



*Environmental Policy and Institutional
Strengthening IQC*

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RESIDUAL OIL RECYCLING

Paper improved with proposal and comments from Romanian specialists after the Work Group
held in June 1999

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The Proposed Approach¹

The principal problem regarding used lubricating oil is improper disposal and attendant environmental damage. Collection ^{of} used oils is costly, in many cases costing more than the product is worth. This leads to dumping of an unwanted commodity in locations that are convenient for the generator but damaging to the environment.

The objective of used oil management is to create conditions under which collection is less costly, more used oil recovered, and less harm done to the environment. It can be identified a range of policies that could make collection less costly or increase the demand for used oil. Of these policies, a mix of command and control and economic instruments is proposed for Romania. The proposed actions will shift the supply curve for used lubricating oils downward and to the right, resulting in more used oil collections at a lower cost.

Because the used oil currently is being dumped in the sewage system, requires to create a demand for it. This means offering a subsidy for approved uses: rerefining and combustion (especially when mixed with fuel oil). According with the experience from the past, changing facilities are the best place to collect used oil; they probably will not need to be rewarded for accepting used oil from DIY oil changers if there is a demand for used oil.

A. DEPOSIT - REFUND SYSTEM

The main feature of this system is a deposit paid by oil consumers that is reimbursed later on. If the oil is changed on the spot no deposit is paid. Unclaimed deposits could remain at the retailer (see Figure 1). The deposit creates an incentive for oil user to return the used oil. Having used oil in bigger quantities will reduce costs for collection and transport so the supply of used oil will shift down on its right side. *The level of the deposit could be 0,6-0,8 \$/litre.* From this 25% could be kept for covering expenditures for maintaining the collection point.

¹ The corrections and improvements suggested from Romanian specialists were directed only on this chapter. Improvements were made accordingly. The suggestions and comments are detailed in the Annex. The first chapters that refer to international experience in regard with used oil recycling are unchanged. The specialists that participated at the working group were mainly in favour of the second option but a solution for creating a consortium has been supported as well.

Advantages. The used oil supply moves down in its upper region increasing the quantities of used oil collected.

Because the car drivers will not pay the deposit if they change the oil on the spot, the retailers that provide exchange points will be preferred. In this way a revenue transfer will take place in favour of those who provide oil exchange facilities.

