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The oil market and the refining industry in the Community: recent developments and prospects

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(Communication from the Commission to the Council)

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SUMMARY AND CONCLUSIONS

A. Introduction and conclusions

1. This paper, with an accompanying analytical report, has been prepared following consultations with the Member States and representatives of the oil industry in the Community. It is one of a series of reports by the Commission to the Council on the recent developments in and the outlook for the oil market and the refining industry in the Community, the last of which was drawn up in 1988 (COM(88) 491).

2. It summarizes the main findings to emerge from the analysis of the oil and refining industries and sets out the resulting policy guidelines for Community action.

3. The paper is intended to serve as a basis for a policy debate within the Council. Clarification of the objectives in this key area of energy supply will undoubtedly make a valuable contribution to the wider debate on new energy policy guidelines for the Community which has already begun within the Commission.

4. The conclusions drawn by the Commission from its analysis of the energy and environmental issues involved are explained in this paper.

5. Based on a "business as usual" projection, it is estimated that oil will continue to account for a major share - of the order of 45% - of the Community's energy consumption up to 2000, a percentage which is higher than the 1995 target approved by the Council in 1986. However, the Commission has proposed a number of measures and will propose others which, when adopted, will have the effect of reducing the Community's potential consumption of fossil fuels and help limit the level of CO_2 emissions.

6. Given this state of affairs, the challenge facing the Community is how to manage the situation successfully. To do this it will have to set itself three objectives, namely:

   - to step up its efforts with regard to the management of energy consumption, and particularly oil consumption, in conjunction with the other main oil-consuming countries;

- to pursue an internal oil strategy, comprising crisis mechanisms and security stocks (in liaison with the IEA), coupled with an external strategy of cooperation with the oil-producing countries including developing secure supplies, where appropriate, through agreements with them on hydrocarbon developments and supply;

- to achieve an efficient and competitive oil industry and a refining capacity enabling it to cope with unforeseen market imbalances.

The main measures to be deployed in order to attain these three objectives are set out below.

7. Measures related to the management of consumption should focus on

- avoiding the use of oil in power stations wherever possible, in keeping with Community legislation;

- stronger incentives for energy saving (regulations, tax measures, subsidies, technology) by putting forward proposals, where necessary, for action in non-energy sectors which have a direct impact on energy (e.g. transport).

These measures can be taken either at Community or at national level (examples: the Thermie and SAVE programmes, insulation standards, tax abatements and subsidies), consistent with the principle of subsidiarity.

8. The internal and external oil strategy consists in:

- improving crisis mechanisms: in this regard, the Community's accession to the IEA will increase our ability to react to events. Discussions are also under way on improving the security stock arrangements introduced in 1968 and, lastly, a debate has been initiated on how to ensure greater oil market stability;

- strengthening the political framework of the cooperation strategy, particularly through efforts to promote producer-consumer dialogue, such as the technical discussions held by the IEA on 24-26 February 1992, closer ties with the GCC and the implementation of the European Energy Charter;

- welcoming the new forms of cooperation within the industry via cross-investment in exploration and production on the one side and in refining and distribution on the other;

- pressing ahead with the liberalization of the international oil trade and improving the operation of the world market, under the terms of the agreements reached within the IEA.

9. As regards the efficiency and competitiveness of the oil industry in the Community, it should be noted that so far the industry itself has been able to develop the necessary technologies (e.g. conversion) and mobilize the investment required to keep pace with the changing structure of demand. Given the need for adequate production capacity and the scale of the investment that will be required in order, among other things, to comply with environmental regulations, if the Community wishes to maintain the competitiveness of this strategic industry it will have to

   - promote better forecasting of trends in demand for oil products;

   - strengthen the global approach to environmental issues and continue to develop and employ more sophisticated methods of analysing the cost/benefit of proposed measures;

   - improve the predictability of planned measures and phase them in so that the industry can optimize the programming of the necessary investment; these concerns, already taken into account in the formulation of the Community strategy to limit CO_2 emissions, will apply equally to the measures which need to be taken to implement it, given the uncertainties that they would bring to demand and therefore investment needs;

   - examine, in due course, the scope for incorporating refining technology in the Community programme for the development of energy technologies (Thermie);

   - involve the oil industry as far as possible and at the most appropriate time in the preparation of measures which affect it.

10. The Commission will continue to hold regular talks with the Member States and the oil industry with the aim of identifying, where necessary, Community measures which would:

   - help maintain a proper balance on the oil market and in the refining industry in the Community wherever measures taken at Community level would be more effective, or which

   - might prove necessary in order to guarantee the free movement of oil products on the internal market, given the differences in the indirect taxation arrangements for petroleum products from one Member State to another. The harmonization of excise duties must therefore remain an objective to be pursued.

B. The international context

11. The main trends in the world oil situation are:

- the increase in world demand for oil from 1985 to 1990 after falling during the period 1980-85;

- the fall in production in the main oil-consuming countries between 1985 and 1990, after the increase during the period 1980-85;

- OPEC's rising share of oil production from 1985 compared with the period 1980-85, when there was a rapid decline in OPEC production levels.

These trends look set to continue to the end of this decade and world demand for oil could therefore be up by 5 to 10 million barrels per day by 2000; these additional quantities would have to come chiefly from the OPEC countries.

12. Prices in the first half of the 1980s reflected the impact of the increases in 1979, while the second half of the decade was characterized by much lower prices following the spectacular collapse in 1986, combined with ample supplies.

The Gulf crisis saw price escalation combined with extreme volatility due to fears of a major disruption of supply, which were more or less intense at different stages of the crisis, with the exception of certain short-lived regional imbalances supply and demand were for the most part in equilibrium. However, prices soon returned to their pre-crisis levels once these fears had subsided.

13. The growth in demand also stimulated refining activity in the world during the second half of the 1980s, mitigating the problems of overcapacity and, in some countries, removing them altogether.

C. The Community context

Completing the internal market

14. The oil and petroleum products market is intrinsically competitive and therefore the completion of the internal market is unlikely to result in any major changes to the existing rules.

However, a number of measures have been initiated under the general heading of the internal market (public contracts, standardization and approximation of indirect taxation) or with specific reference to oil (bringing oil within the common commercial policy and looking at ways of improving transparency and removing discrimination in the field of hydrocarbons exploration and production).

15. The approach adopted on standardization and on the approximation of indirect taxation enables the Member States to set more stringent environmental protection standards and higher taxes. The Commission will put forward further proposals if freedom of movement is being restricted or if it becomes apparent that differences in standards or tax arrangements are affecting the functioning of the internal market.

16. Previous or planned developments relating to the completion of the internal market are, by and large, unlikely to have a major impact on the demand for oil in the Community.

Environmental protection

17. The generally growing concern in our society about environmental issues is acknowledged by and has major repercussions on the oil sector and refining activity; areas of concern include the production and transport of oil, the siting of refineries and the purity of oil products placed on the market. These issues were set out for the first time in a global way through the Commission Communication to Council on Energy and the Environment [COM (89) 369 final of 8 February 1990].

18. All of these concerns have placed and will continue to place an increasingly heavy burden on the oil industry in general and on the refining industry in particular, notably in the form of investment in refinery production. In the recent talks the industry urged the Commission to give earlier notice of planned measures relating to the environment in view of the considerable cost of the investment and the time needed to put it in place. The industry also raised the matter of the cost-effectiveness of certain environmental measures. The Commission's recent adoption of the Community's Fifth Environmental Action Programme helps create a framework for medium and long term planning for industry.

19. On top of these traditional concerns there is a further issue which has a global impact, namely the greenhouse effect caused by emissions of carbon dioxide and other gases.

The Community is committed to stabilizing CO_2 emissions at their 1990 levels by 2000. The Commission has recently suggested the introduction of a combined energy/CO_2 tax as a possible part of a global strategy. Other measures may also be considered, such as energy saving or restrictions on the use of certain fossil fuels and measures to encourage the use of renewable energy sources.
It is difficult to gauge at this point in time what impact the strategy of controlling CO_2 emissions will have on the consumption of the various energy sources. The Commission will be contributing to this debate during 1992.

Security of energy supply

20. The oil crises of the 1970s demonstrated the vulnerability of the Community's energy supply and its structural dependence on imports from third countries, which account for over two-thirds of its oil consumption. The energy policy the Community has pursued since then has focused on the diversification of energy supplies, with a view to striking a better balance between the energy products consumed and between the various countries from which they are obtained.

    In parallel with this diversification, the Community and the other oil-consuming countries have created mandatory reserve stocks of oil and set up machinery for mutual assistance and crisis management, coordinated within the IEA. Certain measures were adopted under this mechanism during the recent Gulf crisis which helped to calm the market.

21. In addition the Community supports the policy of cooperation with the oil-producing countries, as exemplified by the seminar co-sponsored by France and Venezuela on 1 and 2 July 1991 in Paris, the signing of the European Energy Charter on 16 December 1991 in The Hague and the technical discussions between producer and consumer countries organized by the IEA on 24-26 February 1992. Against this backdrop the Commission is continuing its negotiations for the conclusion of a free trade agreement with the countries of the GCC.

    This policy of cooperation is matched by cross-investment activity by the industry, both upstream and downstream, in the oil-producing and consuming countries, which is intended to help improve the operations of the international oil market.

22. Biomass fuels (i.e. substitute fuels produced from surplus agricultural crops) also have a contribution to make, albeit limited in terms of relative value, to the diversification of supply. Moreover, biofuels are a renewable energy source which is neutral in terms of its impact on CO_2 emission levels (recycling).

    The Commission recently adopted a communication on the tax arrangements applicable to biofuels, proposing very substantial tax incentives to promote their production.

D. The oil market and the refining industry in the Community

Recent developments

23. Demand for oil has tended to reflect the trends on the world market, that is to say declining during the period 1980-85 and picking up again subsequently, although oil consumption in the Community in 1990 (530 million tonnes) was lower than in 1980.

    Trends in the various oil consumption sectors show a significant fall in the consumption of heavy fuel oil in industry and in electricity generation and a strong and fairly sustained increase in the consumption of fuel for transport.

24. Markets were tested through the Gulf crisis and were found to have worked efficiently (by absorbing price shifts), aided by new and improved trading practices. The IEA Ministerial meeting of June 1991 concluded that the unimpeded pass through of oil price changes played an important role in reducing overall demand and averting any sustained imbalance in the supply of products.

25. Average prices of crude imported into the Community have mirrored the fluctuations of world prices.

    Consumer prices of oil products reflect the fluctuations on the European free markets. There are still significant differences nonetheless, which are mainly due to the market structures and the rates of tax applied by the individual Member States.

26. As regards the origin of crude oil supplies, the 1980s saw a favourable trend in terms of the diversification of the Community's supply, with imports from OPEC down to 50% of the total supply in 1990 (from 75% in 1980).

    Attention should also be drawn to the even spread of supplies among the various exporting countries, with none of the main suppliers (Saudi Arabia, Iran and Libya) accounting for more than 10% of total supplies in 1990.

27. Net imports of finished petroleum products (from third countries) stabilized at a low level, representing about 3% of demand.

    Worries about massive imports of finished products into the Community from refineries in the oil-producing countries did not materialize, bearing out the Commission's assessment in previous analyses that an open Community market should be maintained.

28. As far as the refining industry in the Community is concerned, primary distillation capacity fell steadily between January 1980 and January 1990, although the bulk of closures occurred before 1986. A number of plants were upgraded or brought back on stream during 1990, which resulted in a slight increase in capacity. At the beginning of 1991, making allowance for the additional capacity in the former German Democratic Republic, primary capacity in the Community was of the order of 600 million tonnes per annum.

    There was also considerable growth in conversion capacity as fuel oil consumption in the Community declined; conversion capacity was equivalent to 27% of primary capacity in 1990.

    Utilization rates showed a gradual improvement, with the Community average exceeding 80% in 1990; in some Member States the industry is operating close to maximum capacity.

    Refining activity, which was highly unprofitable in the first half of the 1980s, has started to become profitable again in recent years as the utilization of available capacity has improved.

    Outlook to 2000

29. According to the evaluation of the trend in demand on the basis of the 'business as usual' scenario the growth in the Community's oil consumption is expected to continue, but at a more moderate pace (under 1% a year) than during the period 1985-90. This estimate of demand makes allowance for an anticipated significant increase in the former German Democratic Republic's consumption of oil due to the move away from lignite for certain applications.

30. The scenario for the refining industry in the Community indicates that the situation in 2000 will be very similar to that of 1990. However, this argument is based on the assumption that most of the existing refining capacity in the eastern part of Germany will be maintained and/or brought back on stream and that the refinery plant will be upgraded to bring it up to the Community average.

31. If demand in the Community were to grow faster, this would raise the question of a certain amount of growth in primary capacity, but the answer to that question will depend on developments in the refining industry throughout the continent of Europe, taking into account the agreement on the EEA and closer relations with the countries of central and eastern Europe and the CIS, as well as the scope for importing finished products from producer countries in North Africa or further afield.

32. In view of the continued lightening of the barrel in the Community, the industry will be required to continue to build up its conversion capacity, while pursuing its efforts to adapt in order to produce products to more stringent quality and purity standards.

This will oblige industry to invest heavily in plant, mainly for the production of lead-free petrol, which is enjoying a rapid increase in consumption, and low-sulphur gas oils and fuel oils.

In addition to this investment in improved product quality, there is also the investment that will be needed in order to limit emissions at every stage of the manufacturing and marketing process.

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SECTORIAL ANALYSIS

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

Introduction

In the course of the 1980's, the Commission has periodically reported to Council on the oil market and refining industry [COM(88) 491, COM(86) 263, COM(85) 32]. Since its last report (1988), the world oil market has continued to mature (there being more market-related pricing), supply and demand have expanded and it has been tested by a period of instability during the Gulf conflict. Over the same period, the Community has pursued the goal of creating a single market and developing further its environmental legislation. These developments have had an important bearing on the Community's oil and product markets and are the issues addressed in this technical report.

In the preparation of this report, consultations were held with selected oil companies, the Community's Petroleum Industry Association (EUROPIA) and Member State experts.

The report is structured as follows:

A. WORLD SITUATION

- Markets & Refining
- Gulf Crisis
- World Outlook

B. COMMUNITY SITUATION

B1 Internal Market

B2 Environment

- Community Initiatives
- Industry Initiatives

B3 Market Developments

- Energy and Oil Outlook to 2000
- Crude Oil Supplies
- Trade in Products
- Integration of Eastern Germany

B4 Refining

- Trends in Capacity and Utilization
- Profitability

B5 Industry Structure

A. WORLD SITUATION

Markets and Refining

World demand for crude oil which had grown steadily since 1983 continued to rise between 1988 and 1989 (up 1.7%) and then stagnated in 1990 at 65.9 millions of barrels per day (mbd). The USA remains the world's largest consumer though its proportion of total world demand has fallen from around 30% in the 1970's to 26% in recent years. Demand in Asia and the Pacific excluding Japan together with Africa grew from below 11% of the world total to almost 15% over the same period. Demand in the USSR and Eastern Europe has been in slow but relatively steady decline since 1980 and their combined share of world demand has been in marked decline since 1982 (20%) to slightly over 15% in 1990. Demand in the Community has remained steady at a little over 11 mbd (about 17 % of world demand) since 1988.

World supply of crude oil grew from 64.7 mbd in 1988 to 66.9 mbd in 1990. OPEC's volume increased from 21.7 mbd to 25.1 mbd over the same period increasing its share of world production from 34% to almost 38% though still a long way from its historic maximum share of 54% in 1973. The Middle East registered the largest increase, though production also grew in Latin America. US production, since its peak in 1985, continued to decline in 1988, 1989 and 1990 and is now estimated at 9.0 mbd. In the USSR where production reached a high of 12.6 mbd in 1988, output fell substantially in the two consecutive years to 11.5 mbd in 1990. Community production has fallen from over 3.1 mbd in 1985 to 2.4 mbd in 1990. (See Table I.)

In the period from 1988 up to the invasion of Kuwait by Iraqi forces in August 1990, **prices** oscillated around $16/bbl (barrel) within a $3 margin. Reaching around $40 in September/October 1990, prices were back at the end of 1991 around their pre-Gulf Crisis level i.e. around $18-19/bbl.

There remain wide regional variations in the pattern of **oil product consumption**. Petrol represents between 40% and 45% of total product consumption in the USA, whereas this proportion is only 21% and 25% in Japan and Europe, respectively. Conversely, middle distillates, consisting of jet and heating kerosenes and gas and diesel oils, remain the largest product group in Europe and Japan (at 40% and 35%, respectively). The steady decline in the overall consumption in fuel oil (to 1987) was halted and reversed most notably in Japan where more than expected quantities were used to generate electricity in 1988 and 1989.

