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THE OIL MARKET AND THE REFINING INDUSTRY IN THE COMMUNITY:
RECENT DEVELOPMENTS AND THE PROSPECTS UNTIL 1995

(Communication from the Commission)

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COMMUNICATION FROM THE COMMISSION TO THE COUNCIL ON
THE OIL MARKET AND THE REFINING INDUSTRY IN THE COMMUNITY:
RECENT DEVELOPMENTS AND THE PROSPECTS UNTIL 1995

Contents:

I. PRINCIPAL PROBLEMS AND POLICY RECOMMENDATIONS

* * *

II. OVERVIEW

III. OIL CONSUMPTION IN THE COMMUNITY

IV. CRUDE OIL SUPPLIES AND IMPORTS OF PETROLEUM PRODUCTS

V. THE STATE OF THE REFINING INDUSTRY AND ITS PROSPECTS

VI. STRUCTURE AND PROBLEMS OF THE COMMUNITY INDUSTRY

ANNEXES

VI. STRUCTURE AND PROBLEMS OF THE COMMUNITY INDUSTRY

The prospects for further rationalization
Investments by producer countries
Quality of products and environmental protection
Costs borne by the refining industry in complying
with environmental protection measures
Completing the internal market (1992)

ANNEXES A: Annexes concerning the oil market and the
refining industry

ANNEXES B: Annexes concerning the Community's external
trade in petroleum products

THE COMMUNITY OIL MARKET AND REFINING INDUSTRY :
RECENT DEVELOPMENTS AND OUTLOOK TO 1995 :

I. PRINCIPAL PROBLEMS AND POLICY RECOMMENDATIONS

Introduction

1. In a series of reports to the Council since 1977, based on consultations with oil companies, unions and governments, the Commission has discussed the problems which confronted the refining industry in the Community, namely :

- a large surplus of primary distillation capacity and an excessive number of refining sites;
- a need to invest in capacity to convert residue to lighter products and to improve product quality.

These problems resulted from the fall in consumption since 1979, the increase in net imports of finished products from third countries, the rise in the relative demand for light products, and, more recently, the increasing severity of environmental standards.

Their solution was seen to lie in the concentration of the industry's activities at a much reduced number of more complex refineries.

2. The Council adopted the approach to these problems recommended by the Commission in its successive reports, namely :

- recognition that the industry is responsible for taking decisions about the closure of surplus capacity and about the investments necessary to adapt facilities to the structure of demand;
- a positive attitude by the governments of the Member States towards the measures of rationalisation taken by the industry;
- maintenance of an open policy regarding product imports provided that other industrialised countries do likewise and suppliers observe fair trading practices;
- monitoring by the Commission of developments in industry restructuring and external trade.

Recent Developments and current issues

3. The situation of January 1988 shows that progress in adapting capacity to demand has continued, although at a slower pace, since the Commission last reported to the Council in May 1986.(COM(86)263 of 13.5.86). Primary capacity was reduced in 1986 by a net amount of 24 million tonnes per year (M.t/y) to 595 Mt/y and by a further 3 Mt/y in 1987 to 592 Mt/y, 35% below its peak level in 1979/80.

The average utilisation rate in 1987 was close to 80%, considered to be the minimum level consistent with the efficient operation of refining plants. In certain Member States, notably Germany and the United Kingdom, occupancy rates were considerably higher. With demand on refineries expected to remain at present levels or to increase slightly if prices remain in the \$15-20 range, the refining balance for the Community as a whole is better than at any time since 1980.

4. Despite this improvement, the industry nevertheless still faces serious problems of a structural nature and in particular :
 - imbalances between countries and regions where capacity is well adapted to demand and those where over-capacity and poor utilisation persist;
 - potential major discrepancies in the costs borne by the industry in different Member States in complying with differing environmental standards;
 - a low level of profitability, even in areas where plant is well utilised, one consequence of which is to make it more difficult to justify and finance investments.
5. There have been no further major direct downstream investments in refining and marketing by oil exporters since the Commission's last Communication. The balance of external trade in petroleum products has also shown little change. These are nevertheless important issues which the Commission will continue to keep under review.
6. Finally the 1992 objective and the progressive implementation of a genuine Internal Market in Energy will require measures which will undoubtedly have a significant impact on the functioning of the Community oil market.

Capacity Trends and Regional Imbalances

7. Companies' present plans for closures would reduce EEC primary capacity to 575 Mt/y, a level which provides ample cover for the Commission's demand scenarios which range from 485 to 520 M.t in 1995. Utilisation rates, assuming net imports at 25 M.t, would be between 79 and 85% in that year.

Although gross overcapacity has ceased therefore to be a general phenomenon, it remains a serious problem for certain Member States, notably France, Italy and Portugal, and for a considerable number of individual refineries whose utilisation ratios are still very low, in some cases less than 50%. There are also considerable discrepancies in the degree of capacity reduction achieved by different operators, the smaller companies having generally restructured less than the larger groups.

The effort by companies to rationalise must therefore be continued so as to achieve, by reductions in capacity, supply exchange arrangements and joint ventures, more efficient and viable operations in the areas concerned. It is difficult to estimate what further capacity reductions this would entail, given the uncertainties about demand and intra-Community trade. The further

cuts planned by the companies would bring the total for the period 1987-1995 to about 20 Mt/y. These are almost all located in the South of the Community but it remains questionable to what extent they would correct the regional imbalances now apparent. The employment implications of further restructuring are expected to be relatively slight.

The Commission considers, however, that the economic and security interests of the Community require that there should continue to be, at Community level, a margin of spare primary and conversion capacity to meet unforeseen increases in the demand upon the industry. Such increases could result from higher consumption or export demand on the one hand, or from a reduction in normal trade inflows on the other. It is also desirable for competition reasons that independent distributors should have a choice between imports and domestic manufacture for any additional supplies they may need. A balance therefore has to be struck between the objective of efficient and profitable operation of the Community industry - which implies high utilisation of plant - and that of safeguarding security of supply and competition which requires a margin of spare capacity. The Commission believes that the present policies aimed at rationalising the industry while maintaining open access to international markets will help to achieve such a balance.

Environmental Requirements

- 8 The refining industry, like other industries in the energy sector, is inevitably concerned by atmospheric pollution issues which in turn affect energy costs and the competitive position of different refining plants. The Commission attaches importance to a balanced pursuit of environmental and energy policy objectives. It is therefore concerned about the potential regional imbalance which may result from the considerable and growing differences in the costs borne by the industry in the various Member States in complying with different environmental standards. These differences in compliance costs could over time work to the detriment of refineries otherwise efficient and viable. Community environmental legislation aims to limit such cost advantages and disadvantages by setting minimum standards based, as required by the Single European Act, on a high level of protection.
9. The industry has in recent years had to initiate large programmes of capital expenditure in order to meet higher standards for product quality, notably to permit the phasing out of the use of lead in motor gasoline and the reduction of the sulphur content of gasoil. Substantial investment for such purposes is expected to continue. In particular, if new low limits for sulphur in fuel oil are generally adopted, investment in extreme conversion processes may be necessary further to reduce the yield of residual fuel oil to match the declining outlet for this product. There is concern in the industry about the difficulty of financing the heavy investments required for environmental reasons.

As in the past, the Commission will continue to develop further proposals in close consultation with the refining industry so as to take account both of the need of appropriate environmental protection legislation and the global situation of this sector. The potential financial difficulties caused by the investments required for environmental reasons should be alleviated as far as possible by means of reasonable lead times and adequate forward planning.

Profitability

10. Apart from short periods when exceptional circumstances applied, profitability has for many years been generally insufficient to remunerate capital employed or to finance new investments, and seems likely to remain so. Surplus capacity in all phases of the international industry and severe competition have certainly been major factors in creating this situation but OPEC's official price régime also played a part by keeping crude oil prices artificially high in relation to product values.

It is to a degree a structural characteristic of the oil industry that the division of integrated profits among the several functions varies considerably from one period to another. It is indeed for this reason that most operators have sought to integrate their activities. When refining margins do not cover manufacturing costs, non-integrated refiners face severe problems and even integrated companies are obliged to subsidise their refining operations out of earnings from production, from distribution and marketing, or from specialised manufacturing activities such as lubricants and petrochemicals. Although such cross-subsidisation may be unavoidable for limited periods, it is plainly not desirable over the long-term since it tends to deprive the more profitable activities of the capital needed for their own development.

11. In recent years refining margins have continued to be very sensitive to movements in the crude oil price and to OPEC's trading practices. They rose sharply during the months in 1986 when netback pricing formulae were introduced and fell back during 1987 with the return to official prices, reaching very low levels at the year end. In 1988 profitability has improved as crude oil prices have again declined more rapidly than those of products.

The Commission believes that further reduction of Community capacity will improve refining margins provided that similar rationalisation takes place in other regions and that crude oil prices are market-related. The outlook for refining profitability remains however uncertain and companies which are not integrated, or insufficiently integrated, may find it necessary either to acquire production interests themselves or to enter into joint ventures with oil exporters. There have already been a number of developments of this kind and more are expected.

Downstream Investment by Producers

12. Direct investments by oil exporters now represent about 3.5% of the Community's refining capacity, those principally concerned being the state entities of Kuwait, Libya, Mexico, Norway and Venezuela.

The Commission reaffirms the view expressed in previous communications that such investments in refining and marketing by oil exporters are in principle to be welcomed as beneficial to the Community industry and to security of supply. In particular there are considerable mutual advantages in joint ventures which satisfy the complementary interests of producers in securing downstream outlets and of refiners in securing supplies of crude oil at market-related prices. The Community's favourable attitude must, however, be subject to certain conditions, notably that :

- such investments represent a long-term commitment to the Community market;
- changes in structure or ownership do not seriously reduce the diversity of crude oil supplies.
- the process of rationalisation of the industry is not adversely affected;
- new operators are subject to the same trading conditions as their competitors.

External Trade in Petroleum Products

13. The net imports of finished products by the Community in 1987 were some 27 M.t. or 6% of consumption, similar to the 1985 level and slightly above that of 1986. In the Commission's view they will not rise substantially above that level, because the export capacity of the Community's suppliers will shortly reach a plateau and thereafter decline.

The Community's open policy assumes on the one hand a similar attitude by the United States and Japan and on the other a responsible attitude by exporters of petroleum products and their observance of fair trading practices.

On the first point it is gratifying that the United States has maintained the conditions of access to its market and that the import policy initiated by the Japanese Government in 1985 has been implemented.

As regards relations with exporters, the cooperation agreement concluded with the countries of the Gulf Cooperation Council on 15 June 1988 will provide new possibilities for joint analysis of trade flows and industrial cooperation. As the two parties have jointly declared, the subsequent negotiation of a trade agreement will have to take account of the restructuring of the Community industry and of the need to maintain capacity in line with the fundamental interests of the Community and its security of supply.

The Internal Market

14. Consultations with the companies have revealed a number of constraints upon their operations, at Community or national level, which result from national regulation or administrative practices. A number of these are identified in the Commission's recent report on "The Internal Energy Market"(COM(88)238). The elimination of these constraints and harmonisation throughout the Community, so

far as consistent with Energy Policy, would make operating conditions more similar in the Member States, and serve the double purpose of completing the Internal market and maintaining a strong and sound refining industry to the Community. Harmonisation in this field should be carried out within the context of the improvement of economic and social cohesion throughout the Community.

Recommendations for endorsement by the Council

15. The Commission accordingly proposes the following recommendations for endorsement by the Council:
1. The policies previously adopted regarding domestic refining and import of petroleum products should be continued but with greater emphasis on the regional rather than the Community situation.
 2. Rationalisation should continue, concentrating upon areas and refineries where utilisation rates are below viable levels, with the aim of raising the utilisation rate of primary capacity in all refineries to at least 80%.
 3. In the interests of supply security and international competitiveness the Community should maintain an efficient and viable refining industry operating at high utilisation rates but with a margin of spare capacity to meet unforeseen increases in demand upon it.
 4. The Community should maintain its open attitude to imports of petroleum products and to downstream investments by oil producers provided that similar policies are followed by other major consuming and exporting countries and that the viability of the Community industry and its restructuring are not adversely affected.
 5. The Community should make every effort to reduce differences in environmental standards in the various Member States which could significantly affect industry costs.
 6. The responsibility for restructuring should, as hitherto, be left to the companies, provided security of supply and free competition are not impaired.
 7. Governments should, however, assume an active role in :-
 - identifying and removing obstacles posed by national regulations or practices to the rationalisation of the industry;
 - promoting mergers and joint ventures by refining companies not viable on their own.
 8. The Commission should continue to monitor and report to the Council as necessary regarding :
 - trends in Community consumption, external trade, refining capacity and profitability;
 - developments in other major oil consuming and exporting countries;
 - progress made in restructuring and possible effects on security of supply or competition ;
 - progress made by Member states in removing obstacles to rationalisation.

**THE OIL MARKET AND THE REFINING INDUSTRY IN THE COMMUNITY:
RECENT DEVELOPMENTS AND THE PROSPECTS UNTIL 1995**

II. OVERVIEW

16. Now even more so than in the past the problems of the Community refining industry should be seen in a **world context**, since the problems in question affect most of the major world refining centres, although the gravity of the problems and the emphasis may vary. Moreover, the main markets (United States, Europe, Far East) are having an increasing effect on one another, either directly or indirectly.

17. Most observers agree that the future of the refining industry in the Community looks uncertain. There are many contributory factors whose short-term or structural nature it is sometimes difficult to discern. The main facts on which this assessment is based, and which are illustrated in the remaining chapters of this communication, may be summarized as follows:
 - 17.1. **the small increase foreseeable in the demand for oil in the Community as a result of moderate economic growth prospects, substitution implemented or planned by other energy sources, and greater energy efficiency. Over the next ten years, it is likely that total oil demand will level off.**

 - 17.2 **the growing share of motor fuels - non-substitutable products - in the consumption of industrialized countries. In the Community this growing requirement can only be fully covered by new investment in conversion equipment. The profitability of such investment varies according to companies' strategies, their size, their degree of integration and the conditions specific to the markets of the Member States on which they operate. In general, it should be emphasized that it is difficult to assemble the capital needed for major investment when refining is barely profitable or even unprofitable. If they cannot be produced in the Community, these distillates have to be imported from non-Community countries.**

- 17.3 the volatility of crude oil prices and the likelihood that this phenomenon will continue, the prospect of a gradual rise over the next decade being the most generally accepted hypothesis.
- 17.4 Protection of the environment requires increasingly severe standards one of the consequences of which is pressure upon refinery operating costs. There are varying assessments of whether the cost differentials resulting from differences in these regulations distort competition. The impact in some Member States of local constraints is regarded by some as being at least as serious as the impact of the national regulations in others. In addition, it is asserted that the disadvantages for certain refineries of high environmental protection costs may be offset by advantages in terms of siting, capital costs etc. The significance for an industry which is already very much in deficit, of the investment which would be required to meet higher environmental standards should be emphasized. A balanced application of standards of protection which takes account both of the needs of the environment and of the particular circumstances of the industry, and which is not discriminatory, would make it possible, while achieving the required level of protection, to avoid perverse situations from the economic point of view whereby, for example, very efficient refining capacity is closed while other plants, which should have been shut down, survive.
- 17.5 the maintenance or even bringing back into operation of comparatively unsophisticated refineries which often benefit from preferential crude acquisition conditions and do not have their own distribution network. These refineries, taken in and out of service depending on the state of the market, could to a large extent help to maintain surplus potential supply. In addition, without calling into question the economic benefit of contract processing operations, there are those who wonder about the effect they may have in some cases in adding to surpluses.
- 17.6 differences in the degree of restructuring carried out in the various Member States indicated for example, by average national refinery utilization rates ranging from 53% to 93% in 1987 and ratios of conversion to distillation capacity varying from 11% to 30%. It should be said, however, that some of the differences in the extent of conversion facilities can be explained by differences in the consumption structure from one Member State to another.

It should be noted that the capacity utilization rate, which has so far been used as the overall criterion for the state of health of the refining industry, is becoming less and less significant. The profitability of the industry is now determined more by exogenous factors (surplus oil supply, crude access cost, differentials between crude purchase prices and the netback from petroleum products sales, etc.) than by the structure of the industry's equipment.

17.7 **the development of international trade in refined products.** This trade increased in volume by one-quarter between 1981 and 1986 in which year it accounted for 24% (compared with 18% in 1981) of total world oil trade - estimated at over 26 Mb/d.² Within the Community this trend has resulted in an increase in net imports of products, rising from 1.5% of consumption in 1981 to nearly 4% in 1986. In absolute terms, net imports rose from 7 Mt in 1981 (EUR 10) to 19 Mt in 1986 (EUR 12). It should be noted that this deterioration in the net external balance was not continuous but was the net change over a period during which supply conditions on the world market fluctuated very greatly. As regards the sources of supply, gross imports of products into the Community remain comparatively stable, the breakdown being roughly 20% from industrialized countries, 45% from developing countries and 35% from state-trading countries. Recent trends, however, indicate a reduction in the share of developing countries and a steady increase in that of the state-trading countries.

17.8 **the inadequacy of revenue on the refined products' market compared with the crude supply cost, narrowing the refining margin or even making it negative.** This is basically a result of the excess supply on the world oil market. It is felt particularly acutely by companies whose activities focus mainly on refining and which do not have their own crude production or specialized downstream activities (petrochemicals and lubricants).

In these conditions, companies' strategic choices, and in particular their degree of upstream and downstream integration, and the geographical distribution of their markets, take on a decisive importance.

18. Consultations with companies operating in the Community have shown that sensitivity to these factors varies from one company to another. They have also highlighted constraints which apply either to the Community as a whole or, more often, to certain Member States, which make the future more problematic for certain companies.

² Source : BP Statistical Review of World Energy
Not including trade between CPE countries

Some of these constraints are the result of national rules and regulations or administrative practices, and of the specific features of tax systems. For example, the oil companies mentioned the following constraints in one or more countries: the ban on inter-refinery trade in finished products; discrimination by law or by practice against refiners and in favour of importers of products; taxation penalizing liquid fuels; different consumer taxes on petrol and on diesel fuel; policies encouraging the use of gas or electricity; persistent walling-off of national markets - whether on a reciprocal or one-way basis; pricing systems; the national-flag obligation; pollution-control measures; differences in product quality standards; differences in taxation and tax-collection arrangements, etc.

Several of the constraints were mentioned by the Commission in its recent working paper on the internal energy market.³ In some Member States they tend to aggravate the difficulties encountered by the refining industry. There are therefore two reasons for removing these constraints and striving for harmonization at Community level in order to make operating conditions more equal as between Member States: the internal market goal and the need to maintain a strong and healthy refining industry in the Community. Their removal is consequently particularly urgent except in so far as they serve the Community's energy policy objectives.

