

COMMISSION OF THE EUROPEAN COMMUNITIES

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PROBLEMS AFFECTING THE OIL REFINING INDUSTRY IN THE COMMUNITY

(Communication from the Commission to the Council)

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Communication by the Commission to the Council
on the problems affecting the oil refining
industry in the Community.

Introduction

1. This communication describes the problems of the oil refining industry in the Community, the process of adaptation which it must undergo, and suggests ways in which national governments and the Commission could assist.
2. Apart from two periods of supply constraint following the Iranian revolution late in 1978 and the outbreak of the Iran/Iraq war, the industry's downstream activities in the Community, i.e. refining, distribution and marketing, have since 1974 earned a generally unsatisfactory, and often negative, return on capital employed.
3. The refining industry has been concerned for some years with the problems of excess capacity to distil crude oil and of potentially insufficient capacity to convert unwanted residue to lighter products in relatively strong demand. The first resulted from the unforeseen decline in consumption and rise in product imports after 1973, when considerable new capacity was under construction; the second from the disproportionate and continuing fall in demand for residual fuel oil.

These imbalances tend to prevent the establishment of product selling prices which both reflect the optimum use of the types of crude oil available and permit the industry fully to recover its costs.
4. The Commission responded to industry's concern in 1977/78 by arranging a series of meetings with individual companies and by proposing in communications to the Council* a number of measures designed to alleviate

* Communications by the Commission to the Council on :-

"A Community Approach to the Refining Problems of the Community" COM (77) 71 Final of 17 March 1977.

"Problems connected with the profitability of the refining industry in the Community and on ways of resolving them : "COM(78)71 Final of 22 February 1978.

"Developments in the Refining Sector of the Community Oil Industry", COM (78) 697 F of 7 December 1978.

- the situation, including a standstill on the construction of new distillation plant, the encouragement of closures of less efficient plants, and the closer monitoring of imports of finished products. Formal agreement was not obtained to these proposals, but the companies did cooperate with the Commission's suggestion that crude runs should be closely monitored by the Commission.
5. The problems which were addressed in 1977/78 still remain and subsequent events have given the industry new cause for concern as regards the surplus of distillation capacity. In particular the sharp fall in consumption in 1980/81, and the companies' belief that no significant recovery of demand is to be expected from current depressed levels, have led companies to look for permanent rather than temporary solutions to over-capacity.
 6. A second new element in the situation is the reduced ability of integrated companies, which have since 1973 lost title to most of the oil formerly owned by them, to finance downstream losses out of profit on crude oil production. The discrepancy in crude oil costs between companies importing the cheaper Saudi crudes and those dependent on other sources has imposed a further trading disadvantage upon certain companies.
 7. The Commission held a fresh round of consultations with oil companies in May/June 1981 in order to obtain an industry view upon the current oil situation and prospects and the developments to be expected in the refining sector. Account has been taken of the information so obtained in the discussion of problems and remedies which follows. Estimates of capacity have been based upon the report compiled by the Commission from company returns in compliance with Council Regulation 1056/72.

II. Demand on Community Refineries

8. The volume of crude processed in Community refineries has declined since 1973 as internal demand has stagnated and the external balance in refined products trade has deteriorated. This trend, and industry expectations for the future, are summarised in the table below :

EEC - 10	<u>Crude Processed</u>					<u>Millions of tonnes</u>	
	<u>1973</u>	<u>1979</u>	<u>1980</u>	<u>1985</u>		<u>1990</u>	
Consumption	597	564	517	510-535 ⁽¹⁾		500-525 ⁽¹⁾	
Net Exports(+)/ Imports (-)	+25	-	-17	-30 ⁽²⁾		-30 ⁽²⁾	
Total ⁽³⁾	622	564	500	480-505		470-490	
Distillation Capacity	787	830	808				

(1) These forecasts compare with the totals of the 1980 Member States forecasts of 560 and 535 m.t. for 1985 and 1990 respectively.

