

Europe's oil defences

An analysis of Europe's oil supply vulnerability and its emergency oil stockholding systems

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Acronyms

bbl/d	barrels per day
BTC	Baku-Tiblisi-Ceyhan oil pipeline
CEC	Commission of the European Communities
CERM	Co-ordinated Emergency Response Measures
EAD	Euro-Arab Dialogue
EEC	European Economic Community
EC	European Commission
EU	European Union (the current 15 Member States: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the United Kingdom)
Euratom	European Atomic Commission
GDP	Gross Domestic Product
IEA	International Energy Agency
IEC	Interexecutive Energy Committee
IEP	International Energy Program
LNG	liquefied natural gas
LPG	liquefied petroleum gas
Mtoe	million tonne oil equivalent
OAPEC	Organisation of Arab Petroleum Exporting Countries
OECD	Organisation for Economic Cooperation and Development
OPEC	Organisation of Petroleum Exporting Countries
ULCC	ultra large crude carriers
VLCC	very large crude carriers

0. Introduction

The circumstances of world oil markets at the end of 2002 and the beginning of 2003 can be characterised by two words: uncertainty and turmoil. The general strike in Venezuela lasting until January and the prospect of yet another armed conflict in the Persian Gulf region made market participants nervous about adequate physical availability of oil supplies.

Even prior to these events, economic vulnerability or price vulnerability with respect to crude oil had regained the interest of European policy-makers. The European Commission calculates that a US\$ 10 rise in price per barrel increases the European Union's oil bill for external supplies by about € 40 billion a year.¹ Such an increase would engender half a percentage point loss in terms of economic growth. Sudden, unexpected and large-scale price changes could damage the economy even much more.

Two frameworks for responding to oil supply disruptions apply to the 15 EU Member States:

- 1) the International Energy Agency (IEA) framework, including two different mechanisms; and
- 2) the system designed by the European Community

The IEA and European Community systems were designed in the late 1960s and early 1970s and have not changed significantly since the decision to raise IEA strategic stock levels in 1975.

Against this backdrop, on September 11th 2002, the European Commission proposed to amend and strengthen the EU's emergency system for dealing with disturbances in the international oil market.

Recent events provide an occasion to review the EU's vulnerability to supply disruptions and price shocks for crude oil and oil products, as well as the attempts to address this concern. How has the European Union's supply vulnerability developed over time? More importantly, how will it develop over the next century? What are the policies to counteract potential threats and how do these policies relate to anticipated future developments? This analysis focuses on the core feature of the emergency response systems, oil stockholding and release provisions.

Chapter 1 examines the EU's oil supply position over time and gives an outlook for the future. The impact of changes for physical and economic vulnerability is analysed. Chapter 2 recalls the developments which led to the design of the currently existing crisis reaction mechanisms, and chapter 3 reviews these IEA and EU emergency response systems. Chapter 4 discusses in depth the European Commission's proposals to amend and strengthen the EU emergency response system. The paper

¹ CEC, 2002a, Explanatory Memorandum, p. 3.

closes with a number of conclusions on the EU's vulnerability with respect to oil supplies and the adequacy of existing and proposed emergency response systems.

1. Europe's vulnerability

The central topic of this Clingendael Energy Paper is Europe's² vulnerability with respect to crude oil and petroleum products and the measures taken to reduce vulnerability. There are two types of vulnerability:

- 1) *Physical supply vulnerability* refers to the risk of a physical interruption of oil supply; and
- 2) *Economic vulnerability* is the risk of high oil prices and their corresponding influence on Europe's economy.

Interrupted oil supplies always coincide with high oil prices as a reaction to scarcity. But high oil prices are not always caused by interrupted oil supplies, as will be illustrated later.

A common approach for reducing vulnerability is to diversify sources of crude oil and oil products so that an interruption of supply from a particular source has only limited impact. The previous and future effects of this policy approach for the EU is the subject of section 1.1. Interrupted oil supply can be counteracted in two ways. Holding spare production capacity of crude oil is one form of insurance against oil supply disturbances. Crisis mechanisms, including emergency stockholding and demand restraint measures, are another. Crisis mechanisms for counteracting interrupted oil supply are not necessarily the same as for counteracting high oil prices.

Assessing the adequacy of emergency response systems requires information about both the current state and expected changes in vulnerability. Moreover, the performance of existing systems at past levels of vulnerability helps to draw conclusions regarding potential performance of different systems for the future.

Section 1.1 provides an overview of the physical aspects of supply vulnerability and their developments over time. Section 1.2 explains economic vulnerability in this context.

1.1. European crude oil supply vulnerability

During the 1970s, European and world dependence on crude oil was painfully illustrated by two international oil crises. The following describes the turbulent situation during the 1970s, the development of Europe's position with respect to crude oil supply as well as the EU's future crude oil supply situation. An overview of some of the world's most important oil transit chokepoints, the vulnerability of which might also be a threat to the EU's crude oil supply, is also presented.

² In this paper, we use *Europe* to refer to the current 15 Member States of the European Union, which are: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden and the UK.

1. Europe's vulnerability

1.1.1. Crude oil supply during the 1970s

At the end of the 1960s and in the early 1970s, global demand for crude oil rose sharply. Production increased accordingly, specifically within Arab nations. Imported crude oil from Arab countries increased as a percentage of total energy consumption in Western Europe from 13.4 percent in 1956, to 36 percent in 1967, to 45 percent in 1973.³ Until then the United States had been self-sufficient with respect to crude oil. However, scarcity as a result of increasing demand and depletion of US oil fields made the US a net importing country during this period, although US dependence on imported oil was still far less than that of other consumer regions.

The structure of the international oil market changed significantly during the 1970s. For many years, international oil companies, the so-called *majors* or *Seven Sisters*,⁴ had dominated the international oil market. Nationalisation procedures in producing countries, the relative growth of national Arab oil companies and independent Western oil companies altered the position of the majors. Additionally, OPEC became increasingly important with cartel member countries increasing from five at its creation in 1960 to thirteen by 1973. OPEC's main objective was to increase the income from oil exports of its member countries.⁵ Oil producing countries had felt disadvantaged as oil prices had barely risen during the preceding years while prices of industrial products in Western industrialised countries had often risen substantially.⁶ OPEC country governments also demanded increased participation in the exploitation of oil resources on their territory.

Two international oil crises

OPEC's attempts to increase income from oil exports led to a series of price increases in the early 1970s. It became increasingly clear that the oil producing countries intended to secure majority participation in oil producing operations and the right to determine levels of production and prices.⁷

³ Hellema, et. al., 1998, p. 43.

⁴ The Seven Sisters were made up of Exxon (previously known as Standard Oil of New Jersey, or Esso); Mobil (Standard Oil of New York, which merged with Vacuum Oil); Chevron (Socal, or Standard Oil of California); the Mellon's Gulf Oil; Shell; Texaco; and British Petroleum (Anglo-Iranian). These controlled 90% of crude oil exports to world markets by controlling every important pipeline in the world, such as the 753-mile TransArabian Pipeline from Qaisuma in Saudi Arabia to the Mediterranean Sea, which was owned by Exxon, Chevron, Texaco, and Mobil. Exxon owned the 100-mile Interprovincial Pipeline in Canada; and also the 143-mile pipeline in Venezuela. British Petroleum and Exxon owned the 799 mile Alaskan Pipeline.

⁵ Van der Linde, 1991.

⁶ Hellema, et. al., 1998, p. 44.

⁷ In December 1970, OPEC proposed severe price and tax increases. After several meetings of major oil companies' parent countries, the demands of oil producing countries were satisfied in February 1971. In June 1973 a new price increase of 12% was agreed upon. Prior to a new round of negotiations between OPEC and the major oil companies during October 1973, the OPEC Member States demanded a 100% price increase (see e.g., Yergin, 1991, p. 601).

In addition to OPEC's demands, the international oil market became politicised during the early 1970s. The Arab OPEC Members created the Organisation of Arab Petroleum Exporting Countries (OAPEC) in 1968, and during the early 1970s, OAPEC had threatened several times to cut oil supplies to countries that supported Israel. Thus, the term *oil weapon* emerged.

Tensions rose further when on 6 October 1973, military units from Egypt and Syria crossed the embarkation lines with Israel in an attempt to attack the country and to re-capture land that had been lost during the war in 1967. These embarkation lines had been agreed upon in 1970 as a result of cease-fire negotiations.

Shortly after the beginning of the war, OAPEC held a conference on 16 October 1973 in Kuwait. During this conference six Gulf States unilaterally increased the barrel price of crude oil by 70 percent. The next day, all OAPEC members decided to reduce crude oil production by five percent for each month that Israel did not withdraw from the occupied territories and for as long as Israel failed to acknowledge the political rights of the Palestinians.⁸ In reaction to US plans to support Israel, OAPEC announced an oil embargo against the US. An oil embargo against The Netherlands and Portugal quickly followed for their purported pro-Israeli attitude.⁹ The 1973 oil crisis had arrived.

In 1979 a similar chain of events was set in motion with oil market panic in reaction to a decrease in Iranian output. The decrease was caused by an oil workers' strike, which led to the Iranian Revolution. Although the total Persian Gulf supply reduction was very limited (by the spring of 1979 supply from the region again reached the pre-crisis level of December 1978), prices had increased considerably and continued to rise even though supply actually began to exceed pre-crisis levels.¹⁰ The second international oil crisis had begun. The situation worsened in September 1980 when Iraq attacked Iran, resulting in a decline of both countries' oil output. Oil prices rose further. At the end of 1981 prices started to decline because Saudi Arabia had increased its oil output and oil inventories were drawn down. Noreng (2002, p. 22) argues that the high prices during 1979-80 were caused by two factors. First, there was the uncertainty connected with the Iranian Revolution and the Iran-Iraq war which had caused panic oil purchasing and oil stock build-up. Secondly, producing countries such as Saudi-Arabia, Kuwait and the United Arab Emirates, by choosing not to increase output in the presence of very high oil prices during the crisis, took the opportunity to bring world oil price levels to a sustained higher level than before the crisis.