19. The Commission draws the following conclusions from the above analysis:

19.1 The process of restructuring the European refining industry should continue over the long term, with the aim of maintaining a competitive industry of an adequate overall size. Further closures will probably be inevitable but efficient capacity should not be forced to close down in order to keep in operation plants which are profitable because of fortuitous circumstances or unfair conditions of competition. In addition, companies which have made considerable efforts to rationalize in the past should not be penalized compared with others which have not made similar efforts because they enjoyed the benefit of artificially protected markets.

³COM(88)238, 2.5.1988.

- 19.2 It is necessary to make the most of regional complementarities and strengthen the European dimension of the companies so that the refining capacity as a whole within the Community is geared to the interests of consumers as a whole.
- 19.3 The deterioration in refining margins in 1987 was to a large extent due to a lack of flexibility in crude offtake conditions as well as to price fluctuations. Freer world markets could provide a remedy by making the supply conditions of oil refineries more comparable.
- 19.4 Steps must be taken to ensure that competition between operators in the Community, whether they are integrated refiners, independent refiners, importers or independent distributors, is not distorted by the effect of national rules and regulations. This will help to open up the markets of the different Member States. Certain situations which are at present protected (monopolies and other restrictions) will be altered as a result of the single market and the disappearance of internal frontiers. This should lead to greater competition and price alignment.
- 19.5 The Commission has always taken the view that the setting-up by producer countries of refining and distribution companies on the Community market is a favourable development provided that the companies in question are set up on a long-term basis and comply with the rules to which their competitors are subject and that the investment made is compatible with the process of rationalization in the refining sector. Provided that these conditions are met, the downstream integration of producers should not impair the security of supply or distort competition.

In addition, steps should be taken to ensure that all our OECD partners adopt a comparable attitude vis-à-vis investment by producer countries in downstream activities.

- 19.6 The following comments are called for as regards the question of surplus distillation capacity:
- Part of the surplus does not raise any major problems to the extent that it is unused. This is the case, for example, with the reserve capacity in complex refineries over and above the minimum primary capacity needed to ensure the profitable operation of the conversion plant which is linked to it. This is also the case with inland refineries which are at an advantage, as far as location is concerned, for the light product market, but cannot fully utilize their primary capacity because of the difficulties encountered in marketing heavy products.

- Following the major capacity reductions over the last ten years, it is becoming increasingly difficult to take decisions to close down further capacity. In some cases such decisions mean that part of the market is no longer served, while in other cases the supply channels have to be reorganized. However, the decisions in question are part of company strategy and should not be opposed provided that they comply with the rules of competition and allow consumers to obtain satisfactory supplies.

 - A more worrying matter is the question of keeping refineries in operation or bringing them back into operation, sometimes intermittently, when factors such as location, the demand structure or the lack of a distribution network would normally require that they be closed down once and for all. In a few cases refineries which it had been decided to close down have been sold and reopened, probably because of the high cost of closing capacity down and in particular of restoring the site, which make it preferable for the owner to sell the plant. Another factor is the presence of buyers with access to supplies of crude under favourable conditions. Bringing such plants back into service makes for uncertainty and does not help to improve the market situation.

 - With regard to the rationalization of facilities, there is a difference between the Northern European markets, where capacity has been reduced to a level close to the level of demand, and the Southern markets, where there is still a considerable surplus. A special effort will have to be made to reduce excess capacity and to restructure in the countries in question. Use should be made of the Community's financial instruments, where these are applicable, in order to offset the adverse effects of closures on jobs and the economy in the least-favoured regions.

 - Taking maximum economic efficiency as the guiding criterion should lead to the closure of plants with, for example, a low utilization rate, high operating costs, an unfavourable location or equipment which is unsuited to the demand structure, and which only massive investment could improve.
- 19.7 The approach adopted by the Council in 1985 to deal with the development of imports from refineries in the producer countries is still a valid one, consisting in keeping the Community market open provided that two conditions are satisfied, namely :

- that the same attitude is adopted by the other major consumer markets so as to ensure that market forces distribute among them the burden resulting from the new trade flows, and
- that a responsible attitude is taken by new exporters, whereby exporting enterprises comply with normal commercial practices.

As regards the first point, the Commission is pleased to note that the United States has maintained the conditions of access of petroleum products to its market, and that the change in import policy decided on by the Japanese Government in 1985 has begun to bear fruit. Nevertheless, it is still concerned about the reappearance of protectionist tendencies in certain quarters.

As far as the second point is concerned, the conclusion on 15 June 1988 of a cooperation agreement with the GCC countries should offer the Community new opportunities for a joint analysis of the situation, and for trade and industrial cooperation. As indicated by the Council, the subsequent negotiations on the commercial aspects of relations between the Community and the GCC will have to take account of the process of restructuring the refining industry and of the need to maintain a production capacity in line with the fundamental interests of the Community and its security of supply. The Commission considers that it will be necessary in this context to define conditions of access which reconcile the desire of the GCC countries to safeguard their exports of refined products to the Community with the need to ensure that these exports are compatible with the interests of refiners and consumers in the Community.

19.8 The process of rationalizing the refining industry in the Community has resulted in job losses. Between 1980 and 1986 some 28 500 jobs were lost in this sector, corresponding to an 18% reduction. A slight further fall in employment is foreseen between 1986 and 1990, but it should be small compared with previous reductions.

Given the comparatively moderate number of jobs lost and the possibilities for redeployment or early retirement, refinery closures have not, generally speaking, caused acute employment problems. Nevertheless, because of their impact on indirect employment, the repercussions of closures have been severe in regions where the industrial fabric is not diversified.

19.9 However serious the problems facing the refining industry in Europe, it is necessary to avoid taking measures which would make worse the constraints to which it is subject. It is for the industry itself to take the appropriate initiatives needed for its restructuring: it is for the public authorities to establish the environment which will enable it to do so. We should not overlook the fact that the scope for individual action is limited because of the international nature of the oil market. Consequently, protectionist reactions must be avoided, since they would simply spark off similar counter measures outside the Community, and the end result might be more damaging for the Community than the open and cooperative approach pursued so far.

III. OIL CONSUMPTION IN THE COMMUNITY

Oil and energy consumption in the Community

20. Since the early 1970s oil's share of primary energy consumption in the Community has fallen sharply, from 63% of the Community's energy requirements in 1973 to 47% in 1986, a downward trend which can be expected to continue in the years ahead.

Nevertheless, oil is still the Community's leading energy source and is set to remain so until the turn of the century.

One of the Community's energy objectives approved by the Council in September 1986⁴ was to reduce oil's share of energy consumption in the Community to around 40% by 1995 (33% for imported oil).

The latest national estimates published in the Commission's recent review of the Member States' energy policies provide further evidence⁵ of the predominant role played by oil in the Community's energy supplies. They suggest that oil could cover 43% of the Community's energy requirements by 1995 (see Table 1).

Table 1

EUR-12 : Primary energy consumption 1973-95

In millions of tonnes Oil equivalent (M.toe)	1973	1985	1986	1990	1995 (Member States' estimates)
Oil	647	489	505	506	501
Solid fuels	232	239	232	245	266
Natural gas	117	185	187	202	211
Primary electricity	33	143	150	168	182
Total primary energy consumption	1029	1056	1074	1121	1161

⁴OJ No C 241, 28.9.1986.

⁵COM(88)174 final, 6 April 1988.

21. An assessment of the sensitivity of oil consumption to crude oil prices follows later in this section. Two price scenarios are considered:

- (i) a high price scenario in which prices bounce back rapidly to between USD 25 and USD 30 per barrel (in 1988 dollars) and oil consumption falls to 485 Mt by 1995;
- (ii) a low price scenario in which prices hold steady at between USD 15 and USD 20 per barrel and oil consumption rises to 520 Mt by 1995.

22. Not only are future price trends an unknown quantity but uncertainties remain concerning oil demand in transport and industry.

The latest estimates forecast that demand for motor fuels (petrol and diesel fuel) which, together, account for 33% of all demand for oil, should grow by between 1.5 and 2% a year until 1995. Higher growth - and the 1986 and 1987 figures point to demand for these two products growing by as much as 4% a year - would further increase the proportion of motor fuels and reinforce the trend towards the lightening of the product barrel.

Heavy fuel oil consumption in industry is unlikely to increase. In fact, most forecasts suggest the opposite.

Should these projections for motor fuels and heavy fuel oil prove true they are bound to have an impact on refining economics and on investment in conversion units.

23. One final uncertainty which could change the pattern of demand for petroleum products is the possible increase in heavy fuel oil consumption at power stations in the mid 1990s. This will have to be watched very closely if the objective of limiting oil's share in this sector to 15% is to be attained. The data from the Member States indicate that 14% of the Community's electricity could be generated from oil by 1995.

Recent oil consumption trends and short-term prospects (1988)

24. The downward trend which had continued until 1985 ended in 1986 when total oil consumption in the Community rose significantly, by over 3%, to 502 Mt.

This higher consumption reflects the big reduction in oil prices in 1986. Although the fall in crude prices was not passed on completely or immediately, consumer prices nevertheless fell in most Member States,

thus stimulating consumption. In addition, consumers took advantage of the attractive prices to build up their stocks, particularly of heating oil. This too played a part in the increase in consumption.

In late 1986 and throughout 1987 crude prices recovered and fluctuated around the OPEC marker price of US \$18 a barrel. Petroleum product prices made a slower, less complete recovery than crude oil prices. This trend made refining far less profitable in 1987, in direct contrast to the situation in 1986. The latest data indicate that total oil consumption in 1987 was the same as in 1986.

25. Based on the economic growth and crude oil price assumptions set out in Table 2, oil consumption can be expected to increase in 1988, by around 2%.

Table 2
EUR-12 Recent trends and main assumptions for 1988

	1985	1986	1987	1988*
GDP growth (%)	2.5	2.6	2.6	2.5
Inflation rate (%)	6.1	3.6	2.8	3.1
ECU/US\$ exchange rate	0.760	0.983	1.154	1.286
Average cif price of imported crude oil				
in US \$/barrel	27.5	14.5	17.9	16.0
in ECU/barrel	36.4	14.9	15.6	12.4
Total oil consumption (in Mt)	486	502	502	510

* Forecasts - June 1988

26. The upswing in oil consumption starting in 1986 was attributable mainly to the sharp increase in demand for petroleum products in the transport sector, i.e. petrol, diesel fuel, aviation kerosene and bunker fuels. Together, these four products accounted for 43% of all oil consumption in 1986. Their share is expected to grow further in 1987-88.

Heating oil consumption is no longer falling but has levelled out. Heavy fuel oil consumption, however, continues to fall, though deliveries should be only slightly down in 1988.

Annex A-1 sets out data on consumption of each of the main petroleum products between 1985 and 1988.

Medium-term prospects for oil consumption (1995)

27. Medium-term oil consumption trends in the Community will depend on a series of factors, notably:

- (i) economic and industrial output growth rates;
- (ii) the progress made towards the more rational use of energy;
- (iii) oil prices and inter-fuel competition.

28. Two scenarios have been chosen to project likely oil demand trends. Table 3 presents the main assumptions made in each.

There are two differences between these scenarios and those in the previous communication from the Commission on the oil refining industry:⁶

- (i) the time scale for the projections has been extended to 1995;
- (ii) the three 1986 scenarios assuming oil prices of USD 15, 20 and 25 a barrel (in constant 1986 dollars) representing higher, unchanged or lower consumption in 1990 than in 1985 have been replaced by two price scenarios - one for USD 15-20 a barrel (in 1988 dollars) in which consumption increases up until 1995, the other for USD 25 30 a barrel in which consumption declines from 1989.

⁶COM(86)263 final, 13.5.1986.

Table 3

EUR-12 :Projections for 1995: principal assumptions

	HIGH OIL PRICE SCENARIO	LOW OIL PRICE SCENARIO
GDP growth	Average 2.6% a year between 1985 and 1995 giving growth of 29% over ten years	
Oil price (in 1988 dollars)	Return to US \$25-30 per barrel in 1989 and holding steady until 1995	Fluctuating between US \$15 and 20 a barrel (towards the top end of the range in 1995)
Total oil consumption in 1995	485 Mt	520 Mt

29. The two scenarios both assume the same GDP growth and agree with the Member States consumption forecasts. As stated in paragraph 8, the Member States forecast oil consumption in 1995 at 501 Mtoe, in the middle of the range suggested by the two scenarios.
30. In the **high oil price scenario** total oil consumption would slip back again after the 1986-88 increase to return to around the 1985 total of 485 Mt by 1995. The breakdown of consumption by product category would however change between 1985 and 1995, with a 20 million tonnes increase in consumption of petrol kerosene and diesel fuel in transport being offset by a similar fall in heating oil consumption in homes and heavy fuel oil consumption in industry.
31. In the **low oil price scenario** the recent upward trend in oil consumption would continue to total around 520 Mt in 1995.

The main driving force behind this growth would, once again, be the increase in consumption in transport (up 32 million tonnes between 1985 and 1995). Demand for heating oil would hold steady, while demand for heavy fuel oil should be around 10 million tonnes down on 1985.

Annex A-2 sets out the consumption data and estimates for each petroleum product between 1980 and 1995.

Medium-term consumption prospects as seen by the oil companies

32. Most oil companies consulted by the Commission expect consumption in the Community to remain close to 1987 levels, albeit with significant differences from one Member State to another. Increased demand for fuel in transport should be offset by lower demand for heating oil and fuel oil. Nevertheless a few companies predict that consumption could decline to the 1985 level by 1995. The oil companies' total consumption projections therefore fall within the ranges suggested in the two scenarios considered by the Commission.

Generally oil prices should range between USD 15 and 25 (in 1987 dollars); they could move outside these limits but not for long as corrective factors would soon come into play. Price elasticity of demand is thought to be weaker than it was at the time of the 1986 consultations.

Inter-fuel competition

33. The 1995 consumption estimates for the two scenarios are based on the general assumption of abundant supplies of oil and its rival fuels throughout the period covered. The following additional assumptions were made as regards competition in specific sectors.

In the residential and services sector, the trend to replace oil by natural gas and, in some Member States, electricity is likely to continue if oil prices rise again but would end if prices remain low.

There seems to be no threat to the preference for coal at existing power stations no matter what the oil price scenario since exporters of coal to the Community have already proved flexible enough to adjust their prices downwards. Nevertheless, bearing in mind the heavy investment needed to

receive and handle coal, persistently low oil prices could influence decisions to build new power stations, especially since some Member States have mothballed oil-fired power stations which could be recommissioned without great cost.

Possible decisions by certain Member States to defer the construction or commissioning of nuclear power stations could result in some oil-fired power stations being brought back into service.

Finally, there has been a certain amount of pressure to burn more natural gas at power stations.

34. In industry, there are four main reasons for the decline in consumption of heavy fuel oil:

(i) industrial restructuring and the switch to less energy-intensive products;

(ii) the campaign to save and make more efficient use of energy;

(iii) the concern to protect the environment; and

(iv) the switch to rival energy sources.

These changes will continue in the years ahead, albeit with a smaller reduction in fuel oil consumption. Restructuring is sure to continue but persistently low energy prices over several years could delay technological developments leading to greater energy efficiency.

35. To sum up the prospects for greater inroads by rival energy sources in industry:

- electricity should capture a larger share as specific applications develop;

- coal should find it difficult to increase its share since most large consumers who found it to their economic advantage to switch to coal have already done so (for example cement works), while the disadvantages of handling and burning coal which have deterred small and medium consumers in the past are likely to remain.

- natural gas is likely to continue to increase its share as the grid is extended in the Member States which currently have limited facilities (Spain and Ireland) or none (Greece and Portugal). This increase in market share can be expected to continue in both oil price scenarios since gas prices are aligned on the price of petroleum products albeit after a certain time lag.

36. There could be a far bigger increase in natural gas's share and a spectacular decline in fuel oil use if the Community or individual Member States were to adopt environmental protection legislation so strict that fuel oil was virtually forced off the market.

Industrial sources suggest that this will probably occur in Germany once all the Community and German standards on the prevention of pollution by gaseous emissions from combustion plants enter into force. In this case by its very nature as a clean fuel natural gas would emerge as the substitute fuel.

In this connection it should be noted that one of the principal objectives of the Community legislation, and in particular, of the proposed directive on large combustion installations, is to avoid policies which could contribute to the elimination of one of the competing fuels. The different emission limit values proposed for each of the fuels have been established with this in mind. This is not to question, however, the competitive advantage of natural gas by virtue of its cleanness.

37. The measures taken as part of the programme to complete the internal market to harmonize excise duties on petroleum products and to bring closer the VAT rates for various fuels could radically change the competitive position and hence the various patterns of consumption of energy and of different petroleum products in certain Member States. However, in the Community as a whole they should have little impact on consumption of each energy source if the Commission's proposals to align the rates on the current average are implemented.

Inter-fuel competition as seen by the oil companies

38. Most oil companies feel that all fuels should compete on equal terms and that the tax or other advantages enjoyed by natural gas, coal and electricity should be abolished. This would promote flexibility between fuels and encourage large consumers to equip themselves to burn two or more fuels at their plants.

Nevertheless this demand for neutral taxation of the various forms of energy conflicts with one of the Community's energy objectives - to reduce oil consumption and, hence, the Community's dependence on imported oil.

IV. CRUDE OIL SUPPLIES AND IMPORTS OF PETROLEUM PRODUCTS

Crude oil supplies

Pattern of supply

39. Before 1974 the Community imported almost all its crude oil, primarily from OPEC members. Today the pattern of supply is far more diversified, with the Community producing around one-third of its crude oil itself and importing the other two-thirds from a wide variety of sources (see Annex A-3).

Thus crude oil production in the Community (which has just 1.4% of the world's estimated oil reserves of 96 000 Mt) has grown steadily since 1974 when it stood at just 13 Mt or 2% of the Community's supplies. Boosted by the jump in oil prices from around USD 3 per barrel in 1973 to USD 34 in 1981, production in the Community peaked at around 149 Mt or 34% of the Community's needs in 1986. In 1987 crude oil production in the Community fell for the first time, to 145 Mt. The United Kingdom still produces almost 85% (122 Mt) of the Community's output although all the other Member States except Belgium, Ireland, Luxembourg and Portugal, also produce some oil, from as little as 1 Mt in Greece to 5 Mt in Denmark. Most of the oil produced in the Community is also refined in the Community, only a small proportion (no more than 20%) being exported, most of it to the USA. Projections based on today's oil prices foresee a further decline in output until 1995, particularly in the United Kingdom, with output then levelling out at just above 100 Mt.

40. Oil imports from non-Community countries fell steadily between 1974 and 1987, accompanied by a marked diversification of sources of supply. Total crude oil imports fell from 560 Mt in 1974 to 328 Mt in 1986 and 1987. Industrialised countries' (principally Norway) share of supplies rose from 0 to 7% and the Soviet Union's from 1 to 6%, while the developing countries' share plummeted from 97% to 57%. OPEC provided no more than 45% of the Community's supplies in 1987 compared with around 94% in 1974. The Gulf Cooperation Council members bore the brunt as their share fell from 45% in 1974 to just 14% by 1987. Consequently, the Community's crude oil supplies are now far more diversified than they were ten years or so ago, which is fully in line with the Community's security of supply objectives. The projections for oil consumption and production in the Community suggest a steady increase in imports, with the sources depending, as in the past, primarily on availability and price. The security of supply objective implies that the emphasis must be placed on prospecting for and producing new resources in the Member States as well as on maintaining a satisfactory variety of sources of supply for imports from outside the Community.