(2) Assuming one third of incremental OPEC exports go to the EEC

(3) Differs from reported figures by stock changes

9. Over the period 1973-90 there is expected to occur a major change in the proportions of the various products consumed, as the percentage of motor gasoline/naphtha rises relative to that of the heavier products. This change will partially offset the loss of revenue as total demand declines, but will significantly raise the industry's capital and operating costs. Its dimensions may be illustrated by the following estimates :

EEC : Product Composition of Demand (Percent by weight)

	<u>1973</u>	<u>1979</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
Mogas/Naphtha	17.5%	20.5%	22.1%	23.2%	25.0%
Kerosine/Gasoil	34.2	35.9	35.2	34.5	34.0
Distillates	51.7	56.4	57.3	57.7	59.0
Residual fuel oil	38.0	29.5	28.4	25.5	22.5
Other (incl. Refinery Fuel)	10.3	14.1	14.3	16.8	18.5
	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>	<u>100.0</u>

III. Primary Distillation Capacity

10. To process this quantity of about 500 million tons of crude oil annually there is available in the Community primary distillation capacity (including units out of service) of the order of 800 million tons per year (m.t/y). The current and forecast average utilisation ratio is therefore 60% compared with over 80% in 1973. If one takes 80% as a figure which could be considered normal, and as giving sufficient cover for demand fluctuations, unforeseen shutdowns and other contingencies, the capacity requirement for the Community would be in the region of 600 m.t/y, leaving a present margin of excess capacity of 200 m.t/y.
11. So large a degree of excess capacity in a contracting market means that capital and operating expenses are much higher than justified by the volume processed, and that market prices are eroded by the pressure upon a great many companies to try to prevent throughput falling even lower. The situation of individual refineries varies greatly; particularly hard hit are those refineries (mostly located in Italy and in the Netherlands) that are orientated towards exporting and third party processing, for which demand has fallen most sharply. The larger, more complex refineries, able to shut down one of several distillation units, and, by virtue of conversion plants, able to vary product yield to match changing market requirements, have generally fared better than smaller less sophisticated refineries equipped with a single distillation column and little or no conversion capacity.
12. Over the period 1974-80 measures taken by individual companies to reduce capacity fell short in aggregate of the capacity of new plant which was under construction in 1973 and has since come on stream. Installed capacity thus rose slightly in spite of closures amounting to 80 m.t/y. This total includes only four complete refineries amounting to 16 m.t/y, the remaining 64 m.t/y of capacity reductions having taken the form of the shutting down, for scrapping or conversion to other uses, of one or more distillation units at large refineries where several columns are installed. Capacity reduction by this means is relatively painless, causing no disruption of distribution patterns and having minimal effects upon employment.

13. Further scope for such plant closures undoubtedly exists but is difficult to quantify. Larger refineries of over 150,000 b/d, or 7,5 m.t/y, and typically equipped with more than one distillation unit, account for 300 m.t/y of Community capacity, or nearly 40%. In many cases, in spite of closures already carried out, distillation capacity remains greatly in excess of that needed to supply feedstocks to conversion plant (which represents only 9% of EEC distillation capacity compared with over 40% in the USA) located at the refinery, and many units are known to be out of service or in only occasional use.
14. Further closures at these large refineries will certainly, however, provide only a part of the 200 m.t/y reduction required and the greater part of the necessary adjustment, perhaps as much as 150 m.t/y will have to take the form of closing entire refineries. Already in 1981 the Burmah, BP and Exxon companies have announced such intentions. Smaller companies operating only one or two simple refineries will be especially vulnerable, but the major groups will also be faced with difficult decisions. For them the problem will be to minimise the rise in distribution costs when a refinery is shut and, to this end they will seek exchange arrangements with competitors, providing hospitality at one refining centre and receiving it at another. Plant closures in the areas where there is a concentration of refining activity (e.g. Rotterdam, Fos, Milford Haven) will be less damaging from the employment point of view, to the extent that redundant personnel can find work at other refineries in the neighbourhood, which are installing new conversion plant.

Such arrangements will need to have regard to the Competition rules of the Treaty, particularly Articles 85 and 86 but also, where applicable, 37 and 90, in order to avoid trade between Member States being affected and limits or controls being placed upon production or markets.

IV. Conversion Capacity

15. If the industry is to adapt its production to the continuing change in the composition of the demand barrel discussed in paragraph 9, it will have to undertake further substantial investments in processes which, directly or indirectly, reduce the yield of residual fuel oil and raise that of the lighter products.
16. At present a strong commercial incentive to investment is provided by the large difference between the selling prices of light distillates, particularly motor gasoline, and those of residual fuel oils. The increase in this differential from \$125 per tonne at end 1978 to \$225

per tonne in mid-1981 has greatly exceeded that in the capital and operating costs of conversion over the same period.

17. It is not axiomatic, however, that up-grading capacity will in consequence be expanded at the necessary rate, for there is among the companies widespread concern both about the generally low profitability of refining in the Community, and about the possibility that over-investment by the industry (overseas as well as in the EEC) may narrow product differentials and undermine the profitability of new plant.
18. Current investment plans notified by the companies early in 1981 would, if implemented completely, result in the following expansion of conversion capacity in the Community.