⁸ Hellema, et. al, 1998, pp. 55 ff; Yergin, 1991, pp.607 ff.

⁹ The embargo against the Netherlands might not have been aimed only at the Netherlands. The Former Dutch Minister of Foreign Affairs, Mr. Van der Stoel, for example, argued that the embargo against the Netherlands had been prepared well before the war in October 1973 and that its purpose was to affect the Port of Rotterdam in its important throughput function for crude oil and oil products for the West European economies, which would be affected accordingly. (Hellema et. al, 1998, p.75)

¹⁰ Noreng, 2002, p. 21-22.

Supply origins at the end of the 1970s

The following describes the physical crude oil position of the EU. Table 1-1 presents the EU's top ten crude oil supply origins in 1978.¹¹ The rather large crude oil import share from countries surrounding the Persian Gulf and particularly Saudi Arabia is striking and illustrates the degree of the EU's vulnerability. The top ten were good for 88 percent of the total supplies in 1978, with the United Kingdom being the only West-European supplier on the list.

Table 1-1: EU's Top 10 crude oil supply origins in 1978

Rank	Country	1000 tonnes	%
1	Saudi Arabia	151,709	24
2	Islamic Republic of Iran	84,563	13
3	Iraq	69,286	11
4	United Kingdom*	53,475	8
5	Libya	41,581	6
6	Kuwait	38,449	6
7	Nigeria	38,092	6
8	United Arab Emirates	37,666	6
9	Former USSR	31,210	5
10	Algeria	20,843	3
	Sub TOTAL	566,874	88
	TOTAL Supplies	643,150	100

*The number for the UK is the total domestic production as no detailed export data is available for 1978. Although certainly the main share was consumed in countries which later form the EU-15, on the basis of available data for 1980 it can be assumed that significant amounts were exported to non-EU-15 destinations such as the US and Canada.

Source: IEA Oil Information 2002, OECD/IEA.

Saudi Arabia played an important role during the 1979-80 oil crisis because it temporarily chose not to use spare capacity to offset the shortfall but instead reduced its production volumes. Since Saudi Arabia then accounted for approximately 25 percent of Europe's crude imports with 152 million tonnes, this decision had a severe impact. Further, Kuwait and the United Arab Emirates also cut volumes in late 1979 and throughout most of 1980.¹²

1.1.2. *The crude oil supply situation at the beginning of a new century*

The constraints on production imposed by OPEC during the 1970s and its decision to quadruple the price of oil was a traumatic shock to the European economic and political system. European countries intensified

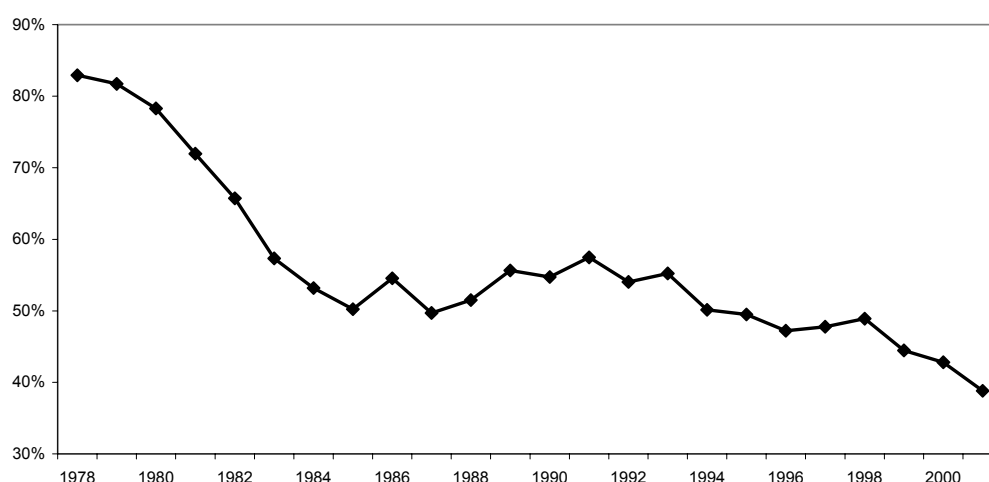
¹¹ For this analysis, the year 1978 has been chosen because reliable IEA data goes back to 1978. It should be noted that there were not any big changes in import origins in the years prior to 1978. The European Union did not consist of 15 Member States in 1978, but for comparison reasons the calculations were made for the 15 Member States, which form the EU today.

¹² Noreng, 2002, p. 22.

their national approaches to energy security in order to be better prepared for this sort of crisis. Individual countries searched for alternative sources of indigenous energy with a view to preserving them for national use. They also sought greater degrees of security of supply through special arrangements with energy exporting nations.¹³

France shifted towards nuclear power for electricity production, the Netherlands looked towards imported coal and also had intentions of establishing a nuclear programme.¹⁴ The EU Member States' governments created incentives for companies to explore and produce oil in politically safe countries. North Sea oil production came on-stream and production in other non-OPEC countries increased substantially. A result of these efforts can be seen in figure 1-1 which illustrates the decline in OPEC's share of the EU's total net¹⁵ crude oil imports over time. In 1978, OPEC's share was 85 percent or 482 million tonnes. By 2001, OPEC's share in crude imports had decreased to 210 million tonnes, representing just 44 percent of net imports.

Figure 1-1: OPEC's share in crude oil imports of the EU-15



Source: IEA Oil Information 2002, IEA/OECD. Not corrected for intra EU trade.

Van der Linde notes that one of the main causes for the gradual decrease of OPEC's share in the EU's total imports was the political impact of the oil embargo in 1973-74 which stimulated diversification of source and origin of imports, to decrease EU supply vulnerability.¹⁶

¹³ Odell, 2002.

¹⁴ In the light of the oil crises, the significant natural gas resources of the Netherlands were considered a scarce strategic good that should be preserved for a prolonged period of time. Consequently, Dutch policy encouraged coal and nuclear energy for power generation, apart from intensive energy saving programmes (see Correljé et. al., 2003, pp. 80-84).

¹⁵ The IEA Oil Information 2002 CD-ROM reports a figure for imports of the European Union as a simple summation of the imports of the individual Member States, without correcting for imports of oil originating in other Member States. Wherever this paper mentions "net" imports, we corrected the import figures by excluding the imports from Member States. This mainly refers to imports from the UK and Denmark.

¹⁶ Van der Linde, 1991.

1. Europe's vulnerability

Table 1-2 provides another illustration of how the EU's crude oil supply situation changed significantly over a quarter of a century. In 2001, the ten largest supply origins represent 87 percent of the total supplies, which is roughly the same percentage as in 1978.¹⁷

Table 1-2: Top 10 crude oil supply origins of the EU-15 in 2001

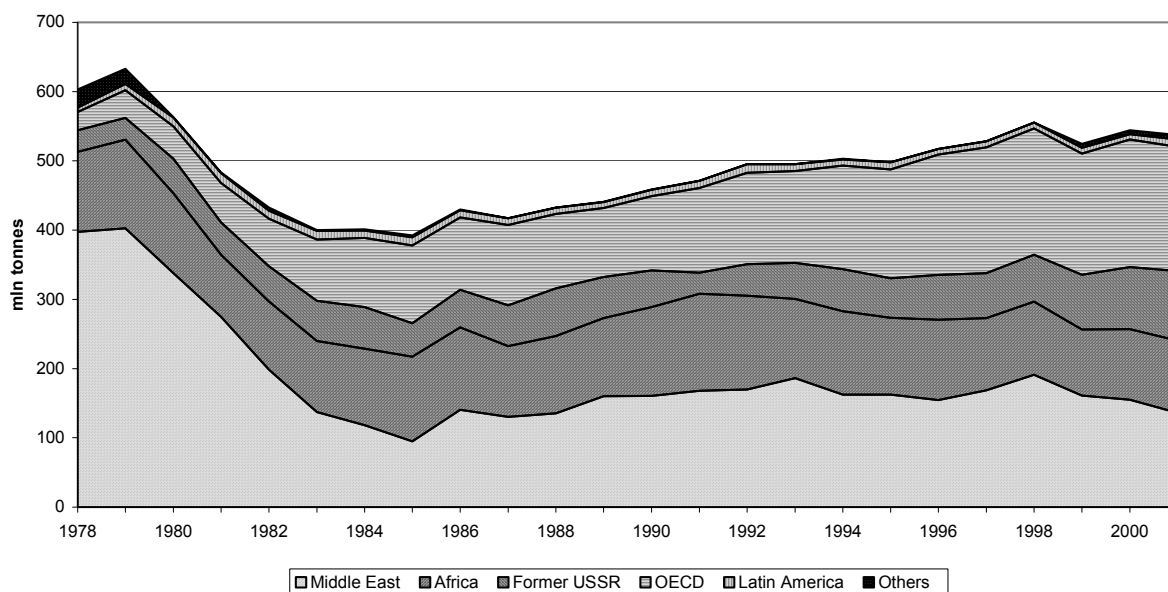
Rank	Country	1000 tonnes	%
1	Norway	107,253	18
2	Former USSR	100,828	17
3	United Kingdom*	85,876	15
4	Saudi Arabia	58,518	10
5	Libya	43,008	7
6	Islamic Republic of Iran	30,991	5
7	Nigeria	25,358	4
8	Iraq	19,564	3
9	Other Middle East	18,780	3
10	Algeria	14,009	2
	Sub TOTAL	504,185	87
	TOTAL Supplies	581,200	100

*This does not include 23.7 million tonnes of production which were exported to non-EU-15 countries

Source: IEA Oil Information 2002, OECD/IEA.