Table 1

World Oil Supply and Demand Balance
(in mbd)

	1980	1985	1988	1989	1990
D E M A N D					
OECD	39.0	34.7	37.5	37.8	37.9
USA	17.5	16.0	17.5	17.5	17.2
Japan	5.0	4.4	4.8	5.0	5.2
Europe 12*	12.1	10.5	11.1	11.1	11.2
SUEE**	10.9	10.8	10.8	10.6	10.0
USSR	8.9	9.0	8.9	8.8	8.4
China	1.8	1.9	2.2	2.4	2.3
Other Dev.Countries	11.0	12.7	14.3	15.1	15.7
TOTAL WORLD DEMAND	**62.7**	**60.1**	**64.8**	**65.9**	**65.9**
S U P P L Y					
OECD	15.0	17.1	16.7	15.9	15.9
USA	10.2	10.5	9.8	9.2	9.0
Europe 12*	1.9	3.1	2.9	2.4	2.4
SUEE**	12.6	12.4	13.0	12.7	11.8
USSR	12.1	12.0	12.6	12.3	11.5
China	2.1	2.5	2.7	2.8	2.8
Other Dev.Countries	33.4	26.1	31.0	33.2	35.1
of which OPEC***	27.6	17.6	21.7	23.7	25.1
Processing gains	0.8	1.1	1.3	1.3	1.3
TOTAL WORLD SUPPLY	**63.9**	**59.2**	**64.7**	**65.9**	**66.9**
Stock Changes and miscellaneous	1.2	-0.9	-0.1	0.0	1.0

* ex-GDR data included
** Soviet Union and Eastern Europe
*** Crude + NGL

Sources : OECD Statistics and Eurostat

World refinery capacity, which had grown steadily and strongly through the 1970's (about 7% per annum) to almost 81 mbd in 1981 was forced into a period of rationalisation in the 1980's as expectations in the growth of petroleum demand were not realised. The capacity cutback in the first half of the 1980's was particularly acute in the Community (-38%) though was also significant in Japan, the US and Latin America. In the Community the rate of capacity reduction slowed in the second half of the 1980's. In the Middle East and South East Asia additional capacity was brought on stream. (See Annex A8)

Throughput followed a similar but by no means identical pattern to capacity over the same period in that it increased through the 1970's and fell or stabilised through the 1980's. Asia, Africa and the Middle East all witnessed increased throughput in response to either growing domestic demand (Asia and Africa) or export demand (Middle East). Utilisation rates have risen markedly in all OECD areas and are now above 85%. (Table 2)

Conversion capacity (measured in Fluidised Catalytic Cracking equivalent) has continued to increase through the decade reaching 20.62 mbd in 1990. Capacity in North America, which represents more than half the world's total conversion capacity (excluding former centrally planned economies), expanded by 1.2 mbd representing over 40% of the world's growth in the second half of the 1980's. Europe, for its part represents under 20% of the world's conversion capacity. (See Annex A8)

The Gulf Crisis

The Summer of 1990 witnessed the fifth **postwar oil crisis** (other crises include (I) the Suez crisis 1956, (II) the six day war 1967, (III) the Yom Kippur war 1973, (IV) the Iranian Revolution, followed by the opening of the Iran-Iraq war 1979-1981). The invasion of Kuwait by Iraqi forces on 2 August 1990 very quickly shut off over 4 mbd of oil to the rest of the world (about 7% of world demand). International efforts enforced the isolation of the Iraq/kuwait market through a UN embargo (adopted within days of the invasion) though very quickly the oil shortfall was mostly made up through, in particular, added supplies from Saudi Arabia, the United Arab Emirates and Venezuela. Effectively, OPEC decided at the end of August to "increase production in accordance with need". By the fourth quarter of 1990 the entire shortfall in supplies from Iraq and Kuwait had been made up in increased production elsewhere. Events from August 1990 to February 1991 also demonstrated the ability of the IEA and industry to cope promptly and effectively with an imminent oil supply disruption.

Since the mid 80's there has been a move to more market-related **pricing** which led to a certain level of instability in prices. Uncertainty in the movement of prices motivated traders to seek hedging opportunities. As with all other commodity markets, this demand was met by futures markets (trading in standardised lots of a precisely defined product in specified future months on a recognised bourse) and forward markets (a more informal off-exchange version).

The Gulf war coincided with this more market-oriented oil world and represented the first opportunity to test the relatively new instruments at the market's disposal.

Table 2

OECD Refinery Throughput and Utilisation 1988-1990

	Gross Input to Crude(1) Distillation Units (thousand barrels/days)			Utilisation Rate(2) (per cent)		
	1988	1989	1990	1988	1989	1990
US	13447	13551	13610	84.4	86.3	87.1
Canada	1603	1659	1700	84.1	86.9	87.6
France	1516	1516	1527	80.4	85.4	89.1
Germany(3)	1508	1413	1530	88.0	88.4	96.4
Italy	1689	1720	1841	69.6	73.2	79.0
Spain	961	1013	1026	76.9	80.7	81.4
UK	1702	1748	1766	92.8	95.0	95.1
OECD Europe(3)	10890	10962	11359	78.2	80.3	83.9
Japan	2963	3149	3437	71.1	76.9	83.9
Australasia	599	612	628	83.1	82.0	83.2
Total OECD	29502	29933	30734	80.6	82.9	85.5

(1) Gross input includes reported or estimated non-crude inputs to distillation units.
(2) Utilisation rate is based on reported or estimated average distillation capacity per calendar day, not end-year capacity.
(3) Excludes eastern Germany.

Note : Since the basis for the calculation of utilisation rates varies from one country to another (especially in the estimation of volumetric gross inputs), international comparisons are at best indicative. For example, if US distillation capacity were to be expressed on the same basis as for other OECD countries, the utilisation rate in 1990 would be 91.6 per cent, not 87.1 per cent as shown above.

Price increases in crude oil, already seen in the 10 to 20 days prior to 2 August, **steepened sharply as the world learned of the invasion.** Dated Brent, a marker price for a wide range of crudes moved from below $20/bbl on 1 August to $30/bbl on 7 August. From this point on, until the military initiative was taken to retake Kuwait by force in the second half of January 1991, the price of crude oil could best be described as volatile. By way of illustration, the price of dated Brent peaked at $41.33/bbl on 28 September 1990, dropped momentarily to $27/bbl on 22 October only to rebound to $36/bbl a week later.

All product prices rose sharply more or less in parallel with crude oil prices and remained volatile throughout the crisis period. Further, Kuwait's export-oriented refineries, with an output of about 0.75 mbd, were unable to supply their traditional markets in South East Asia and the Far East. These refineries will take some time to come back on stream given the damage inflicted during the conflict. Also, in August there was a temporary demand upsurge locally around the Gulf as a result of military operations.

Differentials (crude to product prices) along with differentials between crude oils, between products and between market location also **fluctuated throughout the crisis.** In particular, jet kerosene prices moved markedly out of line of what would normally be considered to be its price band relative to other oil products. (See Annex B11)

At the beginning of the crisis, **stocks** in OECD countries were very high by historical standards and adequate for all main products. This situation also held true for the Community. (See Annex B12)

Only the US opted for a stock release early in the conflict. In fact, the decision to release a tiny proportion of the Strategic Petroleum Reserve (SPR) in late September must be considered as a test of the system rather than a genuine stock release. The decision was made to authorise the release of 5 mio bbl out of the 590 mio bbl SPR and in fact actually resulted in putting only 4 mio bbl onto the market in early October.

A deadline of 15 January 1991 was set by the UN for the withdrawal of Iraqi forces from Kuwait. Within this framework, on **11 January the** Governing Board of the IEA drew up **a contingency plan.** The plan was to make available 2.5 mbd of oil with emphasis on stockdraw for four fifths of the response. The other fifth consisted of demand restraint and fuel switching.

At the commencement of the military initiative to retake Kuwait on 17 January, the IEA notified members that the contingency plan was effected. Denmark, Germany and the Netherlands offered oil to the market from security stocks, France reduced company stockholding requirements and the UK made arrangements with private companies for oil to be made available to the market. Outside the Member States of the Community, the US and Japan offered oil to the market and reduced company stockholding obligations, respectively. In the US just over 17 mio bbl were taken up out of the 34 mio bbl made available from the SPR. More limited quantities were taken up in Denmark, Germany and the Netherlands. In any event, the successful military initiative of 17 January saw prices fall from around $30/bbl to $20/bbl returning the world to the pre-crisis price levels thus reducing the interest of companies to take up the offer of purchasing government-controlled stocks.

A number of studies were called for both during and after the conflict to see if the markets operated properly and to investigate whether market instruments relatively new to the oil market (including forward, paper and futures markets) had introduced distortions. Deciphering market signals, even ex post facto, is not always a precise science consequently it is not surprising that there have been differences of view expressed.

The generally accepted view shared by a consultant engaged by the Commission to study "The Operations of the Market" and the IEA was that **the industry had adapted quickly to the crisis, the markets had worked efficiently** and that those operating in the market had been aided by **new and improved trading practices.**

The IEA Ministerial Communiqué of June 1991 went on to state that the unimpeded pass through of oil price changes had played an important role in reducing overall demand and in averting imbalances in the supply of products and to underline the value of efficiently operating markets in emergency response.

World Outlook up to 2000

Over the next ten years, with world economic activity expected to increase at about 2% to 3% per annum and oil prices fluctuating around $21/bbl (in 1990 dollars), **world oil demand** is expected to grow by up to 1.5% a year. There is expected to be considerable regional variation in this development with no or negative oil demand growth in the US, modest growth in Western Europe and strong growth in the Far East and certain LDC's. This implies that world demand could increase by 5 to 10 mbd by the year 2000.

It is this scenario, coupled with an assumption that non-OPEC sources would only make a modest contribution to this increased demand (US and USSR production are predicted to continue falling), that leads most analysts to conclude that an **increasing volume and share would be contributed by OPEC.**

B. COMMUNITY SITUATION

B.1. THE INTERNAL MARKET

Greater integration and an energy policy based on an internal energy market free from barriers to trade were adopted as principles by Council in 1986. An inventory to obstacles to achieving an internal energy market was published by the Commission in May 1988 [COM(88) 238 final] and in the light of Council discussion on that document, the Council was able to reaffirm that "The creation of a more fully integrated market in the energy field is of fundamental importance for the Community's future". In the case of the oil market, the level of integration is more fully developed than in the case of electricity or gas. For example, regulations concerning price transparency were already in place prior to the single market initiative being launched. Nevertheless, there have been developments with regard to taxation, standardisation (in particular with regard to environmentally motivated measures) and the dismantling of monopolies, procurement rules in the E/P sector and the integration of oil in the Common Commercial Policy.

The Commission drew up a number of proposals for Directives on the **harmonisation of excise duty rates** on mineral oils giving rise to comments from both Member States and professional bodies. An agreement was made at the ECOFIN Council of June 1991. Minimum rates were fixed and will have to be implemented as from 1 January 1993. These rates are about ECU 337 per 1000 litres for leaded petrol, ECU 287 for lead-free petrol, ECU 245 for motor gas oil (diesel), ECU 0 for heating gas oil and ECU 13 per tonne for the heavy fuel oil. The Commission's proposal for a directive on excise rates will be amended to reflect this agreement. Legal adoption is expected in the near future. (See Annex C2)

They are already in force in most Member States. The agreement leaves latitude to increase taxation which in turn could aggravate the existing disparities at the price level to consumers and distort competition.

The Directives dealing with mineral oils were examined by the Council. In order to avoid any artificial (legal but distortive) or fraudulent transactions, the proposed Directive on detention and the movement of products subject to excise duty which lays down provisions to ensure that the transactions are bona-fide and that the appropriate excise duty had been paid was agreed by Council (92/12/EEC). The proposed Directive on harmonisation of the structures of excise duties remains under discussion in Council.

These two Directives (one proposed, one adopted) were, in principle, welcomed by professional bodies. However, they hold that they do not go far enough in preventing artificial or fraudulent transactions. Until there is complete harmonisation of excise duties for petroleum products, especially domestic heating oil, the risk of fraud remains.

At the ECOFIN Council of June 1991, it was decided that as from 1 January 1993, **petroleum products will be subjected to the normal VAT rate** which will be equal to or higher than 15%. For natural gas and electricity, Member States will be able to implement a VAT rate equal to or higher than 5%, subject to a favourable opinion of the Commission, taking account the need to avoid distortions of competition. (See Annex C3)

Currently many Member States apply a normal rate for motor fuels (petrol - motor gas oil/diesel) and a reduced rate for heating fuels (heating gas oil and heavy fuel oil).

On 19 February 1992, the Commission made a proposal to substantially reduce excise duties on motor fuels of an agricultural origin. The benefit of reduced excise is designed to assist agriculture, by extending its range of outlets and contribute to the Community's energy and environmental objectives. All bio-fuels would be covered including ethanol, methanol and their bio-derivatives as well as di-ester and vegetable oils for incorporation with or substitution of diesel.

On **standardisation** in the Energy sector, the Commission will soon submit to Council à separate Communication. It underlines that the "New Approach" adopted by Council in 1985 reduces the legislative burden by requiring Community legislation (in particular under Article 100a of the Treaty) when there is need for safety or environmental reasons (this was the case with regard to lead content in petrol and sulphur content in gas oil). As a result a great deal of harmonisation of standards is made possible without recourse to law.

Article 37 of the Treaty and corresponding Articles of the Accession Treaties deal with the **adjustment of exclusive rights** as a result of monopoly power. In the case of Spain, the process of liberalising the market began in 1986 and was completed in 1991. As far as Portugal is concerned, the **dismantling of the monopoly** is also fully realised. In January 1992, Greece adopted a law which created a more liberal approach to the oil market relating particularly to product pricing. As far as compulsory storage is concerned, there have been certain changes and these are under examination by the Commission.

A major step forward was made with the adoption of Council Directive 90/531/EEC on **procurement procedures** for entities in the water, energy, transport and telecommunications sectors. It makes provision to remove discriminatory procurement practices of public or entrusted undertakings in, inter alia, the energy sector. The Commission recently adopted a proposal for a Council Directive which aims to introduce greater transparency and eliminate discrimination in the granting of authorisations for the **exploration and production** of oil and gas.

On 19 December 1991, Council adopted an amendment to the Regulation establishing a common export régime. This amendment has the effect of introducing oil into the common export régime, except under defined circumstances in accordance with Member State obligations within the framework of the IEA. Council is currently examining the proposal to withdraw the remaining national quantitative restrictions on hydrocarbons by placing them in the Common Import Régime [Reg. (EEC) N° 288/82].

In the same vein, Council also adopted on 25 February 1991 common rules of origin for those petroleum products imported from non-preferential third countries and is expected to adopt in the course of 1992 common rules of origin for products imported from those countries with whom the Community has a preferential arrangement.

B.2. ENVIRONMENT

Environmental concerns and ensuing legislation have both a direct and indirect impact on the oil market and the refining industry. In consultations with the Commission services, with a view to preparing this report, the oil/refining industry made clear that it shared the concerns over the need to protect and improve the fabric of the environment and would continue to play a full and active role to this end, but to do so effectively and in a way which made the best possible use of resources (particularly where legislative measures directly impact major investment decisions in the refining sector), it seeks consultation in the framing of legislation and particularly predictability (and programming) in its application.

This section of the paper is divided into two parts. The first (Community initiatives) outlines the principal measures (both adopted and under consideration) on the environment which have or would have an impact upon the oil market and refining industry. The second sets out initiatives adopted by the industry itself.

Community initiatives

Existing environmental legislation directly impacts upon the production and transportation of crude oil and its products as well as product quality, emissions from the manufacture or use of oil products and siting refineries. Further measures are under consideration. The major initiatives are discussed below, as follows:

- lead in petrol
- sulphur content in gas oil
- large combustion plants
- technical rules and standards
- BATNEEC
- VOC
- French Memorandum
- Eco-Audit
- Motor-Fuels
- CO_2

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- Directive on lead in petrol

Council Directive 85/210/EEC really created the legal framework for the development of lead-free petrol and in the long term the disappearance of petrol with lead. The choice selected was lead-free petrol having a Motor Octane Number of 85.0 and Research Octane Number of 95.0 measured at the pump. Moreover, the Directive stipulates that all petrols may contain a maximum of 5% benzene.

The critical choice of the octane numbers for unleaded petrol emerged as a result of in-depth discussions between the industries concerned (refining and automotive) in the framework of ERGA (Environmental Regulation in a Global Approach).

Because of the tax incentives for lead-free petrol and taking account of the dates of their entry into force at the national level, the lead-free petrol market developed in a differentiated way. The market shares of lead-free petrol (to the total petrol market) are 25% in Belgium, 70% in Germany, 60% in Denmark, 20% in France, currently increasing in Greece, 20% in Ireland, 7% in Italy, 30% in Luxembourg, 50% in the Netherlands, 2% in Portugal and in Spain and 40% in the United Kingdom. These shares consist of Eurograde (85/95) and the other unleaded regular and unleaded premium (88/98) each of which is marketed in some Member States. The unleaded premium (88/98) is marketed on a voluntary basis by oil companies in Belgium, France, Germany, Luxembourg and United Kingdom. This grade, offered in general at a lower price than the leaded premium is attractive to consumers having cars tuned for leaded premium.

From 1 January 1993 all new cars registered in the Community will have to be equipped with 3 way catalytic converters with the mandatory use of unleaded petrol. This will create an additional demand for unleaded petrol of about 8 to 10% per year.

- Sulphur content of gas oil

Council Directive 87/219/EEC fixes a maximum sulphur content of 0.3% in diesel fuel and heating gas oil with the possibility for the Member States setting a lower value of 0.2%. These values entered in force 1 January 1989. Industry had to invest in units of desulphurisation to further reduce the sulphur content from previous values of 0.5% or 0.3%. Currently, five Member States set the low value (0.2%) B, D, DK, L, NL, the others being at 0.3%.

The choice between 0.3% and 0.2% sulphur in gas oil was the result in the mid-eighties of the concern for the protection of the environment which was more acute in the Northern than the Southern part of the Community. This compromise raises questions over trade between Member States at 0.3% and 0.2% sulphur in gas oil.

In June 1991, the Commission adopted a proposal which sets a common value for the maximum content of sulphur in heating gas oil at 0.2% and 0.05% for diesel fuel. Council reached a common position on this proposal on 26 March 1992.

- Directive on the large combustion plants

Council Directive 88/609/EEC limiting the polluting emissions of the large combustion plants has an impact on refineries. Large combustion plants are defined as having a capacity higher than 50 MWth. All Community refineries fall within the field of application of this Directive. The pollutants concerned are SO_2, NOx and dust. Within the framework of the reductions which are different depending on the Member States, National Authorities are drawing up programmes of regulations necessary to conform to the objectives on the three categories of pollutants.

The adoption by the Council of this Directive took several years of discussions and negotiations resulting in SO_2 and NO_X reduction targets different amongst Member States. For SO_2 emissions, for instance, reduction targets between 1980 and 2003 vary from 70% to 34%. Since they are global reduction targets, the implementation is left to the Member States who can choose more severe abatements for given industry sectors and less stringent ones for other sectors.

- Technical Rules and Standards

The Council Directive 83/189/EEC requires the notification to the Commission by Member States of all measures envisaged in the field of Technical Rules and Standards. This procedure enables the Commission to inform the Member States concerned that they may adopt the proposed measures or to apply a 9 month standstill (preventing the adoption of the national measures envisaged) giving time to the Commission to propose a draft directive for application in the Community on the subject concerned. This directive is horizontal but has been very useful for the oil sector in general and for its refined products sector in particular.