Quality problems

41. As environmental regulations have been tightened up and the pattern of demand has changed, greater emphasis is being placed on the availability of light, low-sulphur crudes than in the past. The average API gravity of crudes processed — apart from the period when additional heavy fuel oil was required because of the 1984 miners' strike in the United Kingdom — held relatively steady until 1985 when the crude slates began to lighten before becoming heavier again in 1986 when Spain and Portugal joined the Community. At the same time the sulphur content of imported crudes fell steadily to an average of 1.1% by 1985. Since 1986, however, it has risen slightly and now averages 1.36% (see Annex A-4).
42. Most of the industry does not share the fears voiced by certain circles that the supply of low-sulphur light crudes might not be enough to satisfy demand and considers that supplies should be adequate at least until 1995.

On the supply side, there is still a significant surplus worldwide of low-sulphur crudes, as can be seen from the narrow price differential between low-sulphur and high-sulphur crudes. Norway will continue to step up its output of low-sulphur crudes in the years ahead, though output from the United Kingdom will fall. Recently, new fields of this type of crude were discovered in Venezuela, Yemen and the Soviet Union. On the demand side, consumption of heavy fuel oil is continuing to fall, both in absolute terms and as a proportion of consumption of petroleum products, not only for environmental reasons but also as a result of inter-fuel competition and energy policy.

Taken together, these supply and demand trends suggest that there will be enough low-sulphur crude to satisfy demand until 1995 at least, despite the expected tightening-up of environmental standards in the Community. Some observers fear that after 1995 growing demand for low-sulphur crude in the USA could create tension on the world market which would trigger a sharp increase in the price of low-sulphur crude in comparison with high-sulphur crude.

Table 4

EUR-12 -- IMPORTS OF CRUDE OIL AND PETROLEUM PRODUCTS
FROM THIRD COUNTRIES TO THE EUROPEAN COMMUNITY (EUR-12)
Changes between 1986 and 1987 by economic bloc

	1986						1987					
	Crude oil (excluding feedstocks)		Petroleum products (including feedstocks)		Crude oil (excluding feedstocks)		Petroleum products (including feedstocks)					
	Mt	%	Mt	%	Mt	%	Mt	%				
A. Industrialized countries	25	8	21	21	30	9	22	20				
Norway	25	8	2	2	30	9	3	3				
USA	-	-	10	10	-	-	8	7				
B. Developing countries	264	80	45	44	252	77	45	42				
OPEC	224	68	37	36	201	61	38	35				
OEAPEC	173	53	38	37	157	48	40	37				
GCC	83	25	17	17	62	19	17	16				
C. State-trading countries	23	7	36	35	26	8	41	38				
Soviet Union	23	7	28	27	26	8	31	29				
Total for all non-Community countries	328	100	102	100	328	100	108	100				

¹Totals A, B and C plus imports of unspecified origin.

Source: External trade statistics of the Community (NIMEXE system).

Imports of petroleum products

43. For many years the Community has pursued a liberal policy on oil imports from non-Community countries.

In practice, the duties laid down in the Common Customs Tariff (CCT) have not been reimposed at any time since 1979 even though some exporters have repeatedly exceeded the ceilings set under the Generalized System of Preferences. (GSP)

In June 1985 the Community introduced monitoring on imports and information systems so as to gain an understanding of exporters' intentions. A similar system was adopted in July 1985 for the larger group of countries in the OECD/IEA. The Community maintains close contact with the exporting countries concerned so that the two sides can compare oil supply and demand forecasts.

In this way the Community regularly assesses the impact of its current policy of giving new exporters an opportunity of establishing stable outlets on the Community market provided they do not endanger the maintenance of a sufficient level of refining capacity to satisfy the legitimate concern for security of supply.

The situation today

44. Gross imports of petroleum products (including feedstocks) from third countries were about 109 Mt in 1987, i.e. an increase of 6.5% (6.6 Mt) compared with 1986, most of this increase being shared between France and Italy. Deducting the 32 Mt exported to non-Community countries (the same as in 1986), the Community imported a net 76 Mt, including feedstocks, almost 7 Mt more than in 1986 (see Annexes B-1, B-3 and B-9).
45. Looking at the sources of supply, between 1986 and 1987 the State-trading countries' share grew fastest (by 13% or 4.6 Mt), followed by the industrialised countries' (7.5% or 1.5 Mt) and, finally, the developing countries' (up 1% or 0.5 Mt). The developing countries remained the leading source of supply in 1987 at 42%. The State-trading countries' share has grown, however, to 38%, the highest figure in recent years. The industrialized countries' share of supply is holding steady at around 20% (see Annexes B-1 and B-5)

Analysing the changes in petroleum product imports by customs treatment, imports at zero duty were slightly down on 1986 at 61%. Within this category imports for specific processing or chemical conversion continued to take a large share at 48 Mt, almost half the total, though slightly down on 1986. Imports covered by the Generalised System of Preferences (GSP) took their share of all imports up to 21%. Consequently, only around 18% of oil imports into the Community in 1987 were liable to the normal Common Customs Tariff (CCT) duties. This proportion has held relatively steady over the last few years (See Annex B-6).

46. The breakdown of imports by product category for 1987 shows, as was traditionally the case before the introduction of the "netback deals" in 1986, a return to the growth trend in heavy oils (gas oil

and fuel oil) which again take over two-thirds (68%) of the total or 73 Mt. Much of this increase in imports of heavy oils and, in particular, fuel oil (up 4.3 Mt) can be attributed to greater consumption at power stations, especially in Italy. Light oils' share fell a little to 20%, while that of other products (LPG and petroleum coke) held relatively steady (see Annex B-7).

47. Intra-Community trade in petroleum products in 1987 was around 9% down on 1986, with a total volume of 86 Mt. The 1987 figures for trade in petroleum products between the Member States confirm the Netherlands (31 Mt), the United Kingdom (5 Mt) and Spain (5 Mt) as the leading net exporters and Germany as by far the top importer (at 29 Mt). However, after adding trade with non-Community countries only the Netherlands (at 20 Mt) and Spain and Greece (approximately 3 Mt) remain net exporters of petroleum products (see Annexes B-2 and B-9).
48. Figures for 1987 show that the Community as a whole imported a net 27 Mt of finished petroleum products, excluding feedstocks, (total imports minus total exports) or around 6% of its total consumption. This is comparable to the volume recorded for the Ten in 1985 but significantly higher than the 1986 figure (see Annex B-10).

Prospects for imports of products from third countries

49. There is nothing to suggest any significant increase in oil imports from non-Community countries over the next few years. There are several reasons for reaching this conclusion.

First, the moves to liberalise international trade in oil products are continuing and being stepped up, particularly in Japan, which sharply increased its imports of all product categories in 1986 and then again in 1987. According to the OECD data, net imports now cover 24% of consumption in Japan, and 3% in the USA (6% in the Community). While certain circles in the USA are still calling for the introduction of an import fee, care will have to be taken during the bilateral and multilateral discussions within the IEA/OECD and GATT to avoid decisions dictated essentially by budget considerations but detrimental to international trade in oil.

50. Second, there are signs of a stabilization in imports from the crude oil producing regions which brought into service new refining capacity geared to the export market, particularly the countries in the Gulf Cooperation Council. No further major increase is expected. Indeed, having regard to the capacity in service or scheduled to come on stream in the near future and the expected increase in consumption in the countries concerned and their neighbours, the surplus of exportable oil products should start to fall steadily in the early 1990's, particularly amongst the OAPEC (Organisation of Arab Petroleum Exporting Countries) members.

Finally, if the trend observed over the last few years for the producing countries to invest in the downstream branches of the oil industry in the Community were to continue, the countries concerned would probably concentrate on exporting crude oil, rather than refined products, to the Community market.

Relations with the Gulf Cooperation Council (GCC) countries

51. The Cooperation Agreement concluded on 15 June 1988 between the Community and the Gulf Cooperation Council countries (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates) should help to bring about closer economic cooperation between the two sides. In the case of energy, this agreement should make possible in-depth analyses of trade in oil between the two regions and of their industrial implications, particularly for the refining industry.

The oil industry in the Community has shown interest in these first steps towards bringing the Community and the GCC countries closer together. The Commission believes that the industrial cooperation planned should focus on areas in which the two sides complement each other and take account of the interests of oil companies in the Community and the GCC in the upstream and downstream parts of the oil industry in the two regions. The industry must therefore be involved in implementing the cooperation agreement since attainment of its objectives will depend to a large extent on the industry's voluntary cooperation.

52. As for the possible conclusion of a trade agreement, the Commission will as required by its mandate from the Council in accordance with the GATT rules, ensure that any industrial and trade measures adopted in no way jeopardize the restructuring of the refining industry and the maintenance of the refining capacity needed in the Community to safeguard its security of supply.

In keeping with its longstanding policy of liberalizing international trade in oil, the Commission is convinced that closer relations with the GCC countries and other exporters will help to make the world oil market work better to the benefit, in the final analysis, of all oil-importing and oil-exporting countries.

V. THE STATE OF THE REFINING INDUSTRY AND ITS PROSPECTS

Refining industry worldwide

53. As a result of the integration of the world markets for crude oil and refined products the Community refining industry is now affected to a large degree by the refining situation in the other parts of the world.

Changes in primary capacities, refinery throughput and rates of utilization between 1980 and 1986 for the main areas of the world are shown in Annex A-5.

54. World primary capacity was reduced by some 8% between 1980 and 1986 as a result of closures in primary capacity in the Community (-33%), in the United States (-14%), in Japan (-16%) and in the rest of the world (-2%). These closures have been partially offset, however, by the creation of fresh capacity in Africa, the Middle East and CPE countries (increase of the order of 15%).

Refinery throughput decreased by 5% in the world as a whole; the regions where capacity was reduced are also the regions where refinery throughput decreased. In contrast, throughput increased in Africa, the Middle East and CPE countries.

The average utilization of primary capacities in the world increased very little between 1980 and 1986 (from 74 to 76%), the increase in the rate of utilization in the Community, the United States, Africa and the Middle East being almost offset by drops in utilization in Japan, CPE countries and the rest of the world.

55. Developments in 1987 are thought not to have changed fundamentally the situation described by the 1986 figures because of the relative stability at world level both of refining capacities and of oil demand.

The situation in the refining industry is still marked by a world surplus of the order of one quarter of the installed primary capacity. This surplus refining capacity in a market with ample supplies of crude oil will continue to exert downward pressure on the profitability of refining operations both in the world and in the Community.

Refining capacity in the Community

56. Since 1980 there has been a continued reduction in primary distillation capacity in the Community, which has fallen from 920M t/year in January 1980 to 595M t/year in January 1987, i.e. a reduction of 35% in seven years or some 5% a year.

1987 was marked by a significant drop in the rate of closures, capacity decreasing by 3M t/year (i.e. 0.6%) to 592M t/year in January 1988.

1988 and 1989 should see the 1987 trend continue. According to the information received from oil companies primary installed capacity should drop slightly, reaching 578M t/year in January 1990. By then the total reduction in primary capacity since the beginning of 1980 will amount to 342M t/year (i.e. 37%).

- 57 Some distillation capacity which had been temporarily closed in 1985 or had been mothballed was reactivated in 1986, taking advantage of the general upswing in the profitability of refining operations in that year.

Some installations were sold to new operators, e.g. the RBP refinery in Antwerp was bought by NYNAS and the Korean company DAEWOO while the EXXON refinery in Hamburg was bought by a subsidiary of COASTAL.

Recommissioning of these plants and the continued operation of capacities expected to be shut down contributed to the reduced rate of restructuring observed in 1987.

58. The Community's refining capacity, which stood at 592 mio.t/y at 1st January 1988, is divided among four large categories of operators in the following way :

- 24% belongs to integrated companies whose refining capacity is essentially located in one Member State. This group includes CEPSA, DEP, ELF, ENI, PETROGAL, REPSOL and VEBA.
- 21% belongs to companies which are present in two, three or four Member States. This group includes CFP, PETROFINA, KPC, MOBIL and TEXACO.
- 32% belongs to companies which have refineries in at least five Member States. This group includes BP, ESSO and SHELL.
- 23% belongs to independent non-integrated refiners such as SARAS whose refining activity is located in a single member state.

As regards market sales, those companies whose refining activities are concentrated in a single Member State generally realise the greater part of their sales in that country. The sales of companies which refine in several Member States, on the other hand, tend to be more evenly divided among the different Member States whether or not they manufacture there.

59. Developments in primary capacities by Member State since 1980 are summarized in Table 5 below and are given in more detail in Annex A-7.

A complete list of capacity changes since 1985 (shutdowns, reductions and increases by Member State and by refinery concerned) is given in Annex A-8.

Table 5: Reduction in primary capacities between 1980 and 1988
(Situation as at 1 January).

	1980 (million tonnes/year)	1988	% change 1988/1980
Belgium	55	32	- 41%
Denmark	11	9	- 21%
Germany	154	84	- 45%
Greece	20	18	- 12%
Spain	72	62	- 14%
France	167	99	- 41%
Ireland	3	3	0
Italy	180	118	- 34%
Netherlands	102	65	- 36%
Portugal	19	14	- 24%
United Kingdom	137	88	- 36%
EUR - 12	920	592	- 36%

Primary capacity shutdowns since 1980 were proportionally greater in Germany (-45%) and in Belgium and France (-41%). Italy, the Netherlands and the United Kingdom were close to the Community average (-36%). In the other Member States closures were on a lesser scale: Portugal (-24%), Denmark (-21%), Spain (-14%), Greece (-12%) and Ireland (0%).

In 1990 Italy should join the group of countries that have reduced their capacity the most, with a percentage fall of 42%, provided that the reductions currently scheduled (-14M t/year), involving the closure of two refineries and a reduction in capacity at others, are actually achieved.

60. The rates of utilization of primary capacities in the Community improved appreciably in 1986 compared with 1985 because of the increase in refinery throughput. For the Community as a whole the average rate of utilization, calculated in terms of the total quantities of crude oil and feedstocks processed, rose in 1986 from 68% in 1985 to 78% in 1987.
61. Nevertheless, the Community average conceals very different situations in the various Member States. (see Annex A-9).

In 1986, for example, the rate of utilization was over 90% in Germany, Denmark and Greece, over 80% in Belgium, Spain, the Netherlands and the United Kingdom, but only 66% in France and Italy, 59% in Portugal and 53% in Ireland.

The low rates of utilization in these four Member States are due to special circumstances or to particular developments in their oil markets.

In France restrictions on imports of petroleum products, in particular from non-Community countries, were recently lifted, bringing about a rapid increase in imports up to end 1987. The fierce competition in France for the marketing of motor fuel (especially from supermarkets) prompts operators to look for the cheapest supply and, given the current state of the oil market, to import products.

In the past Italy was a net exporter of refined products thanks largely to contract processing, but this has gradually fallen off and Italy has become a net importer of refined products. Despite the closures achieved surplus capacity has been kept in reserve and this is reflected in the rates of utilization.

As for Ireland and Portugal, the latter has refineries with a capacity which is out of all proportion to the local market while in Ireland, operating costs are high and throughput is kept to the technical minimum.

62. An analysis of the distribution of primary capacities as a function of their rates of utilization is given for the Member States and EUR-12 in Annex A-10.

This analysis is based on detailed information received by the Commission from the oil companies consulted and comprises primary capacity, quantities processed and rate of utilization for a large number of refineries established in the Community. The principal conclusion that can be drawn is that at Community level only 58% of the primary capacity operates at a rate of utilization of 80% or more, that 32% of the capacity is used at between 60 and 80% and the remaining 10% at only between 40 and 60%.

A look at the geographical breakdown shows that in the North of the Community (B, D, DK, NL and UK) 82% of primary capacity is used at a rate of 80% or more whereas in the South of the Community (E, F and I) this figure falls to only 37%, confirmation that surplus capacity is proportionally greater in those three countries.

63. The method of calculating the rate of utilization does not meet with unanimous agreement among the oil companies consulted. Some suggest calculating it solely in terms of the quantities of crude oil and natural gas condensates, excluding all the other feedstocks processed.

Others use the method adopted by the Commission in its successive reports on refining, namely, to calculate the utilization rate in terms of all the quantities of crude oil and feedstocks processed in the refineries. Although this method does not give an accurate measure of the utilization of distillation units during a given year, it gives a better indication of the capacity of the industry in the Community to meet demand by processing solely crude oil should this become necessary or economical.

To indicate the importance of the convention followed the rates of utilization in Annex A-9 have been calculated by each of the two alternative methods. A difference of the order of 6 to 7% is apparent between these two methods of calculation for the Community as a whole, e.g. 71 and 78% respectively in 1986.

For the Member States this difference between the maximum and minimum rates of utilization varies according to the relative proportions of crude oil and feedstocks in refinery supplies. It is of the order of 1% in Ireland and Portugal but close to 10% in Germany and the Netherlands, refineries in these two countries (as indeed in Belgium, Denmark and the United Kingdom) using a higher proportion of feedstocks than the Community average.

64. The tendency for conversion capacity in the Community to increase, which started in 1973, has accelerated since 1980, rising from 100M t/year in January 1980 to 169M t/year in January 1985 and 179M t/year in January 1988. It currently represents 24% of primary capacity.

The figures received from the oil companies indicate that conversion capacity will reach 181M t/year in 1990.

New units for hydrocracking, hydroconversion of residues and coking will come on stream in 1988/89 while catalytic cracking capacities will remain stable and thermal cracking and visbreaking capacities will fall (see Annex A-11).

65. There was thus a period of rapid increase in conversion capacity between 1980 and 1985, by an average of 13% a year, followed by a period of very low growth between 1985 and 1990, with an average of 1.4% per year. This trend must be seen in the light of the profitability of conversion operations, which was very high at the beginning of the 1980s but which gradually diminished towards the mid-1980s.

The beginning of the 1980s was also a period when heavy fuel oil consumption dropped sharply: the proportion of heavy fuel oil changed from 33% of consumption (inland deliveries and bunkers) in 1980 to 21% in 1985, which created a need for new conversion capacities over that period.

Since 1985 the downswing in the consumption of heavy fuel oil has slowed appreciably, the drop in inland deliveries being partially offset by an increase in deliveries for bunkers. Heavy fuel oil now accounts for about 20% of consumption.

By 1995 heavy fuel oil should stabilize at around 19.5%, for the two price scenarios set out in Chapter III.

66. An examination of the changes in conversion capacities in the Member States (see Annex A-12) shows that in 1980 only Germany (16%) and the United Kingdom (11%) had a ratio of conversion to primary capacity higher than the Community average, which at the time was around 9%.