The sum of the ten largest supply origins in relation to the total supply of crude oil may not have changed much between 1978 and 2001. However, the supply origins have changed considerably. Norway conquered first place from Saudi Arabia. Former USSR countries and the UK have become more important suppliers. Dependence on producing countries around the Persian Gulf (i.e. Saudi Arabia, Iran and Iraq) and OPEC members in general has been reduced and replaced by supply origins that are perceived to be politically more reliable suppliers, such as Norway and the UK. An overview on the crude oil import situation between 1978 and 2001 is presented in figure 1-2. The Middle East section together with the Africa section roughly represents the OPEC Member Countries.

¹⁷ By way of comparison, the figures for the share of the top ten import origins in relation to the total imports for the US accounted for 87% in 1978 and 90% in 2001 respectively (while imports accounted for 45% and 63% of total consumption) (IEA 2002b).

Figure 1-2: EU Crude oil imports, 1978 – 2001*

* This figure has not been corrected for intra-EU trade. Imports from OECD countries include the imports of EU Member States from countries such as Denmark and in particular the UK.

Source: IEA Oil Information 2002, OECD/IEA.

Notably crude oil imports from former USSR countries gradually increase every year. Since 1995 the increase in annual imported crude oil is especially significant, as shown in table 1-3.

Table 1-3: Import of crude oil from former USSR countries (million tonnes oil equivalent)

Year	1995	1996	1997	1998	1999	2000	2001
Volume	57.0	64.6	65.0	67.9	78.8	89.5	100.8

Source: Oil Information 2002, IEA/OECD.

Since 1978 the share of imports from politically stable OECD countries increased even more than imports from the former USSR countries. This oil originates mainly in the North Sea, with Norway and the UK being the prime producers. Since 1995 crude oil imports from Norway have exceeded 100 Mtoe (million tonnes oil equivalent) each year, supplemented by indigenous production in the UK of more than 100 Mtoe annually.¹⁸

Finally, crude oil supply vulnerability of the EU can also be expressed by the ratio for oil in the total primary energy supply. Oil's weight in primary energy supply has fallen gradually from 55 percent in 1978 to 42 percent in 1985. Since 1985 the share of oil for primary energy supply has fluctuated around 42 percent (IEA, 2002c). As a result of diversification

¹⁸ IEA, 2002b.

1. Europe's vulnerability

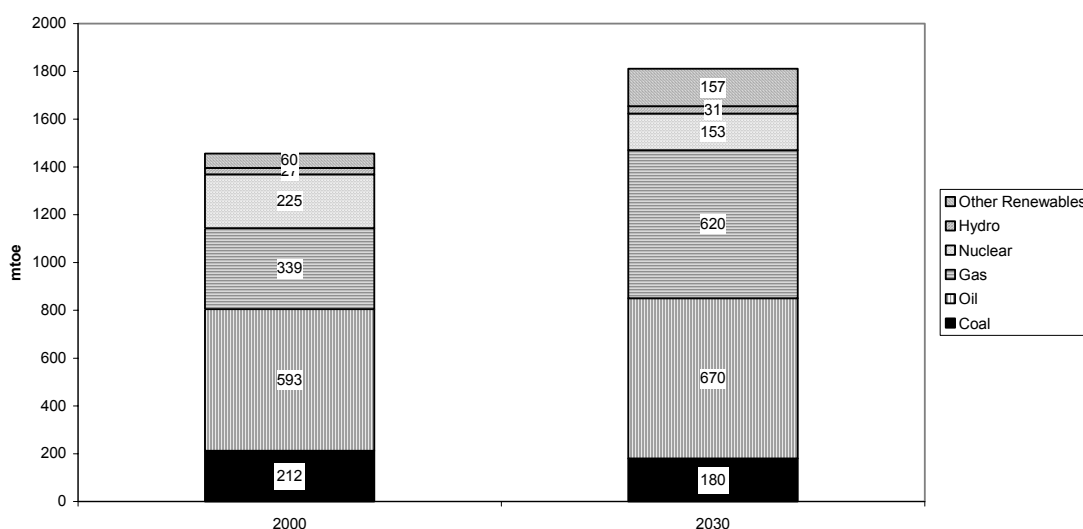
strategies for energy carriers and energy saving efforts, the weight of oil in overall energy supply has declined leading to a lower sensitivity with respect to crude oil supplies.

1.1.3. Crude oil supply situation of the EU in 2030

The EU has the largest energy imports of all regions of the world, amounting to approximately 16 percent of the world energy market.¹⁹ The total primary energy demand in the EU is expected to rise by 0.7 percent per year from 1,456 Mtoe in 2000 to 1,811 Mtoe in 2030.

As shown in figure 1-3, the share of coal in total primary energy use will decline from 15 percent in 2000 to 10 percent in 2030. The share of gas is expected to increase from 23 percent in 2000 to 34 percent in 2030, almost closing up on oil, which is expected to decline from 41 percent to 37 percent. The share of renewables other than hydro, also rises steadily, contributing nine percent of primary energy supply in 2030, whereas the share of nuclear will decrease.²⁰

Figure 1-3: Total primary energy demand for the European Union (2000, 2030)



Source: IEA World Energy Outlook 2002, IEA/OECD.

Oil will remain Europe's primary source of energy. Demand will increase 0.4 percent per year from 2000 to 2030. The EU's transport sector will continue to depend heavily on oil, since it is expected that no real substitute in this field will become available. Thus, the transport sector contributes the biggest share of the demand increase. Aviation fuel consumption will grow most quickly, followed by diesel and gasoline. As a result of this general rise in demand, net imports of crude oil are expected to reach a level as high as 590 Mtoe in 2020, approximately the same absolute level as in the late 1970s. By way of comparison, the EU imported

¹⁹ IEA, 2002a, p. 178.

²⁰ Ibid, p. 184.

475 Mtoe in 2001. However, despite the predicted absolute demand increase for the EU Member States, the IEA expects that the importance of oil for primary energy supply will fall slightly from 41 percent in 2000 to 37 percent in 2030 (see figure 1-3).

A strategy aimed at fostering domestic production and energy saving that started as a reaction to the international oil crises in the 1970s led to a decline of EU oil imports until 1985. Since then however, the import of crude oil again began increasing (see figure 1-4). The growing import dependence has caught the attention of the European Commission. The concerns of the Commission can be found in the Green Paper²¹ "Towards a European strategy for the security of energy supply", published in November 2000. With respect to energy supply the report concludes that the EU's dependence on external energy sources will rise from around 50 percent to 70 percent by 2030. For oil, the report concludes that unless specific measures are taken, especially in the transport sector, crude oil import dependence could reach 90 percent by 2020. This oil will most likely originate from countries and regions which are politically sensitive (Russia, the Caspian Sea region and the Middle East), where local and regional conflicts could take place in the near future, disrupting energy supplies.²²

The former Soviet Union countries will play a very important role in satisfying increasing EU demand. In particular, Russian crude oil production could double during the next 20 years from 7.8 million barrels a day in 2000 to 14 million in 2020.²³

The Caspian Sea basin²⁴ is also expected to become very important for securing future European supplies. Production costs are significantly higher in these areas compared to the costs of production in most of OPEC member countries. However, crude oil prices of about US\$ 20 per barrel should make investments economically viable and secure production and transportation from these areas.²⁵

Apart from Russia and the Caspian Sea basin, OPEC member countries will likely capture a great deal of Europe's future need for crude oil. More than 70 percent of the world's oil reserves are located in these countries. Currently OPEC accounts for 42 percent of EU oil imports.²⁶ The CEC

²¹ Green Papers are communications published by the Commission on a specific policy area. Primarily they are documents addressed to interested parties, organisations and individuals, who are invited to participate in a process of consultation and debate. In some cases they provide an impetus for subsequent legislation.

²² Van der Linde, 2001, p. 4.

²³ CEC, 2001, p. 39. Russia plays not only a role in crude oil production, but also in refining. Currently about 30 Mtoe/a of petroleum products are exported to the European Union.

²⁴ The Caspian Sea basin contains currently known reserves of 25 billion barrels, roughly the same as in the North Sea and the US. Potential reserves however, could exceed 200 billion barrels. CEC, 2001, p. 39.

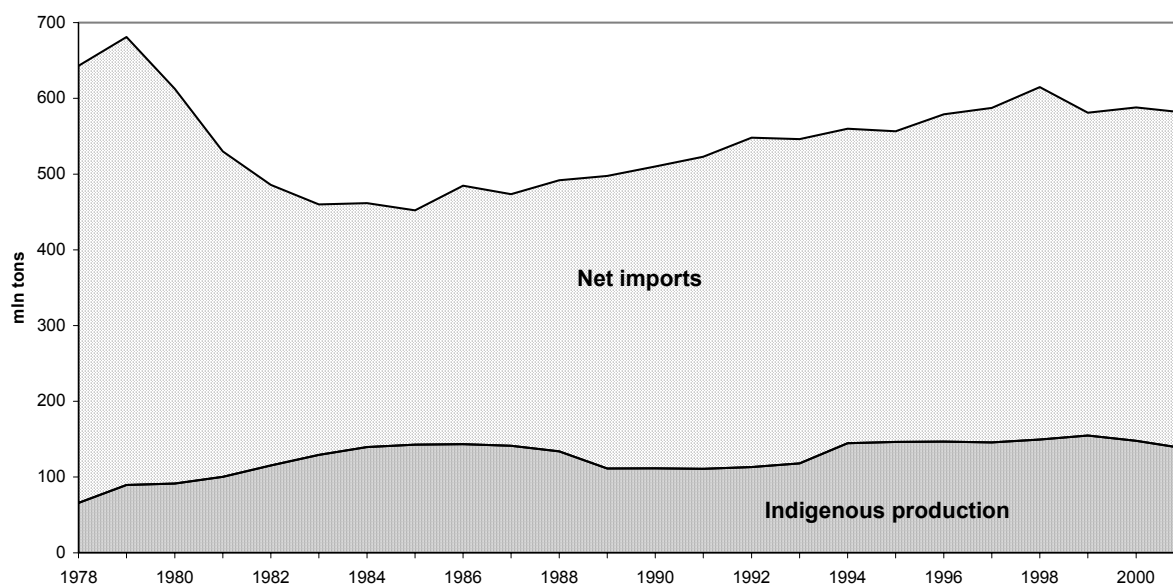
²⁵ Ibid, p. 37.