- BATNEEC

In the framework of Council Directive 84/360/EEC aimed at preventing or reducing air pollution from industrial sources, the Commission set up working groups of experts to examine various industry sectors. Such a group of experts was formed to look at the Best Available Technologies Not Exceeding Excessive Costs (BATNEEC), for the refining industry.

Work was completed in July 1991 as a Technical Note intended to be used by the authorities competent for the issue of permits, by the industry and by the Commission as a source of information on air pollution reduction measures for the refining industry. This Technical Note considers the Best Available Technologies for specific functions (Sulphur recovery units, Fluid Catalytic Cracking, Coke plants,....) as well as for the refineries as a whole (bubble concept). The oil industry participated actively in the drafting of this Technical Note.

- Evaporation losses of volatile organic compounds (VOC)

At the time of storage, manipulation and transfer of the petroleum products there are evaporation losses of certain volatile organic compounds (VOC). These are particularly important in the case of petrol.

As prescribed by Directive 83/189/EEC, a Member State has already notified to the Commission its intention to establish, on its territory, control measures on the evaporation losses of VOC.

It is estimated that VOC emissions due to human activities are of the order of 10 mio t/year for the Community. The evaporation losses of VOC of petrol during their storage, filling the means of transport (lorries, rail tankers, barges and boats) and filling storage tanks of the service station are estimated to be about 5% of this i.e.0.5 mio t/year. Controlling these losses by a whole series of measures is called "Stage I". The services of the Commission are preparing a draft Directive on Stage I. The losses occurring at the time of filling car petrol tanks are smaller, about 2% or 0.2 mio t. Controlling these losses can be carried out at the level of a service station (known as "Stage II"), or by means of canisters with activated carbon installed in the cars.

It is too early in the current discussions at the experts' level to quantify the costs of these measures exactly. At this stage, it may be noted that according to the degree of severity of the control measures adopted by the Commission in its proposals for a Directive to the Council, the investments necessary for the implementation of the measures for the Stage I will be approximately $0.9 billion (ECU 0.75 billion) if costs for changing from top to bottom loading are excluded and for Stage II, $1.6 billion (ECU 1.4 billion).

- French memorandum

In 1990, the French authorities submitted to the Council and the Commission a memorandum relating to the reduction of sulphur emissions due to the production and use of petroleum products. This memorandum aims at the reduction of SO_2 emissions by a "complete and inseparable" number of measures. These cover old and new combustion plants not including refineries, refineries themselves, the burning of heavy fuel, middle distillates (marine gas oil, diesel fuel heating gas oil), and bunkers. The anticipated effect of the measures proposed in the French memorandum would be reductions of SO_2 emissions from the oil chain of 0.6 mio t/year in the year 2000. The consequences for the oil industry would be considerable. National experts and industry, assisted by a consulting firm, are studying these measures and their implications at the technical and economic level. This vast study should be finished by mid-1992. Its results and the evaluation by the Commission of the environmental effects and benefits will form the bases for decisions concerning possible further proposals.

- Eco-Audit Scheme

The Commission has approved a draft Regulation establishing a Community ECO-Audit Scheme for all industrial sectors. Companies will be given the choice to participate in such a scheme and if they choose to do so, to take and submit to certain auditing measures.

- Further work on Motor-Fuels

Community legislation on the polluting discharges emitted by motor vehicles (cars, vans, heavy lorries), goes back to 1970 and since then has been the subject of numerous amending Directives. During these last years, the process accelerated, imposed stricter emission limits (CO, HC, NOx, particulates) and brought forward the dates of implementation.

In this context, the subject of quality of fuels, petrol and diesel, has been studied to see how improvement of their quality could contribute to a reduction in the polluting emissions of motor vehicles. A specific example is the Commission proposal for a Directive referred to above which, by fixing the sulphur content of the diesel fuel at 0.05% (as opposed 0.2% or 0.3%), makes it possible to lower the levels of particulates emitted by the heavy lorry by about 12 to 15%.

The Commission recently requested the two European associations, EUROPIA and ACEA (the European motor manufacturers' association) to start work on this matter, along with the Commission, without delay. For given limits of polluting emissions, it is advisable to find the optimum solutions, in terms of cost/benefit, i.e. what modifications to fuels and/or engines would minimise the cost to the consumer, in particular, and the economy in general. This work should be completed by mid-1992.

Within this framework, US regulations adopted under the Clean Air Act will also be studied to see whether the Act could serve as a model, and if so, in which form within Community legislation. A brief description of the 1990 Clean Air Act is given in Annex D1.

- CO_2

After the **agreement by Council (Joint meeting of Energy and Environment Ministers of 29 October 1990) to stabilise CO_2 emissions** in the Community by the year 2000 at a their level of 1990, the Commission devoted itself to a detailed examination of the measures that it considers necessary to achieve this objective. A first paper was the subject of a Communication to the Council [SEC (91) 1744 final on 15 October 1991] where it was suggested that a series of measures including increased energy saving and improvements in energy efficiency should be complemented by a tax based on carbon (fossil fuels) and energy contents as well as complementary national measures. The amount of such a tax would be equivalent to $10 per barrel of oil (for which the energy part would not surpass 50%). As envisaged in the paper, it would be introduced on 1 January 1993 at the level of $3 per barrel and would be increased by $1 per barrel each year to the year 2000.

The Energy/Environment Council on 13 December 1991 and the Ecofin Council on 16 December 1991 examined the Commission Communication and asked the Commission to continue its preparatory work on a Community strategy to enable the Council to decide by May 1992 and invited the Commission to put forward specific proposals.

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The Oil Industry Committee on the Environment, Health and Safety (CONCAWE) along with some individual oil companies have estimated the magnitude of the refinery investments required to meet Community environmental requirements. These details are set out in Table 3.

Initiatives taken by the Oil Industry

In addition to measures taken or proposed by the Community, initiatives have been voluntarily adopted by the oil industry in order to contribute to the Community's policy on the environment through the adoption of a general code of conduct and the financing of a study concerning oil spills in the Mediterranean Sea.

Table 3(a)

Investment estimates for current Environmental measures

Measures	Investments billions ecu
Reduction of sulphur level in heating gas oil (0.1%) and diesel fuel (0.05%)	5 - 7
Reduction of hydrocarbons (VOC) emissions by Stage I *	0.74 - 0.75
Reduction of sulphur level in fuel oil and bunkers (French Memorandum proposal)	9 - 10
Total	14.74 - 17.75

Source : Concawe, oil companies, Consultant

* Costs for changing from top to bottom loading excluded

Table 3(b)

Possible measures mentioned by National and/or European Bodies - Investment Estimates by Industry*

Measures	Investments billions ecu
Reduction of hydrocarbons (VOC) emissions Stage II	1.36 - 1.45
Lowering of aromatics (10%) and sulphur (0.02%) levels in diesel fuel	26
Increase of cetane index (52) in diesel fuel	2 - 5
Lowering of final distillation point of diesel fuel (340°C max at 95%)	2.5
Lowering of sulphur level in gasoline (0.05%)	2.5
Lowering of volatility of gasoline by 1 psi	0.3
Lowering of benzene level in gasoline (1%)	1.7
Total	36.4 - 39.5

* Estimates presented to the services of the Commission by selected Oil Companies

1. Code of conduct

In its Communication to the Council on Energy and Environment, the Commission expressed the view that the various energy sectors, oil, gas, coal, electricity producers, should establish their own codes of conduct in the framework of environment protection to which member companies shall pledge compliance. For the oil sector, EUROPIA and E&P Forum adopted codes of conduct which reflect the concerns of industry in preserving the environment.

The principles expressed in these codes of conduct mark an important change in the way environmental issues are dealt with within oil companies. These principles represent an external commitment which would be verifiable by the outside world. The Commission appreciates this reaction of the oil industry.

2. Oil Spills

Oil pollution is one of the priority concerns and although practical measures have been taken to reduce the risks of tanker collisions and groundings, there have been a number of serious incidents in recent years with large amounts of oil being spilled. Whereas contingency planning for the Atlantic and North Sea is already established, the threat of potential oil spills in the Mediterranean Sea and the grave consequences this may have on marine life and for the population and the economics of neighbouring countries have been a major concern which requires the same attention. EUROPIA has recognised the need for a review of the existing preparedness and response capability to handle oil spills so that there is a structured approach to contingency planning by government and industry. EUROPIA, in the fall of 1990, requested the International Petroleum Industry Environmental Conservation Association (IPIECA) Oil Spill Working Group to establish a Task Force to carry out the following for the Mediterranean:

- Prepare an inventory of the current and anticipated future movement of crude oil and petroleum products;
- Prepare a compilation of existing equipment capabilities and related plans;
- Prepare a summary of national government policies and agencies which will describe the role foreseen by government, industry and others in the event of an oil pollution incident;
- Establish who is doing what already, on planning future activity (to avoid duplication);
- Define credible scenarios;
- Assess existing state of preparedness and response;
- Develop recommendations on enhancement options with the emphasis on Technical Content of such Recommendations;
- Prepare a full report and a document suitable for review by senior management.

The assessment of existing response capabilities both of industry and governments in the Mediterranean sea has been completed. Conclusions and recommendations are currently developed for review by senior oil industry management and should be available in 1992.

B.3 MARKET DEVELOPMENTS

This section of the paper addresses Community market developments for both crude oil and its products. The crude oil market may now be considered international in the sense that prices are formed at the world level to changes in global supply and demand. Prices in the Community therefore follow those of the world market. The market for products may be considered as more regional. Product specifications differ throughout the world, transport is relatively expensive (requiring "clean" vessels) and there are no recognised "world" market prices from which to benchmark.

An outline is given of expected Community demand of primary energy, oil in particular and the tendancies for oil products. This is followed by some observations on Community oil supplies and trade in products.

As a significant event on the Community market, a separate part of this section also highlights the integration of former East Germany into the Community from the perspective of the oil market and the refining industry.

Energy and Oil Outlook to 2000

The outlook described in this section is based upon the work of the services of the Commission (see Special Issue of Energy in Europe "Energy for a new century: the European Perspective" July 1990) updated by incorporating the most recent data and by taking into account the views of major oil companies and Member States of the Community. A more comprehensive study of the Community's energy situation and outlook is currently in preparation and is expected to be finalised in the course of 1992.

For the outlook in this paper, the Community GDP is assumed to continue growing on average between 2 and 3 per cent per annum and the world price of oil remain at around $21 per barrel (measured in 1990 dollars). (See Table 4)

No attempt is made to take into account either the impact of a possible CO_2/Energy tax, this is under more detailed examination and will be the subject of a separate report/publication, or the implementation of any vigorous energy saving/conservation programme. In effect, the projections may be considered as an extrapolation of "business as usual" therefore tending to reflect an upper range of energy consumption.

Primary energy consumption for the Community excluding the former DDR is expected to continue growing at a little over 1 per cent per annum from 1150 mio t.o.e in 1990 to 1270 mio t.o.e in 2000. The **consumption of natural gas will rise more quickly** than other energy sources, probably at 2–2.5 per cent per annum. There is expected to be some limited increase in the use of solid fuel, nuclear and renewable energy sources. (See Annex A1)

Table 4

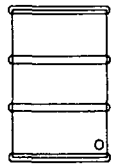
EUR-12 : MACROECONOMIC TRENDS, EVOLUTION OF AVERAGE PRICES AND OIL CONSUMPTION FROM 1985 A 1991 (ESTIMATED).

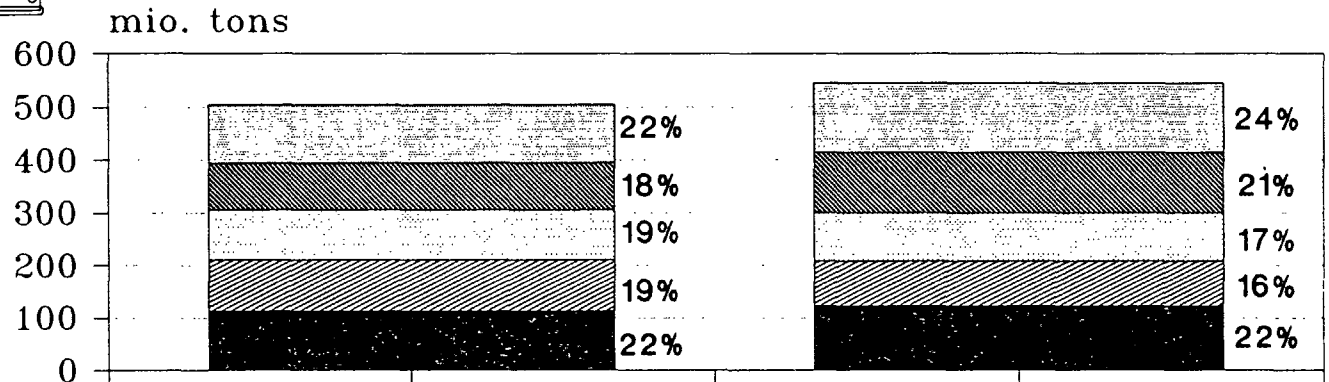
	1985	1986	1987	1988	1989	1990	1991 (*) ESTIMATED
Growth in G.D.P. (%)	2,5	2,8	2,8	3,9	3,2	2,8	1,3
Rate of inflation (%) (based on trends in consumer prices)	6,0	3,5	3,2	3,6	5,2	5,6	4,9
ECU/US$ exchange rate	0,763	0,983	1,154	1,182	1,102	1,273	1,239
Average CIF price of imported crude oil:							
. in US$/barrel	27,5	14,5	17,9	14,8	17,7	22,9	19,5
. in ECU/barrel	36,1	14,8	15,5	12,5	16,0	18,0	15,7
Gross oil consumption (in mio. toe)	489	504	506	518	522	530	557

(*) Including the former GDR from 1991, except for GDP growth and rate of inflation.

Sources : . EUROSTAT, DG II and DG XVII-B2.

EC-12 OIL DEMAND





	1990 *	2000 *
PETROL	110	132
DIESEL	89	115
GAS OIL	94	91
FUEL OIL	97	85
OTHERS	114	123

OTHERS FUEL OIL GAS OIL
DIESEL PETROL

SOURCES:EUROSTAT/OIL COMPANIES

* INCLUDES FORMER DDR

Oil, representing around 45 per cent of the Community's primary energy demand, is expected to **continue growing** in absolute terms, at between 0.5 and 1.0 per cent per annum, but decline marginally in relative terms.

One of the major uncertainties concerning these projections is the extent to which gas, solid fuels and oil (in particular fuel oil) will compete. Gas experts urge caution on the potential for its growth, especially as a number of projects either to construct or convert power stations to gas remain on the drawing board. Similarly, as well as the pricing factor, the social and environmental constraints of continuing to import and use ever larger quantities of solid fuels may limit their contribution to primary energy demand.

The development of **ORIMULSION** in Venezuela, the bitumen/water mix with similar characteristics to residual fuel oil in that it can be transported and burnt in power stations, represents potentially a significant competitor to traditional fossil fuels in the future. Estimates of extractable reserves using current technology are huge (1200 billion barrels). Evaluations are under way on the best means of restricting emissions of noxious gases so as to make orimulsion acceptable from an environment point of view when it is burnt in power stations or gasified. Initial contracts have been concluded with importing countries including Member States of the Community.

In consultations with oil companies, there was general agreement that the Community **market demand for oil products would strengthen at the lighter end** of the barrel and continue to weaken at the heavier end. (See Figure 1)

Demand, in particular for automotive fuels (petrol and diesel) is expected to continue growing quite strongly in all Member States except Denmark and West Germany where, on the one hand, the private vehicle population and number of kilometres travelled are expected to level off and on the other, vehicle fuel efficiency is expected to improve. Demand growth is likely to be particularly marked in eastern Germany and Spain. Between the two products, petrol and diesel, most consider that diesel demand will grow faster, partly because of the growth in road haulage and partly because as a more fuel efficient vehicle, the proportion of diesel cars in the total car population will continue to grow.

Fuel oil and gas oil consumption (other than for the transport sector) are expected to fall. The magnitude of the drop in their consumption depends, in large part, on the competitive position of gas, to a lesser degree to the competitive position of other fuels and to the problems of removing sulphur from fuel oil so that it can be used in power generation.

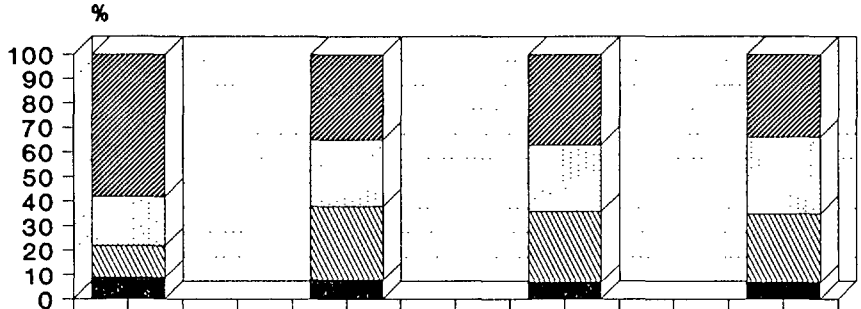
As far as the cut from other parts of the barrel is concerned, an increase in the demand for jet kerosene, LPG and Naphtha is expected.