In the other Member States the ratio between conversion and distillation capacities was fairly low (between 4 and 9%) and in Ireland, there was no conversion plant whatever.

In 1988 conversion capacities are higher than the Community average in Germany, the United Kingdom and Greece (30% of primary capacities) and are close to the Community average (24%) in France, Italy and the Netherlands.

In the other Member States the figure varies between 11 and 20% (zero for Ireland). The relative increase in capacities can also be seen to have been greater in Greece, Spain, Italy and the Netherlands.

The marked relative increase in conversion compared with primary capacity is due both to an increase in installed conversion facilities and to a decrease in primary capacity.

Some differences observed in the degree of conversion capability, can, however, be explained by differences between the Member States in the structure of demand and in export potential.

67. Product-upgrading capacity has developed steadily in recent years in order to meet the tougher quality and environmental protection standards required for petroleum products.

The main units that have and will be used are required for two main purposes.

One is to increase the production of components and petrol with a high octane number (units for reforming, alkylation and the production of oxygenated compounds such as MTBE) in response to the reduction in the lead content of leaded petrol and to the introduction of lead-free petrol.

The other is the desulphurization of an increasing proportion of gas oil in view of the lowering of the sulphur content of this product and the desulphurization of intermediates (generally the products of vacuum distillation) which feed the catalytic cracking units.

The development of upgrading capacities and the improvement of existing units should continue over the years to come, in particular to meet growing sales of lead-free petrol, since from 1988/89 onwards certain new vehicles will have to use this grade of fuel in all the Member States.

The Community's refining balance

68. The Community's overall refining balance since 1980 and the prospects up to 1995 are given in the form of a graph in Annex A-14, a summary table in Annex A-15 and a simplified table below (see Table 6).

The main observations to be made on the changes in the industry between 1980 and 1987 are as follows:

- . a drop of 75 million tonnes in the consumption of oil (from 577 to 502 Mt);
- . an increase of 25 million tonnes in the net supply of finished products, including 15 million tonnes from increased net imports from non-Community countries (rising from 12 to 27 Mt);
- . a reduction of 100 million tonnes in refinery throughput;
- . the closure of 325 million tonnes a year of primary capacity, a reduction of 35%;
- . a rise in the average utilization of primary capacity from 62% in 1980 to 79% in 1987.

69. According to the scenarios put forward in Chapter III for the period 1987-1995 the following would occur :

- . oil consumption would drop by 17 million tonnes according to the high price scenario or would increase by 18 million tonnes according to the low price scenario;
- . net imports of finished products from non-Community countries would stabilize at their current level;
- . the quantities processed in the refinery would drop by 15 million tonnes (high price scenario) or rise by 20 million tonnes (low price scenario);

- . primary capacity would decrease by almost 20 million tonnes;
- . the rate of utilization of primary capacity would stay at its current level (79%) according to the high price scenario or increase up to 85% in the low price scenario.

Table 6: Community refining balance (1980-1995)

Millions of tonnes	1980	1987	1995 SCENARIO 25-30\$/bbl	1995 SCENARIO 15-20\$/bbl
1. Total oil consumption	577	502	485	520
2. Total refinery throughput	570	472	455	490
3. Primary capacity (as at 1 January)	920	595	575	575
4. Rate of utilizat. (4 = 2 : 3)	62%	79%	79%	85%

70. For the Community refining industry, therefore, the "high oil price" scenario would mean the continuation of the present situation with the gross margin of spare primary capacity of the order of 20% (25% taking only processed crude oil into account and excluding feedstocks).

The "low oil price" scenario would be better for the industry because of the increase in refinery processing resulting from higher consumption. This scenario would lead in 1995 to a lower gross surplus primary capacity of the order of 15% (20% taking only crude oil into account).

Whatever the scenario there will still therefore be higher primary capacity than total oil consumption in the Community and the industry will have sufficient capacity overall to cover demand.

71. The refining balance by product for the Community is given in Annex A-16 for 1985, 1986 and 1987. This table presents a comparison, for each of the main categories of product, of the net production in the refineries, i.e. production after deduction of process fuel, with the demand for petroleum products (inland deliveries and international bunkers).

An analysis of the balance by product over that:

- Community production has remained higher than (5 to 6 million t/year) and kerosene (likewise)
- the Community still shows a negative balance (5 million t), naphtha (6 to 10 million t), 24 million t) and "Other products" (5 to 10 million t)
- for heavy fuel oil the Community went from a deficit (7 million t due partly to the miners' strike) to a surplus situation in 1986 and 1987 (2 to 3 million t)

72. The figures in the balance by product (i.e. supply versus demand), as set out in Annex A-16, are for imports from non-Community countries. It should be borne in mind that:

- a large part of imports from third countries
- an unknown proportion of products leaving the Community entered as net production is in fact refined in a refinery which regard it as feedstock.

These points are particularly important in the context of the following:

73. The question of dependence on imports of gas and oil by the oil companies, who consider that the Community production in gas oil, as a result of economic developments, does not present any particular risk for supply.

On the one hand, the traditional suppliers from Africa and the Middle East, have surpluses in the Community market.

In the long term problems could arise however if external supplies of gas oil were to stop permanently since conversion facilities in European refineries are mostly catalytic cracking units of the FCC type (fluid catalytic cracking), which have a higher yield of petrol than of gasoil.

Employment in the Community refining industry

74. Employment trends in the Community refining industry can be seen from the statistics published by EUROSTAT (see Annex A-17).

The first point to emerge from an analysis of these figures is that the years 1978 to 1980 were the period of maximum employment in the refining industry, with around 160 000 direct jobs according to EUROSTAT. This was also the period when refining capacity in the Community reached its highest level (920 Mt/year).

Since 1980 the number of jobs in the refining industry has dropped regularly, mainly because of closures of surplus capacity, but also through the gradual introduction of automation, especially the automated control of the refining processes.

The tendency towards fewer jobs has, however, been moderated by the addition of new conversion units in the refineries which were kept in operation. As shown in Annex A-11, conversion capacities increased by 70% between 1980 and 1985 (and by 80% between 1980 and 1988).

In 1986, for example, the last year for which EUROSTAT figures are available, the level of employment was 131 500 units. Job losses in the refining industry can therefore be estimated at 28 500 between 1980 and 1986, i.e. an 18% drop over the six years or a yearly average of 3%.

75. What can be expected after 1986 is a smaller drop in the number of refining jobs because of the lower number of closures in 1987, which is likely to be confirmed according to the forecasts of the oil companies consulted. Between January 1986 and January 1990 capacity closures already made or scheduled are estimated at 40 million tonnes/year, whereas between January 1980 and January 1986 300 million tonnes/year of capacity had been shut down. The second cause for job losses, namely automation, should also have less of an impact since most refineries have now already been equipped.

It should also be noted that new units will continue to be introduced in the refineries, in particular for the production of lead-free petrol and gas oil with a low sulphur content, and this will have a positive impact on the level of employment.

76. In addition to direct job losses, it is necessary to assess the impact of restructuring in the refining industry on indirect employment. On this point the estimates put forward by⁷ the Commission in its previous communication on the refining industry⁷ remain valid.

Indirect employment in companies working for the refineries (especially maintenance and services) will be one to three times as much as direct employment in the refineries.

However, these indirect employment losses have been partly offset, overall, by the positive impact on the economy and employment of major investment programmes in the refineries since 1980. Nonetheless, these new jobs are often created in different places from the ones where the refineries are closed down and cannot therefore make up for losses at local level.

Refinery closures in regions where the industrial fabric is not diversified have posed or will pose serious problems for the regional or local economy. For eligible cases the Community's structural Funds could be mobilized in addition to national measures to soften the blow of closure and develop new activities to generate jobs.

77. The Commission consulted the European Trade Union Confederation (ETUC) when preparing this report on the refining industry. As far as aspects connected with employment are concerned, the workers' representatives emphasized:

- the extent of indirect employment losses, especially in the less-developed regions of the Community;
- the extent of job losses in the distribution sector, which is not covered by the figures relating to refining. The programme to rationalize motor fuel distribution in Italy, for example, could lead to a reduction in the present number of sales outlets from 35 000 to 20 000, i.e. a loss of at least 15 000 jobs over the next few years;
- the lowering of the level of qualification for jobs as a result of the growing use of services companies for work in the refineries, which would also have a negative effect on the operating safety of the installations.

⁷COM(86)263 final, 13.5.1986.

Profitability in Refining

78. One of the main concerns expressed by the companies is the unprofitability of refining in the Community. This is not, needless to say, a problem peculiar to the Community but on the contrary one which affects the industry to a greater or lesser extent in all regions. It results from the longstanding global excess of refining capacity which still persists despite considerable reductions not only in Europe but also in the United States and Japan. Given the close links between the various international oil markets and the relatively free movement of petroleum products from one to another, the Community market cannot be considered in isolation from the general world supply/demand balance.

Poor profitability is not a new problem and indeed, except for 1979 and 1986, when abnormal conditions prevailed, margins in the Community have been inadequate ever since the mid seventies. Companies state that during this long period they have rarely earned sufficient income from manufacturing to cover their full costs (of the order of \$20-25 per ton for a complex refinery), let alone to finance investments to meet new environmental restrictions and changing product requirements. At times they have barely recovered variable costs of some \$2.5 per ton (excluding process fuel at about \$3.5 per ton of throughput).

79. In recent years margins in the Community have fluctuated very considerably as can be seen from Annex A-14 which compares the netback to refineries from the market with the cost of crude oil over the period from early 1984 to late 1987. This graph demonstrates that, having remained at an extremely low level from Q1/1984 to Q1/1985, the gross margin rose gradually to reach about \$30 by Q1/1986. It then rose sharply in Q2/1986, following the introduction of netback pricing for crude oil - which effectively guaranteed the refiner the full recovery of his costs - only to decline steeply in the second half of 1986, as OPEC moved back to a régime of official prices. By the end of that year refining was again making a loss and continued to do so throughout 1987. After reaching a low point around the turn of the year, margins are estimated to have recovered strongly in the first quarter of 1988, helped by the decline in crude oil prices and the continued weakness of the dollar against the Ecu. Retrospective discounts since given by some producers have also improved the results of refining at the end 1987/beginning 1988.

80. Companies are agreed that the underlying causes of low profitability in the Community as elsewhere are the persistent over-supply of petroleum products to a declining market and the high costs resulting from excess capacity in the refining system.

It is clear from earlier paragraphs that much has been done since 1980 to reduce the burden of excess primary capacity. In most Member States the manufacturing activity has been extensively rationalised and utilisation rates have been restored to satisfactory levels. Moreover, as a result of substantial investment in conversion plant, a much higher value combination of products and a higher proportion of distillates are now produced from crude oil. Despite these improvements in cost structure, flexibility and quality of output, however, earnings are not yet running at satisfactory levels even in countries like Germany, where

the industry operates at near capacity. In regions where rationalisation has still a long way to go, the situation is much worse, in that utilisation is low and unit operating costs are correspondingly high.

81. Opinion in the industry is divided, however, as to whether further rationalisation in the Community will raise operating margins to a satisfactory level. There are strong reasons for believing that, for the industry as a whole and for the foreseeable future, the prospects of recovering full costs are at least uncertain. It is characteristic of refining companies that they always have some spare capacity to cover seasonal and other fluctuations in demand, as well as the risks of accident or breakdown, and that their marginal costs of production are low. In these conditions there are always some refiners prepared to offer products at prices which do not cover their total costs and such sales have a disproportionate effect upon the general level of consumer prices. Secondly a tighter supply/demand balance in the Community would not necessarily cause prices to rise because the market is open to refiners in third countries.
82. As regards the relative importance of rising imports as opposed to overproduction in Community refineries in depressing the level of Community selling prices, company opinions were divided. Some thought that prices were determined rather by the "marginal" Community refiner than by imports. Imports, it was pointed out, are mostly regular in character and reach the market through established distribution networks (often those of EEC refining companies). They are also largely counter balanced by exports to third countries so that their net effect on the Community balance is relatively small. Moreover, because of the high freight cost of moving products to EEC markets, most overseas suppliers are content to follow rather than to set prices. Other companies, however, took the view that, since imports had increased their share of a stagnant market, it was evident that they had been priced at levels very competitive with those offered by Community refiners.
83. These discussions tended to the conclusion that it is not possible to assess the relative importance of the various factors which together determine the balance of supply and demand and consequently the level of product selling prices in relation to crude oil. It is also clear that the market has become so fluid and the roles of operators so mixed - with refining companies importing finished products, producers processing in Community refineries, and the downstream affiliates of international majors in the market for supplies alongside independents - that the traditional distinctions between the functions of domestic refiners on the one hand and of the importers and distributors of finished products on the other, have become blurred and are not helpful in understanding the market.

84. A number of companies consider that the pressure on refining margins was made worse by the reintroduction by OPEC in 1987 of official prices, even though these applied to only a small proportion of total crude oil production. Since product prices were excluded from the system there was a natural tendency for them to be forced by competition to levels below their value in terms of crude oil. This anomaly in the oil market has been greatly reduced, however, in recent months by the general move by producers towards the pricing of crude oil in line with the market values of derived products. This move is to be welcomed as helping to create a more efficient and integrated oil market.
85. Nevertheless, there is little optimism in the industry that manufacturing can be made generally profitably in the conditions prevailing even though individual refineries, which are well equipped and relatively well situated with regard to supplies, will perform much better than the average.

Companies are therefore increasingly turning towards re-integration as a means of obtaining access to crude oil at market-related prices in return for providing the producer with a secure and predictable outlet for his exports. This subject is discussed further in Chapter VI.

VI. STRUCTURE AND PROBLEMS OF THE INDUSTRY

The Prospects for further Rationalisation.

86. Estimates of refinery utilisation for the Community as a whole are misleading since, at around 80%, they give the impression that rationalisation is almost complete. The average, however, conceals wide differences between countries like Germany where utilisation, at about 90%, is close to the maximum sustainable, and other countries and refineries where it remains below 60% (see Annexe A-10). While in some Member States the process of regrouping the industry into a smaller number of complex refineries is virtually accomplished, in others - and notably but not exclusively in the South of the Community - much remains to be done both to render the industries located there competitive and efficient and to reduce the potential excess supply which overhangs the Community market.

As explained in chapter V, the process of capacity reduction has slowed since 1986 for a number of reasons. The much improved profitability of refining during the OPEC netback regime and the higher utilisation rates then achieved gave refiners contemplating closures pause for thought and hope that the decline of the industry had been reversed. In one or two cases newcomers were encouraged to purchase refineries which might otherwise have closed.

87. All companies agree that closures have now become much more difficult. There is little if any further scope for major schemes of restructuring like that at Ingolstadt where, of three refineries, one was closed and the remaining two connected to form a single complex shared by three companies. In regions where the closure of one refinery has reduced capacity by one third or one half, additional closures cannot be contemplated without a disproportionate rise in distribution expenses. Most of the site closures to date have been carried out by large companies which owned a number of refineries in the Community. Such operators are better able than their smaller competitors, when a refinery closes, to make satisfactory arrangements to supply its customers either from another of their own refineries or by exchanges with others. For owners of a single refinery, closure means leaving the industry unless they are fortunate enough to find a partner for a joint venture.

Refiners are also deterred from shutting down refineries by the consequences for employees, particularly in areas of high unemployment, and by the very high and unpredictable costs of closing and cleaning up sites. By comparison the alternative of keeping the refinery in service, in the hope that either trading conditions will improve or that someone could purchase it, could appear very attractive.

Investments by producer countries

88. For some years certain oil-producing countries have been trying to acquire refining and/or distribution assets in the Community.

Industrial investments are generally in one of the following two forms:

- the acquisition of holdings in the capital of a refining company, e.g. holdings by the Mexican company PEMEX in the capital of PETRONOR in Spain and by the Venezuelan company PETROVEN in RUHROEL (as a joint venture with VEBA) in Germany;
- the acquisition of refining and distribution assets, e.g. the purchase by the Kuwaiti company KPI of the GULF company assets in certain Member States and by the Norwegian company STATOIL of EXXON assets in Denmark.

All these industrial operations are shown in Table 7.

Table 7: Industrial investments by producer countries in the Community

	Producer country	Seller or partner	Type of activity	% holding	Year	Refining Capacity Controlled
B	Kuwait Venezuela	Gulf Oil Nynas	D R	100 50	1983 1986	- 0.3M t
DK	Kuwait Kuwait Norway	Gulf Oil BP Exxon	R + D D R + D	100 100 100	1983 1987 1986	2.5M t - 3.2M t
D	Venezuela	Veba	R	50	1983/86	7.2M t
EL	n/a					n/a
ES	Mexico	Petronor	R	34	1979	3.7M t
FR	n/a					n/a
IR	n/a					n/a
IT	Kuwait Libya	Gulf Oil Tamoil	D R + D	100 100	1984 1983/87	- 4.8M t
L	Kuwait	Gulf Oil	D	100	1983	-
NL	Kuwait	Gulf Oil	R + D	100	1983	3.8M t
P	n/a					n/a
UK	Kuwait	Hays, Naphta, Ultramar	D	100	1986/87	-
EUR-12	i.e. approx.3.5% of the installed refining capacity in the Community (592 mio.t)					20.7M t

Refining (R) and distribution (D) of the main petroleum products.

89. More recently there have been **acquisitions of financial holdings** in integrated oil companies, e.g. the Kuwait Investment Office's (KIO) 22% in BP and Abu Dhabi Investment Authority (ADIA) 10% in CFP and CEPSA. The agreement between Abu Dhabi and CEPSA also provides for supplies to the latter of 3 million tonnes of crude oil a year, i.e. about 20% of the company's refining capacity.

The specialist press has reported discussions between producer countries and oil companies which could, if successful, lead to an expansion of Mexican holdings and to the entry on to the scene of new countries such as Saudi Arabia and Nigeria.

This trend does not only concern the Community, but is also apparent in other consumer countries (United States and Sweden) where similar investments have been made.

90. The main reason for industrial investments by countries exporting crude oil is their concern for guaranteed outlets for the oil they produce. In the present conditions of surplus supply, control of outlets downstream becomes very important.

For the European refiner concerned the interest is two-fold : firstly, these investments can bring additional funds in some cases which can be used to finance capital expenditure in the refineries; and, secondly, producers are associated with the risks of refining.

Participation agreements may include clauses ensuring the supply of crude oil on favourable conditions, which has a positive effect on the profitability of the refiners concerned. They provide therefore a way of achieving greater integration of activities for European refineries which do not have sufficient crude oil resources of their own.

91. From the Community viewpoint these investments have so far not presented any problems, since

- they increase the exporting country's interest in ensuring the continuity of supplies to the Community, and
- they reduce such countries' interest in constructing export refineries, refining in the consumer countries being the more economical solution because transport costs are higher for products than for crude oil.

The Commission therefore considers that the establishment of producer country companies in the Community refining and distribution industry amounts to a positive factor provided that these companies set up their operations on a long term basis and respect the rules to which their competitors are subjected.