²⁶ IEA, 2002a, p. 187.

1. Europe's vulnerability

Green Paper estimates that by 2020 OPEC will supply the EU with 55 million barrels a day, as compared with 32 million barrels a day for 2000.²⁷

Figure 1-4: EU-15 Indigenous production and net imports



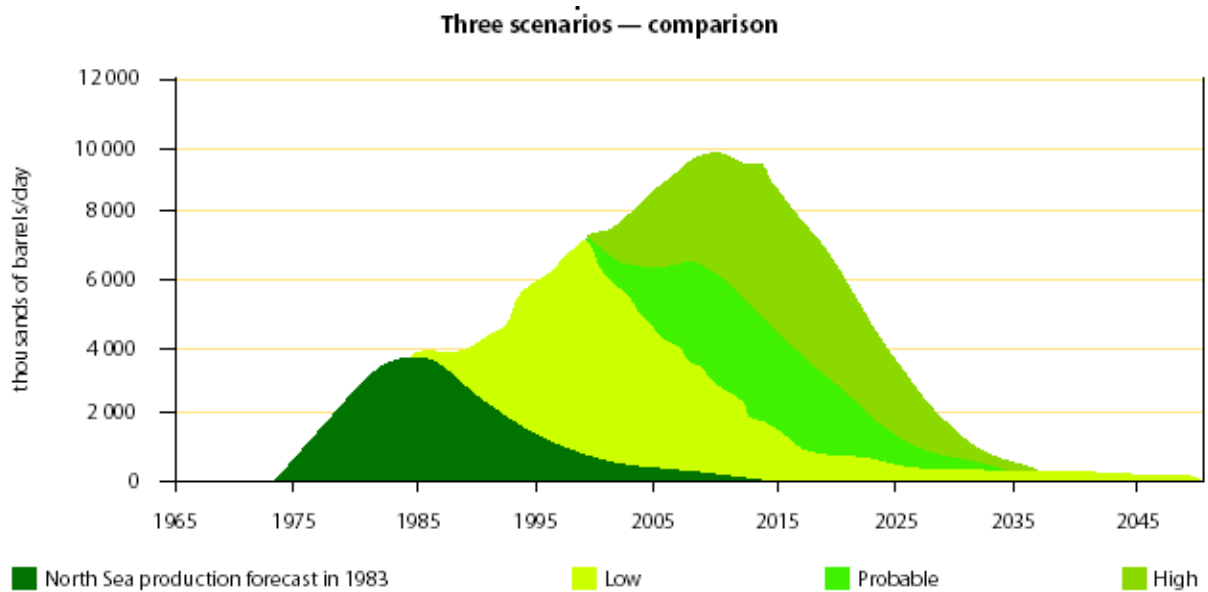
Source: IEA Oil Information 2002, IEA/OECD.

Indigenous production is expected not to be able to increase its contribution to EU oil supply in the future. The EU has relatively few oil reserves and the reserves of the ten candidate countries are even less. Figure 1-5 illustrates the expected gradual decline in domestic production for the coming years. The EU has eight years of known reserves at current consumption rates, mainly located in the North Sea.²⁸

²⁷ CEC, 2001, p. 37.

²⁸ Ibid, p. 17.

Figure 1-5: North Sea (North West European Continental Shelf) production forecasts



Source: CEC, 2001, p. 20.

Like all forecasts, the EU's crude supply outlook for 2030 has a variety of uncertainties, from changing political circumstances which might lead to different perceptions of risks connected, to certain supply regions, to new possibilities emerging with regard to oil supplies.

For instance, the Green Paper only very briefly mentions unconventional sources of crude oil such as the Canadian tar sands or extra heavy bituminous crude oil found in Venezuela. Recoverable reserves for these two sources are estimated at 580 billion barrels, exceeding the combined conventional reserves in the Middle East.²⁹ Here lies another diversification opportunity for EU oil supplies. The importance of these sources will depend largely on the development of international oil prices. In any case, the sheer volume of reserves, particularly in Canada, should provide a counterweight to the expected increasing dominance of OPEC countries in world oil markets. Some commentators, for instance Odell (2003, p.11), argue that instead of stronger concentration of oil production in the Middle East, there will be a wider geographical distribution of supply origins.

1.1.4. *Europe's crude oil transit chokepoints*

Other points of concern with respect to EU crude oil supplies are the so-called 'chokepoints'. Over 35 million barrels per day pass through relatively narrow shipping lanes and pipelines.³⁰ Shipping accidents can cause serious impediments to transportation on these routes and neighbouring countries or hostile forces can relatively easily disturb transportation –

²⁹ IEA, 2002a, p. 101.

³⁰ EIA, 2002, p. 1.

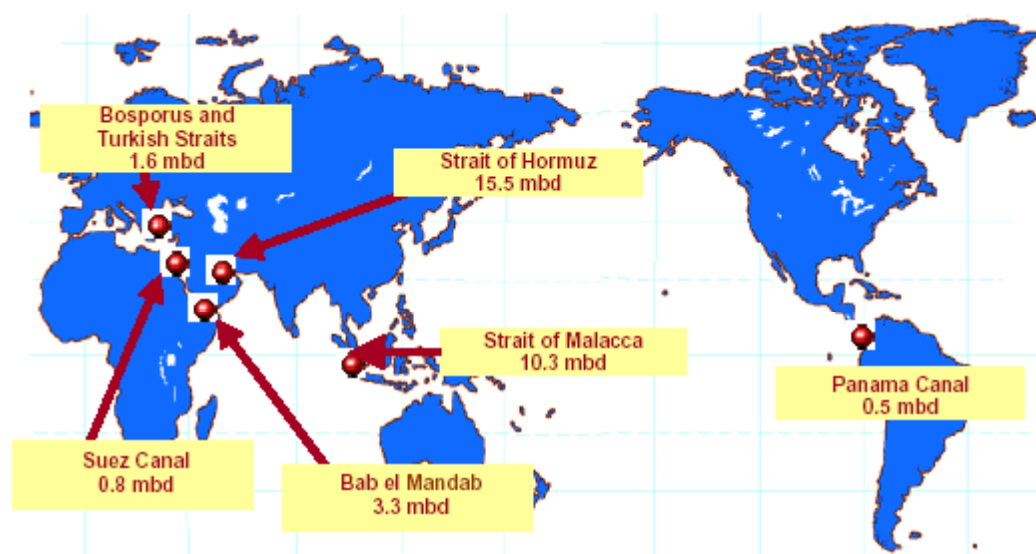
1. Europe's vulnerability

thus, these shipping routes and pipelines are referred to as chokepoints. Disruption of oil flows through any of these export routes could have a significant impact on world oil supply and therefore also a significant impact on the world and regional market price for oil. When a trade route is blocked, oil already on the way has to be rerouted, leading to potentially major delays and causing shortages in the regions mainly supplied through the specific trade route. For crude oil (and products) supply to Europe, the Bosphorus/Turkish Strait and the Suez Canal/Sumed pipeline chokepoints are geographically important.

To illustrate Europe's vulnerability to these chokepoints let us remember the sunken car carrier, *Tricolor*, in the North Sea channel between the UK and the European continent. Even in such a relatively broad channel compared to the Bosphorus/Turkish Straits, two accidents have occurred while naval warnings were effective.³¹ A sinking such as the *Tricolor* in the Bosphorus would almost certainly lead to its closure, making crude oil exports by tanker from countries surrounding the Black Sea and more importantly, the Caspian Sea, virtually impossible.

Figure 1-6 presents the world's most important chokepoints. The points that are of major importance for Europe's supply are described below.

Figure 1-6: World oil transit choke points



Source: APERC, 2002, p. 20.

³¹ On 16 December 2002, the *Nicola*, a 3,000 tonne ship registered in the Dutch Antilles, hit the wreck of the *Tricolor*. The Turkish ship *Vicky*, carrying 70,000 tonnes of highly flammable gas oil also struck the sunken *Tricolor* in the night of 1st to 2nd January 2003, after failing to heed French naval warnings.

Bosporus / Turkish Straits

The Bosporus Strait connecting the Black Sea with the Mediterranean Sea forms one of Europe's main supply vulnerabilities with respect to crude oil, particularly for Southern Europe.

The 27 kilometres strait is more like a river than open sea with less than 700 metres width in some places and numerous blind turns. With more than 50,000 vessels passing annually, amongst which are 5,500 oil tankers, the possibility of shipping accidents in the Bosporus poses a severe threat to the environment as well as to Europe's security of oil supply. Increasing congestion has led to a rising number of major accidents.

In October 2002, Turkey placed new restrictions on oil tanker transit through the Bosporus, including:

- a ban on night time transit for ships longer than 200 meters;
- the requirement that ships carrying dangerous cargo (including oil) request permission to transit 48 hours in advance; and
- a one-way traffic regulation for ships more than 250-300 meters long and for any ship carrying liquefied natural gas (LNG) or liquefied petroleum gas (LPG).

The regulations are said to have slowed tanker transit by about three and a half days.³²

Exports through the Black Sea and the Bosporus have increased since the early 1990s. New Caspian Sea region development of oil fields is likely to increase demand for shipping via that waterway. Until 2005, the year in which the Baku-Tbilisi-Ceyhan (BTC) oil pipeline is expected to be completed which will transport Caspian oil to Ceyhan (Turkey's Mediterranean port), the Bosporus Strait offers the only point between the Black Sea and the Mediterranean Sea for the transit of Caspian oil. In July 2000, the IEA estimated that exports through the Turkish Straits might rise to 2.3 million barrels per day, well exceeding the handling capacity of that waterway estimated at around 1.8 million barrels per day.³³

Suez Canal and Sumed pipeline³⁴

The Suez Canal connects the Red Sea and Gulf of Suez with the Mediterranean Sea. Accommodating ships with drafts of up to 58 feet means that Suezmax carriers can pass through the canal (which are built

³² EIA, 2002, p. 5.