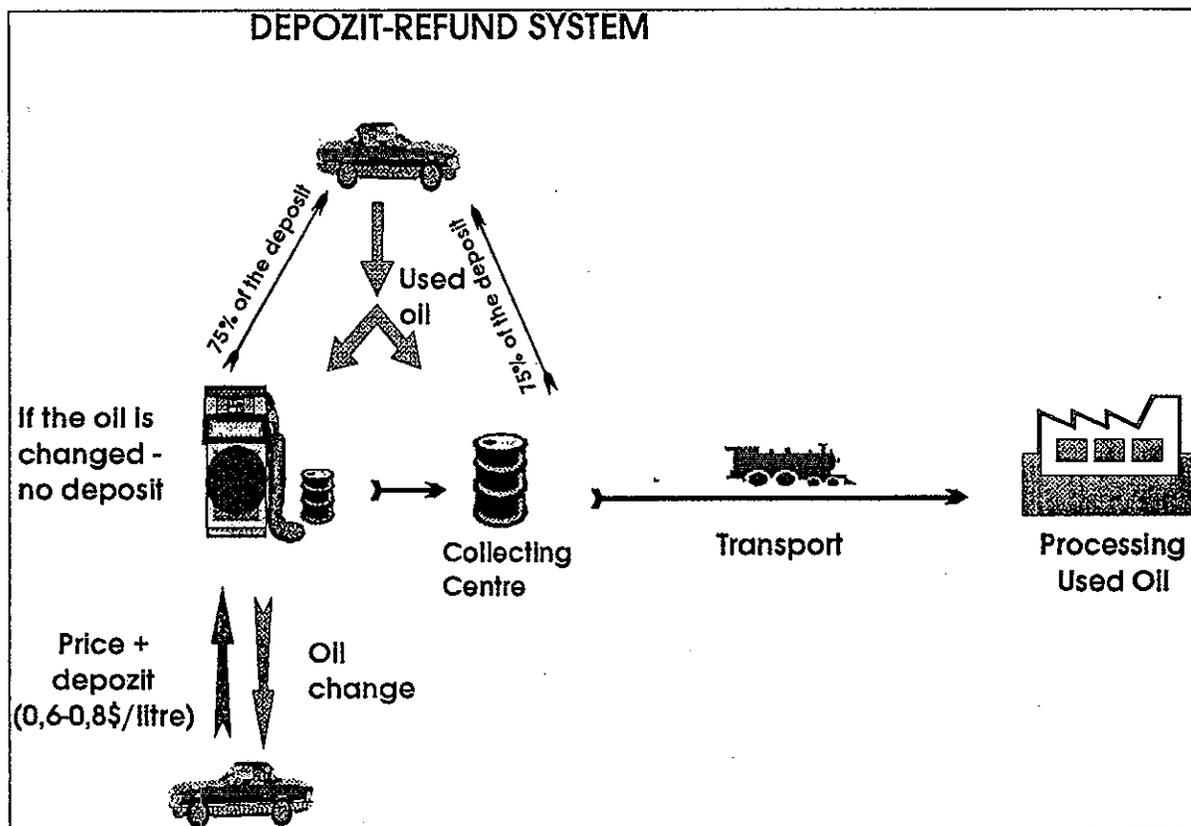


Figure 1

Disadvantages

The system presented above has several disadvantages:

- the deposit should be high enough to create an incentive for returning the used oil; it is the danger that DYE-rs will mix the oil with other substances in order to increase the reimbursement;
- it is expensive to test the used oil returned by car owners;

B. OBLIGATION OF LUBE OIL RETAILERS TO HAVE COLLECTION POINTS

By introducing the requirement that retailers would provide collecting and exchange points will diminish the costs of gathering used oil from DYE-rs.

There are two directions for this: at the selling points and at the places where usually the oil is changed (garages, repair shops, gas stations).

In both cases supplementary costs will occur for lube oil sellers. To cover this extra cost a price increase of the lube oil could be accepted or introducing a payment for exchanging the used oil (see Figure 2). Since used oil generators are the potential polluters, they should be the ones paying for this service.

Collectors and haulers of used oil should be paid for their services.

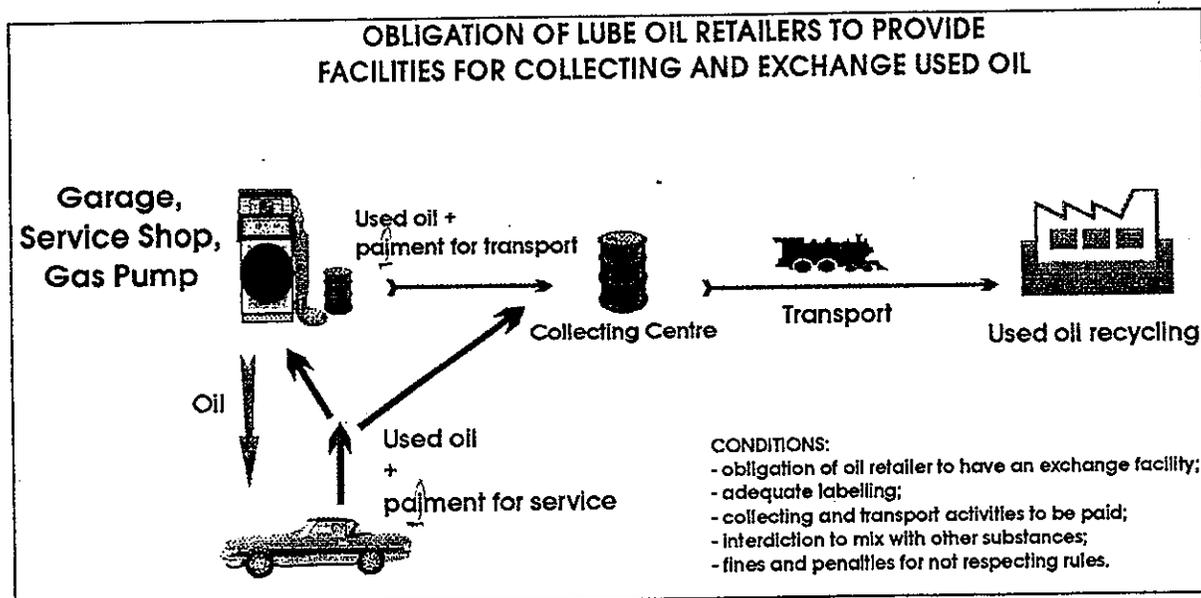


Figure 2

As well strict regulations should be introduced as: interdiction of dumping used, adequate labelling, interdiction to mix used oil with chemical substances, introducing fines and penalties etc.

C. TAX - SUBSIDY SYSTEM

The options for a Tax - Subsidy might be a 15 to 20% tax on new oil sales. Every consumer of new oil should pay the tax since used oil currently is being disposed of in an environmentally unacceptable fashion. The subsidy should be, for approved uses of used oil, about \$0.05 - 0.1 per litre (see Figure 3).