Our OECD partners should also be encouraged to adopt a similar attitude to investments by producer countries in their downstream oil industries.

Quality of products and environmental protection

92. Changes in the technical specifications of petroleum products and environmental protection laws are shown in Annex A-19. Progress towards harmonization between the Member States is outlined below.

As regards motor fuels and motor vehicle emissions, harmonization of the situations in the various Member States continues to make progress. The distribution of lead-free petrol (EUROGRADE quality) will be obligatory in all Member States from 1 October 1989. Furthermore to achieve homologation at EEC level, stricter emission standards will be introduced in all the Member States:

- for gaseous emissions from petrol and diesel-driven private cars;
- for particulate emissions from private diesel engined vehicles.
- for gaseous emissions from heavy vehicles.

The optional character of the different directives concerning vehicle emissions could pose problems in view of the completion of the internal market.

Other differences that might still exist in 1995, if progress towards harmonization has not been made by then, would be in:

- the lead content of leaded petrol (0.15 or 0.4 g/l), although this factor will become less and less important as lead-free petrol increases its market share.
- the sulphur content of diesel fuel (0.2 or 0.3%).

In order to complete the work of harmonization in this field, the Commission has assigned and will assign to the European Committee for Standardization (CEN) a series of mandates to establish European standards (lead-free petrol, diesel fuel, LPG fuel, substitute fuels).

93. As regards fuel oils and emissions from combustion installations, major differences could still exist in this sector by 1995 if additional progress towards harmonization is not achieved in the meantime. These differences concern:

- the sulphur content of heating gas oil:
(0.2 or 0.3% depending on the Member State)
 - the sulphur content of heavy fuel oil:
 - . there is currently no Community standard.
Such a standard could be introduced in the new rules currently being considered on emissions from small combustion installations provided the option chosen is to limit the sulphur content of the fuel used,
 - . national standards exist in some countries;
 - the limitation of emissions from large combustion installations:
 - . The Council has fixed precise dates (1993, 1998, 2003) on which global objectives for reduction, varying according to the pollutants and Member States concerned, must be achieved for emissions of SO₂ and NO_x from existing installations. The degrees of reduction take account of the existing situation in the Member States and their development needs so as to arrive at a more harmonised and convergent situation by 1995-2000.
 - . The Council has also fixed Community norms for emissions of SO₂ and NO_x, and dust which will apply to all new combustion installations authorised after 1 July 1987 which will ensure a base level of environmental protection.
 - . in some Member States national standards could enter into force before these dates.
94. **The Single European Act** has laid down several objectives, including the completion of the internal market and greater action in the field of the environment.

The joint implementation of these two objectives could present problems in some cases if Member States decided to have recourse to Article 100 A 4, which provides that, after the adoption of a harmonization measure by the Council, Member States may apply stricter national provisions if that is deemed necessary on grounds of major needs relating to protection of the environment or the working conditions.

Any national measures taken on the basis of Article 100 A 4 will nonetheless remain subject to the safeguard clauses such as notification to the Commission for assessment or possible appeal by other Member States. It is to be hoped that should such provisions be finally adopted they will not have the effect of creating disharmony in the automobile and oil sectors.

A basic consideration in this regard will be that provisions adopted by the Council should respect the high level of protection mentioned in Article 100 A para 3 of the Single Act.

Costs borne by the refining industry in complying with environmental protection measures.

95. The study of June 1986 undertaken by Chem Systems on behalf of the Commission showed that differences in the national environmental standards expected to be in force by 1993 would result in substantial discrepancies among Member States in the compliance costs borne by refiners. The conclusions of this study and their implications for intra-Community trade were discussed with companies in the meetings held early in 1988.
96. Most companies considered that the increasing disparity in compliance costs could affect intra-Community trade and companies' decisions about the location of investments and disinvestments. A greater approximation of standards throughout the Community over a reasonable period was therefore seen to be highly desirable. It was pointed out, however, that there were also significant differences between Member States for example in the cost of distribution, of capital and of labour.
97. A number of companies commented that, because of the narrow scope and limited terms of reference within which the consultant was required to work, the estimates of cost differences provided by the Chem Systems study were larger than would occur in practice. The main considerations mentioned were :
 - only EEC and national regulations were considered whereas in some Member States responsibility in environmental matters is largely devolved upon regional administrations. In these countries the restrictions placed by local authorities upon refineries in sensitive locations are often severe but the cost of compliance was excluded from the study;
 - the consultant was required to exclude imports and exports of petroleum products and supplies to the bunker market and to assume that the entire output of the standard refinery was placed on the internal market of the Member States considered. This constraint meant that no account could be taken of the possibility of disposing of high sulphur residues on the bunker market or, for example, of the complementarity which exists between the German and Benelux industries and the opportunities which this affords for reducing the cost of meeting severe German product quality standards (e.g. by running high sulphur crudes in the Netherlands, exporting low sulphur gas oil by pipelines to the Ruhr and disposing of high sulphur residue as bunkers);
 - the study takes no account of the lower distribution costs which at least partly compensate refiners in densely populated regions for the cost of meeting strict environmental regulations (and conversely the distribution cost penalty borne by refiners in isolated locations).
98. It was also pointed out that the effects on intra-Community trade of differences in the compliance costs of national industries would be reduced by the relatively high cost of moving products in small vessels from one Community port to another (order of \$10/t in N.W. Europe). This would provide a measure of protection for refiners in countries where compliance costs were high.

Completion of the internal market (1992)

99. The oil sector in the Community is already subject to a large degree of competition and free movement of products is the general rule. Statutory monopolies, which affect particularly the import of petroleum products, have been adjusted or are in the process of being adjusted in the newer Member States. Nonetheless, there remains much to be done to achieve the objective of a unified oil market without internal customs or tax frontiers and without technical or other barriers.
100. In a recent report to the Council⁸ the Commission drew up a list of obstacles to the completion of the internal energy market for each energy sector. By way of information, Annex A-20 contains the list of obstacles to the unified market in the oil sector. In a subsequent stage the Commission will propose ways of eliminating the obstacles which are not already scheduled for removal (as in the case, for example, of the national-flag obligation) or are being discussed (e.g. Commission proposals for the harmonization of excise duty and the approximation of VAT rates). The maintenance of some of the obstacles identified could, under certain circumstances, be considered acceptable if to eliminate them would be to jeopardize fundamental elements of energy policy or another Community policy.
101. Implementation of the single market and the disappearance of internal frontiers will in any case mark the end of certain protected situations (monopolies and other restrictions). The result will be greater competition between oil operators in and between the Member States and an alignment of the pre-tax prices of petroleum products.

Tax harmonization will make for more uniform competition conditions between the energy products on the markets of the Member States, the latter losing to a large degree the possibility of adjusting individual tax rates. The tax levy imposed on energy products in general, for example, and on petroleum products in particular will be more comparable from one Member State to another, the only differences permitted being the authorized ranges for VAT. Nevertheless the possibility could continue to exist for the Member States to introduce transitional fiscal differences in the interests of the protection of the environment.

Bringing the pre-tax prices of petroleum products closer together and tax harmonization will lead to a greater convergence of the prices paid by consumers in the Community, which should lead to increasingly attractive prices for consumers on account of the greater competition.

⁸COMLM(88)238 final, 2 May 1988.

ANNEXES TO THE DOCUMENT ENTITLED
"THE OIL MARKET AND THE REFINING INDUSTRY IN THE COMMUNITY:
RECENT DEVELOPMENTS AND THE PROSPECTS UNTIL 1995"

ANNEXES A

Annexes concerning the oil market and the refining industry

Oil consumption in the Community

A-1 : Short-term prospects for EUR-12, 1985-88.

A-2 : Medium-term prospects for EUR-12, 1980-95.

The Community's oil supplies

A-3 : Changes in the pattern of crude oil supplies, 1974-87.

A-4 : Crude oil supplies, 1981-87: average API values and average sulphur content.

World refining capacity

A-5 : Primary capacity and utilization in 1980 and 1986.

Refining capacity in the Community

A-6 : Installed capacity in 1988.

A-7 : Primary distillation, 1980-90.

A-8 : Changes in primary capacity: actual figures since 1985 and forecasts until 1990.

A-9 : Primary capacity utilization rates in 1985, 1986 and 1987.

A-10: Distribution of primary capacity on the basis of the utilization rate in 1987.

A-11: Conversion capacity, 1980-90.

A-12: Conversion units in terms of catalytic cracker equivalents, 1980 and 1988, by Member State.

A-13: Refinery structure (simple, semi-complex and complex refineries), 1980 and 1988.

The Community's refining balance

A-14: Refining, 1978-95: graph showing changes in primary capacity, refinery throughput and net imports.

A-15: Overall balance, 1980-95.

A-16: Balance by product 1985, 1986 and 1987.

Employment in the refining industry in the Community

A-17: Changes in employment, 1980-86.

Profitability of refining in the Community, 1984-87

A-18: Graph showing supply costs and refinery netback.
Graph showing gross refining margin.

Quality of products and environmental protection

A-19: Changes in the technical specifications for petroleum products and environmental protection legislation.

Internal energy market

A-20: Obstacles within the oil sector.

ANNEX A-1

**OIL CONSUMPTION IN THE COMMUNITY:
SHORT-TERM PROSPECTS FOR EUR-12.**

IN MILLIONS OF TONNES	1985	1986	1987	1988 ESTIMATE
1. INLAND DELIVERIES	430	441	442	443
. PETROL	91.2	95.5	97.7	99
. KEROSENE	21.7	22.8	24.0	25
. AUTOMOTIVE GAS OIL	62.2	65.8	69.7	73
. HEATING GAS OIL	100.0	104.1	98.1	98
. HEAVY FUEL OIL	78.1	74.2	71.5	70
. OTHER PRODUCTS	77.2	78.7	81.0	78
2. BUNKERS, OF WHICH:	27	31	30	31
. GAS OIL	7	7	7	7
. HEAVY FUEL OIL	19	23	22	23
3. REFINERY FUEL, OF WHICH:	29	30	30	31
. HEAVY FUEL OIL	11	11	11	11
4. TOTAL CONSUMPTION (1+2+3)	486	502	502	504

SOURCES: EUROSTAT AND OECD
COMMISSION SCENARIOS.

OIL CONSUMPTION IN THE COMMUNITY
MEDIUM-TERM PROSPECTS FOR EUR-12

ANNEX A-2

IN MILLIONS OF TONNES	1980	1985	1995 SCENARIO 25-30 \$/bbl	1995 SCENARIO 15-20 \$/bbl
1. INLAND DELIVERIES	510	430	430	455
. PETROL	91	91	95	100
. KEROSENE	21	22	24	26
. AUTOMOTIVE GAS OIL	52	62	76	81
. HEATING GAS OIL	120	100	89	99
. HEAVY FUEL OIL	156	78	70	70
. OTHER PRODUCTS	71	77	76	79
2. BUNKERS, OF WHICH:	29	27	27	34
. GAS OIL	6	7	7	7
. HEAVY FUEL OIL	23	19	19	26
3. REFINERY FUEL, OF WHICH:	37	29	28	31
. HEAVY FUEL OIL	18	11	10	13
4. TOTAL CONSUMPTION (1+2+3)	576	486	485	520

SOURCES: EUROSTAT AND OECD
COMMISSION SCENARIOS.

THE COMMUNITY'S OIL SUPPLIES:
CHANGES IN THE PATTERN OF CRUDE OIL SUPPLIES¹
BETWEEN 1974 AND 1987

	EUR-2				EUR-10				EUR-12			
	1974		1978		1982		1985		1986		1987 ²	
	Mt	%	Mt	%	Mt	%	Mt	%	Mt	%	Mt	%
1. Community production (crude + LNG)	131	21	641	121	1171	301	1461	391	1491	341	1451	331
2. Imports into the Community ³ from non-Community countries, of which:												
A. Industrialized countries, of which:												
Norway	11	01	81	21	101	31	211	61	251	61	301	71
B. Developing countries, of which:												
Algeria	231	41	191	41	161	41	141	41	161	41	161	41
Saudi Arabia	1691	291	1211	231	981	251	231	61	661	151	371	81
Egypt	11	01	91	21	91	21	111	31	101	21	121	31
United Arab Emirates	311	51	301	61	141	41	41	11	41	11	91	21
Iraq	391	71	561	111	111	31	161	41	241	51	281	61
Iran	1001	171	771	151	281	71	201	51	211	51	291	71
Kuwait	471	81	351	71	31	11	71	21	101	21	131	31
Libya	561	101	361	71	321	81	311	81	351	81	331	71
Mexico	01	01	01	01	91	21	91	21	131	31	211	51
Nigeria	491	91	341	71	231	61	341	91	321	71	221	51
Venezuela	91	21	41	11	71	21	91	21	91	21	81	21
C. State-trading countries of which:												
Soviet Union	41	11	151	31	201	51	201	51	231	51	261	61
OPEC	15411	941	4241	811	2381	611	1641	441	2241	501	2011	451
OAPEC (incl. Egypt)	13841	671	3221	621	1911	491	1131	301	1731	391	1571	361
GCC	12651	461	1971	381	1221	311	361	101	831	191	621	141
3. Exports to third countries from the EEC	01	01	121	21	291	71	261	71	331	71	311	71
4. Crude oil supplies to the Community market ¹	15731	1001	5221	1001	3901	1001	3731	1001	4441	1001	4421	1001
(1+2-3=4)												

¹ Excluding feedstocks and stock variations.

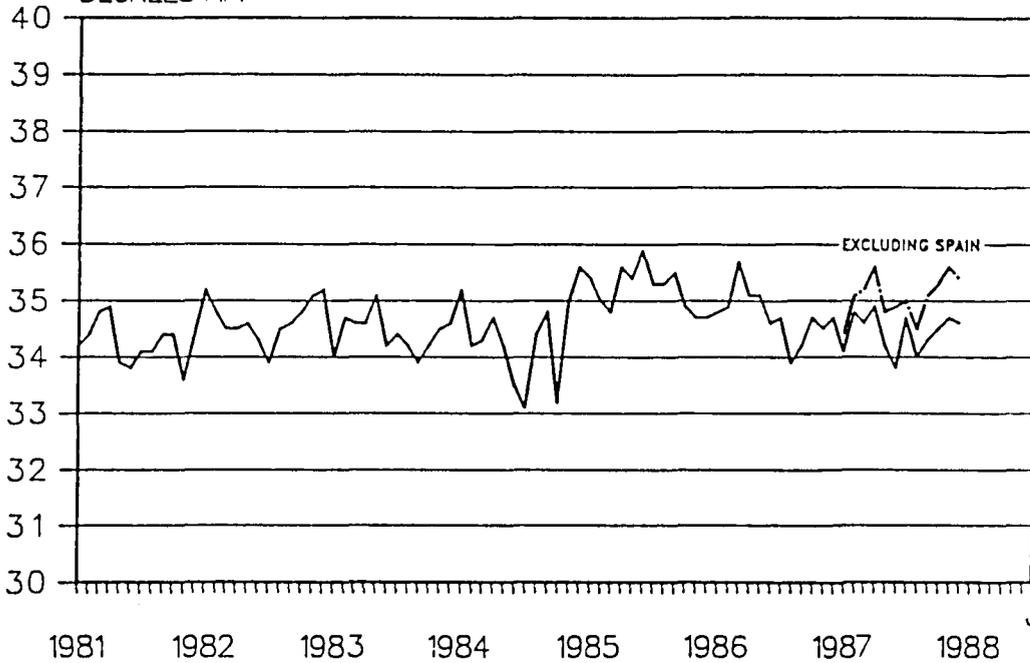
² Estimated figures for Greece for the last quarter of 1987.

³ Totals A, B and C plus imports of unspecified origin.

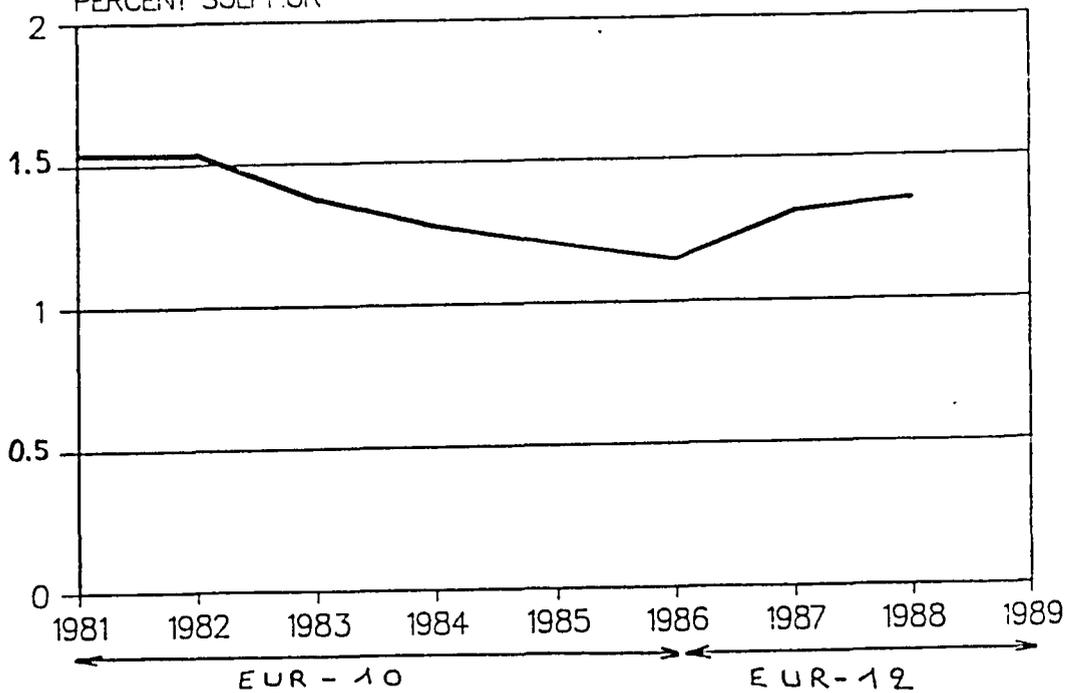
Sources: Imports/exports: NIMEXE.

Production: Eurostat.

AVERAGE API VALUES
OF CRUDE OIL SUPPLIES IN THE EEC 1981-1987
DEGREES API



AVERAGE SULPHUR CONTENT
OF CRUDE OIL SUPPLIES IN THE EEC 1981-1987
PERCENT SULPHUR



SOURCE : CRUDE OIL REGISTER OF THE COMMISSION.