³³ Ibid, p. 6.

³⁴ EIA, 2002, p. 12.

1. Europe's vulnerability

this particular size accordingly) but very large crude carriers (VLCC's) and ultra large crude carriers (ULCC's) cannot.³⁵

The Sumed pipeline (shown in figure 1-7), built as a bypass to the Suez Canal avoids the situation of large crude carriers having to sail around the tip of Africa en route to Europe or the US. The Sumed pipeline consists of two parallel 42-inch pipelines. VLCCs and ULCCs can discharge their crude oil at the Ain Sukhna terminal on the Gulf of Suez and then pass through the Canal and re-load to the maximum again in Sidi Kerir on the Mediterranean.

Figure 1-7: Sumed pipeline



Source: Oil Capital Ltd., reproduced in EIA, 2002.

The Sumed pipeline has a capacity of around 2.5 million bbl/d. In 2001, the Suez Canal transported around 1.3 million bbl/d of petroleum. These two chokepoints added together make for a combined oil flow through Egypt of 3.8 million bbl/d.

Nearly all the crude oil transported through the Sumed pipeline comes from Saudi Arabia. In 2001, Saudi Arabia supplied the EU with nearly 59 million tonne of crude oil, representing the fourth largest crude oil import origin for the EU. Closure of the Suez Canal and/or Sumed Pipeline would result in oil tankers having to divert around Africa's southern tip, the Cape of Good Hope, adding greatly to transit time and effectively reducing tanker capacity. Therefore, closure of the canal or the pipeline poses a serious threat to the EU with respect to both security of supply as well as to oil prices because transporting crude oil in VLCCs or ULCCs

³⁵ Oil tankers come in two basic categories, the crude carrier, which carries crude oil, and the clean products tanker, which carries refined products, such as petrol, gasoline, aviation fuel, kerosene and paraffin. With respect to size, the following categories are generally distinguished:

- HANDY SIZE TANKER = 20,000 – 30,000 Dead Weight Tonnage (DWT)
- HANDYMAX TANKER = approx 35,000 DWT
- PANAMAX TANKER = between 60,000 – 80,000 DWT
- AFRAMAX TANKER = between 75,000 – 125,000 DWT
- SUEZMAX TANKER = between 125,000 – 180,000 DWT
- V.L.C.C. TANKER = between 200,000 – 300,000 DWT
- U.L.C.C. TANKER = 500,000 DWT

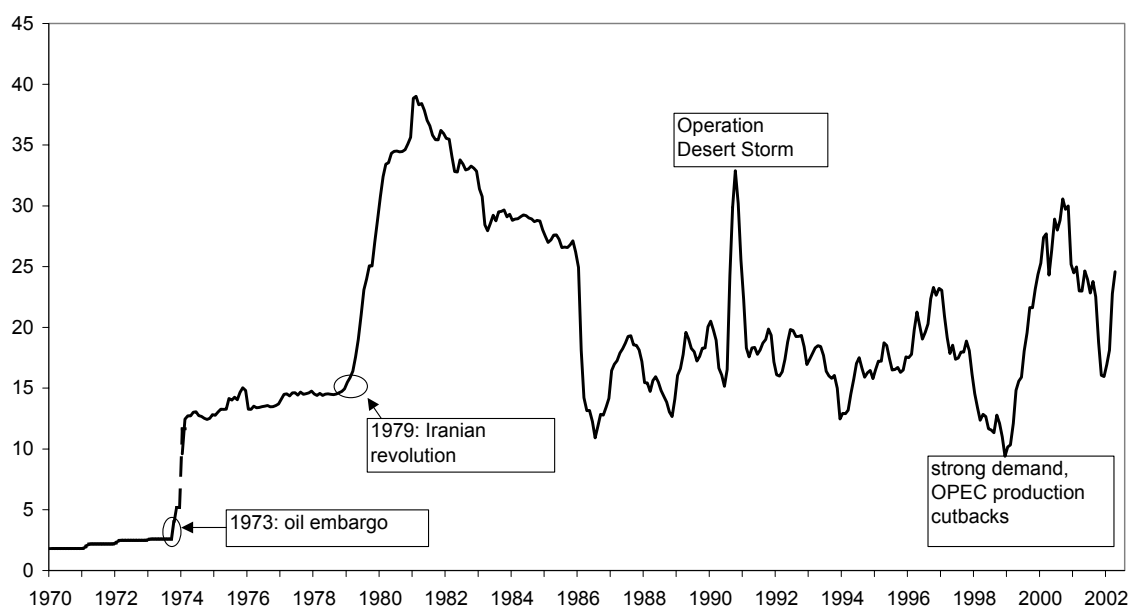
around Africa means a severe demand increase in tanker capacity, which – in the short run at least – consequently leads to higher transport prices and thus higher petroleum prices in the EU.

1.2. Europe's economic vulnerability

The change in the Europe's vulnerability in terms of physical supply of crude oil and petroleum products has been illustrated in the previous sections. This section will review EU economic vulnerability with respect to fluctuating oil prices in general, and discuss how EU economic vulnerability has changed since the early 1970s.

The political turmoil during the 1970s resulted in two severe oil price shocks. For the first in 1973, crude oil doubled in price over night. The high oil price led to a sudden and large flow of funds from oil importing to oil exporting countries. Economists have conflicting views the extent to which higher oil prices have a direct influence on economic growth.³⁶ Intuitively, at least part of the severe recession in the oil importing countries in 1974 and 1975, with high inflation and high unemployment, can be explained by increased energy costs (see figures 1-8 and 1-10). The second price shock occurred from 1978-80 when doubling oil prices caused another sudden transfer of funds to oil exporting countries. The result was, once again, a severe recession (see figure 1-9).

Figure 1-8: Crude oil prices, 1970 – 2002

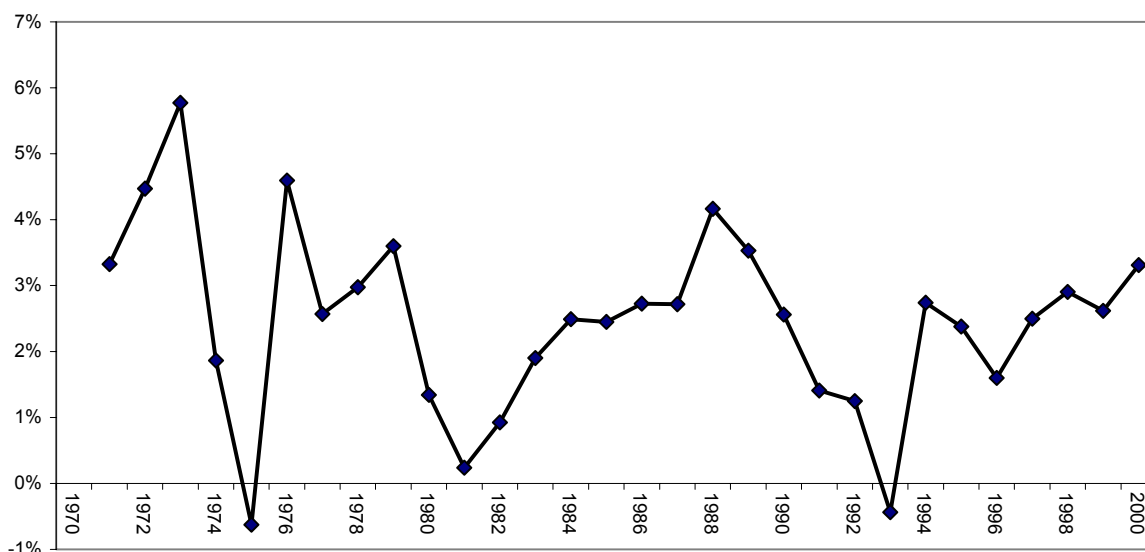


Note: Nominal US\$. Until 1973, official price of Saudi Light; from 1974 onwards, US refiner acquisition cost of imported crude oil.

Source: EIA.

³⁶ See Bohi and Toman, 1996, pp. 48ff. and the references therein. Gawronski (2000, p. 16) states that price hikes in 2000 would lead to a slowing down of GDP growth by 0.6% and an increase in inflation by 1%, according to then current OECD estimates. He calls these numbers 'not dramatic', a statement which depends on the reference system of the observer.

Figure 1-9: GDP growth within the EU-15



Based on figures in US\$ at 1995 prices and exchange rates.

Source: IEA 2002c.

1.2.1. Impact of high oil prices on the EU economy

As noted above, 42 percent of EU energy demand is currently met by oil. The demand and supply situation of oil, within certain limits being a substitute to almost any other energy carrier, affects the price of virtually any other energy carrier.³⁷ Costs for fuels derived from crude oil form a very significant part of the costs occurring in the transport sector. Oil is also the basic raw material for the plastics and petrochemical industries. Therefore, an increase in oil price implies an increase in production cost of all goods requiring energy for their manufacture, of the transport sector, and for all sectors that use oil as a raw material. Thus oil price directly or indirectly influences every economic sector.

Higher oil prices increase production costs and thus contribute to inflation. As this inflation is caused by the price increase of a commodity that in the EU mainly needs to be imported, it is called 'imported inflation'. The sharp increase of prices will engender a decline of consumption levels, leading to declining profits for most companies. Producers will scale back production and postpone investment decisions, causing unemployment levels to rise. An oil-importing country can run the risk to get stuck in a downward spiral, initially caused by the high oil prices.