EEC 10 : Conversion Plant

<u>Type of plant</u>	<u>Intake capacity in millions of tonnes (Year end)</u>		
	<u>1973</u>	<u>1980</u>	<u>1985/6</u>
Catalytic Crackers	43.0	45.1	61.2
Thermal Crackers	10.7	17.9	21.1
Visbreakers	10.1	23.5	47.8
Hydrocrackers	1.6	4.3	6.3
Cokers	-	1.4	3.3
Total	<u>65.4</u>	<u>92.2</u>	<u>139.7</u>
Total in terms of catalytic crackers	<u>55.0</u>	<u>70.0</u>	<u>101.0</u>
As % of Distillation Capacity installed	7.0 %	8.7 %	17.0% *

19. The potential output of the main product groups would then compare with the expected demand pattern in 1985 as follows, assuming crude oil quality unchanged from 1980 and conversion plant fully used in both years :

* Assuming installed capacity reduced to 600 m.t/y.

EEC Product Balance 1980 and 1985
(assuming crude runs of 500 m.t/y)

<u>Millions of tonnes</u>	<u>Distillates</u>			<u>Residual</u>
	<u>Light</u>	<u>Middle</u>	<u>Total</u>	<u>Fuel Oil</u>
Production 1980	100	184	284	139
Output of plant added 1981-85	12	6	18	(22)
Available 1985	112	190	302	117
Consumption 1985	125	185	310	139
Net imports	13	(5)	8	22

These figures suggest that 1985 net imports would be fuel oil and naphtha/gasoline, while middle distillates would be in slight surplus. The deficit in light ends would preclude the use of a heavier and cheaper average quality of crude oil than at present.

Lastly it should be noted that the expansion of conversion capacity will reinforce the tendency discussed above towards a reduction in the number of refinery sites. In order to achieve economies of scale, and to integrate successive processes, major companies will try to concentrate up-grading plants at only one or two of their refineries, and to reduce or close down operations elsewhere. Implied by this process is an increase in the movement of products and feedstocks between locations and between countries.

v. Product Imports

20. Since 1973 the balance of the Community's external trade in finished petroleum products has deteriorated by about 40 m.t/y (para 8), and by over 15 m.t. in 1980 alone. This deterioration has therefore been a major factor in the fall in the demand on EEC refineries. It has resulted both from the decline in exports to traditional markets, whose import needs have contracted, and from rising imports from overseas refineries, particularly in North Africa, but also from Caribbean refineries originally constructed to supply the now dwindling US import market. Italian and Dutch refiners have been particularly hard hit by these developments. Italian net exports of 24 m.t. in 1973 have been replaced by net imports of 3 m.t.

in 1980; Netherlands' net exports have declined by 20 m.t. over the same period.

21. Some further increase in net imports is to be expected as OFEC export capacity grows, but the destruction of plants in Iran and Iraq, the deferment of some major projects, and the rapid growth in OPEC consumption, suggest that additional volumes may not be very large, at least in the medium term. Great uncertainty, however, attaches to estimates in this regard and it will be necessary to watch closely the evolution of imports from year to year.

VI. Conclusions

22. The point has been reached where companies engaged in oil refining will be obliged to close a significant number of refineries in addition to shutting down more redundant distillation columns at large refineries.
23. Major investments will be required at refineries remaining in operation to adapt product output to the changing pattern of demand. Companies' current programmes of expansion appear to be sufficient, but progress should be watched.
24. Net imports, which have risen by 40 m.t/y or 8% of consumption since 1973, are expected to grow more slowly henceforth. Some increase is inevitable in view of the Community's open trading policy and the planned expansion of OFEC's export capacity, but the Commission will monitor the situation closely.
25. The problems of excess distillation capacity and product imbalances should be resolved as soon as possible so as, on the one hand, to enable consumers to benefit from prices which reflect the optimum use of the crude oil available and, on the other, to permit the full recovery of its costs by the industry.
26. The Commission believes that the process of concentrating operations on fewer more complex refineries can and should be undertaken by the companies themselves, responding the market forces, and acting in conformity with the Competition rules of the Treaty. Considerable progress has already been made and recent consultation with the industry makes it plain that it will continue. On the other hand closures should not be allowed to prejudice the

security of supply of the country concerned and, where necessary, companies should provide guarantees regarding the continuity and price basis of supplies of petroleum products from elsewhere and of stock levels to be maintained.