WORLD REFINING CAPACITY :

PRIMARY CAPACITY, REFINERY THROUGHPUT AND UTILISATION RATE, 1980 AND 1986

IN MILLIONS OF TONNES PER ANNUM	1980			1986		
	CAPACITY ON JAN	THROUGH- PUT	UTILIS.	CAPACITY ON 1 JAN	THROUGH- PUT	UTILIS.
EUR-12	920	570	62%	619	481	78%
USA	896	676	75%	773	636	82%
JAPAN	297	201	68%	249	150	60%
MIDDLE EAST + AFRICA	277	195	70%	318	252	79%
CENTRALY PLANNED ECON	761	666	88%	866	714	82%
REST OF THE WORLD	884	662	75%	865	582	67%
WORLD	4035	2970	74%	3690	2815	76%

SOURCES : BP - COMMISSION - PETROLEUM ASSOCIATION OF JAPAN (PAJ).

ANNEX A-6

REFINING IN THE COMMUNITY : INSTALLED CAPACITY ON 1-1-1988.

(IN MILLIONS OF TONNES/YEAR)

	PRIMARY DISTILLATION CAPACITY	REFORMING	CONVERSION					HYDRO CONV.
			HYDRO- CRACKING	CATALYT CRACK.	THERM. CRACK.	VIS- BREAKING	COKING	
EUR-12	591.9	84.8	16.9	81.2	19.7	57.2	4.2	1.3
B	32.4	4.4	-	5.3	-	4.0	-	-
DK	8.7	1.4	-	-	1.4	2.4	-	-
D	84.2	13.2	4.9	10.0	6.8	8.2	0.8	-
EL	17.7	1.5	1.4	2.6	-	2.3	-	-
ES	61.6	7.6	0.8	7.0	-	8.5	-	-
F	98.5	13.1	0.7	16.3	2.8	7.0	-	-
IR	2.9	0.6	-	-	-	-	-	-
I	118.2	18.0	4.6	12.8	2.6	17.2	1.5	-
L	-	-	-	-	-	-	-	-
NL	65.5	7.7	1.6	6.7	3.1	4.0	1.9 FLEXI.CK	1.3
P	14.4	2.2	0.5	0.7	-	0.6	-	-
UK	87.9	15.1	2.5	19.9	3.1	2.9	-	-

SOURCES : . INFORMATION RECEIVED BY THE COMMISSION UNDER REGULATION 1056/72
. OIL COMPANIES.

REFINING CAPACITY IN THE COMMUNITY :
PRIMARY DISTILLATION (ON 1 JAN.)

IN MILLIONS OF TONNES/YEAR	1980	1985	1988	1990 ESTIM.	% RED 1990/80
BELGIUM	55	35	32	32	- 41 %
DANMARK	11	8	9	9	- 21 %
DEUTSCHLAND	154	104	84	84	- 45 %
ELLAS	20	18	18	18	- 12 %
ESPANA	72	67	62	62	- 14 %
FRANCE	167	111	99	99	- 41 %
IRELAND	3	3	3	3	0
ITALIA	180	130	118 (-34%)	105	- 42 %
LUXEMBOURG	-	-	-	-	-
NEDERLAND	102	74	65	65	- 36 %
PORTUGAL	19	14	14	14	- 24 %
UNITED KINGDOM	137	99	88 (-36%)	87	- 36 %
EUR-12	920	663	592 (-36%)	578	- 37 %

SOURCES : . INFORMATION RECEIVED BY THE COMMISSION UNDER
REGULATION 1056/72
. OIL COMPANIES

ANNEX A-8/1

REFINING CAPACITY IN THE COMMUNITY :
CHANGES IN PRIMARY CAPACITY : ACTUAL FIGURES SINCE 199985
AND FORECASTS UNTIL 1990.

(IN MILLIONS OF TONNES/YEAR)

B	Capacity on 1-1-1985 : 35.0		
	Changes in 85 :	ESSO Antwerpen RED	- 2.0
		RBP Antwerpen RED	- 0.2
	86 :	SHELL Gent RED	- 0.4
	Capacity on 1-1-1990 : 32.4		
DK	Capacity on 1-1-1985 : 8.1		
	Changes in 86 :	SHELL Fredericia	+ 0.3
	87 :	KPC Stignaes	+ 0.3
	Capacity on 1-1-1990 : 8.7		
D	Capacity on 1-1-1985 : 104.2		
	Changes in 85 :	BP/ENI Ingolstadt	- 4.0
		BP - Ölwerke Schindler	- 0.4
		MOBIL Wilhelmshaven	- 8.0
		SAARLAND REFINERY	- 3.6
	86 :	ESSO/SHELL Misburg	- 2.3
	87 :	WINTERSHALL Lingen RED	- 1.3
		COASTAL Hamburg RED	- 1.0
		ESSO Karlsruhe RED	- 0.2
		MOBIL Worth	+ 0.8
	Capacity on 1-1-1990 : 84.2		
EL	Capacity on 1-1-1985 : 17.7		
	Capacity on 1-1-1990 : 17.7		
ES	Capacity on 1-1-1985 : 66.6		
	Changes in 85 :	REPSOL Cartagena RED	- 4.0
		REPSOL La Coruna RED	- 1.0
	Capacity on 1-1-1990 : 61.6		
F	Capacity on 1-1-1985 : 111.2		
	Changes in 86 :	MOBIL Frontignan	- 5.7
		SHELL Paulliac	- 4.0
		ESSO Fos RED	- 2.8
		MOBIL Gravenchon RED	- 0.4
	87 :	SHELL Petit Couronne	+ 0.2
	Capacity on 1-1-1990 : 98.5		

RED stands for reductions in installed capacity.

ANNEX A.8/2

IR	Capacity on 1-1-1985 : 2.9 Capacity on 1-1-1990 : 2.9
IT	Capacity on 1-1-1985 : 129.8 Changes in 85 : ENI - Sarom Ravenna - 2.0 TOTAL-Aquila Trieste - 4.5 86 : ENI - Mediterranea Milazzo RED - 3.0 87 : ESSO Augusta RED - 2.1 Capacity on 1-1-1990 : 104.5
NL	Capacity on 1-1-1985 : 73.6 Changes in 85 : BP Rotterdam RED - 1.0 ESSO Rotterdam RED - 1.4 SHELL Pernis RED - 5.7 Capacity on 1-1-1990 : 65.5
P	Capacity on 1-1-1985 : 14.4 Capacity on 1-1-1990 : 14.4
UK	Capacity on 1-1-1985 : 99.2 Changes in 85 : SHELL Androssan Bitumen - 0.3 MOBIL Coryton RED - 2.5 SHELL Haven RED - 3.5 86 : BP Grangemouth + 0.5 BP Llandarcy - 5.5 Capacity on 1-1-1990 : 87.4
EUR-12	Capacity on 1-1-1985 : 662.7 Capacity on 1-1-1986 : 618.6 Capacity on 1-1-1987 : 595.2 Capacity on 1-1-1988 : 591.9 Capacity on 1-1-1990 : 577.8

SOURCES : . INFORMATION RECEIVED BY THE COMMISSION UNDER
REGULATION 1056/72
. OIL COMPANIES

ANNEX A-9

REFINING CAPACITY IN THE COMMUNITY :
PRIMARY CAPACITY UTILIZATION RATES

IN PER CENT %	1985		1986		1987	
	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
Belgique	47	58	71	80		83
Danmark	81	87	88	96		91
Deutschland	68	81	81	94		92
Ellas	68	68	84	91		93
Espana	67	69	79	81		78
France	63	69	61	66		71
Ireland	43	44	52	53		53
Italia	51	57	61	66		66
Luxembourg	-	-	-	-	-	-
Nederland	58	65	76	84		86
Portugal	49	50	58	59		54
United Kingdom	72	78	75	84		91
EUR-12	62	68	71	78	72	79

N.B. :: THE ACTUAL UTILIZATION RATE LIES BETWEEN :

- . A MINIMUM RATE INDICATING THE RATIO OF CRUDE OIL PROCESSED IN THE REFINERY TO THE PRIMARY CAPACITY AT THE BEGINNING OF THE YEAR; AND
- . A MAXIMUM RATE INDICATING THE RATIO OF THE TOTAL QUANTITIES (CRUDE AND FEEDSTOCKS) PROCESSED IN THE REFINERY AND THE PRIMARY CAPACITY AT THE BEGINNING OF THE YEAR.
(ASSUMPTION FOR FEEDSTOCKS PROCESSED IN THE NETHERLANDS : 5 MT/YEAR FROM 1985)

SOURCES : COMMISSION

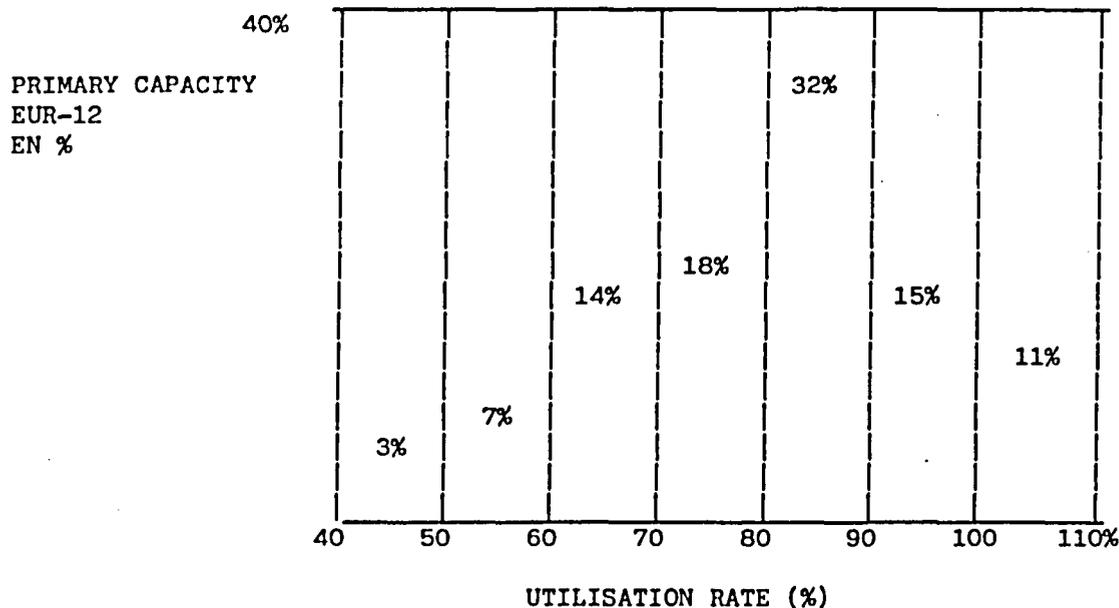
ANNEX A-10

**REFINING CAPACITY IN THE COMMUNITY :
DISTRIBUTION OF PRIMARY CAPACITY ON THE BASIS OF THE UTILIZATION RATE IN 1987**

IN MILLIONS OF	PRIMARY CAPACITY BY RANGE OF UTILISATION RATE *							
	RATE UNKNOWN	40-49	50-59	60-69	70-79	80-89	90-99	100-110
B + NL	8	-	-	31	-	14	19	26
Deutschland	37	-	-	-	2	35	20	-
Espana	-	-	6	7	13	25	5	6
France	6	15	16	6	-	31	18	7
Italia	19	-	10	24	65	-	2	-
United Kingdom	17	-	-	-	5	43	9	14
EL + IR + P	32	-	3	-	-	-	-	-
EUR-12	119	15	34	67	86	148	73	53

(*)

THE UTILIZATION RATE TAKEN INTO CONSIDERATION FOR THE DISTRIBUTION OF CAPACITY IS THE MAXIMUM RATE DEFINED IN ANNEX A-9.



NB : 58% OF THE PRIMARY CAPACITY IN EUR-12 OPERATES AT A UTILIZATION RATE OF 80% OR MORE.

SOURCE : OIL COMPANIES

REFINING CAPACITY IN THE COMMUNITY :
CONVERSION CAPACITY (ON 1 JANUARY)

In millions of tonnes/year	1980	1985	1988	1990 ESTIM.	Equivalent capacity coefficient *
Catalytic crackers	47.6	83.1	81.2	81.3	1
Thermal crackers	19.3	20.8	19.7	18.8	0.65
Visbreakers	24.9	46.1	57.2	56.3	0.33
Hydrocrackers	5.8	10.6	16.9	18.4	1.30
Hydroconversion	-	-	-	1.3	2.10
Coking	2.9	8.5	2.3	3.3	1.70
Flexicoking	-	-	1.9	1.9	2.10
Total	100.5	169.1	179.2	181.3	-
Equivalent capacity*					
. in Mt	81	140	143	145	-
. % of prim. cap.	9 %	21 %	24 %	25 %	-
. % of throughput	14 %	31 %	30 %	30 %	-

* Based on total distillate yield, as a percentage of feed, relative to that of a catalytic cracker.

SOURCES : . INFORMATION RECEIVED BY THE COMMISSION UNDER
REGULATION 1056/72
. OIL COMPANIES.

REFINING CAPACITY IN THE COMMUNITY :
CONVERSION UNITS (ON 1 JAN.) IN TERMS OF
CATALYTIC CRACKER EQUIVALENTS

IN MILLIONS OF TONNES/YEAR	1980		1988	
	EQUIV. CAPACITY	PRIMARY DISTILLATION % CAPACITY		PRIMARY DISTILLATION % CAPACITY
Belgium	4.3	8%	6.6	20%
Danmark	1.0	9%	1.7	20%
Deutschland	25.3	16%	24.9	30%
Ellas	0.8	4%	5.2	30%
Espana	2.6	4%	10.8	18%
France	13.1	8%	21.3	22%
Ireland	-	-	-	-
Italia	11.0	6%	28.8	24%
Luxembourg	-	-	-	-
Nederland	6.5	6%	16.1	25%
Portugal	1.6	8%	1.6	11%
United Kingdom	14.8	11%	26.3	30%
EUR-12	81	9%	143	24%

NB : REFORMING UNITS EXCLUDED.

SOURCE : COMMISSION

**REFINING CAPACITY IN THE COMMUNITY :
REFINERY STRUCTURE 1980-88.**

**NUMBER AND CAPACITY OF SIMPLE, SEMI-COMPLEX
AND COMPLEX REFINERIS (ON 1 JAN.)**

TYPE OF REFINERY	1980			1988		
	N°	PRIMARY CAPACITY		N°	PRIMARY CAPACITY	
		en Mt	en %		en Mt	en %
Simple	62	249	27	16	43	7
Semi-complex	24	148	16	20	89	15
Complex	55	523	57	58	460	78
TOTAL	141	920	100	94	592	100
OF WHICH :						
Refineries over 1 Mt/year	129	915		90	590	

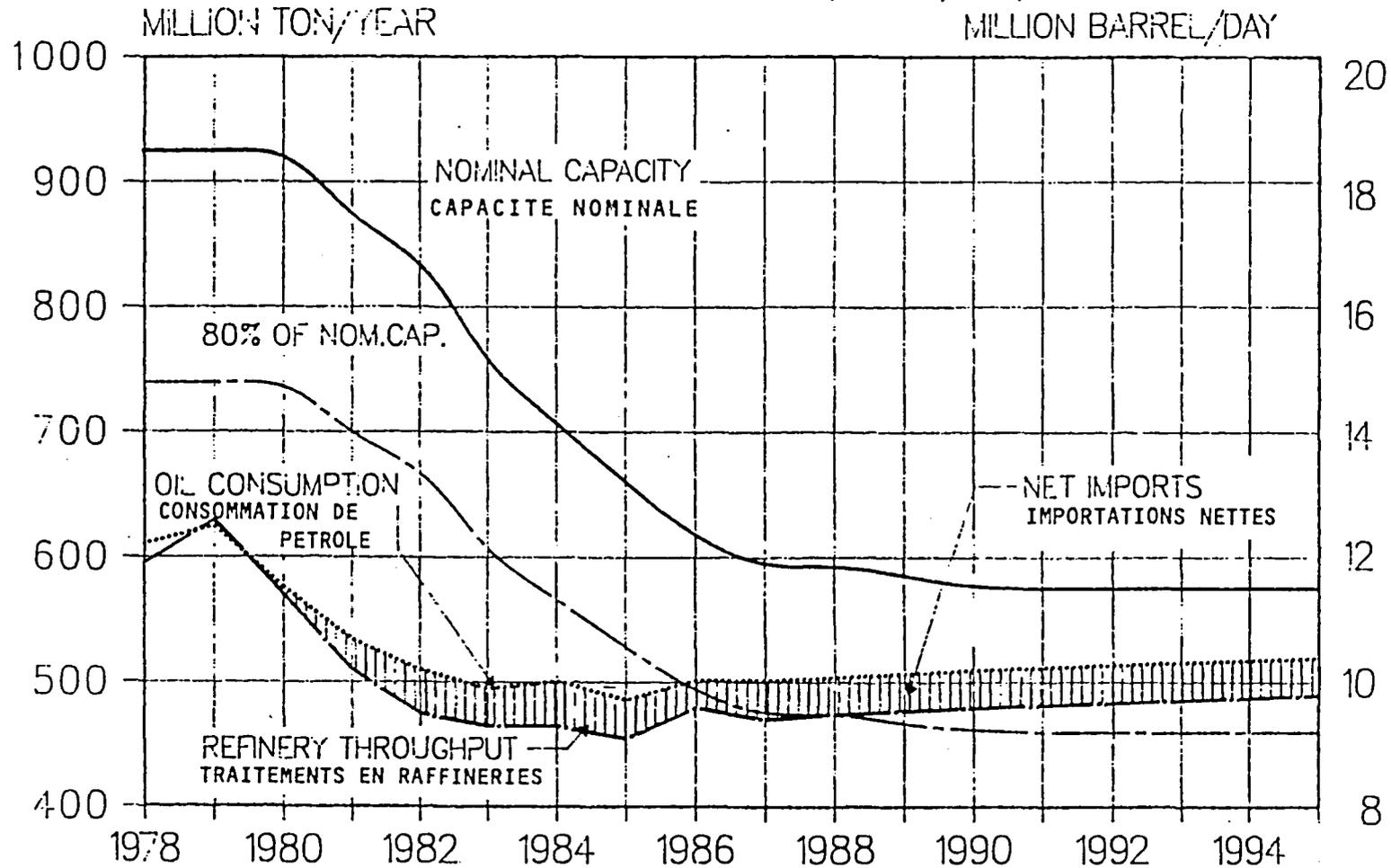
Definitions :

- Simple refinery : Primary distillation plus reforming and hydro-desulphurization
- Semi-complex refinery : "Simple refinery" plus visbreaking unit and thermal cracker
- Complex refinery : "Simple" or "semi-complex" refinery plus catalytic cracker, hydrocracker or coking unit.

SOURCE : COMMISSION.

EUR-12 : CAPACITE PRIMAIRE ET DEMANDE FOURNIE PAR LES RAFFINERIES (1978-95)
 SCENARIO DE PRIX FAIBLE (15-20\$/BBL).