Given a relatively small cost share of energy in the economy, there is dispute as to the degree that price increases for crude oil as such can cause far-reaching economic disturbances.³⁸ However, the psychological effect of a highly volatile oil price should not be underestimated: it creates

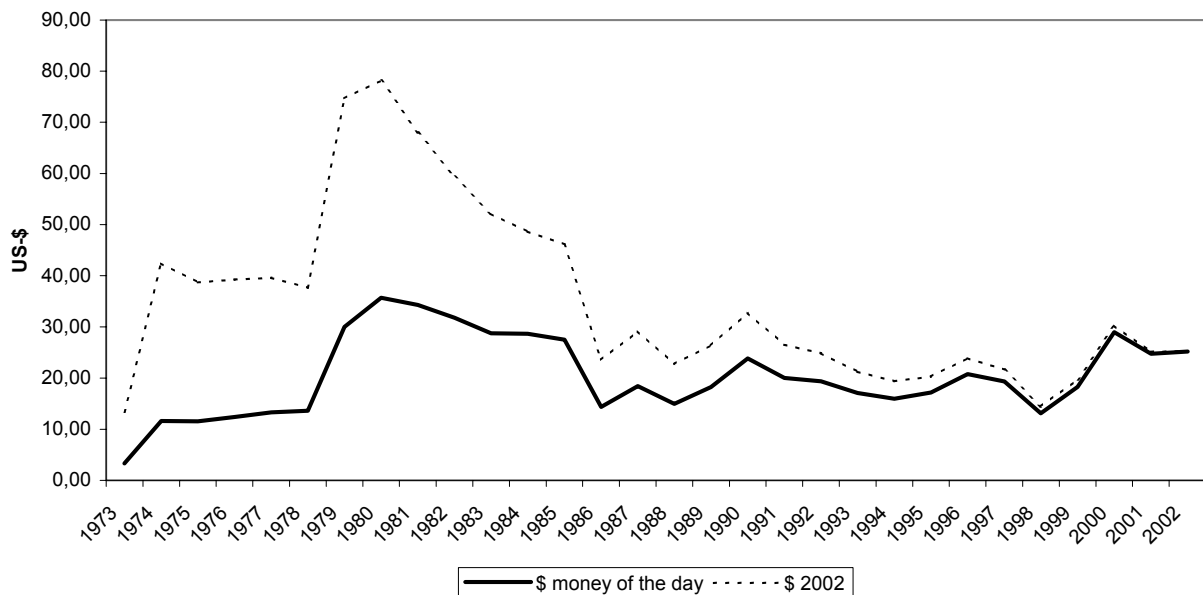
³⁷ In some consuming regions natural gas prices are directly linked to the oil price, so that an increase in oil prices will almost linearly affect the natural gas price.

³⁸ Bohi and Toman, 1996, p. 51.

uncertainty for producers as well as for consumers. As owners of private cars, the latter group regularly shows a high interest in transport fuel costs. An increase in oil prices thus has a stronger influence on the perceived inflation and willingness to spend of consumers than price increases for other goods.

Due to the high involvement of consumers, oil prices can also play a role in elections. Governments are therefore not only interested in stable oil prices for purely economic but also for more direct political reasons.

Figure 1-10: Crude oil prices 1973 to 2002, nominal and deflated



Source: BP Statistical Review of World Energy, June 2003.

1.2.2. Changes over time

During the late 1970s, oil satisfied about 55 percent of Europe's energy demand. This figure has come down to around 40 percent (see section 1.1.2). Moreover, structural change has shifted the focus of Western economies away from industry towards services, incurring in combination with technological progress in all sectors reduced energy intensity in terms of energy use per unit GDP.³⁹ The latter trend is expected to continue. Thus, EU's economies will become less dependent on energy prices in general and on oil prices in particular.⁴⁰

³⁹ Gawronski, 2000, p. 16.

⁴⁰ Note, however, that at least natural gas prices in Europe are linked very directly to oil prices. The combined share in primary energy use of oil and gas has increased over the recent years, due to a sustained growth in natural gas use. The future relevance of the oil price for the prices of other energy carriers will depend on the future substitutability of energy carriers and future pricing regimes. It is possible (although certainly not sure), that

Further, the real price level of oil has come down since the early 1980s (see figure 1-10), so that price spikes exceeding US\$ 30 are not comparable with those of the early 1980s. This does not imply much, however, for the economic vulnerability of the EU with respect to crude oil prices. Serious supply restraints meeting a short-term inelastic demand could probably result in oil prices rising also in real terms tremendously.

Due to OPEC's decreasing market share, its price setting power on the other hand has decreased. Reducing OPEC output by 10 percent does not currently have the impact that it would have had during the 1970s. Markets have become more liquid with a higher number of traders offering to take over part of the price risks. Financial instruments, futures and options in oil trading, offer a means to hedge against oil price fluctuations in the short and medium-term.

1.3. Conclusion

Europe will most probably face a declining domestic oil production in the future, necessitating increasing imports. At the same time, the energy efficiency of the European economy is expected to further improve and the relative share of oil in European energy use to decrease. Due to the reduced relative importance of oil in Europe's energy supply, European economies should become less sensitive to oil price fluctuations. Conventional views predict over the next 30 years a stronger market share and influence of Middle East oil producers; however, there remains some uncertainty whether this concentration of oil supply origins actually will materialise. The likelihood of price increases and volatility depends to a high degree on how competitive oil markets will be in the future.

Chokepoints in supply routes pose significant short-term risks to oil markets. Closure of any of the chokepoints could cause an immediate supply shortage in corresponding consuming regions that could possibly not be met in the very short-term by alternative supplies.

Oil markets are currently very liquid and offer a variety of tools to hedge against price risks. The direct economic implication of an increase in oil prices remains subject to discussion among economists – the conclusion that higher energy prices do indeed have a direct negative impact on the economy remains intuitive. Stable energy prices however are in the interest of policy-makers since energy prices, in particular for oil and natural gas, feature high in the awareness of household consumers.

the direct link between natural gas and oil prices will weaken in the future, as the EU liberalisation of gas market proceeds.

2. Origin of the two stockholding systems⁴¹

This section describes the origin of the crisis mechanisms of the International Energy Agency and the EU.

2.1. Origin of the stockholding system of the EU

The Messina Intergovernmental Conference in 1955 was the starting point for the creation of an energy policy among the members of the European Coal and Steel Community (ECSC). Coal was still the primary energy source and energy policy was therefore conducted on basis of the provisions for the ECSC as signed in the 1951 Treaty of Paris. At the time it was expected that the role of nuclear energy would substantially increase in the decades to come and therefore energy policy would become subject to the then drafted Euratom Treaty regarding nuclear energy.

Problems in Europe's supply of crude oil resulting from the 1956 closure of the Suez Canal made policy-makers think otherwise. Coal could no longer be considered as separate from other energy sources. An integrated policy with respect to energy was seen as necessary. However, for coal and nuclear energy, two treaties dealing with sectoral integration already existed or were under negotiation respectively whereby the Member States had reached progressive agreements. A policy for all other energy resources (including oil and gas) was captured under the EEC treaty, although without special stipulations. The fragmentary legal structure of these treaties remained a continuous barrier for an integrated European energy policy.

In 1957, the Interexecutive Energy Committee (IEC)⁴² was mandated to conduct extensive research into the energy balances of the member countries for the mid- and long-term. The goal was to acquire insight into the energy economies of the Community.⁴³ In the 'Memorandum on a Common Energy Policy' of June 1962, the IEC presented its research and recommendations for accomplishing the unification of the energy policies of the Member States.⁴⁴

If implemented, the recommendations would have meant a severe shift of extensive sovereign powers towards the European Community. The European Council was not prepared to accept the measures necessary to accomplish the policy and redefined the task of the IEC to that of formulating a framework for a "pragmatic coordination of energy policy". Energy policy remained predominantly a task of national governments.⁴⁵

⁴¹ Unless stated otherwise, this section draws mainly on Van der Linde and Lefeber (1988).

⁴² The Interexecutive Energy Committee was composed of representatives of the Commissions of the EEC and Euratom and the High Authority of the ECSC.

⁴³ Lefeber and Van der Linde, 1987.

⁴⁴ Ibid.

⁴⁵ In principle, energy policy remains until today the task of national governments with no special provisions for energy included in the Treaty Establishing The European Community. Major policies influencing the energy sector were often policies with regard to the

2. Origin of the two stockholding systems

Coordination was only to be strived for within fields where national policy of the Member States was more or less similar or where treaties such as Euratom forced coordination.

The new task of the IEC led to the 'Protocol of Agreement' of April 1964. In this document a number of objectives were formulated for a coordinated energy policy, including:

- a cheap energy supply;
- security of supply, flawless substitution (from coal to oil);
- stability of supply in terms of costs and volume;
- freedom for consumers to choose between suppliers;
- fair competition in the common market between the various energy sources.

The vague phrasing of the objectives afforded Member States the freedom to continue to fill in energy policy at a national level.

New initiatives to harmonise and coordinate energy policy started in 1967, as a result of the Six-Day War between Egypt, Syria and Israel and the corresponding second closure of the Suez Canal which resulted in temporarily interrupted oil supply towards Europe. This second closure of the Suez Canal made it clear to the Member States that they were increasingly dependent on imported oil.

In 1968 the European Commission presented its report 'First Guidelines for a Community Energy Policy'. Apart from reaffirming some of the objectives from the earlier 'Protocol of Agreement' the report included proposals concerning an action programme and facilities for an intervention policy in the event of a supply disruption. Other important objectives recommended in the report were the completion of the internal market for energy products and a cheap and secure supply.

The first modest measure following the proposals in the report was taken shortly after the report had been published. Preceded by an OECD recommendation, the European Council, under pressure from the situation of the international oil market, issued a directive on 20 December 1968 prescribing that the Member States should maintain emergency stocks of at least 65 days internal consumption.⁴⁶ The intention of this measure was

environment or the internal market. The draft of the European Convention however now foresees a chapter on energy, stipulating that EU policy should a) ensure the functioning of the market, b) ensure security of energy supply in the EU and c) promote energy efficiency and saving and the development of new and renewable forms of energy (European Convention, 2003, Article III-157). See also footnote 56.