Crude Oil Supplies

Since the mid 1980's, the **Community demand for oil has increased.** As domestic production fell between 1986 and 1989 from 149 mio t to 112 mio t so the absolute quantities and the proportion of total supplies of crude oil imported into the Community increased. By 1990, having slumped in the first half of the 1980's, the level of imports returned to that of a decade earlier (380 mio t) to represent over 80% of total crude oil demand. (See Annex B1)

Figure 2

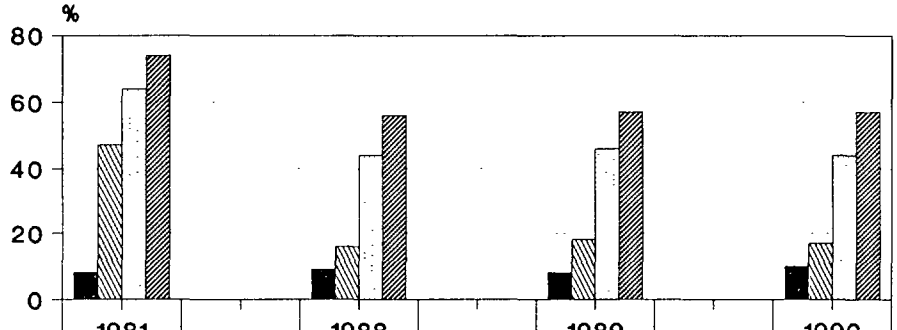
EUR-12 ORIGIN OF OIL IMPORTS BY REGION (THIRD-PARTY COUNTRIES)



	1981	1988	1989	1990
ASIA	58	35	37	34
AFRICA	20	27	27	31
EUROPE	13	30	29	28
AMERICAS	9	8	7	7

AMERICAS EUROPE AFRICA ASIA

EUR-12 ORIGIN OF OIL IMPORTS BY GROUP OF PRODUCERS *



	1981	1988	1989	1990
ACP	8	9	8	10
GCC	47	16	18	17
OAPEC	64	44	46	44
OPEC	74	56	57	57

* NOT CUMULATIVE, SOME INDIVIDUAL COUNTRIES BELONGTO MORE THAN ONE GROUP OF PRODUCERS

ACP GCC OAPEC OPEC

SOURCE : EUROSTAT

The **UK contributes more than 80% of the Community's production** and, of that, 98% is produced offshore. The accident on the platform Piper Alpha of 6 July 1988, investigated in detail by Lord Cullen led to tougher safety regulations. The combined effect of increased maintenance (for operational and safety reasons) and reduced output from the more mature fields led to reduced production in 1989/90 over 1988. 1990 marked a new record for exploration activity in the North Sea and though many of the large fields are past peak production, the combination of employing new technology to reduce costs and enhance recovery (such as 3D seismic, horizontal and deepwater drilling, improved lifting gear etc.) and new discoveries may well lead to a growth in oil outturn in the early part of the next decade. (See Annex D3)

The **sources of imports changed radically** through the 1970's and early 1980's as demand was restrained by high prices and UK production came on stream. OPEC's market share in Community imports was cut from 94% in 1974 to 44% in 1985 and in particular, Saudi Arabia and Iran's combined share fell from almost a half to a tenth. Since then, following the reduction in prices and the fall in the value of the US$, oil demand has risen and since 1986 imports have grown. In 1989 and 1990, annual imports from OPEC stood at 230 mio t (about 50% of Community supply or 64% of third country imports). The Community's supply structure is diversified in that it is less reliant on a single supplier with no one country contributing much more than 10% of total supplies. (See Annex B1 and Figure 2)

The **quality of crude supplies has not changed significantly**. Both API gravity and sulphur content are at similar levels to 5 years ago. Fears expressed by some that the world is exhausting itself of light, low-sulphur crude oil and that therefore the refinery industry would face the task of having to cope with heavy viscous crude oil with increasing levels of sulphur have not been realised. As differentials in prices between qualities widen so the market signal is there for crude producers to increase their output of light sweet crude and refiners to make the necessary adjustments to take advantage of the lower prices or, if the differential is expected to remain wide, invest in the appropriate technology and maximise throughput of heavier crudes. (See Annex A9 and A10)

Though there is no universal opinion, the evidence would tend to suggest that for the next five and possibly even ten years there are adequate supplies of light, low-sulphur crudes to meet demand. In particular, as UK production picks up after a lull brought about by the need to do safety and maintenance work and as new discoveries in the Norwegian part of the N. Sea and Saudi Arabia come into production, there would seem to be little reason for predicting a significant change in the Community's crude slate.

Trade in Products

The Community has maintained an open policy on oil product imports from third countries.

Crude oil and feedstocks for further refining and petro-chemical processing, as well as low sulphur (less than 0.2%) gasoil since 1 January 1991, enter the Community duty-free. Finished products for consumption within the EC, however, remain subject to duties (3.5% for gasoil above 0.2% sulphur and heavy oils; 6% for lighter products).

However, EC product imports originating from countries covered by preferential arrangements (EFTA, Mediterranean Countries, ACP) enter duty free. Under the Generalised System of Preferences (GSP), products also enter duty free but subject to volume ceilings fixed annually for each of the three product categories (light, medium and heavy fuel oils) and then applied to each exporting country. GSP status applies, inter alia, to the major petroleum exporting countries such as Venezuela, Saudi Arabia, Kuwait and Libya and has been extended in recent years to a number of East European countries (including Poland, Hungary, Czechoslovakia and Romania and in 1991 the Baltic States). If a ceiling is reached or exceeded, the Commission, either at its own initiative or at the request of an EC Member State, may reimpose the duty. In practice, however, though these levels have been breached many times since their introduction in 1979, duties have not been reintroduced to date.

Sensitive to the risk of an increasing volume of imports destabilising the domestic refining industry, the Community, in parallel with other IEA/OECD countries, **in July 1985, scrutinised more closely than before the source and volume of imports.** Fears of large volumes entering from, in particular, the Middle East were not realised. In fact much of the capacity built in the Middle East went to supply Japan (which has had a more liberal import régime in recent years) the Far East and the Indian Sub-Continent.

The three year trend since 1988 has seen increased product trade activity in the Community (intra and extra). Imports increased (152.6 mio t in 1988 to 166.4 mio t in 1990) as did exports (138.9 mio t to 150.7 mio t over the same period).

Imports from third countries (Extra trade only) **have increased by about 2 mio t each year since 1988** to almost 107 mio t in 1990. By product category, fuel oil remains the Community's largest import by volume (40% of EC product imports) followed by gas oil (25%) and light oil (19%). Of these three product categories gasoil imports have grown (from 23 mio t in 1988 to 27 mio t in 1990) whereas imports of fuel oil increased by 1 mio t between 1988 and 1989 then dropped by 2 mio t in 1990 (to 43.5 mio t); imports of light oils have declined from over 21 mio t in 1988 to 20 mio t in 1990. For imports of the remaining product categories "Other Products" (which include LPG) have also grown from 12.5 mio t in 1988 to 15 mio t in 1990 and medium oils (which include jet kerosine) have grown substantially from a very small base but remain only 1% of the total product imports. (See Annex B2)

OPEC (in particular the Arab exporting countries) **remains the Community's major supplier of products** (representing 40% of total imports) though the volume and proportion have fallen in the last three years. Clearly, Kuwait's contribution fell sharply in 1990.

Imports from the USSR and East European Countries rose then fell between 1988 and 1990 (remaining at 36% of total imports). Both the volume and contribution of the USSR increased (reaching 34 mio t in 1990). Imports from Poland increased dramatically but from a very low base reaching almost 1 mio t in 1990.

There has been an increase in the volume of imports from industrialised countries including EFTA (from 9.5 mio t in 1988 to 13 mio t in 1990) and the USA (by 2 mio t since 1988 to almost 10 mio t) so that now almost a quarter of the Community's import requirements originate within this grouping.

Net imports increased by 2 mio t between 1988 and 1989 to 15.7 mio t and has remained at that level in 1990, though overall it would be difficult to identify any discernible trend. It remains at **below 4% of inland consumption.**

The picture of **net imports is not expected to change fundamentally** though regional shifts in the trade balance are likely. In particular, there is likely to be growth in trade with the US and the rest of Europe.

Integration of Eastern Germany

The **integration of the former German Democratic Republic** and its 16.5 million population into the Federal Republic of Germany had various consequences for the energy sector. Primary energy consumption in the GDR was approximately 100 million t.o.e. a year, making it one of the highest per capita consumers of energy in the world (only the USA and Canada have higher rates). About 15% of this energy need was met by oil consumption, and since production is inconsequential it was necessary to import approximately 20 mio t oil annually. Practically all of this was imported from the USSR (at Comecon prices) via the Friendship Pipeline to the Schwedt Refinery north-east of Berlin on the Polish border, from there it was further pumped to the southern refineries by an internal pipeline.

There are various implications of this supply infrastructure for the maintenance of supply in eastern Germany. Firstly, the infra-structure is biased towards supply from the east and, secondly, the refining, storage and distribution facilities are both outdated and inadequate to serve projected future needs. All these functions were performed by State monopolies which also controlled the distribution and marketing of petroleum products.

The refining capacity inherited on the 3 October 1990 was outdated. The central refinery and principal condult from the Friendship Pipeline at Schwedt handled approximately one half of the imported oil and was built in 1963; the remainder of the oil being piped to other refineries which pre-dated the Second World War and are in fact re-constructed hydrogenation plants. The technological and capacity restraints meant that not only were a small range of products available, principally petrol, diesel and heavy fuel oil, but also that the products supplied were of a poor quality. The paucity of refining capacity and low quality has encouraged a plethora of feasibility studies and proposals for projects from the private sector, with particular interest being expressed by west German enterprises.

The marketing of oil and oil products was previously controlled by the State through Minol. However, through various joint-ventures currently in operation, it is clear that the industry is re-shaping along the lines of Western market structures; one consequence of this has been that oil product prices in eastern Germany are now more in line with those in western Germany. It is clear that the market will continue to evolve in this manner, especially in light of the generally depressed state of Western markets which makes the new opportunities for refining and marketing projects in eastern Germany and the East European countries all the more interesting.

Current capacity in eastern Germany is approximately 20.2 million t.o.e., with west German capacity of about 80.6 million. Oil demand in eastern Germany is expected to increase by some 60 to 80 % up to 26 mio t in the year 2000 with the most significant increase expected in the light heating oil sector to replace the reliance on domestic lignite (over a third of the lignite mined in eastern Germany was made into briquettes for domestic use). Official estimates of future German refinery capacity predict that it will rise to some 109 mio t for 1992 and that the overall capacity will not change by the end of the decade, although there will be fluctuations as older and smaller refineries are closed and replaced by newer and bigger facilities.

B.4. REFINING

This section of the report outlines some of the major changes and immediate prospects in capacity, technology and returns for the Community's refining industry.

Trends in Capacity/Utilisation

There has been **a continuous reduction in primary distillation capacity** in the Community since 1976 (947 mio t) though in the last few years the rate has slowed. The primary capacity on 1 January 1991 stood at 582 mio t almost 40% below its 1980 level.

Distillation capacity reduction was larger in the Northern part of the Community (excluding Denmark and Ireland) than the South.

The **rates of utilisation of primary capacities have increased** since 1981 (59%) and are now at particularly high levels. At certain times of the year, these distillation capacities are utilised at 95%, raising questions of distillation shortages on a localised basis at those moments when for example cold weather combines with refinery shutdowns. Of course, with a more cohesive internal market and a liberal trade policy, relatively brief localised shortfalls can be made up quickly by buying on the market. A change in the stockholding management can go some way to alleviating seasonalised demand peaks. (See Annex A3-A7)

There are no plans to expand the Community's primary distillation capacity though "debottlenecking" may bring about an increase of 2.7 mio t in the effective capacity by 1992.

Apart from the de-mothballing of the refinery at Wilhelmshaven in Germany, which reintroduces 160 000 barrels per day of primary distillation capacity, there are no reported plans to close, reopen or construct further primary distillation units. Should this situation remain, utilisation rates should continue to rise in line with increases in the Community's oil consumption.

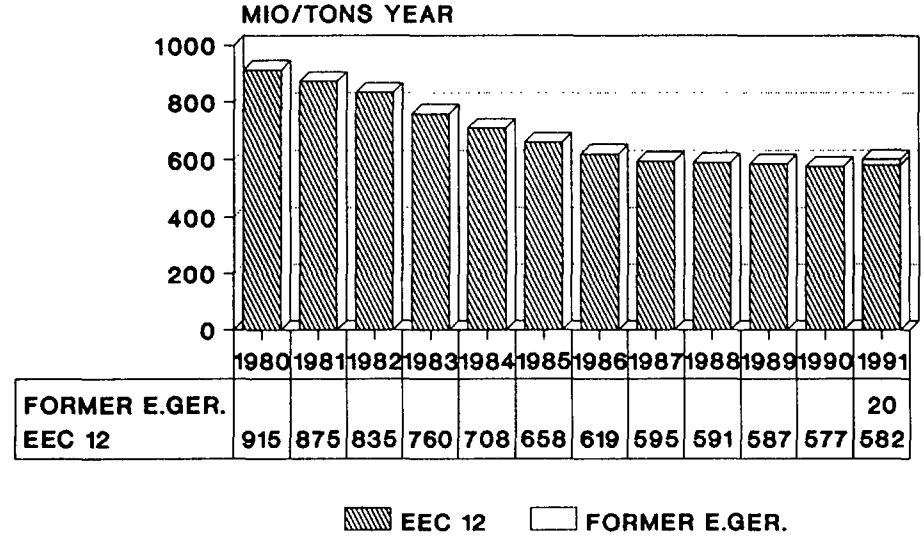
Conversion capacity (to convert primarily residual fuel oil into products for which there is a greater demand) **almost doubled since** 1980 to 155 mio t/year (based on the catcracker equivalent). Further capacity is to come on stream, in particular in Italy, Belgium and Spain. This side of refining, including other conversion processes such as reforming petrol to improve its anti-knock properties, isomerisation and alkylation to produce lead free petrol, is driven to a large extent by changes in technology. (See Figure 3)

The development in conversion capacity within the Community may be summarised as follows:

- the mature technology of thermal cracking (other than visbreaking and coking detailed separately) which relies on heat pressure and time to "crack" molecules, has increased very little since 1980;

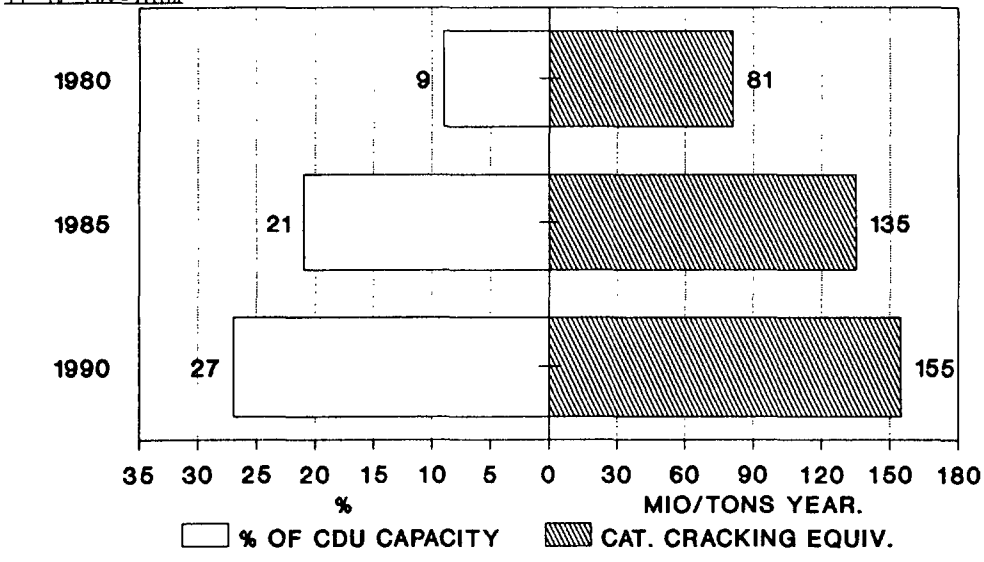
Figure 3

EEC 12 REFINING
DISTILLATION CAPACITY



Source:Regulation 1056/72

EEC 12 REFINING UPGRADING CAPACITY IN CAT. CRACKING EQUIVALENT



Source: Regulation 1056/72

- marked growth between 1980 and 1985 of catalytic crackers, visbreakers, hydrocrackers and coking;

- continued growth between 1985 and 1990 of hydrocrackers and to a lesser extent visbreakers;

- introduction between 1985 and 1990 of new technology in the form of hydroconversion (advanced catalytic process in which heavy residue feedstock is upgraded into middle and heavy distillates for further processing) and flexicoking (modifying earlier coking technology to dispose of the coke itself by means of gasification for use in electricity generation). (See Annex A6-A7).

There is expected to be reduced fuel oil use coupled with a growing demand for automotive fuels thus brining a further need for conversion capacity. Further, there is a growing need for higher octane in petrol as the Community continues to switch from leaded to unleaded and for lower sulphur levels in diesel. To meet the octane requirements there has been an expansion of isomerisation and alkylation capacity as well as capacity to produce MTBE and this is expected to continue.

Environmental legislation is likely to continue to put pressure on refiners to remove sulphur from products. In particular, reduced sulphur is already required in diesel and gas oil and further measures may be called for as a result. There is discussion under way on the French Memorandum (see section B2). The capacity may prove tight, especially in countries where product demand is expected to grow significantly over the decade (Greece, Spain, Portugal) and will require further investment in desulphurisation. To establish the costs of reducing the sulphur content of diesel fuel to 0.05%, CONCAWE estimated the existing hydrodesulpurisation capacity (HDS) at 112.8 mio t/year (Report no. 10/89)- to meet the sulphur levels of 0.2% for heating gas oil and 0.05% for diesel fuel, the additional new HDS capacity required is evaluated at 30 to 46 mio t/year.

As the process of refining becomes increasingly complex, so balancing the streams for the various units in order to meet market demand will continue to place greater constraints on an individual refinery system. To add fexibility within this ever demanding environment there is likely to be increasing linkage between refineries, even if plants are owned by different companies, in order to make the most rational use of complementary facilities.