EUR-12: PRIMARY CAPACITY VERSUS DEMAND ON REFINERIES (1978-95)
 LOW OIL PRICE SCENARIO (\$15-20/BLL)



SOURCE : COMMISSION

ANNEX A-15

REFINING IN THE COMMUNITY:
OVERALL BALANCE, 1980 - 95

IN MILLIONS OF TONNES PER ANNUM	1980	1985	1986	1987	1995 SCENARIO 25-30\$/b	1995 SCENARIO 15-20\$/b
Total oil consumption of which :	577	486	502	502	485	520
. inland deliveries	510	430	441	442	430	455
. international bunkers	29	27	31	30	27	34
. refinery consumption	37	29	30	30	28	31
Net supplies of finished petroleum products of which :	7	33	21	30	30	30
. net imports from non-Community countries	12	24	19	27	25	25
. Primary sources (*)	2	5	5	5	5	5
. Drawn from stock	-5	4	-3	- 1	-	-
Refinery throughput:						
. Crude oil (including condensates)	545	408	437	428	410	445
. Total (including all feedstocks)(**)	570	453	481	472	455	490
Primary distillation capacity (on 1 January)	920	663	619	595	575	575
Utilisation capacity in relation to :						
. crude oil processed	59%	62%	71%	72%	71%	77%
. total throughput	62%	68%	78%	79%	79%	85%

SOURCE : COMMISSION

(*) Directly usable associated materials including by-products from the production of natural gas.

(**) Assumption for feedstocks in the Netherlands : 5 Mt/year from 1985.

**REFINING IN THE COMMUNITY:
BALANCE BY PRODUCT, 1985, 1986 AND 1987**

IN MILLIONS OF TONS	1985		1986		1987	
	PRODUCT	DEMAND	PRODUCT.	DEMAND	PRODUCT.	DEMAND
LIQUIFIED PETROLEUM GAS (LPG)	12.4	17.5	12.6	17.8	13.2	18.7
NAPHTHA	16.6	25.1	19.5	26.0	14.7	24.5
PETROL	97.0	91.2	100.6	95.5	103.3	97.7
KEROSENE AND JET FUEL	26.9	21.7	29.2	22.8	30.0	24.0
GAS OIL	148.0	169.2	160.1	177.2	150.5	174.8
FUEL OIL	90.6	97.4	99.2	97.0	95.2	91.7
OTHER PRODUCTS	29.5	34.1	25.8	35.2	31.1	41.6
ALL PETROLEUM PRODUCTS	421	456	447	473	438	473

SOURCES: EUROSTAT AND OECD.

NB : PRODUCTION = NET REFINERY PRODUCTION + ASSOCIATED PRODUCTS
ASSOCIATED PRODUCTS = FINISHED PRODUCTS (LPG AND OTHER PRODUCTS
OBTAINED FROM THE PRODUCTION OF CRUDE OIL AND
NATURAL GAS)
DEMAND = INLAND DELIVERIES + INTERNATIONAL BUNKERS

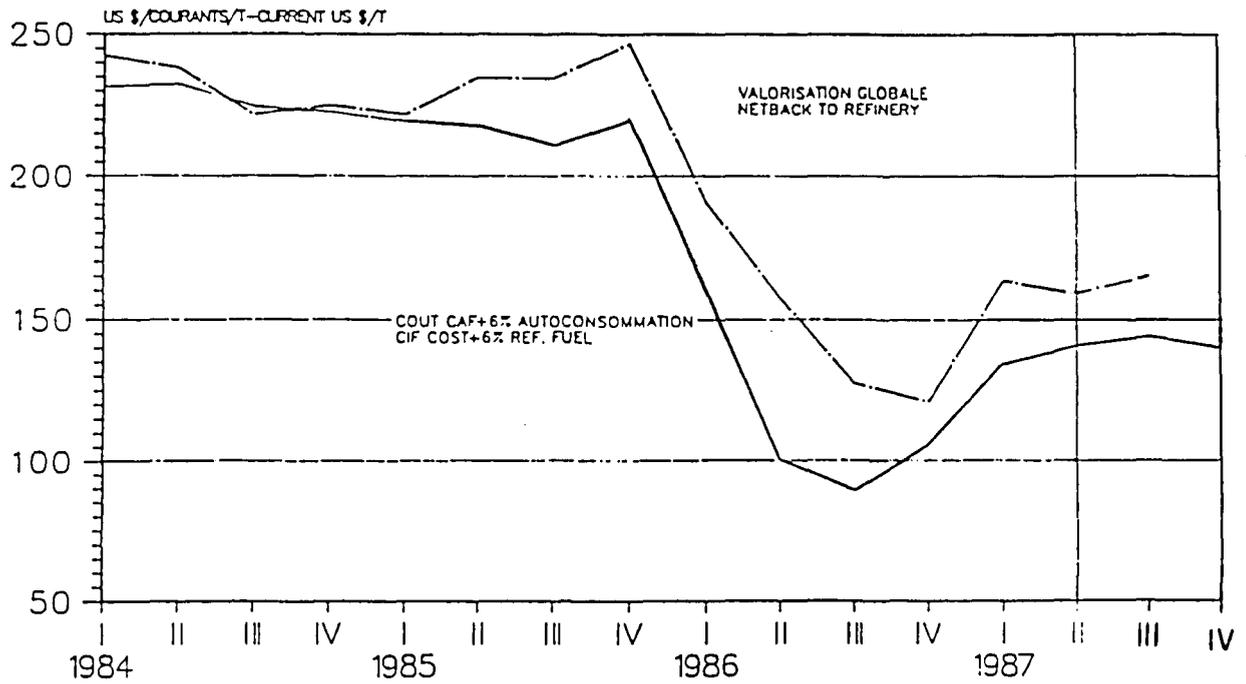
ANNEX A-17

EMPLOYMENT IN THE REFINING INDUSTRY

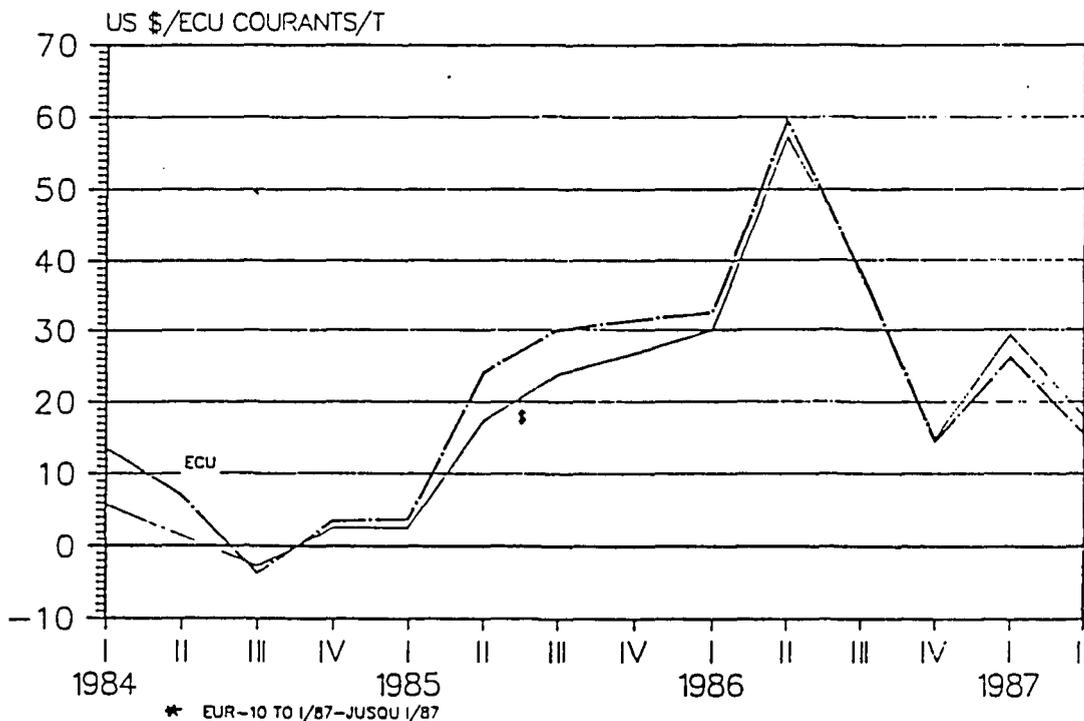
IN THOUSANDS OF PEOPLE EMPLOYED	1980	1984	1985	1986
Belgium	5.6	4.7	4.3	3.7
Denmark	(3.2)	3.2	3.2	(3.2)
Deutschland	32.0	29.9	28.1	26.6
Espana	14.5	13.6	13.9	10.6
France	31.9	27.2	26.2	24.7
Ireland	0.4	0.4	0.3	0.3
Italia	26.1	24.9	25.5	(25.5)
Luxembourg	-	-	-	-
Nederland	10.0	10.0	9.9	9.7
United Kingdom	29.9	23.6	22.2	(20.8)
EUR-10	153.6	137.6	133.6	(125.1)
Ellas + Portugal	(6.4)	(6.4)	(6.4)	(6.4)
EUR-12 ESTIM.	(160)	(144)	(140)	(131.5)

SOURCE : EUROSTAT - NACE FOR DATA UNTIL 1986. FIGURES IN BRACKETS ARE ESTIMATES. EUROSTAT DATA DO NOT COVER GREECE AND PORTUGAL.

EUR-12: REFINERY NETBACK VERSUS COST OF CRUDE
VALORISATION EX-RAFFINERIE ET COUT DE PETROLE BRUT



REFINING GROSS MARGINS — MARGE BRUTE DE RAFFINAGE — EUR-12 *



SOURCE : INFORMATIONS RECUES PAR LA COMMISSION EN APPLICATION DES DIRECTIVES "TRANSPARENCE".

QUALITY OF PRODUCTS AND ENVIRONMENTAL PROTECTION:

CHANGES IN THE TECHNICAL SPECIFICATIONS FOR PETROLEUM PRODUCTS
AND ENVIRONMENTAL PROTECTION LEGISLATION

1. Technical specifications for motor fuels

1.1. Limit on the lead content of leaded petrol.

In the Community Directive 85/210/EEC "leaded petrol" is understood to mean all petrol other than unleaded petrol (whose lead content may not exceed 0.013 g/l) whose lead content may not be greater than 0.40 g/l nor less than 0.15 g/l. This directive also provides that Member States will reduce the lead content of leaded petrol on their market to 0.15 g/l as soon as they judge it appropriate to do so.

Some Member States (B, D, DK, EL for premium gasoline, L, NL and UK) have opted for the lower limit.

The other Member States (ES, F, IRL, EL for regular gasoline, I and P) have opted for the upper limit.

1.2. The Community legislation lays down specifications for Eurograde petrol: unleaded petrol, minimum octane number at the pump 85 MON/95 RON, and maximum 5% benzene content.

The European Committee for Standardization has been asked to define the other quality specifications for Eurograde petrol.

By 1 October 1989 unleaded Eurograde petrol must be readily available in all Community Member States.

There are no European provisions defining the quality of unleaded regular petrol, but the Community legislation (Directive 87/416/EEC) does allow Member States to ban the sale of leaded regular petrol: such a ban has been in force in Germany since 1 February 1988 and is planned in Luxembourg with effect from 1 September 1988.

Other Member States (DK, NL) have virtually removed leaded regular petrol from their markets as a result of tax measures.

In general, there is now a considerable demand for unleaded petrol, ranging from 20 to 25% of total petrol sales only in those Member States (D, DK and NL) which have taken tax measures to offset the extra costs of refining unleaded petrol. In the other countries demand is still less than 1%.

In 1988 Ireland and the United Kingdom also introduced tax measures designed to encourage the use of unleaded petrol.

Directive 88/76/EEC provides that from 1.10.1990 Member States may forbid the putting into circulation of new vehicles if they are not designed to operate on unleaded petrol. Given the optional character of this directive it remains to be seen what policies Member States and vehicle manufacturers will follow in this regard.

1.3. Limit on the sulphur content of diesel motor fuel (automotive gas oil).

Community Directive 87/219/EEC provides that after 1.1.1989 the sulphur content of diesel fuel may not exceed 0.3% by weight. It also lays down that Member States may make it obligatory to use diesel fuel whose sulphur content is 0.2% by weight. The marketing of diesel fuel whose sulphur content is below 0.2% may not be forbidden.

Some Member States (B, D, DK, L and NL) have said that they intend to opt for the lower limit. The other Member States will probably adopt the upper limit.

2. Technical specifications for fuel oils

2.1. Limit on the sulphur content of heating gas oil.

As for diesel fuel: see section 1.3 above.

2.2. Limit on the sulphur content of heavy fuel oils.

There are no Community provisions concerning the sulphur content of fuel oils. The grades marketed are generally high-sulphur (3.5 or 4.5% S) and low-sulphur (1%) oils.

In some Member States, however, the national provision impose a 1% upper limit on the sulphur content of fuel oils, or allow for the imposition of such a limit.

3. Motor vehicle emission standards

3.1. Passenger petrol and diesel-engined vehicles

Community Directive 88/76/EEC sets new stricter limits for gaseous emissions to which all passenger petrol and diesel vehicles must conform to obtain EEC type approval. The effective dates vary according to engine capacity from 1.10.1988 for new vehicle types over 2 litres to 1.10.1996 for all new diesel vehicles with direct injection between 1.4 and 2 litres. A proposed directive regarding value limits for the second stage of reduction for vehicles in the 1.4 litre category is under discussion in the Council.

Directive 88/76/EEC, like all Community legislation on exhaust emission standards, follows a procedure called "optional harmonisation". Member States may not reject a vehicle which conforms to EEC type approval but different national legislation can be applied optionally in the domestic market. Consequently it is also optional for the Member States (Art. 3.2 of Directive 88/76/EEC) whether or not they prohibit in their home market from 1.10.1990 new petrol-engined vehicles not designed to run exclusively on EUROGRADE unleaded petrol.

As regards particulate emissions from private diesel vehicles, the Council adopted on 16.6.88 the Directive 88/436/EEC. A second stage reduction will be studied during 1989.

3.2. Heavy Diesel Vehicles

Directive 88/77/EEC sets for the first time in the Community limit values for gaseous emissions from these vehicles. The Commission will present during 1989 proposals for a second stage reduction.

Particulate emissions from these vehicles are not yet regulated at Community level but the Commission will present proposals in this regard during 1989 as well.

4. Limit on pollutant emissions from combustion plants

4.1. Limit on pollutant emissions from small combustion plants (up to 50 MW).

This matter is being examined by Commission staff. Several alternative ways of limiting emissions are under discussion, including:

- (a) reducing the sulphur content of the fuels used (coal and fuel oil)
or
- (b) imposing emission limit values.

Consultations with CONCAWE for the oil industry and the national associations for the coal industry (D, ES, UK) are under way concerning the technical and economic aspects. On the basis of this work it is expected that the Commission will submit proposals to the Council during 1989.

4.2. Limits on pollutant emissions from large combustion plants (over 50 MW).

On June 28/29/1988 the Council reached an agreement on a directive for the limitation of emissions of pollutants (SO₂, NO_x, dust) into the air from large combustion plants (50 MW thermal²). Emission limit values for new plants are fixed for all three pollutants. There are also special articles in the Directive for multi-fuel firing installations, such as refineries.

At the national level overall SO₂ and NO_x emission ceiling are set for existing large combustion plants in 1993, 1998 and 2003. The percentages of reduction of SO₂ emissions to be achieved in 2003 compared to 1980 vary between Member states from 34 to 70% and for NO_x from 0 to 40%. Derogations are given to some Member States to take account of their specific situation.

INTERNAL ENERGY MARKET

ANNEX II : OIL*

OBSTACLES WITHIN THE OIL SECTOR

5. Exploration and production monopoly
6. Exploration licensing procedures
7. Oil-field development conditions
8. Taxation of oil production
9. The landing obligation
10. Restrictions on imports of crude oil and/or petroleum products from certain non-Community countries.
11. The obligation to accept crude oil acquired by the State.
12. The obligation to use national-flag shipping for the carriage of crude oil and/or petroleum products by sea.
13. The obligation to use a national carrier for the inland transport of oil products.
14. Exclusive right of refining
15. Exclusive right to market the output of national refineries on the domestic market.
16. Quantitative restrictions on the importation of EEC oil products.
17. Import licences and declarations for EEC oil products.
18. Prohibition of trans-frontier deliveries affecting distributors not approved in the country of destination.
19. Differences in rules and technical norms applicable to different petroleum products.
20. Differences in compulsory storage arrangements.
21. Pricing systems
22. Differences in indirect tax systems with regard to oil products :
Excise duty and VAT
 - Harmonization of excise duty
 - Approximation of VAT
23. Existence of other indirect taxes (parafiscal, counter-cyclical, etc.)

* Extract from COM (88) 238 final of 2 May 1988.

ANNEXES B

Annexes concerning the Community's external trade in petroleum products

- B-0 : Explanatory notes on the statistics on imports/exports of crude oil and petroleum products.
- B-1 : Imports of petroleum products from non-Community countries, 1986 and 1987.
- B-2 : Net balance of intra-Community trade and trade with non-Community countries, 1981-87
- B-3 : Imports of petroleum products from non-Community countries, by Member States and for EUR-12, 1987.
- B-4 : Imports of petroleum products from non-Community countries, by Member States and for EUR-12, 1986.
- B-5 : Imports of petroleum products from non-Community countries, by economic area of origin, 1981-87.
- B-6 : Imports of petroleum products from non-Community countries, by customs category 1981-87.
- B-7 : Imports of petroleum products from non-Community countries, by product category, 1981-87.
- B-8 : Imports of petroleum products from non-Community countries, by product category and by Member State, 1986 and 1987.
- B-9 : Exports of petroleum products, by product category and main country of destination, 1986 and 1987.
- B-10: Overall pattern of external trade in finished petroleum products, 1981-87.

EXPLANATORY NOTES ON THE STATISTICS ON IMPORTS/EXPORTS OF CRUDE
OIL AND PRODUCTS INTO/FROM THE COMMUNITY

The Community has two main sources of statistics on imports and exports of crude oil and petroleum products. First, it has the "NIMEXE" statistics on the Community's foreign trade and on trade between Member States, compiled from customs sources. Second, there are the "CHRONOS" data compiled from a variety of sources, including the national authorities, industrial federations etc. by the Statistical Office of the European Communities and stored in a data bank.

Nimexe offers detailed information on the precise types of products imported, on their origin and on the customs and tariff treatment given. These are therefore the most useful statistics for analysing import into the Community countries.

However they draw no clear distinction between imports of consumer products and imports of feedstocks needing further refining.

This distinction is fundamental, however, for the purposes of assessing the real impact of imports on activity in the refining industry. Consequently the Commission also uses the CRONOS data to compile the overall statistics on foreign trade in petroleum products, and the statistics on refining in the Community.

Although, unlike the NIMEXE statistics, the CRONOS figures cover general trade in the Community, including transfers from customs warehouses, they no longer normally contain declared feedstocks imports, as a result of quarterly statistical operations.

However, it is not absolutely certain that all feedstocks imported are declared as such. For one thing, some Member States are unable to differentiate clearly between imported feedstocks and feedstocks produced at their own refineries. For another, feedstocks can be imported without declaring them as such, for instance under the GSP or preferential agreements.