⁴⁶ The 65 days of internal consumption are based on the average daily consumption of the previous calendar year.

to ensure that domestic consumption would no longer suffer from short-term oil supply disruptions.

Political turbulence, nationalisation procedures in oil producing countries and production restrictions in Libya in the early 1970s combined with the accession of the UK, Ireland and Denmark as new Member States to the European Community engendered a readjustment of the policy imperative. At the Summit meeting of October 1972 it was affirmed that: “there is a need for the Community Institutions to work out as soon as possible an energy policy which ensures a reliable and lasting supply on economically satisfactory terms”.⁴⁷ The main difference compared with the objectives of the ‘Protocol of Agreement’ of April 1964 was the substitution of ‘cheap’ energy supply by ‘economically satisfactory’ supply. Achieving the cheapest possible energy prices was hereby no longer a policy objective.

Following an OECD recommendation, the Council decided on 19 December 1972, to raise the level of petroleum stocks to be held by Member States to at least 90 days of internal consumption.⁴⁸ Furthermore, the Council Directive 73/238/EEC issued on 24 July 1973 obliged Member States to take measures to mitigate the effects of difficulties in the supply of crude oil and petroleum products.⁴⁹ The measures were:

- the adequate use of the emergency stocks in the event of a supply disruption;
- to impose specific and/or broad restrictions on consumption;
- to give priority to supply of petroleum products to certain groups of users; and
- to regulate prices in order to prevent abnormal price increases.

Because the obligations were intergovernmental, this meant a new step in the attempts to come to an integrated energy policy for the member countries. The manner of implementation of these measures was however left to the discretion of each Member State.

2.2. Origin of the IEA stockholding system

The strategic stockpiling measures taken thus far at the European Community level were considered appropriate for avoiding a short period of interrupted supply. They originated in reaction to the events in 1956, 1967 and the early 1970s but proved to be insufficient for coping with the direct effects of the first oil crisis in 1973. When the Organisation of Arab Petroleum Exporting Countries (OAPEC),⁵⁰ Europe’s main supplier at that time, reduced oil deliveries while demand was decreasing, severe shortages on the international oil market were created. The Netherlands, as well as

⁴⁷ Van der Linde and Lefeber, 1988, p. 8.

⁴⁸ Council Directive 72/425/EEC of 19 December 1972

⁴⁹ Council Directive 73/238/EEC of 24 July 1973

⁵⁰ OAPEC consists of the Arab members of OPEC.

2. Origin of the two stockholding systems

the US and Portugal, faced an embargo that furthered the supply crisis.⁵¹ The other European Member States concentrated on securing their own energy supply, in particular oil supplies, instead of coming to the assistance of the Netherlands. France, Italy and West Germany entered into contracts with oil producing countries, safeguarding the supply of oil, mainly in exchange for military equipment. However, the business efforts of international oil companies still brought significant volumes of non-OAPEC oil to the countries facing embargo so that overall the effects of the embargo were distributed over all consuming countries.

At that time oil accounted for 62 percent of primary energy use of the European Community and 97 percent of that oil had to be imported. Moreover imports derived to a large extent from the Middle East and North Africa. At the Copenhagen Summit (December 1973), in the light of the oil crisis, the Member States of the European Community were guided by the belief that “reliable and lasting supply [of energy] on economically satisfactory terms” could no longer be achieved while being so dependent on oil from a limited number of sources. A diversification strategy with respect to energy carriers and import origins was considered of utmost importance, even if that meant initially higher costs.

Apart from the recognised need for a diversification strategy, a Euro-Arab Dialogue (EAD) was proposed which included the introduction of political, economic and cultural relations between the European Community and the Arab League. France especially was in favour of such a dialogue, which strongly contrasted US interests. Given the heavy import dependence of the European Community the US feared that European countries would be forced to give in on political and economic issues to Arab positions.⁵² Moreover, American foreign policy concerning the Arab-Israeli conflict, according to Mr. Kissinger, could not tolerate independent diplomatic initiatives from the European Community.⁵³

To prevent a possible dispute between the industrialised oil consuming countries, the US organised an energy conference in Washington D.C. from 11-13 February 1974. The most important decision was to establish an energy coordination group to work out an action programme. France could not partake in this decision because of distrust of the intentions of the US. France preferred bilateral agreements with Arab oil producing countries in a European context. Furthermore, France wanted a global conference where both oil consuming and producing countries would be present.

The work done by the energy coordination group resulted in the decision of the Council of the OECD on 15 November 1974 to establish the International Energy Agency and to sign the ‘Agreement on an International Energy Program (IEP)’ on 18 November 1974 in Paris. France

⁵¹ Other States which were considered as strong supporters of the Israeli position and therefore faced a complete embargo by some OAPEC members were South Africa and Rhodesia (see Yergin, 1991, p. 613).

⁵² Since the US has significant amounts of domestic oil production, it is much less dependent on specific import sources.

⁵³ Kissinger, 1982, p. 900.

maintained the position of not wanting to provoke Arab supply countries by creating a consumer countries' organisation and, was the sole Member State of the European Community to not sign the agreement, along with Finland and Iceland.⁵⁴

The main IEP objective was “to promote secure oil supplies on reasonable and equitable terms” and to “take common effective measures to meet oil supply emergencies by developing an emergency self-sufficiency in oil supplies”. Reducing the dependence on imported oil was also a main objective. Furthermore, the IEP wanted to set up a comprehensive international information system and create a permanent dialogue with oil companies. Relations with oil producing countries and with other oil consuming countries were to be pursued.

The decision to install the IEA within the framework of the OECD was made for three reasons. Firstly, the OECD was an existing organisation with a legal status, privileges, immunities and expertise, which would ensure that the IEA could be implemented quickly, which was very important in light of the severe crisis situation in 1973-74. Secondly, the OECD as an economic organisation of industrialised countries, was already concerned with problems related to energy. Finally, it was thought that the oil producing countries would find it less confrontational if the IEA was incorporated into an existing organisation instead of creating a new independent international organisation of industrialised oil consuming countries.

2.3. Assessment

As illustrated in the foregoing sections, the developments leading to the two stockholding systems which apply to EU Member States, the EU's own system and the IEP, were strongly influenced by the perception of an inadequate preparedness to handle oil supply crises.

The European Community's stockholding provisions were already in place at the time the IEP was agreed upon. Thus, the IEP can be seen as a result of US efforts to limit the influence of Arab countries on European policy-making. Moreover, it matched the interests of some EC Member States to avoid a further reaching common energy policy, which would have implied

⁵⁴ In 1974, 16 countries originally signed the IEP agreement: Austria, Belgium, Canada, Denmark, Germany, Ireland, Italy, Japan, Luxembourg, the Netherlands, Spain, Sweden, Switzerland, Turkey, the UK and the US. At that time, the OECD member countries France, Finland and Iceland did not want to sign the IEP. Norway participates under a special agreement in the IEP. Due to Norway's own energy resources, the government could not accept the conditions with respect to the oil allocation scheme that was included in the crisis mechanism. Negotiations have led to a special agreement between the IEA and Norway, which basically means that Norway participates as an ordinary member with exception of the crisis action program.

Subsequently, the following countries acceded to the IEP agreement: Australia (1979), Czech Republic (2001), Finland (1992), France (1992), Greece (1977), Hungary (1997), Korea (2001), New Zealand (1977) and Portugal (1981). Currently, Poland and Slovakia are IEA candidate countries.

2. Origin of the two stockholding systems

the transfer of considerable decision-making powers from national to European level. Participating in the IEA and in the IEP offered the EU Member States an opportunity to escape the consequences of a 'unification policy with respect to energy'.⁵⁵ Member States could limit themselves to a European Community policy that focused on coordination of national energy policy, as well as harmonization and unification in selected areas.

The two systems do not compete with each other but are instead complementary.⁵⁶ Legal and procedural problems, which initially appeared to make the two systems incompatible have been smoothed out by subsequent European Community legislation, adjusting the EC system to the IEA/IEP.⁵⁷

The IEP foresees an automatic and clearly defined mechanism for the obligations which participating countries must fulfil in case of an oil supply disruption. This means that in practice, obligations which would arise from the EC system are automatically fulfilled by the activation of the IEP mechanism.

⁵⁵ The energy policy of the EU is largely based on Article 235, written as a temporary measure in case the Member States found some new area needing to be developed which had been left out of the original 1957 Treaty. In his book, 'EU Energy Policies towards the 21st Century', Paul Lyons states that dependence on Article 235 for an overall European energy policy is "both embarrassing and harmful for the European Community". It was meant to be used once for a particular purpose until a next Treaty revision, but "that was more than 40 years ago". Since then, there has been ample opportunity to insert a proper text but some Member States have willfully refused to do so. An energy policy dependent on Article 235 is even more absurd if one bears in mind that the same Member States have agreed to qualified majority voting among themselves for internal market and environment issues. They have also given the European Parliament co-decision powers in the same areas and they have decided on a political and a monetary union. In particular the UK and the Netherlands both have sizeable gas reserves and France has its unique dependence on nuclear energy. With unanimity being the rule, those countries can always be sure to block any measure that might jeopardize national policy. Conversely, Belgium and Italy both have argued intensely for an energy chapter in one of the Treaties. In accordance with the principle of subsidiarity established in the Treaty establishing the European Community, energy policy must be largely regarded as the Member States' own responsibility (Lyons, 1998).

⁵⁶ A more in-depth analysis of this issue can be found in Lefeber, 1986.

⁵⁷ See in particular Van der Linde and Lefeber, 1988, pp. 14-16.

