under this strategy does not seek legal power for itself, but using the power of persuasion hopes to institutionalize its rational procedures. In interviews with agencies outside of the Commission, this strategy was eagerly endorsed and the coordinative function within the energy sector was particularly welcome. Over the long run, this strategy appears to hold much promise. It should be noted, however, that other more powerful and older agencies have been operating on the assumption that they could coordinate others and they have met with frustration of their own.

Finally, there is a request for recommendations regarding changes needed. There are four specific recommendations for change. Even as the evaluation is positive regarding meeting the objectives of a national investment plan, the important question is whether such a Plan will be useful in today's investment climate. Only if the Plan is constructed of a number of elements that address today's questions, such as oil substitution with a minimum drain on foreign exchange for investments, will there be a large constituency for the Plan. As of the intermediate evaluation, and in the light of the fact only months

remain in the consultant contract, a shift of approach is tactically necessary to achieve interest in the Plan.

Recall that the economy is now not producing much money for investments, the time horizon is considerably shortened by the current concerns, and the list of energy sector problems is frustratingly long. In this climate, the only planning that will find a good audience is one that shows how its long range perspectives bear on the situation up close. The tactic for planning is therefore to define a set of problems that can be addressed in the time horizon of current interest, illustrate the manner in which the comprehensive view assists with setting priorities among incremental choices, and build a comprehensive plan from the small and visible blocks that are meaningful.

There are real examples of such choices in the areas of fuel substitution, rural development strategies, and conservation activities. They have been discussed in exit meetings. A problem solving orientation should now be given to the definition of a Plan and the consultant should train staff to recognize how the tools being developed on the project can be applied to the more urgent concerns in the energy sector.

At the moment, there appears to be little conscious effort to do this. It is difficult. The staff is young and without the energy experience necessary to recognize the opportunities. Yet, the staff is bright and willing to benefit from management direction. The energy problems need to be defined and translated into designs for analysis so that the staff can produce useful work.

These general recommendations can be briefly summarized calling for four areas of change.

1. A reorientation of the planning efforts to include a problem solving approach to creating projects for the Plan. Energy issues of current interest provide an appropriate starting point for long range and comprehensive thinking. The challenge is to bring the holistic view to the incremental decision process. There is no real conflict in this view for increments are additive, if the Commission adds them in a desired direction.

2. To facilitate the kind of analysis called for in a quick response dialogue with interested parties, revisions to the computer hardware, software, and preparation of analysts to operate their own microcomputers is called for in the addendum to this evaluation.

3. The scope of work calls for a national investment plan. Such a plan can emerge from the problem solving orientation, but it is likely to be less academically comprehensive and aesthetically pleasing. This looser definition of a plan should be permitted within the scope of work.

4. The consultant should view his role as assisting the Commission staff to be able to respond in a problem solving mode. This means lessening the emphasis on filling in all the elements of a formal methodology. That is cheaper to do in a university. The challenge is in teaching how the tools can be applied and results combined in a plan which deals with energy problems in the language of relevant political discourse. The next several months should deal with energy issues and the teaching of methods should arise from their

use. Skills in policy formulation are needed to show how ordinary questions in the political arena are capable of quantitative and rigorous testing.

18. PURPOSE

The purposes of the assistance are to create an investment plan that is of good overall quality, uses methods and techniques of general AID interest, and will be used in ongoing Dominican investment planning. (page 189 of PP)

As discussed in the previous section on outputs, it is very likely that the purposes of the assistance will be met with high quality results, using good planning methods, and having longevity of use within the Commission. The only problem with meeting these objectives is that the external changes have made it unlikely that there will be a constituency outside of the Commission that will use the investment planning. Unless it is oriented to current problem solving, the good work will not be likely to have an impact. Tactical changes to a problem orientation to work on current energy issues are needed. This will show decision makers how planners can provide a useful prospective on matters of current concern.

19. GOAL/SUBGOAL

The goal of 0144 is similar to the goal of 0143, to help reduce dependence on imported petroleum and increase the availability of affordable energy to all income groups of the country. This set of goals remains urgent and topical. The project is still in the tool building phase and transferring skills to planners. It is premature to expect progress toward the goal based on Commission efforts for some time. Realistically, one can expect that an extension of the support will be needed at the end of the current period. If the prognosis for quality work continues, AID should expect to play a reduced, but still important role, especially in helping provide experienced energy experts to give content to a problem solving orientation. This kind of assistance may be needed soon to facilitate the tactical changes called for in the previous discussion.

20. BENEFICIARIES

A national constituency of all income groups is called for in the PP. Thus, there is no specifically designated beneficiary. Social benefits are found in the composition of the energy portfolio, not through the measurement of individual projects. Generally, financial viability is the test of quality of individual projects.

21. UNPLANNED EFFECTS

The hope for transfer of good analysis and decision making from the energy sector to others remains possible, but it will be an unplanned effect. It is too early for results right now, but effort should be planned when the proof of success is assured.

22. LESSONS LEARNED

The decision structure to be served by information systems provides the framework for their design. Moving too far or too fast from the reality of decision makers will cause advice to be ignored. Models of reality are very clarifying and supportive of debate. They are often more useful than the frequently incomplete or muddled thought of a political forum. The challenge is to work in that forum. Energy planners should discuss energy issues, as a guide to analysis, as the subject of analysis, and as the output of analysis.