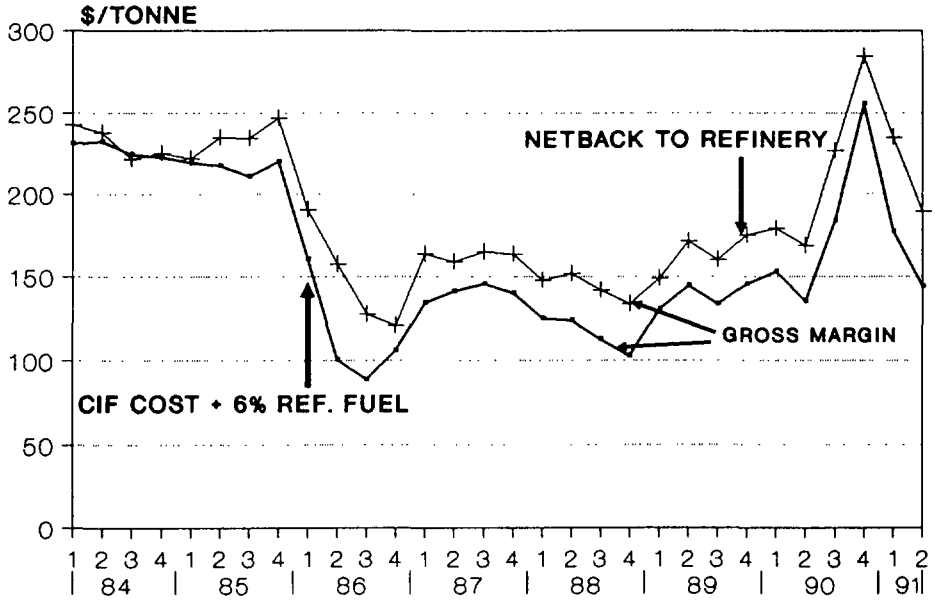
Profitability

Using information communicated to the Commission under the Directive on price transparency [76/491/EEC] it is possible to calculate a theoretical gross refining margin resulting from the difference between the value of petroleum products sold on the Community's market and the supply cost in crude oil including refinery use.

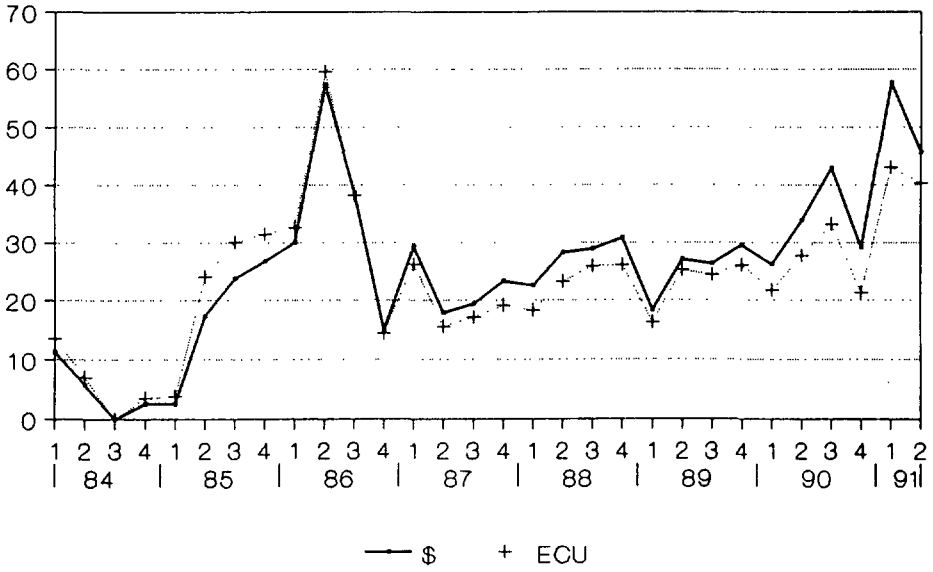
Between the period of the first quarter of 1988 and the second quarter of 1991, the gross margin for the Community tended to follow cyclical variations and the fluctuations of the dollar with respect to European currencies. In 1988 the average gross margin for the Community was $27/t. In the second half of 1989 the margin grew and continued to increase during 1990, up until the invasion of Kuwait by Iraqi forces, reaching an annual average of $33/t.

Figure 4

EUR-12 REFINERY NETBACK VERSUS COST OF CRUDE



EUR-12 REFINING GROSS MARGINS (EUR-10 TO 1/87)



SOURCE:DATA FROM PRICE DIRECTIVES OF EC

Since the beginning of 1991, the costs of crude oil supplies have fallen, the gross margin improved in the first quarter, then fell back slightly during the second quarter giving an average for the first six-month period of 1991 of $51/t. The average gross margin during the last three years was about $32/t. i.e. ECU 26/t making it possible to cover assumed costs (variable, fixed, overhead expenses and return on the capital) of around $25/t i.e. ECU 21/t for a complex refinery. (See Figure 4)

There is uncertainty over the projected drop in fuel oil consumption. If this turns out to be smaller than expected, for example because projects to expand the use of natural gas in power plants are not realised, the cracking margin (the price difference between light products and fuel oil) could well be reduced to below levels which could justify heavy investment in sophisticated conversion capacity.

B.5. INDUSTRY STRUCTURE

A number of forces have been brought to bear on the Community's refining industry which have caused its structure to evolve. This brief section firstly identifies major catalysts to change, then goes on to describe the three developments which have taken place (reduced involvement of the "majors", increased participation of oil-producing state-controlled companies and the gradual internationalisation of the Community's national companies).

The major catalysts to change in the structure of the Community's refining industry through the 1980's, which were to a large extent influencing the changes in refining structure worldwide, are as follows:

- surplus distillation capacity coupled with the decline in the demand for products weighed on product prices and adversely affected profitability particularly in the early 80's;

- reduced profitability downstream led some major oil companies to divest themselves of capacity from that part of European business and in some cases opt for a strategy of becoming deficit refiners, meaning that a proportion of product needs is met by the market or withdraw completely;

- crude oil exporters, particularly from OPEC, became increasingly concerned about lost market volume and share and therefore sought guaranteed outlets;

- by and large, those same exporters had built up considerable financial reserves, especially in the period of high prices of 1979-1981;

- sites to build new refineries in the Community are limited and where available would require a considerable lead time to acquire the necessary permits;

- traditional national oil companies based in the Community, spurred on by the need to secure access to crude, exploit domestic expertise and know-how outside their national boundaries and take advantage of an increasingly cohesive internal energy market, widened their vision beyond national boundaries;

- as use of atmospheric distillation capacity tightened toward the end of the decade so projects to close refineries were shelved and "mothballed" refineries reopened (Wilhelmshaven, Germany);

These factors have helped **reduce the involvement of the "major"** oil companies in downstream operations, increase the participation of producer country companies and change the role of the traditional Community-based national oil companies.

It is the combination of will, **opportunity** and **means** that have **encouraged some OPEC state-controlled companies to participate in Community downstream operations**. Moreover, these state-controlled companies have seen the benefit in maintaining refineries near centres of consumption (rather than construct new ones near centres of oil production) thus reducing the need to transport products over long distances. In the case of Kuwait, the petroleum company (KPC) sought 100% control but would now seem to be modifying its approach in favour of joint ventures. For others (Venezuela, Abu Dhabi, Libya, Mexico), companies seek a partnership or minority shareholding. In these cases, the growing internationalisation of national Community-based companies has provided an opportunity for constructive and complementary partnerships. Nevertheless, since the last report (COM (88) 491), there have been few reported developments consequently the scale of producer country participation in the Community has remained limited and stable over the last few years. Annex D2 sets out OPEC's refinery holdings as of 15 September 1991.

The **changing structure of the national companies** can be highlighted as follows:

- ENI, an Italian State company, through its oil subsidiaries Agip and Agip Petroli looked to secure crude oil supplies partly by increasing investments upstream and, in so doing, augmented its level of equity crude. ENI had roots in the former USSR (a traditional supplier to ENI since the late 50's) and is now nurturing and developing production, transport, refining and marketing within that area. Furthermore, Agip is conducting exploration production activities in Libya, Nigeria, Egypt, Angola, Congo, Tunisia, Norway, UK and China and has set agreements with Algeria (for oil and gas production). Agip Petroli has developed joint ventures with Saudi Arabia and Venezuela (MTBE production plants) and Mexico (MTBE plant for export to Europe and USA). Agip Petroli is also present in the downstream sector in Austria, France, Switzerland and Germany.

- Repsol of Spain was formed in 1987. Although its main assets are on Spanish soil, it is already taking steps toward internationalisation. One of its major shareholders is Pemex of Mexico which, since the late 1970's, has been a major supplier of crude oil to Spain, Repsol being its largest customer worldwide. In 1989, Repsol acquired production assets in the UK related to the field of oil derivatives and a retail service station network with over 500 outlets (now under Anglo and Repsol brand names). In Portugal, Repsol is increasing its presence in asphalts, lubricants and the service stations market.

- Elf of France, has recently developed a more aggressive upstream and downstream strategy in the Community and worldwide. Its recent acquisition of a major stake in Cepsa and of the refining and marketing assets of Ertoil will now make Elf, in cooperation with Cepsa, one of the most active operators in the Spanish market. Elf also strengthened its already significant positions in Great Britain with its purchase of the refining and distribution assets of Amoco, the distribution network of Heron and the acquisition of the upstream interests of Occidental in the UK sector of the North Sea. In January 1992, Elf, as part of a French-German consortium signed an agreement whereby they will acquire Minol Mineralöhandel AG, the refinery activities of Leuna-Werke AG and Hydrlwerke Zelfz GmbH in Eastern Germany. Elf will hold a majority stake in the refinery activities, as well as in the Minol distribution network and will make major investments, notably the building of a completely new refinery with a capacity of 0.2-0.25 mbd.

There remains further potential for investment by producing countries in the Community downstream industry and the process is expected to continue. However, this will be limited on the one hand, by the willingness of companies currently owning refineries in the Community to divest themselves of capacity and/or share in ventures which, on the whole, are more profitable now than over the last ten years and on the other hand on opportunities for producing countries to invest at home or elsewhere in the world.

ANNEXES : TABLES AND GRAPHS

Section A . Annex A1 to A11

Community Energy and Oil Consumption

Community and World refining situation

Section B : Annex B1 to B12

EC Trade-Crude Oil and Products
Spot market prices - basis Rotterdam
EC Oil stock levels

Section C . Annex C1 to C3

Oil Price Regime and Fiscality in the Community

Section D : Annex D1 to D3

Miscellaneous

of which : - US Clean Air Act

- OPEC's foreign refinery holdings

- OPEC and non-OPEC oil production

All EC data exclude former East Germany unless otherwise specified.

CONSOMMATION D'ENERGIE PRIMAIRE DANS LA COMMUNAUTE (EUR-12).
EVOLUTION 1980 - 1990 ET PREVISIONS 2000.

EN MILLIONS DE TEP									PREVISIONS	
	1980	1985	1986	1987	1988	1989	1990		2000	
								ex-RDA		ex-RDA
Pétrole	589	489	504	506	518	522	530	12	560	19
Combustibles solides	238	239	232	231	227	231	232	57	260	30
Gaz naturel	171	185	187	198	192	201	208	7	260	10
Electricité primaire, nucléaire et autres	64	143	151	157	170	175	176	3	190	1
Consommation brute d'énergie primaire	1062	1056	1074	1092	1107	1129	1146	79	1270	60

Sources : EUROSTAT, DG XVII et Administration allemande

CONSOMMATION DE PETROLE DANS LA COMMUNAUTE (EUR-12)

Evolution de 1980 à 1990

en millions de tonnes

	1980	1985	1986	1988	1989	1990	Variations 1990/1980 en %
1. LIVRAISONS INTERIEURES	510	428	442	452	455	458	- 10,2
. ESSENCES MOTEUR	90,7	91,3	95,5	101,6	102,8	105,0	+ 15,8
dont : essences sans plomb	( )	( )	(0,9)	(13,4)	(23,1)	(33,7)	( )
. PETROLE LAMPANT ET CARBUREACTEURS	21,0	22,1	23,0	26,6	27,6	27,3	+ 30,0
. GASOIL ET FUEL-OIL FLUIDE	171,5	163,2	170,7	172,9	167,6	170,5	- 0,6
dont : gasoil transports	(51,2)	(60,7)	(66,1)	(76,5)	(81,2)	(84,9)	(+ 65,8)
. FUEL-OIL RESIDUEL	154,8	77,3	75,0	68,4	73,3	68,1	- 56,0
. AUTRES PRODUITS	72,0	74,1	77,8	82,5	83,7	87,1	+ 21,0
2. BUNKERS	29	27	31	31	31	33	+ 13,8
dont : - gasoil	6	7	8	7	7	7	
- fuel-oil	23	20	23	24	24	26	
3. AUTO-CONSOMMATION	33	25	28	28	29	30	- 9,1
dont : - fuel-oil	18	11	11	10	10	10	
4. CONSOMMATION TOTALE (1 + 2 + 3)	572	480	501	511	515	521	- 8,9

Sources : Eurostat et OCDE

RAFFINAGE DANS LA COMMUNAUTE (EUR-12)
BILAN PAR PRODUIT : EVOLUTION DE 1980 A 1990

EN MILLIONS DE TONNES

	1980		1985		1986		1988		1989		1990		VARIATIONS 1990/1980 en %		DIFFERENCE PRODUCTION/ DEMANDE EN 1980 (mio t.)	DIFFERENCE PRODUCTION/ DEMANDE EN 1990 (mio.t)
	PRODUC-TION	DEMANDE	PRODUC-TION	DEMANDE	PRODUC-TION	DEMANDE	PRODUC-TION	DEMANDE	PRODUC-TION	DEMANDE	PRODUC-TION	DEMANDE	PRODUC-TION	DEMANDE		
GAZ DE PETROLE LIQUEFIE (GPL)	12,3	15,1	12,1	17,4	12,4	17,9	13,1	18,4	12,6	18,2	12,6	18,1	+ 2,4	+19,9	- 2,8	- 5,5
NAPHTA	19,1	26,3	17,0	24,5	16,6	26,0	16,6	28,7	17,1	30,9	16,9	27,8	-11,5	+ 5,7	- 7,2	- 10,9
ESSENCES MOTEUR	94,8	90,7	96,7	91,3	101,5	95,5	110,5	101,6	112,3	102,8	115,5	105,0	+21,8	+15,8	+ 4,1	+ 10,5
PETROLE LAMPANT & CARBUREACTEURS	26,8	21,0	26,7	22,1	28,9	23,0	33,6	26,6	35,3	27,6	36,2	27,3	+35,1	+30,0	+ 5,8	+ 8,9
GASOIL ET FUEL-OIL FLUIDE	178,4	177,1	146,6	170,6	159,2	178,8	161,1	179,7	159,5	174,7	163,9	177,9	- 8,1	+ 0,5	+ 1,3	- 14,0
FUEL-OIL RESIDUEL	169,3	178,1	91,1	97,3	97,4	98,4	93,5	92,5	92,7	97,0	94,9	94,1	-43,9	-47,2	- 8,8	+ 0,8
AUTRES PRODUITS	31,3	30,7	31,8	31,8	31,0	33,4	36,6	35,5	36,5	34,8	40,0	40,8	+27,8	+32,9	+ 0,6	- 0,8
TOUS PRODUITS PETROLIERS	532	539	422	455	447	473	465	483	466	486	480	491	- 9,8	- 8,9	- 7	- 11

Sources : EUROSTAT et OCDE.

Notes : Production = Production nette des raffineries + produits associés.
Produits associés = Produits finis (GPL et autres produits) obtenus lors de la production de pétrole brut et de gaz naturel.
Demande = Livraisons intérieures + soutes internationales.

BILAN INDICATIF DU RAFFINAGE DANS LA COMMUNAUTE (EUR-12) :
EVOLUTION DE 1980 A 1990.

EN MILLIONS DE TONNES PAR AN	1980	1985	1986	1988	1989	1990
Consommation totale de pétrole, dont :	572	480	501	511	515	521
* Livraisons intérieures	510	428	442	452	455	458
* Soutes internationales	29	27	31	31	31	33
* Consommation des raffineries	33	25	28	28	29	30
Approvisionnement net de produits pétroliers finis dont :	10	34	23	19	17	21
* Importations nettes de pays tiers	12	24	20	14	16	16
* Sources primaires (1)	2	5	5	4	4	3
* Prélevement sur stocks (2)	- 4	5	- 2	1	- 3	2
Entrées en raffineries :						
* Pétrole brut (condensats inclus)	545	407	439	450	452	465
* Total (tous feedstocks inclus)	577	463	496	511	516	529
Capacité de distillation primaire (au 1er janvier)	915	658	619	591	587	577
Taux d'utilisation, par rapport :						
* au pétrole brut traité	60%	62%	71%	76%	77%	81%
* au traitement total	63%	70%	80%	86%	88%	92%

Sources : EUROSTAT, OCDE, Reglement CEE 1056/72.

(1) Produits associés directement utilisables, y compris ceux issus de la production de gaz naturel

(2) Chiffres négatifs = stockage ; chiffres positifs = déstockage

RAFFINAGE DANS LA COMMUNAUTE (EUR-12): EVOLUTION DES CAPACITES DE DISTILLATION PRIMAIRE DE 1980 A 1991 (AU 1er JANVIER).

EN MILLIONS DE TONNES/AN	1980	1985	1988	1989	1990	1991	% RED (*) 1991/1980
BELGIUM	55	35	35	35	35	35	37 %
DANMARK	11	8	9	9	9	9	16 %
DEUTSCHLAND (ex-DDR)	154	105	81	82	78	81 (20)	48 %
ELLAS	20	18	18	18	18	18	- 12 %
ESPAÑA	72	67	62	62	62	62	14 %
FRANCE	167	110	96	91	90	90	- 46 %
IRELAND	3	3	3	3	3	3	
ITALIA	180	130	119	119	119	119	- 34 %
LUXEMBOURG	-	-	-	-	-	-	-
NEDERLAND	102	74	65	65	60	61	- 40 %
PORTUGAL	19	14	14	14	14	14	23 %
UNITED KINGDOM	132	94	89	89	89	90	- 32 %
EUR - 12 (+ ex-DDR)	915	658	591	587	577	582 (602)	- 36 %

(*) sur la base de données exprimées en milliers de tonnes

Sources Informations reçues par la Commission en application du reglement 1056/72
Administrations nationales et sociétés pétrolieres.