**EUR-12 PETROLEUM PRODUCTS IMPORTS FROM THIRD-PARTY
COUNTRIES TO THE EUROPEAN COMMUNITY**

in thousand tons

Petroleum products imports from third-party countries to the E.C.	1986	1987	Variations 1987/1986	
			000 T	%
All products/all uses, of which:	101 554	108 154	+ 6 600	+ 6.5
- light oils	21 055	21 312	+ 257	+ 1.2
- medium oils	961	1 117	+ 156	+ 16.2
- gas-oil	29 212	30 449	+ 1 237	+ 4.2
- fuel-oils	38 414	42 784	+ 4 370	+ 11.4
- other products	11 912	12 492	+ 580	+ 4.9
All products/all uses, of which:	101 554	108 154	+ 6 600	+ 6.5
- specific treatment or chemical conversion	48 107	48 376	+ 269	+ 0.6
- other uses (destined for consumption)	53 447	59 778	+ 6 331	+ 11.8
All products/all uses, from:	101 554	108 154	+ 6 600	+ 6.5
- Industrialized third countries, of which:	20 547	22 098	+ 1 551	+ 7.5
EFTA	8 089	10 693	+ 2 604	+ 32.2
United States	9 810	8 493	- 1 317	- 13.4
- Developing countr., of which :	44 770	45 256	+ 486	+ 1.1
Kuwait	9 686	9 500	- 186	- 1.9
Libya	7 439	7 738	+ 299	+ 4.0
Algeria	7 392	7 431	+ 39	+ 0.5
Saudi Arabia	5 737	6 727	+ 990	+ 17.3
Venezuela	2 566	1 608	- 958	- 37.3
OPEC	37 413	38 244	+ 831	+ 2.2
OAPEC (Egypt included)	37 994	40 440	+ 2 446	+ 6.4
G.C.C.	16 520	16 964	+ 444	+ 2.7
- Countries with State trade, of which	36 237	40 800	+ 4 563	+ 12.6
U.S.S.R.	27 704	30 976	+ 3 272	+ 11.8
Romania	5 358	6 701	+ 1 343	+ 25.1

Source : External trade statistics of the Community (customs declarations :
NIMEXE System)
Feedstocks included

**EUR-10/EUR-12 - NET IMPORTER/(EXPORTER) BALANCE OF INTRACOMMUNITY TRADE AND TRADE
WITH THIRD COUNTRIES TO THE EC OF ALL PETROLEUM PRODUCTS**
Evolution from 1981 to 1987

in millions of tons

	1981 EUR-10		1982 EUR-10		1983 EUR-10		1984 EUR-10		1985 EUR-10		1986 EUR-12		1987 EUR-12	
	Bal. intra- EC	Bal. extra- EC												
France	(3.6)	6.3	(0.0)	10.5	1.7	9.9	1.6	7.2	0.3	9.7	3.7	11.0	6.6	14.1
Belgium/Luxembourg	(3.3)	0.7	(1.2)	2.0	(0.4)	2.7	(0.1)	3.4	0.8	3.9	0.8	2.6	0.6	0.2
Netherlands	(16.7)	7.1	(21.7)	9.9	(24.0)	9.0	(28.6)	8.7	(29.0)	12.8	(32.0)	11.6	(31.0)	11.0
F.R.G.	17.4	8.1	17.1	10.1	20.7	12.3	21.3	12.0	24.9	13.3	31.1	13.5	29.2	12.6
Italy	(0.3)	8.6	(2.0)	10.0	(0.5)	16.1	(1.3)	20.5	(1.6)	22.6	(4.5)	18.3	(2.4)	24.4
United Kingdom	(2.3)	2.6	(2.6)	4.6	(3.5)	5.7	0.7	11.5	(2.4)	9.7	(3.4)	8.1	(4.9)	8.9
Ireland	4.1	0.2	3.8	0.2	2.8	0.2	2.8	0.3	2.6	0.2	3.6	0.4	2.9	0.2
Denmark	3.1	2.4	2.7	3.6	1.2	3.1	(0.0)	3.6	0.3	3.6	0.2	3.2	(0.2)	3.3
Greece	(0.2)	(0.6)	(0.4)	(1.0)	(0.2)	(0.6)	(0.5)	(0.4)	(0.7)	(0.1)	(0.2)	(0.4)	(0.7)	(0.4)
Spain											(6.8)	0.4	(4.7)	1.4
Portugal											1.2	0.3	1.4	0.2
EUR-10/EUR-12														
- feedstocks incl.(1)	(1.9)*	35.5	(4.3)*	49.9	(2.2)*	58.4	(4.0)*	66.9	(4.6)*	75.5	(6.3)*	68.9	(3.2)*	75.9
- feedstocks excl.(2)	n.d.**	7.0	n.d.**	21.3	n.d.**	15.5	n.d.**	29.2	n.d.**	29.6	n.d.**	18.9	n.d.**	27.0

Sources : (1) External trade statistics of the Community and trade between Member States (customs declarations : NIMEXE system) - Feedstocks included

(2) National data (databank : CRONOS of EUROSTAT) - Feedstocks excluded

* Statistical error : Difference between the import and export returns at intra-Community level

** n.a. : non available

Note : EUR-10/EUR-12 data may not correspond to the sum of the Member States' data due to roundings (data given in tons in NIMEXE).

EUR-12 - PETROLEUM PRODUCTS IMPORTS OF THE EUROPEAN COMMUNITY
FROM THIRD-PARTY COUNTRIES

Period : Year 1987

in thousand tons

	EUR-12	F.R.G.*	France	Italy	Netherl.	Belg/Lux	Un.Kingd	Ireland	Denmark	Greece	Spain	Portugal
All products/all uses, from :	108 154	15 046	17 494	31 987	14 581	4 222	13 004	225	4 556	739	5 917	383
-Industrialized third countries, of which :	22 098	5 268	2 913	4 479	1 205	831	2 693	41	2 804	103	1 732	28
EFTA	10 693	4 068	594	251	759	255	1 874	0	2 803	43	24	23
United States	8 493	1 056	1 778	2 686	393	373	608	41	1	60	1 493	5
- Developing countries of which :	45 256	3 282	9 222	16 783	5 541	689	5 765	6	478	359	2 801	329
Kuwait	9 500	457	1 483	4 696	1 477	12	652	-	183	-	498	42
Libya	7 738	668	1 118	2 024	419	-	2 922	-	73	8	412	93
Algeria	7 431	1 158	1 731	907	1 553	69	1 358	-	186	-	275	194
Saudi Arabia	6 727	180	1 920	2 679	1 010	268	164	-	-	137	370	-
Venezuela	1 608	0	92	1 236	174	1	105	-	-	-	-	-
OPEC	38 244	2 827	7 650	14 131	4 773	629	5 298	-	478	307	1 821	329
OAPEC (Egypt incl.)	40 440	3 107	8 807	14 542	4 807	535	5 519	6	478	313	1 997	329
G.C.C.	16 964	658	3 692	7 375	2 704	280	816	-	183	137	1 077	42
- Countries with State trade, of which :	40 800	6 495	5 359	10 725	7 835	2 702	4 546	178	1 273	276	1 384	26
U.S.S.R.	30 976	4 590	3 730	6 420	7 001	2 668	4 339	178	850	59	1 140	1
Romania	6 701	316	1 360	4 076	556	24	135	-	-	91	119	25

Source : External trade statistics of the Community (customs declarations : NIMEXE System)
Feedstocks included.

* Imports from GDR not included.

EUR-12 - PETROLEUM PRODUCTS IMPORTS OF THE EUROPEAN
COMMUNITY FROM THIRD-PARTY COUNTRIES

Period : Year 1986

thousands of tons

	EUR-12	F.R.G.*	France	Italy	Netherl.	Belg/Lux	Un.Kingd	Ireland	Denmark	Greece	Spain	Portugal
All products/all uses, from :	101 554	16 041	15 164	25 729	15 214	5 700	12 859	403	4 489	840	4 620	495
-Industrialized third countries, of which :	20 547	3 986	2 510	4 079	1 461	935	2 320	125	2 882	145	2 025	78
EFTA	8 089	2 603	324	126	559	360	1 231	26	2 832	0	5	23
United States	9 810	1 191	1 693	2 500	802	441	911	99	50	118	1 949	55
- Developing countries of which :	44 770	4 017	7 416	14 618	7 357	1 303	6 679	93	269	529	2 124	364
Kuwait	9 686	941	1 126	4 444	1 715	51	726	-	143	-	424	116
Libya	7 439	673	1 064	1 523	501	201	2 832	-	-	-	645	-
Algeria	7 392	1 477	1 347	939	1 989	130	1 154	-	79	-	204	73
Saudi Arabia	5 737	204	1 824	1 679	1 157	246	184	-	-	93	298	52
Venezuela	2 566	189	290	1 145	576	9	301	46	10	-	-	-
OPEC	37 413	3 617	6 387	11 493	6 572	1 036	5 393	46	256	483	1 829	300
OAPEC (Egypt incl.)	37 994	3 611	6 851	11 972	6 140	951	5 326	-	247	528	2 067	300
G.C.C.	16 520	1 220	3 235	6 202	3 420	314	925	-	168	93	776	168
- Countries with State trade, of which :	36 237	8 038	5 238	7 032	6 396	3 462	3 860	185	1 338	166	470	53
U.S.S.R.	27 704	5 598	3 637	4 471	5 433	3 347	3 542	135	765	59	274	53
Romania	5 358	736	1 368	2 235	645	47	126	50	-	26	124	-

Source : External trade statistics of the Community (customs declarations : NIMEXE System)
Feedstocks included.

* Imports from G.D.R. not included.

EUR-10/EUR-12 - OIL PRODUCTS IMPORTS BY COUNTRY OF ORIGIN AND ECONOMIC AREA -
IN % OF TOTAL THIRD COUNTRIES IMPORTS

in %

	1981	1982	1983	1984	1985	EUR - 12	
						1986	1987
- Industrialised countries,	20.2	24.5	27.0	25.8	22.2	20.2	20.4
of which : EFTA	9.6	8.6	11.4	10.8	8.7	8.0**	9.9**
USA	7.6	9.7	8.6	6.6	6.5	9.7	7.9
Spain	1.9	4.2	4.9	5.2	4.4	n.a.***	n.a.***
- Developing countries,	44.9	40.4	37.7	39.3	45.1	44.1	41.8
of which : Saudi Arabia	5.2	2.7	1.3	3.1	4.1	5.6	6.2
Kuwait	3.3	5.2	9.3	9.7	10.0	9.5	8.8
OPEC	25.2	25.4	27.1	28.9	34.9	36.8	35.4
OAPEC (*)	22.3	21.1	24.1	26.9	33.2	37.4	37.4
GCC	9.6	8.4	11.5	13.2	15.1	16.3	15.7
- State trade countries	34.9	35.1	35.3	34.9	32.7	35.7	37.7

Source : External trade statistics of the Community (customs declarations : NIMEXE System) - Feedstocks included

- (*) Egypt included
 (**) Portugal excepted
 (***) n.a. : not applicable

EUR 10 / EUR 12 - ANALYSIS OF OIL PRODUCTS IMPORTS FROM THIRD COUNTRIES
ON THE BASIS OF CUSTOMS DEFINITIONS

in mio t./in %

	EUR - 10										EUR - 12			
	1981		1982		1983		1984		1985		1986		1987	
	mio t	%	mio t	%	mio t	%	mio t	%	mio t	%	mio t	%	mio t	%
A) Imports at zero duty	41.8	65.0	52.9	66.7	58.1	65.8	59.8	63.5	69.2	65.6	64.0	63.0	66.5	61.5
- For specific treatment or chemical conversion	26.3	40.9	32.8	41.4	41.4	46.9	40.7	43.2	49.2	46.6	48.1	47.3	48.4	44.7
- By virtue of preferential agreement	15.5	24.1	20.1	25.3	16.7	18.9	19.1	20.3	20.0	19.0	15.9	15.6	18.1	16.7
B) Imports under GSP (Subject to ceilings)	11.1	17.3	11.3	14.2	12.5	14.2	16.1	17.1	22.0	20.8	18.3	18.0	22.5	20.8
C) Imports subject to normal CCT duty	11.4	17.7	15.1	19.1	17.7	20.0	18.3	19.4	14.3	13.6	19.3	19.0	19.2	17.7
Total imports from third countries	64.3	100.0	79.3	100.0	88.3	100.0	94.2	100.0	105.5	100.0	101.6	100.0	108.2	100.0

Source : External trade statistics of the Community (customs declarations : NIMEXE System) - Feedstocks included

EUR-10/EUR-12 - PATTERN OF OIL PRODUCTS IMPORTS FROM THIRD COUNTRIES

in %

	1981	1982	1983	1984	1985	E U R - 12	
						1986	1987
						Light oils	24.1
Medium oils	1.4	1.2	1.0	0.6	0.8	0.9	1.0
Heavy oils :	61.9	69.2	70.5	72.3	73.4	66.6	67.8
- gasoil	(21.8)	(24.2)	(25.3)	(23.3)	(26.6)	(28.8)	(28.2)
- fuel-oils	(40.1)	(45.0)	(45.2)	(49.0)	(46.8)	(37.8)	(39.6)
Other products (of which LPG and petroleum coke)	12.7	10.7	10.6	10.4	8.6	11.7	11.5

Source : External trade Statistics of the Community
(customs declarations : NIMEXE System) - Feedstocks included

EUR-12 - IMPORTS FROM THIRD-PARTY COUNTRIES BY CATEGORY OF PRODUCT AND BY IMPORTING MEMBER STATE

Comparison Year 1986 - Year 1987

(in million tons)

		EUR-12	FRG*	FRANCE	ITALY	NETHERL.	BELG./LUX.	UNITED KINGDOM	IRELAND	DENMARK	GREECE**	SPAIN	PORTUGAL
1986	1. Specific treatment/ chemical conversion	48.1	8.9	3.4	10.9	7.0	4.5	8.7	0.0	1.3	0.5	2.5	0.4
	2. Other uses	53.5	7.1	11.8	14.8	8.2	1.2	4.2	0.4	3.2	0.3	2.1	0.1
	3. All products/all uses (1+2) of which	101.6	16.0	15.2	25.7	15.2	5.7	12.9	0.4	4.5	0.8	4.6	0.5
	light and medium oils	(22.0)	(4.4)	(4.2)	(2.5)	(4.2)	(0.5)	(3.0)	(0.1)	(0.8)	(0.1)	(1.9)	(0.4)
	heavy oils (gasoil + fuel-oils)	(67.6)	(10.1)	(8.6)	(20.5)	(10.0)	(4.6)	(8.6)	(0.3)	(3.4)	(0.6)	(0.8)	(0.1)
1987	1. Specific treatment/ chemical conversion	48.4	7.6	3.3	13.7	6.7	3.2	8.7	0.0	1.1	0.3	3.5	0.2
	2. Other uses	59.8	7.4	14.2	18.3	7.9	1.0	4.3	0.2	3.5	0.4	2.4	0.2
	3. All products/all uses (1+2) of which	108.2	15.0	17.5	32.0	14.6	4.2	13.0	0.2	4.6	0.7	5.9	0.4
	light and medium oils	(22.4)	(4.3)	(4.9)	(3.5)	(2.6)	(0.3)	(3.2)	(0.1)	(0.9)	(0.1)	(2.3)	(0.2)
	heavy oils (gasoil + fuel-oils)	(73.2)	(9.3)	(10.0)	(25.8)	(10.6)	(3.4)	(8.5)	(0.1)	(3.1)	(0.5)	(1.8)	(0.1)

* Imports from GDR not included

Source : Statistics of Community external trade and trade between Member States
(Customs declarations : NIMEXE System) Feedstocks included.

EUR-12 - EXPORTS OF PETROLEUM PRODUCTS BY CATEGORY OF PRODUCT AND BY MAIN THIRD COUNTRY OF DESTINATION
Evolution 1986 - 1987*

in thousand tons

Main third country of destination in 1987 (by decreasing order of magnitude) Total > 600.000T	Light oils		Medium oils		Gas-oil		Fuel-oils		Other products		TOTAL All petroleum products		
	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987	1986	1987	Variat. 87/86 %
United States	4 326	4 543	743	747	551	615	3 185	5 046	943	532	9 743	11 488	+ 17.8
Switzerland	2 221	2 162	619	665	2 771	1 858	242	153	335	313	6 188	5 151	- 16.8
Sweden	1 407	884	187	223	980	778	1 191	703	423	405	4 190	2 993	- 28.6
Austria	408	402	14	23	120	133	428	334	362	360	1 333	1 252	- 6.1
Norway	350	220	112	107	177	218	77	32	363	280	1 079	857	- 20.6
Libya	447	479	4	57	125	0	198	139	70	133	844	808	- 4.3
Tunisia	2	180	49	53	196	131	594	245	87	87	927	746	- 19.5
Algeria	3	3	0	0	0	0	430	472	189	178	621	653	+ 5.2
Iran	47	55	436	204	276	273	-	0	56	90	814	622	- 23.6
Other destinat.	1 141	1 206	1 226	1 316	1 044	1 131	1 789	2 215	1 700	1 905	6 902	7 773	+ 12.6
TOTAL EXTRA-EC	10 354	10 139	3 390	3 395	6 240	5 187	8 134	9 339	4 528	4 283	32 646	32 343	- 0.9
of which :													
Industrialized third countr.	9 345	8 846	2 174	2 211	4 964	3 970	5 759	7 008	2 752	2 292	24 995	24 327	- 2.7
Developing countries	934	1 291	1 167	1 173	1 270	1 213	2 071	2 115	1 590	1 807	7 083	7 599	+ 7.3
Countries with State trade	24	2	49	11	6	4	304	216	186	184	568	417	- 26.6
OPEC countries	691	707	678	421	496	432	758	640	527	643	3 151	2 843	- 9.8
OAPEC countries	467	665	173	111	426	183	1 353	858	555	666	2 974	2 483	- 16.5
GCC countries	5	16	63	0	65	2	144	0	81	120	358	138	- 61.5
TOTAL INTRA-EC	21 858	21 057	5 123	5 516	30 962	26 261	27 401	24 215	8 456	8 595	93 799	85 644	- 8.7

Source : External trade statistics of the Community (customs declarations : NIMEXE System).

EUR-10/EUR-12 - OVERALL PATTERN OF OIL FINISHED PRODUCTS EXTERNAL TRADE

in mio t.

	EUR-10					EUR - 12		
	1981	1982	1983	1984	1985	1986	1987 First estimates	Variations 1987/1986 in %
- Total imports of finished products (*)	122.5	138.7	136.0	145.8	145.3	163.3	164	+ 0.4
- Total exports of finished products (*)	115.5	117.4	120.5	116.6	115.7	144.4	137	- 5
- Net imports (exports) of finished products	7.0	21.3	15.5	29.2	29.6	18.9	27	+ 43

Source : CRONOS (national statistics) - Feedstocks excluded

(*) Intra-Community trade included