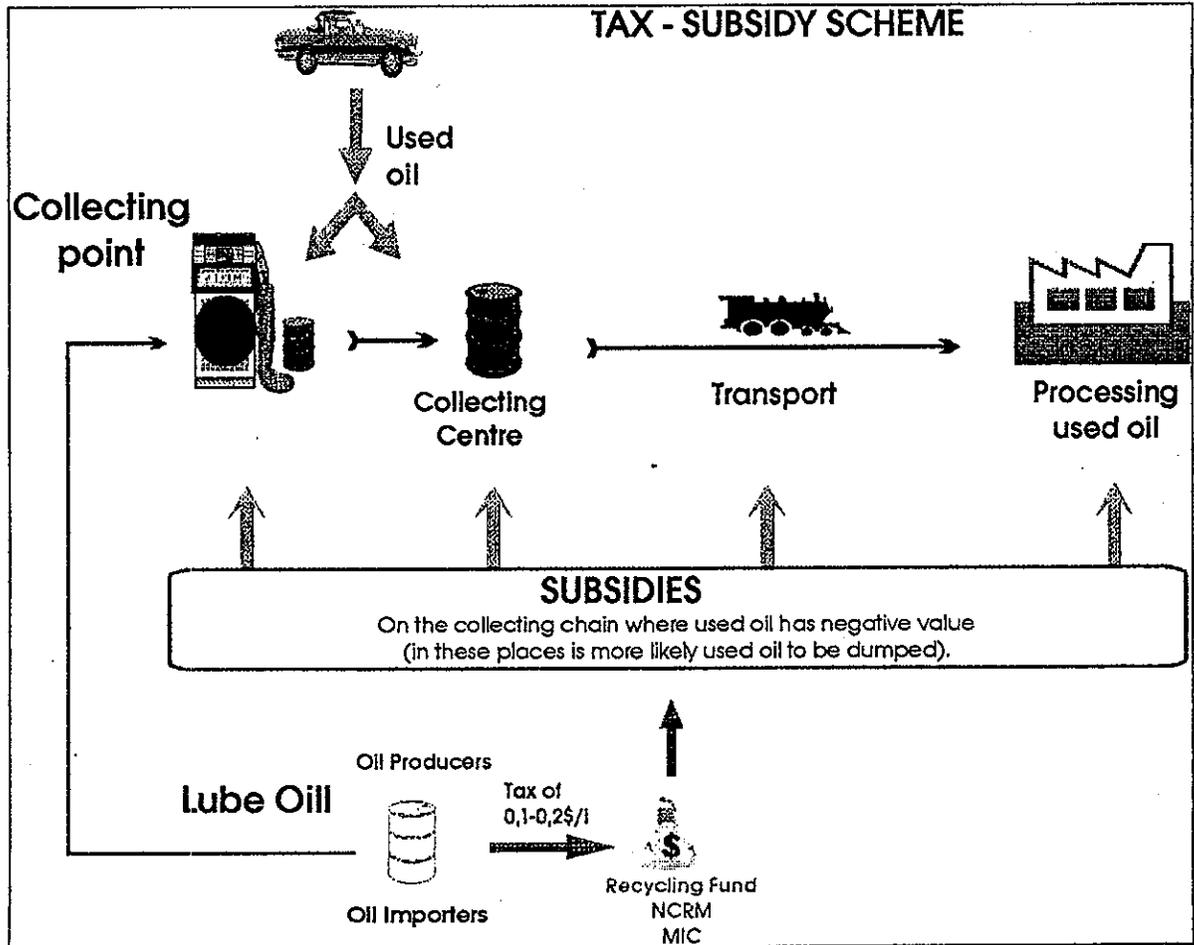


Figure 3

The tax on sales of lube oils has little influence on the sales but money collected could be significant. Revenues collected from producers and importers of lube oil should be used to subsidise places and activities on the collecting chain where used oil has negative value (see Figure 3).

Remaining funds could be used for additional collection facilities and for public education.

The main advantage of this approach is the fact that money will be provided to support a nation wide policy. At the same time no budget money will be involved and jobs will be created.

The disadvantage lays with the fact that it is very difficult to adjust the level of the tax with the changes in oil price. If the subsidy is too high supplementary incentives will be created for investing in new business in the field creating an overcapacity. If the subsidy is too low no businesses will resist in the market. As well the subsidy ignores the regional differences creating supplementary dysfunction. -> *irregularity*

D. OTHER MEASURES

In order to have an efficient collecting system for used oils additional measures should be considered. Some of them are next:

- there must be fines for the disposal of used oil at other than approved collection sites. These fines must be large enough to deter improper disposal;
- information must be provided to oil changers regarding potential harm to the environment from improper disposal of used oils, the availability of collection facilities, and the sanctions for improper disposal.
- a fee should be imposed on the sale of new lubricating oils, with the proceeds used to finance the necessary information/education activities and to subsidize collection activities where necessary.
- public procurements; in this category are included all efforts taken by authorities to buy products made from used oils no matter if the price is higher than market prices. This policy could be applied in towns for buying light combustibles for heating system; Government purchases stimulate demand for used oil and thus shift the demand curve upward. The magnitude of the increase in demand depends on how much recycled oil governments purchase and on the extent to which private citizens follow governments' example by purchasing products derived from used oil. Since public procurement is a demand-shifting policy, it results in potentially large transfers of revenues. Another problem with public procurement is that if government purchases raise used oil prices significantly, other potential purchasers of used oil products could choose to buy virgin oil products instead. Government agencies could end up being the only buyers of recycled oil creating a captive market (dependence on a single buyer).