EEC-12 : CONVERSION CAPACITY

IN MIO. TONS/YEAR	1980	1985	1988	1989	1990
CATALYTIC CRACKERS	47.6	83.1	81.2	82.1	83.3
VISBREAKERS	24.9	46.1	57.2	57.4	57.5
HYDROCRACKERS) HYDROCONVERSION)	5.8	10.6	16.9	17.6	22.1
THERMAL CRACKERS) COKING) FLEXICOKING)	22.2	26.3	23.9	25.4	26.5
TOTAL CAPACITY	100.5	166.1	179.2	181.3	189.4
CATCRACKER EQUIV *	81	135	143	145	155
AS % CDU CAPACITY	9	21	24	25	27

* BASED ON TOTAL DISTILLATE YIELD, AS A PERCENTAGE OF FEED , RELATIVE TO THAT OF A CATALYTIC CRACKER.

SOURCES:NATIONAL ADMINISTRATIONS AND INFORMATION RECEIVED BY THE COMMISSION UNDER REGULATION 1056/72 + OIL COMPANIES

REFINING AND CONVERSION CAPACITY IN THE EEC

IN MIO/TONS YEAR — AT 1.1.1991

	DIST.	REF.	H.C.	C.C.	T.C.	VISB.	COK.
B	35.3	3.8	–	5.3	–	4.0	–
DK	8.7	1.4	–	–	1.4	2.4	–
D	80.6	14.0	6.1	10.7	3.7	8.2	4.9
EL	17.7	1.5	1.4	2.6	–	2.3	–
ES	62.0	7.8	0.8	7.5	–	8.8	0.7
FR	90.4*	10.5	0.7	17.4	–	9.4	–
IRL	2.9	0.6	–	–	–	–	–
ITA	119.1	11.9	6.6	15.5	3.8	18.9	2.5
NL	61.0	8.2	3.3	6.9	3.1	4.1	2.0
PO	14.4	2.2	0.5	0.7	–	0.6	–
UK	90.2	15.5	3.0	22.8	2.3	2.9	2.9
EEC	582.3	77.4	22.4	89.4	14.3	61.6	13.0
EX-DDR	20.2	2.6	1.8	1.9	0.7	2.9	–
TOTAL	602.5	80.0	24.2	91.3	15.0	64.5	13.0

SOURCES: NATIONAL ADMINISTRATIONS AND INFORMATION RECEIVED BY THE COMMISSION UNDER REGULATION 1056/72.

* OF WHICH 5.8 MIO TONNES IN RESERVE AND IMMEDIATELY USEABLE

A7

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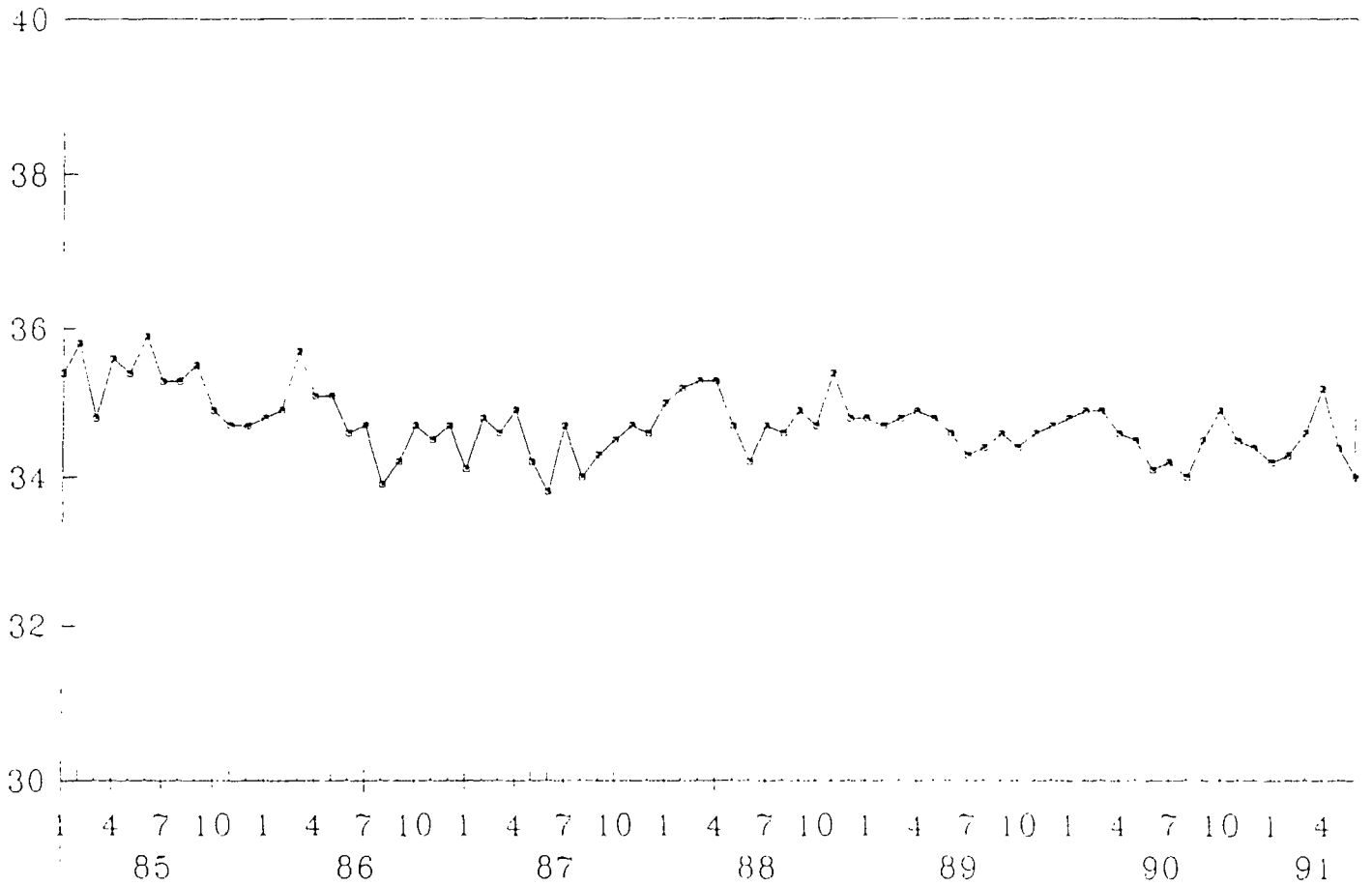
World Distillation and Conversion Capacity 1980-1990
(excluding former CPEs)
(year end, million barrels per calendar day)

	1980		1985		1986		1987		1988		1989		1990	
	Dist.	Conv.	Dist.	Conv.	Dist.	Conv.	Dist.	Conv.	Dist.	Conv.	Dist.	Conv.	Dist.	Conv.
North America	20.77	9.38	17.48	10.24	17.51	10.54	17.83	10.95	17.57	10.79	17.48	11.13	17.65	11.44
Europe(1)	20.40	2.37	14.33	3.41	14.11	3.43	14.06	3.47	13.84	3.59	13.51	3.70	13.62	3.85
Japan	5.35	0.33	4.48	0.57	4.38	0.61	4.23	0.66	4.10	0.71	4.10	0.74	4.10	0.76
Australasia	0.81	0.16	0.72	0.18	0.75	0.20	0.72	0.20	0.73	0.20	0.76	0.21	0.76	0.21
Caribbean	2.34	0.29	1.40	0.15	1.44	0.15	1.39	0.17	1.39	0.17	1.39	0.17	1.52	0.20
Central/South America	5.71	1.27	5.44	1.67	5.44	1.63	5.60	1.73	5.65	1.81	5.81	1.87	5.98	1.98
Middle East(2)	3.15	0.43	4.15	0.64	4.23	0.68	4.31	0.70	4.64	0.95	4.92	0.95	5.30	0.96
Asia(3)	4.04	0.20	4.84	0.65	4.93	0.67	4.95	0.71	4.97	0.83	5.02	0.86	5.26	0.94
Africa	2.14	0.17	2.66	0.23	2.67	0.23	2.72	0.24	2.75	0.24	2.95	0.28	2.95	0.28
Total	64.71	14.59	55.50	17.74	55.46	18.14	55.81	18.83	55.64	19.29	55.94	19.91	57.14	20.62

(1) includes Cyprus but excludes eastern Germany and former CPEs
(2) includes inactive Kuwait and Neutral Zone capacity in end 1990 figures
(3) comprises Indian sub-continent, South East Asia, South Korea and Taiwan

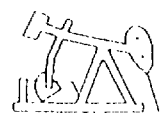
Source : OECD/IEA

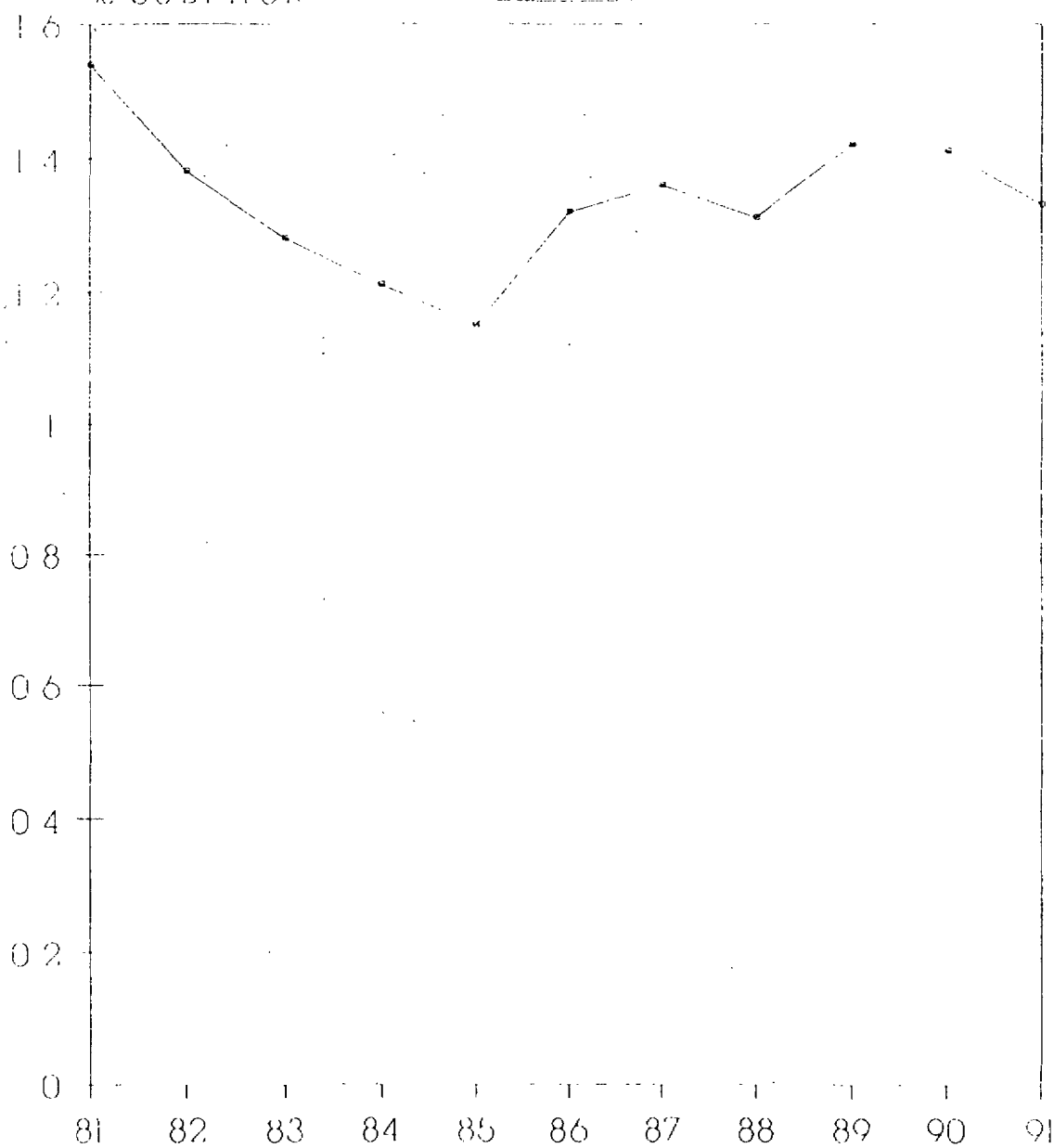
AVERAGE API VALUES OF CRUDE OIL SUPPLIES IN THE EEC 1985 - 1991



SOURCE:CRUDE OIL REGISTER

EEC12* CRUDE OIL REGISTER-SULPHUR CONTENT OF IMPORTED CRUDE OIL





*EEC 10 TO 1985

SOURCE:CRUDE OIL REGISTER

Isomerization, Alkylation, Desulphurization and MTBE name plate capacities in the Community

Situation at 1.1.1991

MIO TONNES/YEAR

	Isomerization	Alkylation	Desulphurization of Middle distillat.	MTBE (refinery plant
Belgium	0.10	0.51	14.33	0.18*
Danmark	0.39	-	2.24	-
Deutschland - Former West	2.21	0.40	24.78	0.13
- Former East	0.49	0.50	3.38	0.05
Ellas	0.47	0.09	2.75	0.11
Espana	0.10	0.31	22.52	0.26
France	0.51	0.40	22.80	0.05*
Ireland	-	-	0.27	-
Italia	2.60	2.10	26.60	0.18
Luxembourg	-	-	-	-
Nederland	0.53	0.58	14.83	0.15
Portugal	-	-	2.81	0.02
United Kingdom	2.00	3.10	14.58	0.10*
EUR-12	9.40	7.99	151.89	1.23

* MTBE + TAME

Sources : National Administrations or Arthur D. Little refining data base

Approvisionnement pétrolier de la Communauté :
Evolution de la structure d'approvisionnement en pétrole brut (*)
de 1974 à 1990

	EUR-9				EUR-10				EUR-12					
	1974		1978		1982		1985		1986		1989		1990	
	MioT	%	MioT	%	MioT	%	MioT	%	MioT	%	MioT	%	MioT	%
Production communautaire (brut + NGL)	13	2	64	12	117	30	146	39	149	34	112	25	113	24
Importations en prov.pays tiers à la CE**	560	98	470	90	302	77	253	68	328	74	365	80	379	81
dont														
Pays industrialisés, dont	1	0	8	2	10	3	21	6	25	6	43	9	43	9
Norvège	1	0	8	2	10	3	21	6	25	6	41	9	42	9
Pays en développement	555	97	447	86	271	69	196	53	264	59	275	60	288	62
dont :														
.Algérie	23	4	19	4	16	4	14	4	16	4	17	4	18	4
.Arabie Saoudite	169	29	121	23	98	25	23	6	66	15	43	9	47	10
Egypte	1	0	9	2	9	2	11	3	10	2	14	3	11	2
Emir.arab.unis	31	5	30	6	14	4	4	1	4	1	9	2	9	2
.Irak	39	7	56	11	11	3	16	4	24	5	25	5	19	4
.Iran	100	17	77	15	28	7	20	5	21	5	41	9	45	10
.Koweit	47	8	35	7	3	1	7	2	10	2	14	3	9	2
.Libye	56	10	36	7	32	8	31	8	35	8	41	9	47	10
.Mexique	0	0	0	0	9	2	9	2	13	3	13	3	15	3
.Nigéria	49	9	34	7	23	6	34	9	32	7	24	5	26	6
.Venezuela	9	2	4	1	7	2	9	2	9	2	8	2	8	2
C.Pays à commerce d'Etat	4	1	15	3	20	5	20	5	23	5	28	6	29	6
dont														
.URSS	4	1	15	3	20	5	20	5	23	5	28	6	29	6
OPEP	541	94	424	81	238	61	164	44	224	50	226	50	234	50
OPAEP(Egypte incl)	384	67	322	62	191	49	113	30	173	39	171	38	171	37
CCG	265	46	197	38	122	31	36	10	83	19	67	15	66	14
3.Export.à destin. pays tiers à CE	0	0	12	2	29	7	26	7	33	7	21	5	26	6
4.Approv.en brut marché comm.* (1 + 2 - 3 - 4)	573	100	522	100	390	100	373	100	444	100	456	100	466	100

Compte non tenu des feedstocks et des variations de stocks

** Total des rubriques A, B, C et Importations d'origine non déterminée

Sources : Importations/exportations : Nomenclature NIMEXE et Nomenclature Combinée
Production : données Eurostat

EUR-12 IMPORTATIONS DE PRODUITS PETROLIERS DE LA COMMUNAUTE EN PROVENANCE DES PAYS TIERS

en milliers de tonnes

Importations de produits pétroliers en provenance des pays tiers à la CEE	1988	1989	1990	Variations 1990/1988 %
Tous produits/tous usages, dont:	102 500	104 570	106 947	+ 4,3
- huiles légères	21 155	20 173	20 064	- 5,2
- huiles moyennes	818	1 027	1 374	+ 68,0
- gasoil	23 091	24 037	26 950	+ 16,7
- fuel-oils	44 984	45 497	43 558	- 3,2
- autres produits	12 452	13 836	15 001	+ 20,5
Tous produits/tous usages, dont:	102 500	104 570	106 947	+ 4,3
- traitement défini ou transformation chimique	49 465	47 478	43 934	- 11,2
- autres usages (mise à la consommation)	53 035	57 092	63 013	+ 18,8
Tous produits/tous usages en provenance de :	102 500	104 570	106 947	+ 4,3
- **Pays tiers industrial.,dont :**	20 833	21 877	25 688	+ 23,3
AELE	9 549	10 577	13 188	+ 38,1
Etats-Unis	7 836	8 719	9 883	+ 26,1
- **Pays en développement, dont :**	43 375	42 389	42 265	- 2,6
Koweit	8 485	8 221	6 551	- 22,8
Libye	7 027	7 156	7 497	+ 6,7
Algérie	8 123	7 460	8 915	+ 9,8
Arabie Saoudite	5 747	5 376	6 646	+ 15,6
Vénézuela	2 478	2 305	2 934	+ 18,4
OPEP	37 402	35 669	34 653	- 7,3
OPAEP	38 539	35 821	34 868	- 9,5
CCG	14 598	13 981	13 426	- 8,0
- **Pays à commerce d'Etat, dont:**	38 292	40 304	38 994	+ 1,8
U.R.S.S.	29 475	30 561	33 872	+ 14,9
Roumanie	6 158	6 405	2 386	- 61,3
Pologne	322	644	840	+160,9
Tchécoslovaquie	860	1 036	543	- 36,9