23. SPECIAL COMMENTS

The staff and executive professionals currently at the Commission are worthy of support. AID should be prepared to extend TA for one more year. Particular emphasis should be given to policy formulation. The Commission needs skills to translate political issues into analysis designs and problem solutions. A translator to bring the results of analysis back to users is also required.

The best stimulus to accomplishing this process of policy making and analysis and the development of solutions would be to do it. The following pages are added to the evaluation to propose a workshop format as one specific mechanism for reorienting the project in this direction.

REORIENTING O144 TO APPLY PLANNING SKILLS TO PROBLEM SOLVING NEEDS

Background: Considerable effort has been expended to transfer skills to the COENER staff and to build a set of data in support of national planning activities in the DR. The evaluation effort called attention to the difficulty of preparing a national investment plan at this time of austerity. It recommended a problem solving orientation be introduced to enhance the utility of COENER to a broad constituency and to ultimately develop a Plan which addressed problems of importance.

Given the project goals requiring oil import substitution, effort would be well spent directing attention to specific opportunities where a problem solving orientation would be useful. Development of local lignite resources to replace oil imports and hotel energy conservation measures to minimize imports provide short and medium term opportunity. These areas show promise both to improve the balance of payments and to exercise the skills of planners while focussing those skills in useful and replicable directions.

Thus, the paramount design feature of the proposed effort is to develop staff skills while addressing serious problems, thus providing a means to concretely carry out the recommendations in the evaluation. The consultant's purpose should be to transfer skills during the work effort such that future similar efforts could be undertaken without him. To serve this purpose, the development and conduct of two workshops, one in coal utilization and the other in hotel energy conservation, have been chosen. The problem areas are significant in terms of impact on the DR balance of payments and the issues draw heavily on data and planning methods already developed.

The task outline below is presented to facilitate policy formulation, identify targets for analysis, and problem solving in order to direct efforts toward practical goals.

1. Coal Utilization Workshop

1.1 The policy issues are defined with all relevant DR organizations, within and outside of the energy sector. COENER staff conduct interviews and prepare analysis plans which bring planning information to bear on policy issues of developing DR lignite resources. Such information as quantity and quality of the resource, market potential, and any information gaps are identified.

1.2 A detailed work plan is developed for COENER and others in preparation for the workshop. The orientation will be to attract investors to develop resources in the DR at a time of austerity.

1.3 A list of private sector invitees for financing development and implementation of projects is drawn. The list is augmented by COENER's sister agencies at their discretion.

1.4 COENER makes physical arrangements for a workshop. It sends invitations to all. Management monitors the work schedule, reviews progress

reports and arranges for help for technical questions from outside COENER.

1.5 A workshop with COENER and investors is conducted to satisfy investor information requirements. COENER defines next steps for interested parties, and provides follow-up capability to preserve workshop momentum with investors and operators.

1.6 A seminar is conducted with COENER staff to discuss how problem solving and planning have worked together and draws lessons for the future. A round table discussion identifying data, policy, and requisite skills will provide specific corrective actions to be undertaken.

2. Hotel Conservation Workshop

2.1 The lessons learned at the previous workshop and seminar can be applied to a second example, hotel conservation. The staff repeat the process. Expertise is made available for questions, and to provide technical assistance with audits and presentation of materials. The materials will contain basic demand data and cost projections from existing COENER data files, to be augmented where necessary.

2.2 A problem solving software package is developed for policy making and testing, using the software on replicable situations and providing a permanent capability to replicate the process, by means of workshops, studies, or other activities. Illustration is made for staff and others to support a credible and useful role for COENER in the government and to attract private sector investment for development projects.

This list of tasks is intended to provide an example of how to redirect effort and staff experience to solve problems. There is nothing inconsistent with the problem solving orientation and the development of a national plan which can be composed of several such efforts at problem solving. The workshop format is chosen to highlight interaction among people relevant to solving problems of oil substitution. It also shows staff how to use the planning resources they have in the service of attracting investments and being useful to different constituencies who are the long term clients of COENER.

Based on the comments to the initial draft of the evaluation asking for some immediate suggestions, the foregoing list of tasks provides an immediate and practical means to reorient the project in the desired direction. Of course, the workshops are only the first in a series of steps toward the goal of perceived relevance. By illustration, they will provide a context that shows how to continue the effort.

LIST OF INTERVIEWEES

INTERVIEWEE	AGENCY
Miguel A. Caamaño	ONAPLAN
Ramon Flores	COENER
Eridania Garcia	COENER
Agustin Leon	COENER
Eduardo Martinez	CED
Peter Meier	IDEA Inc.
Carmen I. Mestre	COENER
Jose R. Molina	COENER
Elba Musalem	COENER
Amneris Ortiz	ONAPLAN
Leo Perez-Minaya	USAID
Luis M. Piantini	Secretariado Tecnico de la Presidencia
María L. Soñe	COENER
Bolivar Rosario	COENER
Daniel Sanchez	IDEA Inc.
Rosa Sanchez	ONAPLAN
William Smith	USAID
Luis J. Soto	COENER
Hector Valdez	Banco Central