27. Inevitably the closure of refineries, although labour forces are relatively small, will present the problem of re-employing surplus staff. In many cases the companies themselves will be able to provide work at other locations for the personnel affected. Where this is not possible, a need may arise for assistance by national or local authorities with job-creation schemes, supplemented, if necessary, by grants available from Community funds for eligible projects.
28. The development of concertation at Community level, involving both industry and governments, should make possible more precise and complete understanding of the situation on the basis of sound assessments of the future demand for petroleum products, and of the changes in the size and structure of the industry required to adapt to it. It should thus assist progress towards balanced and economic solutions to the industry's problems and provide the basis for any specific Community initiatives which may be put before the Council.

Actions requested of the Council

29. The Council is requested by the Commission :
- (a) to take note of the Commission's analysis of the problems affecting the oil refining industry and of the developments to be expected, notably the trend towards fewer, more complex, refineries and a consequent increase in the movement of finished products between member states.
 - (b) to recognise that the contraction and restructuring of the industry is necessary and should be carried out by the industry itself, provided that the security of supply of the regions concerned is not put at risk. Governments should provide the appropriate fiscal, social and administrative environment for their actions.
 - (c) to take note that the Commission :
 - will keep the situation under continual review with industry and governments.
 - will prepare forecasts of refining capacity and of the short and medium-term balance of petroleum products.
 - will report to the Council without delay if specific Community intervention in this sector should appear necessary.

COMPARISON OF PRIMARY DISTILLATION WITH CONVERSION CAPACITY

Annex

(Millions of tonnes intake capacity at end-year)

	1973			1980			1985		
	D	C	%C/D	D	C	%C/D	D	C	%C/D
Belgique	40.7	3.2	7.9	55.3	4.3	7.8	55.3	5.0	9.0
Danmark	10.9	0.8	7.3	10.5	0.9	8.6	10.5	1.3	12.4
Deutschland	141.4	12.9	9.1	146.9	21.0	14.3	146.9	23.8	16.2
France	158.4	9.9	6.3	167.6	12.9	7.7	167.6	16.2	9.7
Hellas	15.0	1.0	6.7	18.7	1.0	5.3	18.7	1.0	5.3
Ireland	2.9	-	-	2.9	-	-	2.9	-	-
Italia*	161.7/187.0	11.1	6.9/5.9	162.3/187.6	9.5	5.9/5.1	172.3/197.6	16.7	9.7/8.5
Nederland	97.9	4.2	4.3	89.6	6.3	7.0	91.0	12.6	13.8
United Kingdom	133.2	11.7	8.8	129.2	14.5	11.2	129.2	24.5	19.0
Total*	762.1/787.4	54.8	7.2/7.0	783.0/808.3	70.4	9.0/8.7	794.4/819.7	101.1	12.7/12.3

*) Alternative figures exclude and include distillation units at petrochemical plants.

Source : Derived from company returns of January 1981 under Council Regulation 1056/72

D = Primary Distillation Capacity

C = Conversion capacity expressed in terms of catalytic crackers, other units being weighted according to typical yield of distillates on feedstock.

ESTIMATED UTILISATION OF PRIMARY DISTILLATION CAPACITY

(Millions of tonnes)

	<u>1973</u>			<u>1980</u>		
	Distillation Capacity (year-end)	Crude Processed	%	Distillation Capacity (year-end)	Crude Processed	%
Belgique	40.7	37.2	91	55.3	33.4	60
Danmark	10.9	10.1	93	10.5	6.6	63
Deutschland	141.4	118.4	84	146.9	110.5	75
France	158.4	135.0	85	167.6	114.0	68
Hellas (est)	15.0	10.5	70	18.7	14.3	76
Ireland	2.9	2.7	93	2.9	2.0	69
Italy*	161.7/187.0	128.9	80/69	162.3/187.6	96.5	59/51
Netherlands	97.9	73.4	75	89.6	50.6	56
United Kingdom	133.2	114.3	86	129.2	84.4	65
Total*	<u>762.1/787.4</u>	<u>630.5</u>	<u>83/80</u>	<u>783.0/808.3</u>	<u>512.3</u>	<u>65/63</u>
Stock change (est.)		+ 8.5			+12.0	
Crude processed for market		<u>622.0</u>	<u>82/79</u>		<u>500.3</u>	<u>64/62</u>

* Alternative figures exclude and include distillation units at petrochemical plants.

Sources :

Capacity : Company figures reported under Council Regulation 1056/72.

Crude Processed : Eurostat.