Source : Statistiques du Commerce Extérieur de la Communauté (déclarations en douane : nomenclature combinée)
Feedstocks inclus

EUR-10/EUR12 - SOLDE NET IMPORTATEUR(EXPORTATEUR) DES ECHANGES INTRA-COMMUNAUTAIRES ET DES ECHANGES AVEC LES PAYS TIERS A LA CE DE TOUS PRODUITS PETROLIERS
Evolution de 1984 à 1990

en millions de tonnes

	1984 EUR-10		1985 EUR-10		1986 EUR-12		1987 EUR-12		1988 EUR-12		1989 EUR-12		1990 EUR-12	
	Solde intra-CE	Solde extra-CE	Solde intra-CE	Solde extra-CE	Solde intra-CE	Solde extra-CE	Solde intra-CE	Solde extra-CE	Solde intra-CE	Solde extra-CE	Solde intra-CE	Solde extra-CE	Solde intra-CE	Solde extra-CE
France	1,6	7,2	0,3	9,7	3,7	11,0	6,6	14,1	5,9	11,3	7,1	11,2	5,7	8,9
Belgique/Luxembourg	(0,1)	3,4	0,8	3,9	0,8	2,6	0,6	0,2	0,1	1,6	(1,0)	1,2	0,6	1,6
Pays-Bas	(28,6)	8,7	(29,0)	12,8	(32,0)	11,6	(31,0)	11,0	(28,3)	9,0	(29,3)	9,3	(26,4)	11,9
R.F.A.	21,3	12,0	24,9	13,3	31,1	13,5	29,2	12,6	24,5	10,2	23,5	9,2	23,2	9,5
Italie	(1,3)	20,5	(1,6)	22,6	(4,5)	18,3	(2,4)	24,4	(1,2)	22,9	(0,3)	23,9	0,0	20,2
Royaume-Uni	0,7	11,5	(2,4)	9,7	(3,4)	8,1	(4,9)	8,9	1,1	10,1	0,5	10,0	2,2	12,1
Irlande	2,8	0,3	2,6	0,2	3,6	0,4	2,9	0,2	2,5	0,0	2,4	0,2	2 7	0,2
Danemark	(0,0)	3,6	0,3	3,6	0,2	3,2	(0,2)	3,3	(0,3)	2,4	(0,8)	2,2	(0,7)	2,0
Grèce	(0,5)	(0,4)	(0,7)	(0,1)	(0,2)	(0,4)	(0,7)	(0,4)	(0,5)	(0,8)	(1,0)	(0,7)	(0,8)	0,1
Espagne					(6,8)	0,4	(4,7)	1,4	(3,9)	0,1	(3,7)	0,3	(3,3)	0,4
Portugal					1,2	0,3	1,4	0,2	1,1	0,4	1,8	0,2	1,4	0,2
EUR-10/EUR-12														
- feedstocks inclus(1)	(4,0)*	66,9	(4,6)*	75,5	(6,3)*	68,9	(3,2)*	75,9	1,0	67,4	(0,7)	67,0	4,7	67,2
- feedstocks exclus(2)	n.d.**	29,2	n.d.**	29,6	n.d.**	20,4	n.d.**	27,4	n.d.**	13,7	n.d.**	15,8	n.d.**	15,7

Sources : (1) Statistiques du Commerce Extérieur de la Communauté et du Commerce entre ses Etats membres (déclarations en douane : nomenclatures NIMEXE et combinée) - Feedstocks inclus
(2) Données nationales (banque de données CRONOS de l'EUROSTAT) - Feedstocks exclus

* Erreur statistique : différence entre les déclarations à l'importation et à l'exportation au niveau intracommunautaire

** n.d. : non disponible

Note : Les données EUR-10/EUR-12 peuvent ne pas correspondre à la somme des données des Etats membres en raison des arrondissements (données exprimées en tonnes dans la NIMEXE et la nomenclature combinée).

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EUR-12 - IMPORTATIONS DE PRODUITS PETROLIERS EN PROVENANCE DES PAYS TIERS PAR ETAT MEMBRE ET POUR EUR-12

Période : Année 1990

en milliers de tonnes

	EUR-12	R.F.A.*	France	Italie	Pays-Bas	Belg/Lux	Roy.-Uni	Irlande	Danemark	Grèce	Espagne	Portugal
Tous prod./tous usages en provenance des :	106 947	14 250	14 387	28 664	16 730	5 064	14 131	265	3 440	2 724	6 293	1 000
-Pays tiers industrialisés, dont :	25 688	5 000	3 767	5 851	2 674	612	3 427	8	1 933	313	2 003	99
AELE	13 188	3 475	1 801	1 499	1 898	181	2 426	7	1 890	1	7	3
Etats-Unis	9 883	1 343	1 563	3 088	550	289	777	1	43	237	1 938	55
-Pays en développement, dont :	42 265	2 814	6 720	12 905	6 857	1 714	5 652	1	599	1 460	2 644	899
Koweit	6 551	234	601	1 935	1 982	70	275	-	514	569	323	48
Libye	7 497	481	949	2 509	170	343	1 995	-	44	260	643	104
Algérie	8 915	1 247	1 294	2 413	1 485	144	1 469	-	20	7	445	389
Arabie Saoudite	6 646	249	1 862	2 476	732	238	465	-	-	108	317	198
Venezuela	2 934	167	211	45	1 628	641	167	-	-	-	76	-
OPEP	34 653	2 452	5 130	10 317	6 045	1 610	4 613	1	578	1 355	1 811	739
OPAEP	34 868	2 287	5 842	11 334	4 706	946	5 146	-	598	1 384	1 861	764
CCG	13 426	512	2 527	4 419	2 714	337	832	-	514	677	647	246
-Pays à commerce d'Etat, dont :	38 994	6 435	3 900	9 908	7 199	2 738	5 052	256	908	951	1 646	2
URSS	33 872	5 061	3 424	8 619	6 504	2 558	4 692	254	661	622	1 474	2
Roumanie	2 386	16	388	1 206	379	-	53	-	-	198	146	-

Source : Statistiques du Commerce Extérieur de la Communauté (déclarations en douane : nomenclature combinée), feedstocks compris.

* Non compris les importations en provenance de R.D.A.

EUR-10/EUR-12 - EVOLUTION DES IMPORTATIONS DE PRODUITS PETROLIERS PAR GRANDES ZONES ECONOMIQUES EN % DES IMPORTATIONS TOTALES PAYS TIERS.

en pourcentage (%)

	EUR - 10		EUR-12				
	1984	1985	1986	1987	1988	1989	1990
Pays industrialisés	25,8	22,2	20,2	20,4	20,3	20,9	24,0
dont AELE	10,8	8,7	8,0**	9,9**	9,3**	10,1**	12,3**
Etats-Unis	6,6	6,5	9,7	7,9	7,6	8,3	9,2
Espagne	5,2	4,4	s.o.***	s.o.***	s.o.***	s.o.***	s.o.***
Pays en développement	39,3	45,1	44,1	41,8	42,3	40,5	39,5
dont Arabie Saoudite	3,1	4,1	5,6	6,2	5,6	5,1	6,2
Koweit	9,7	10,0	9,5	8,8	8,3	7,9	6,1
OPEP	28,9	34,9	36,8	35,4	36,5	34,1	32,4
OPAEP (*)	26,9	33,2	37,4	37,4	37,6	34,3	32,6
CCG	13,2	15,1	16,3	15,7	14,2	13,4	12,6
Pays à commerce d'Etat	34,9	32,7	35,7	37,7	37,4	38,5	36,5

Source : Statistiques du Commerce Extérieur de la Communauté et du Commerce entre ses Etats membres (Déclarations en douane : nomenclature NIMEXE et nomenclature combinée) - Feedstocks compris.

(*) Egypte inclus.

(**) Portugal excepté.

(***) s.o. : sans objet.

EUR-10/EUR-12 - ANALYSE DE L'EVOLUTION DES IMPORTATIONS DE PRODUITS PETROLIERS DE PAYS TIERS EN FONCTION DE LA POLITIQUE DOUANIERE.

	EUR-10				EUR-12									
	1984		1985		1986		1987		1988		1989		1990	
	mio t	%	mio t	%	mio t	%	mio t	%	mio t	%	mio t	%	mio t	%
. Importations effectuées à droit nul :	59,8	63,5	69,2	65,6	64,0	63,0	66,5	61,5	67,5	65,9	66,1	63,2	66,7	61,8
- pour traitement défini ou transformation chimique	40,7	43,2	49,2	46,6	48,1	47,3	48,4	44,7	49,5	48,3	47,5	45,4	43,9	41,0
- en vertu d'accords préférentiels	19,1	20,3	20,0	19,0	15,9	15,6	18,1	16,7	18,0	17,6	18,6	17,8	22,2	20,8
. Importations au titre du SPG	16,1	17,1	22,0	20,8	18,3	18,0	22,5	20,8	18,7	18,2	19,5	18,6	15,8	14,8
. Importations soumises aux droits normaux du T.D.C.	18,3	19,4	14,3	13,6	19,3	19,0	19,2	17,7	16,3	15,9	19,0	18,2	25,0	23,4
. Importations totales pays tiers	94,2	100,0	105,5	100,0	101,6	100,0	108,2	100,0	102,5	100,0	104,6	100,0	106,9	100,0

Source : Statistiques du Commerce Extérieur de la Communauté et du Commerce entre ses Etats membres (Déclarations en douane : nomenclature NIMEXE et nomenclature combinée) - Feedstocks compris.

EUR-10/EUR 12 - EVOLUTION DE LA STRUCTURE DES IMPORTATIONS DE PRODUITS PETROLIERS DE PAYS TIERS

en pourcentage (%)

	EUR - 10		EUR - 12				
	1984	1985	1986	1987	1988	1989	1990
Huiles légères	16,7	17,2	20,7	19,7	20,6	19,3	18,8
Huiles moyennes	0,6	0,8	0,9	1,0	0,8	1,0	1,3
Huiles lourdes :	72,3	73,4	66,6	67,8	66,4	66,5	65,9
- gasoil	(23,3)	(26,6)	(28,8)	(28,2)	(22,5)	(23,0)	(25,2)
- fuel-oils	(49,0)	(46,8)	(37,8)	(39,6)	(43,9)	(43,5)	(40,7)
Autres produits (dont GPL et coke de pétrole)	10,4	8,6	11,7	11,5	12,1	13,2	14,0

Source : Statistiques du Commerce extérieur de la Communauté et du Commerce entre ses Etats membres (Déclarations en douane : nomenclature NIMEXE et nomenclature combinée) - Feedstocks compris.

EUR 12 - IMPORTATIONS DE PRODUITS PETROLIERS EN PROVENANCE DE PAYS TIERS
VENTILEES PAR CATEGORIE DE PRODUITS ET ETAT MEMBRE IMPORTATEUR

Comparaison Année 1989 - Année 1990

en millions de tonnes

		EUR-12	RFA*	France	Italie	Pays-Bas	Belg/Lux	R.U.	Irlande	Danemark	Grèce	Espagne	Portugal
1989	1. Traitement défini/ Transformation chimique	47,5	7,3	3,7	13,7	5,5	3,2	7,0	0,0	1,1	0,7	4,1	0,9
	2. Autres usages	57,1	5,9	11,9	18,1	8,7	1,4	4,8	0,2	2,7	0,8	2,7	0,1
	3. Tous produits/tous usages (1+2) dont:	104,6	13,2	15,6	31,8	14,2	4,6	11,8	0,2	3,8	1,5	6,8	1,0
	huiles lég.& moyennes	(21,2)	(4,2)	(4,1)	(2,6)	(2,5)	(0,3)	(2,9)	(0,1)	(1,0)	(0,1)	(2,4)	(0,9)
	huiles lourdes (gasoil+fuel oils)	(69,5)	(7,2)	(8,9)	(25,8)	(10,6)	(3,7)	(7,3)	(0,1)	(2,6)	(1,2)	(2,1)	(0,0)
1990	1. Traitement défini/ Transformation chimique	43,9	5,6	2,8	13,2	4,4	2,9	8,6	-	0,8	1,2	3,5	0,9
	2. Autres usages	63,0	8,7	11,6	15,5	12,3	2,2	5,5	0,3	2,6	1,5	2,8	0,1
	3. Tous produits/tous usages (1+2) dont :	106,9	14,3	14,4	28,7	16,7	5,1	14,1	0,3	3,4	2,7	6,3	1,0
	huiles lég.& moyennes	(21,4)	(4,6)	(4,0)	(2,5)	(3,0)	(0,2)	(2,9)	(0,1)	(1,0)	(0,1)	(2,1)	(0,8)
	huiles lourdes(gasoil + fuel oils)	(70,5)	(8,1)	(7,8)	(22,2)	(12,2)	(4,2)	(9,2)	(0,1)	(2,3)	(2,3)	(2,1)	(0,1)

*) Importations en provenance de R.D.A. non comprises

Source : Statistiques du Commerce extérieur de la Communauté et du Commerce entre ses Etats membres
(Déclarations en douane : nomenclature combinée) - Feedstocks compris.

EUR-10/EUR-12 - EVOLUTION GLOBALE DU COMMERCE EXTERIEUR DE PRODUITS PETROLIERS FINIS

en millions de tonnes

	EUR-10		EUR-12					
	1984	1985	1986	1987	1988	1989	1990	Variations 1990/1989 en %
- Importations totales de produits finis (*)	145,8	145,3	164,8	164,6	152,6	160,4	166,4	+ 3,7
- Exportations totales de produits finis (*)	116,6	115,7	144,4	137,2	138,9	144,6	150,7	+ 4,2
- Importations (exportations) nettes de produits finis	29,2	29,6	20,4	27,4	13,7	15,8	15,7	- 0,6

Source : OSCE-Eurostat - SIRENE (données nationales) - Feedstocks exclus.

(*) Echanges intracommunautaires compris.

EUR-12 - EXPORTATIONS DE PRODUITS PETROLIERS VENTILES PAR CATEGORIE DE PRODUITS ET PRINCIPAUX PAYS TIERS DESTINATAIRES
Evolution 1989 - 1990

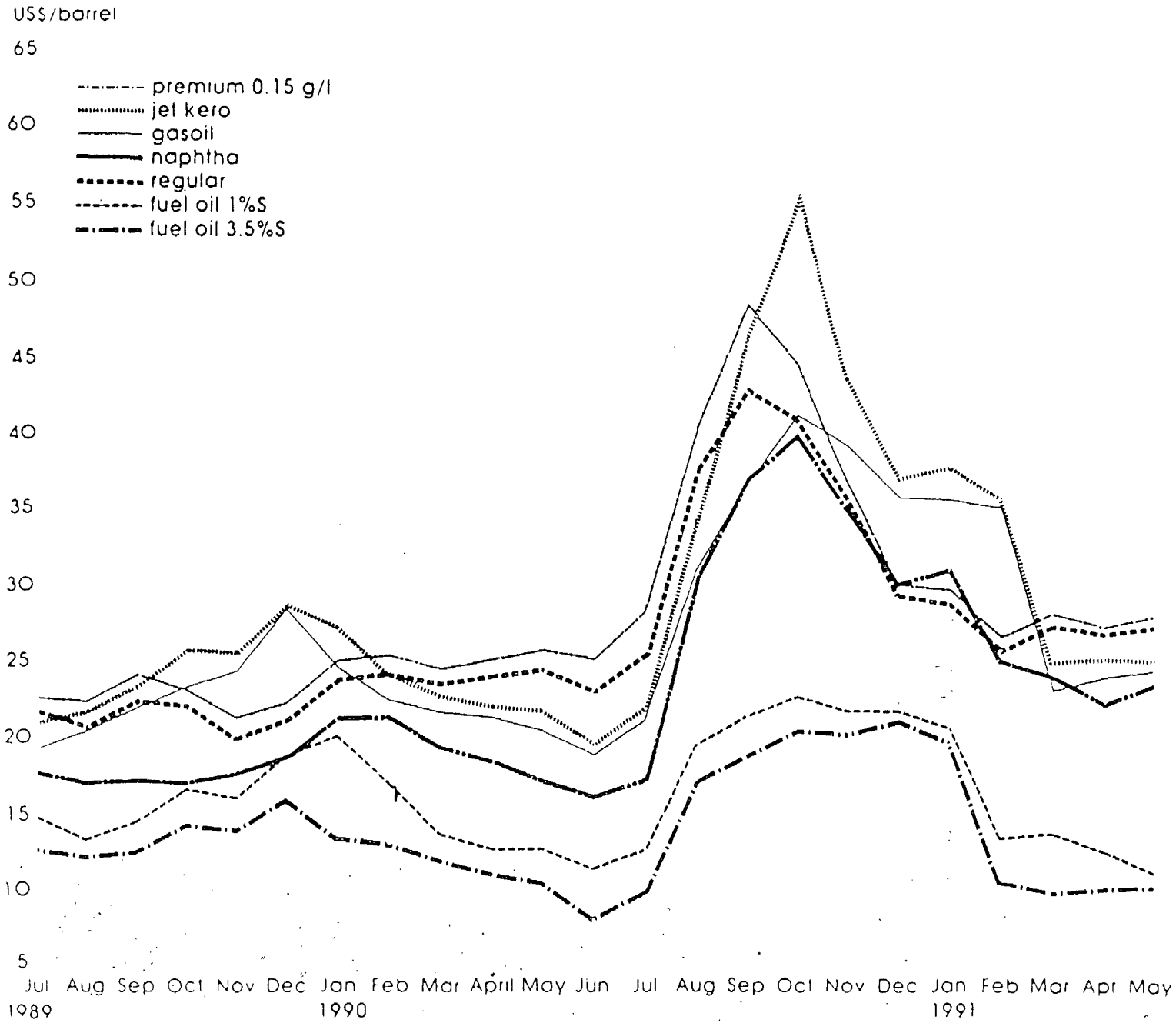
en milliers de tonnes

Principaux pays tiers destinataires par ordre décroissant d'importance en 1990 (total > 900.000T	Huiles légères		Huiles moyennes		Gas-oil		Fuel-oils		Autres produits		TOTAL Tous produits pétroliers		
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990	Variat. 90/89 en %
Etats-Unis	5 100	4 721	544	618	361	516	5 009	4 823	344	466	11 356	11 144	- 1,9
Suisse	2 433	2 908	780	805	2 714	3 600	127	73	379	376	6 433	7 763	+ 20,7
Suède	1 252	998	336	152	421	579	168	133	345	320	2 523	2 182	- 13,5
Tunisie	44	3	126	139	236	415	481	985	70	95	957	1 637	+ 71,1
Autriche	357	336	25	16	297	411	292	335	361	343	1 333	1 440	+ 8,0
Libye	577	593	15	-	214	286	260	195	64	60	1 130	1 135	+ 0,4
Canada	500	186	462	289	34	15	323	413	2	5	1 321	909	- 31,2
Autres destina.	1 477	2 084	2 328	1 845	2 387	2 307	4 060	4 928	2 270	2 355	12 524	13 516	+ 7,9
TOTAL EXTRA-CE dont :	11 740	11 829	4 616	3 864	6 664	8 129	10 720	11 885	3 835	4 020	37 577	39 726	+ 5,7
Pays tiers industrialisés	10 471	10 260	3 138	2 227	4 379	5 766	7 082	7 257	2 053	2 103	27 123	27 612	+ 1,8
Pays en développement	1 230	1 080	1 455	1 610	2 172	2 199	3 381	4 239	1 632	1 714	9 871	10 841	+ 9,8
Pays à commerce d'Etat	39	489	23	27	113	164	257	389	150	203	583	1 273	+118,4
Pays OPEP	747	686	404	275	427	394	937	750	489	410	3 003	2 515	- 16,3
Pays OPAEP	675	610	266	267	490	778	1 392	1 713	462	513	3 285	3 881	+ 18,1
Pays CCG	34	2	1	32	2	5	149	68	75	89	260	196	- 24,6
TOTAL INTRA-CE	23 959	24 615	6 364	6 949	19 945	19 597	22 285	21 413	8 246	8 163	80 799	80 738	- 0,1

Source : Statistiques du Commerce Extérieur de la Communauté (déclarations en douane nomenclature combinée).