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- bigger taxes on ^{fuels} combustibles; this will improve the demand for used oil as a substitute for combustibles or for lube products etc.; the danger is that used oils could be burned within inappropriate installations causing significant air pollution.

Steps in implementing a legislative framework

The authors propose the next steps in order to create a Romanian system for managing used oils:

- I. A national strategy aiming to collect - reuse about 20% of the used oils in the next 3 years, 50% in 2005 and 60% in 2010 should be developed.
- II. Develop a national legislative framework, also involving:
 - A. reconsidering regulations before 1990 and reflecting all the positive aspects of those regulations;
 - B. reconsider the Order 33/1995 and identify the causes that made it inefficient;
 - C. consider regulations in other countries, especially in the European Union (Directive 75/439 EEC of 16 June 1975).
- III. Public information campaign about the main goals of the program to collect and recycle used oils;
- IV. Designate competent authorities, such as:
 - A. the Ministry of Industries and Trade (National Commission for Recycling) and MWFEP for draft legislation;
 - B. MWFEP - EPAs and local authorities for the control of waste oil dumping in the environment;
 - C. COMPETROL SA for equipping their own stations (or reactivate existing installations) to collect used oil;
 - D. SC OILREG Râmnicu Sărat or other end user to organize waste oil transport from gas stations; promote other transport systems;

- V. Facilitating oil product retailers to purchase installations (tanks, pumps) for waste oil collection. Same for garage owners, car repairs and dismantling;
- VI. Establish a control and enforcement system, (Local Authorities and the Local EPAs); organize the statistic record keeping system for collected quantities and reporting to MIC, to the National Statistics Commission.
- VII. Consulting stakeholders in improving waste oil management, to the benefit of interested parties: information campaign, civil society (NGO) involvement.
- VIII. Solving technical and financial issues by:
 - A. acquisition of waste oil collecting/pumping equipment by the owners of oil product retailers, garage and repair shop owners, etc.;
 - B. development of waste oil related legislation to provide: an added charge on fresh oil, to be returned, part to the car owner, part to the oil product retailer that takes used oil. A charge on the price of vehicle lubricating oils might be considered, along with a requirement that sellers of vehicle lubricating oils provide collection facilities for public use and provide signs to that effect. Sums thus collected may be used to fund public education on the need for proper disposal of used oils and to fund special used oil collection centers in areas where private collection by sellers of vehicle lubricating oils is deemed inadequate.
- IX. The national used car oil management policy needs to be integrated ^{to} the national policy/strategy of collecting/reusing lubricant oil and waste in general.

ANNEX

MAIN OBSERVATION AND COMMENTS RECEIVED FROM THE PARTICIPANTS AT THE USED OIL WORKING GROUP

September 1999

At the meeting took part 32 specialist from various institutions. From direct discussions and from the written comments received it can be concluded that they agreed with the option paper presented and suggested a series of improvements. These improvements were included in the Option Paper.

It was no agreement regarding what solution should be adopted. One main idea was to include in regulation used oils from big units as: factories (oils from machine tools), sea vessels, rail transport units (locomotives), aircrafts etc. To do this further investigation should be carried out.

National Commission for Recycling Materials (NCRM)

NCRM supports the option that conceives collection of used oils at places where oil is changed: gas stations, garages, service stations etc.

As well NCRM wants a waste charge added to the existing price and collected in the Recycling Fund under their management. Another proposal is to introduce the obligation of foreign oil producers to collect used oil.

Min. of Industry and Commerce (MIC)

In the work group the representative on MIC agreed with the second scheme - obligation for retailers to have exchange oil facilities.

The MIC written answer suggested several issues as:

- including all types of used oils from various sources;
- a solution consortium-type should be more analysed;
- money from fees, penalties etc. should be gathered in a separate fund and managed by a special institution (consortium, NCRM, etc.);
- a cost comparison between the option two and three.

- a pilot program in Prahova county.

OILOREG SA (main company to process used oils)

The director of OILOREG suggested the followings:

- make a distinction among various used oils, crude oil waste, transformer oils etc.;
- interdiction for bigger used oil generators to sell used oil to population as combustible;
- transport costs are high and a ^{discount} rebate would be helpful.
- because the market for re-processed used oil is low, the main output is light combustible;

Drafted

Dr. Victor Platon