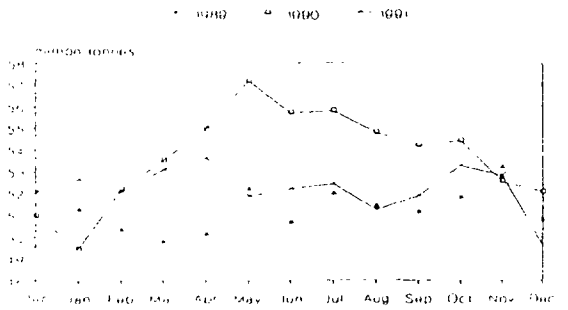
B 10

SOURCE : PLATT'S OILGRAM

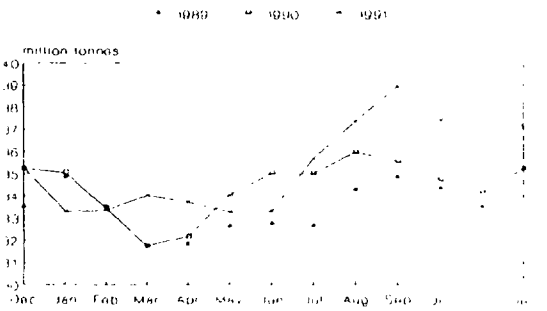


B 11

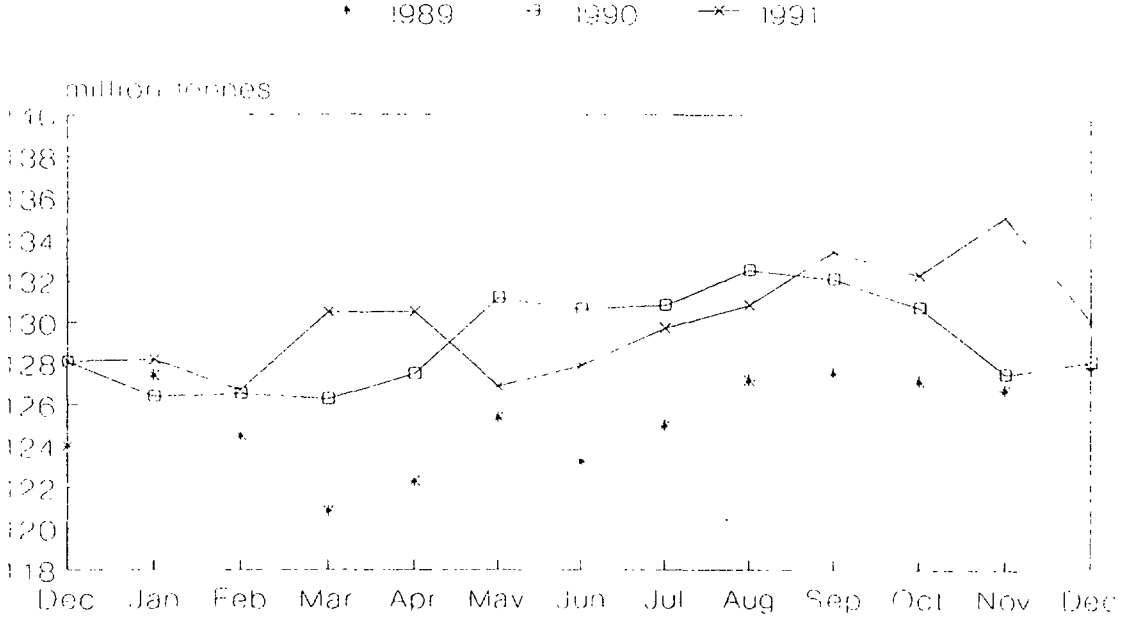
eur-12 crude oil stocks
(end of month)



eur-12 gasoil stocks
(end of month)



eur-12 total oil stocks
(end of month)



Sources OECD/IEA & Eurostock estimates

Régime de formation des prix des produits pétroliers en vigueur dans les Etats membres.

Belgique

Un contrat de programme fixe depuis le 1.8.1974 les prix de vente maxima aux consommateurs des produits pétroliers. Les prix sont déterminés par comparaison entre une valorisation basse sur les cotations FOB Rotterdam et FOB Méditerranée et le prix de revient d'une tonne de pétrole brut raffiné sur le territoire national.

La valorisation ne peut s'écarter de plus de 11 % du prix de revient et en général ce sont les cotations internationales qui déterminent les prix maxima. Dans le calcul de ce prix sont pris également en considération les coûts de stockage obligatoire et les marges de distribution.

Espagne

Actuellement 2 formules de prix déterminent les prix maxima (décret du 6.7.1990) : l'une pour les essences et les gasoils et l'autre pour les fuel-oils lourds; les prix des autres produits étant libres.

Les prix maxima pour les essences et les gasoils sont calculés à partir des cotations internationales FOB barges Rotterdam et FOB cargo Italy, et des prix hors droits et taxes publiés dans le bulletin pétrolier de la CEE de six pays (Belgique, Allemagne, France, Italie, Pays-Bas et Royaume-Uni). Une marge d'aptation de 1 Peseta par litre est prise en considération. Les prix maxima pour les 3 catégories de fuel-oils lourds sont également fixés en fonction des cotations FOB barges Rotterdam et FOB cargo Italy et d'une marge qui diffère selon la qualité des produits.

Grèce

La réglementation en vigueur depuis janvier 1989 permet de déterminer un prix de base qui est un prix maximum auquel les raffineries d'Etat peuvent vendre leurs produits aux distributeurs.

Dans le calcul de ce prix de base sont pris en considération les cotations FOB Italie (9/10), FOB Rotterdam (1/10), les coûts de transport, le coût de stockage et le market trend qui peut fluctuer entre -20 % et +20 % des cotations internationales prises en considération pour le calcul du prix de base.

Portugal

Un système en vigueur depuis le 1er janvier 1991 détermine un prix de vente maxima pour l'essence super plombée, le gasoil et le fuel-oil lourd > 1 % S. Les prix des autres produits ont été libérés.

Les prix maxima sont fixés à partir des prix hors droits et taxes publiés dans le bulletin pétrolier de la CEE de cinq pays (Belgique, Allemagne, France, Danemark et Espagne). Un facteur de correction de 2 Escudos par litre est pris en considération.

ACCISES APPLIQUEES AUX PRODUITS PETROLIERS au 1.4.1992 EN ECUS / 1000 L

Types de produits	Belgique	Danemark	Allemagne	Grèce	Espagne	France	Irlande	Italie	Luxembourg	Pays-Bas	Portugal	Royaume-Uni
Essence super plombée	391	366	450	259	429	466	396	591	273	497	511	388
Essence sans plomb	338	284	401	200	390	413	362	551	246	436	443	327
Gasoil automobile	269	222 (1)	266	206	288	243	291	406	155	210	341	319
Gasoil chauffage	-	222 (1)	39	169	77	62	49	406	-	53	-	19
Fuel oil lourd (2)	-	250 (1)	15	46	13	20	10	58	13	24	79	13

(1) L'accise est récupérée par les consommateurs assujetis à la TVA.

(2) A la tonne.

Taux minima en application à partir du 1/1/1993 (selon accord du Conseil ECO.FIN de juin 1991).

Essence super	337 écus / 1000 litres
Essence sans plomb	287 écus / 1000 litres
Gasoil automobile	245 écus / 1000 litres
Gasoil chauffage	0
Fuel oil lourd	13 écus / Tonne

TAUX DE TVA EN APPLICATON AU 1.4.1992

Types de produits	Belgique	Danemark	Allemagne	Grèce	Espagne	France	Irlande	Italie	Luxembourg	Pays-Bas	Portugal	Royaume-Uni
Essence super plombée	19.50	25.00	14.00	36.00	13.00	18.60	21.00	19.00	15.00	18.50	16.00	17.50
Essence sans plomb	19.50	25.00	14.00	36.00	13.00	18.60	21.00	19.00	6.00	18.50	16.00	17.50
Gas oil automobile	19.50	25.00	14.00	8.00	13.00	18.60	21.00	19.00	15.00	18.50	5.00	17.50
Gas oil chauffage	19.50	25.00	14.00	8.00	13.00	18.60	12.50	19.00	6.00	18.50	–	–
Fuel oil lourd	19.50	25.00	14.00	8.00	13.00	18.60	12.50	9.00	6.00	18.50	5.00	17.50

Taux minimum de TVA en application au 1.1.1993.

15 % sur l'ensemble des produits pétroliers (selon accord du Conseil ECOFIN de juin 1991).

CLEAN AIR ACT

Clean Air Act.

L'adoption aux Etats Unis par le Président Bush des amendements au Clean Air Act en novembre 1990 est une étape majeure dans la législation américaine pour la protection de l'environnement. Sa portée est telle qu'il n'est pas possible de la résumer succintement. On peut néanmoins mettre en exergue que cette loi impose au niveau fédéral des conditions pour la production et la vente de carburants propres, destinés à réduire les émissions de vapeurs d'essence par évaporation ou lors du remplissage des voitures ainsi que les émissions polluantes des gaz d'échappement précurseurs de la formation d'ozone, de CO et autres substances toxiques. La loi couvre 7 domaines : Smog urbain, sources mobiles, substances toxiques dans l'air, pluies acides, chlorofluocarbones, permis d'exploitation et contrôles.

Au niveau des carburants, toute une série de spécifications sera imposée :

- pour le carburant diesel, à partir du 1er octobre 1993, teneur maximale en soufre de 0,05% et un nombre de cétane supérieur à 40.

- pour l'essence, la volatilité devra être réduite à un maximum de 64hPa pendant les saisons à formation élevée d'ozone et ceci à partir de 1992 ; incorporation obligatoire d'additifs détergents dans l'essence (Janvier 1995). Dans les zones dépassant les concentrations limites d'ozone, une essence reformulée sera imposée et devra être exclusivement mise en vente. Il s'agit essentiellement d'une essence contenant au moins 2% d'oxygène, 1% maximum de benzène, une faible volatilité et un taux limite de 25% en aromatiques. Pour les zones dépassant les teneurs limites de CO, actuellement dans 41 villes, la teneur en oxygène pendant la saison hivernale, c'est-à-dire au maximum 4 mois, devra être d'au moins 2,7%. Cette condition est à respecter dès novembre 1992 et pourrait concerner un tiers de la demande totale d'essence.

OPEC's foreign refinery holdings: situation as at September 15, 1991

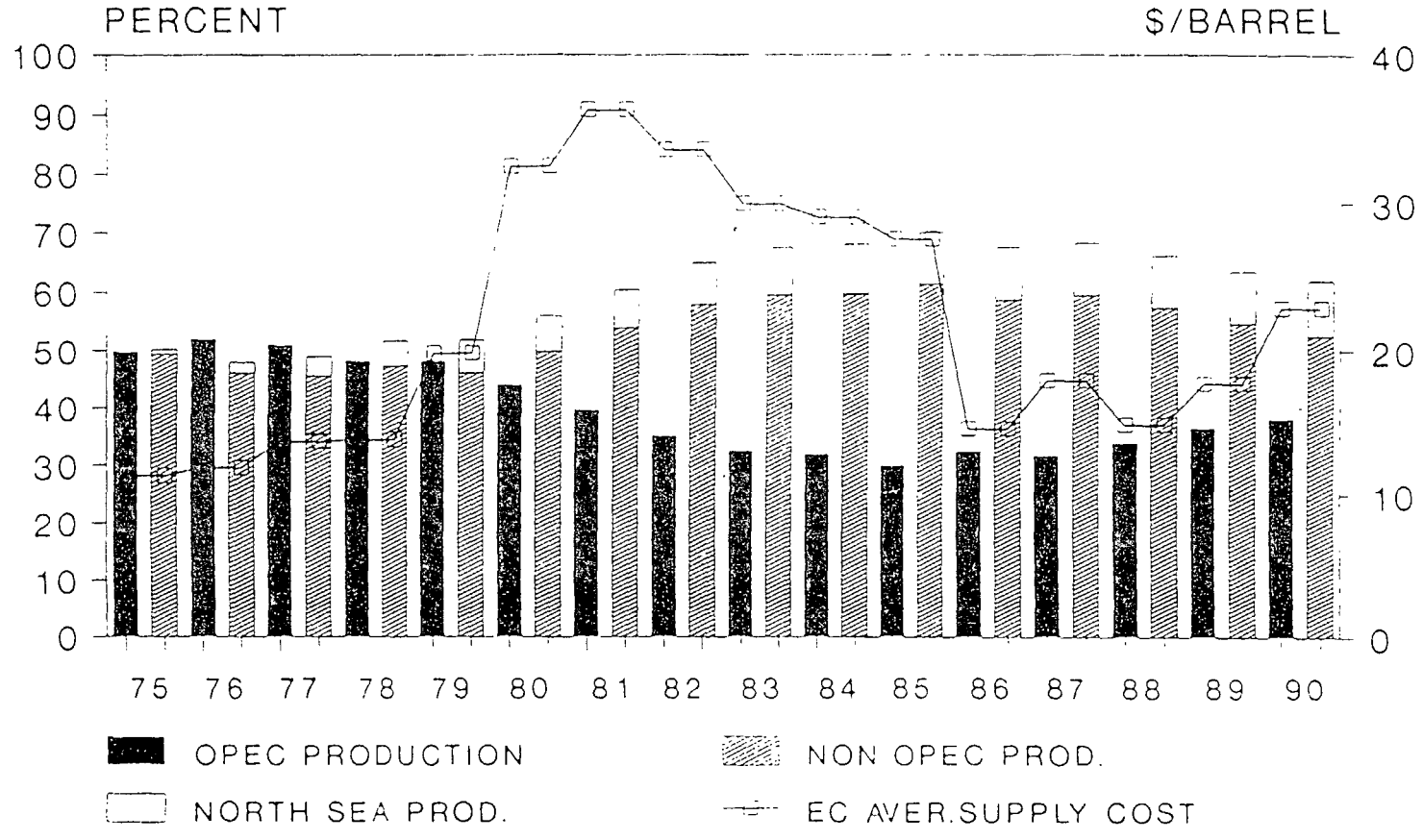
(in million b/d)

	Number of plants	Europe	USA	Other	Total
1- Total overseas refinery interests (a)					
Abu Dhabi	2	290 000	-	-	290 000
Iraq	1	-	-	10 000	10 000
Iran	1	-	-	114 700	114 700
Kuwait	3	232 500	-	-	232 500
Libya	3	265 000	-	-	265 000
Saudi Arabia	5	-	625 000	265 000	890 000
Venezuela	13	548 000	719 000	820 000 (d)	2 087 000
Total	28	1 335 500	1 344 000	1 209 700	3 889 200
2- Controlled refinery capacity (b)					
Abu Dhabi	-	-	-	-	-
Iraq	1	-	-	10 000	10 000
Iran	-	-	-	-	-
Kuwait	3	232 500	-	-	232 500
Libya	3	265 000	-	-	265 000
Saudi Arabia	3	-	625 000	-	625 000
Venezuela	11	262 000	719 000	500 000	1 481 000
Total	21	759 500	1 344 000	510 000	2 253 000
3- Deliveries of OPEC crude oil (c)					
Abu Dhabi	2	80 000	-	-	80 000
Iraq	1	-	-	10 000	10 000
Iran	1	-	-	48 000	48 000
Kuwait	3	230 000	-	-	230 000
Libya	3	185 000	-	-	185 000
Saudi Arabia	5	-	600 000	250 000	850 000
Venezuela	12	175 000	475 000	200 000	850 000
Total	27	670 000	1 075 000	508 000	2 253 000

(a) All foreign refinery interests of OPEC member countries, including minority holdings.
(b) Refineries in which an OPEC country has a holding of 50% or more.
(c) Including swaps and temporary crude supply arrangements with third parties.
(d) Refineries at Freeport, Bahamas, closed (500 000 b/d) and Curaçao (320 000 b/d) on lease.

Sources: figures and estimates by PETROSTRATEGIES

OPEC AND NON-OPEC (OF WHICH NORTH SEA) SHARES IN TOTAL WORLD OIL PRODUCTION



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