3. IEA and EU emergency systems

There are two emergency systems applicable to the fifteen Member Countries of the EU for dealing with oil supply disruptions. Both systems are described in this chapter. The following describes first that of the International Energy Agency, and second the EU system, which is composed of several EU Directives.

3.1. International Energy Agency

Within the IEA, there exist two systems for responding to oil supply disruptions:

- The Agreement on an International Energy Program (IEP); and
- The Co-ordinated Emergency Response Measures (CERM) system.

The IEP agreement will be described first, before a brief overview of the later established CERM system is provided.

In December 1974, the OECD Council formulated the following objectives for the IEP agreement:⁵⁸

- development of a common level of emergency self-sufficiency in oil supplies;
- establishment of common demand restraint measures in an emergency;
- establishment and implementation of measures for the allocation of available oil in time of emergency;
- development of a system of information on the international oil market and a framework for consultation with international oil companies;
- development and implementation of a long-term co-operation programme to reduce dependence on imported oil, including: conservation of energy, development of alternative sources of energy, energy research and development, and supply of natural and enriched uranium;
- Promotion of co-operative relations with oil producing countries and with other oil consuming countries, particularly those of the developing world.

The organisation of the IEA, its voting procedures and rules are described in more detail in Annex I. It is important to note here, that these formal

⁵⁸OECD Council Decision on the Establishment of the Agency (Adopted on 15 November 1974). In: Scott, 1994a, p. 407.

3. IEA and EU emergency systems

rules have rarely been directly employed. The Governing Board, which is the IEA's highest and main decision-making body, has preferred acting on the basis of consensus to maintain a confrontation free atmosphere within the IEA.

3.1.1. *Emergency Sharing System within the IEP*⁵⁹

IEA arrangements for the physical sharing of oil in case of an emergency and demand restraint measures, together with the supporting data system, is in this paper and within the IEA generally called the 'Emergency Sharing System'. The IEA Emergency Sharing System consists of preparation measures and rules for responses in the event of an emergency. While it can be operated on a flexible basis, the system was designed principally to operate only in the event of quite serious disruptions, involving an actual or expected seven percent oil supply reduction for the IEA group of countries as a whole.

Actual operation of the system is a complex procedure. It would take several weeks before the system became fully operational and allocated oil actually arrived at the destinations directed by the system. To-date, the system has never been activated. Despite the presence of the formal conditions required to activate the Emergency Sharing System as written in the IEP Agreement, other solutions have been found to deal with the respective situations (as for the 1979-81 Middle East crisis and again for the 1990-91 Gulf crisis).

The basis of the Emergency Sharing System is laid down in the first four chapters of the IEP, which specifically deal with the question of reacting to an oil supply disruption of at least seven percent:

- Chapter I – emergency self-sufficiency;
- Chapter II – demand restraint measures;
- Chapter III – governing the allocation measures in case of an oil supply disruption;
- Chapter IV – laying down activation thresholds and measures.

3.1.2. *Emergency Self-sufficiency*

As from 1 January 1980, IEA Participating Countries are obliged to maintain emergency reserves sufficient to sustain consumption for at least 90 days with no net oil imports. The level of necessary reserves is based on the average daily consumption and the average daily net oil imports of the previous calendar year. The emergency reserves may be satisfied by:

⁵⁹ The information presented in sections 3.1.1 to 3.1.5 draws largely upon the text of the IEP in its current form (OECD/IEA, 2003).

- a) oil stocks;
- b) fuel switching capacity;
- c) stand-by oil production.

a) Oil stocks

By holding stocks of crude oil, refined products and unfinished oils, a participating country can satisfy its emergency reserves requirements. The oil stocks can be held (amongst others) in refinery tanks, in bulk terminals, in pipeline tankage, in barges, in inter-coastal tankers, in oil tankers in port and in inland ship bunkers.

Conversely, crude oil not yet produced, which is still in wells, cannot be counted as oil stocks. Crude oil, refined products and unfinished oils held in pipelines, in rail tank and truck tank cars, in tankers at sea, in service and retail stations, in seagoing ships' bunkers and as military stocks, may not be counted as part of the emergency reserves.

If a country holds crude oil and petroleum products in storage tanks, then that country must further apply a ten percent reduction for unavailable stocks when calculating the amount of stocks.⁶⁰ In fact, countries that cover their emergency self-sufficiency completely by holding oil stocks are obliged to hold stocks equivalent to sustain consumption for at least 100 days (instead of 90 days) with no net oil imports.

b) Fuel switching capacity

The emergency reserves requirement can also be met by fuel switching capacity, generally defined as normal oil consumption that can be replaced by other fuels in case of an emergency. The capacity:

- needs to be subject to government control;
- can be brought into operation within one month; and
- the supplies of the alternative fuel are secure.

An example of fuel switching capacity is the dual firing capacity of power generation plants that can generate electricity from both heavy fuel oil and gas.

⁶⁰ If the main share of emergency stocks is held in tanks belonging to refineries, it is necessary to hold 10% more stocks since those tanks cannot be pumped completely empty in case of an emergency stock draw. Generally, the lowest pipeline connected to refinery tanks is around 0.5 meter above the lowest tank level. Special measures are needed if the tanks need to be emptied, which only occasionally occurs with refinery tanks. Tanks that belong to commercial storage companies are designed to go completely empty because if and when a new customer wants to rent the tank, most of the time it will need to be delivered empty. Therefore, commercial storage tanks have a conical design, with the lowest pipeline connected to the bottom of the tank, so it is relatively simple to empty the tank completely.

c) Stand-by oil production

Stand-by oil production is defined as a participating country's potential oil production in addition to normal production within the country's jurisdiction. The production has to be under government control and can be brought into use during an emergency within the defined period of self-sufficiency.

Stand-by oil production of another country can also be credited towards the emergency reserves of a participating country as long as the two governments have signed an agreement that no impediments will be placed on the availability of the stand-by capacity in case of an emergency.

3.1.3. Demand restraint

Participating countries are obliged to be able to implement a programme of oil demand restraint measures to reduce the rate of final consumption. In order to be effective, these measures must take into account the quite specific demand patterns, legislation and other factors in the various IEA countries. Therefore, no specific demand restraint measures have been adopted within the IEP agreement. However, the IEP does contain a percentage by which every participating country must reduce its consumption.

The demand restraint obligations are different for the cases of a general trigger (a shortfall experienced by the group of IEA countries as a whole) and of a selective trigger (a shortfall experienced by one or more IEA countries). Article 13 of the Agreement provides that in the event of an oil supply reduction equal to seven percent of the group's consumption, members are obliged to implement measures sufficient to reduce consumption by a corresponding seven percent.

In case of a 12 percent drop in oil supply, the member countries must reduce consumption levels by ten percent, as stipulated in Article 14. All countries must reduce their consumption, even if a particular country does not face a reduction in supplies. If the supply disruption persists, the Governing Board is empowered to increase the level of mandatory demand restraint.

A typical target for demand restraint measures is transport fuel consumption, as seen for instance in Europe during the 1973-74 oil crisis. Measures can include speed limits, restrictions on weekend or holiday driving, odd day/even day driving limitations and fuel rationing. Other demand restraint measures to reduce consumption can be targeted at the consumption of oil products used for heating and cooling and oil products used for the generation of electricity. Specific measures can include:

- tax increases on petroleum products;
- rationing of deliveries to bulk users;
- public education campaigns to discourage the consumption of oil products.

IEA countries cannot ignore their demand restraint obligations during an oil supply disruption, as demand restraint measures are included in the calculation of oil supply rights within the allocation procedure in case of an emergency (see section 3.1.4). If an IEA country does not fulfill the demand restraint obligation in full, it risks receiving less oil from the allocation system.

3.1.4. Allocation

In the event of a major supply disruption, it is unlikely that different Member Countries will be equally affected. Mitigating factors will include the fuel mix, origins of imported oil (as explained in chapter 1) and the availability of additional stocks (which is, for example, the case in the Netherlands with the concentration of major refineries in and around the Rotterdam harbor). Thus, there are several reasons and circumstances imaginable which result in an IEA participating country having more available oil than other participating countries. A country may even have more than it needs, for example, in cases where demand restraint measures have been successfully implemented while the supply side has not been correspondingly affected. For these situations the IEP includes an allocation system to divide the available oil amongst participating countries. Available oil in this respect refers to the oil supplies available to the group which are not part of the emergency reserve commitment. They include regular domestic production as well as available imports.

The allocation provisions set forth in Chapter III of the IEP provide a framework for calculating whether a participating country is entitled to additional supplies or whether a country has to make oil available to other participating countries.

The amount a participating country is entitled to consume in the event of a supply shortfall, the so-called 'permissible consumption', is the average 'normal' consumption of that country minus the obligatory demand restraint measures. After taking into account the obligatory emergency reserve drawdown⁶¹ the country might still be left with a difference between 'permissible consumption' and available oil supplies. If this difference is negative, meaning that available oil supplies are smaller than the permissible consumption (on the 'short' side), the country has a 'supply right' from the other participants in the IEP, who need to supply additional oil to the respective country. If the difference is positive (on the 'long' side),

⁶¹ The obligatory emergency drawdown is calculated as follows: the emergency commitment of any participating country divided by the total emergency reserve commitment of the group and multiplied by the group shortfall.

meaning that there is more oil available than the permissible consumption, the country must supply oil to other countries with an oil deficit according to these rules.

In the case of a selective trigger (when the oil supply shortfall is experienced by one or more IEA countries), the affected country or countries would have an 'allocation right' when supply is reduced by more than seven percent.⁶² The other IEA countries together would have a corresponding 'allocation obligation'. The affected country or countries must implement demand restraint measures to absorb the first seven percent of reduction in oil supplies. The other members fulfill their allocation obligations proportionately on the basis of their own historical consumption.

The oil sharing obligation summarized above is one of the centerpieces of the IEP. The essential rules are stated not as recommendations or requests, but rather as firm legal obligations.

3.1.5. Activation

From the above description, it can be concluded that activating the Emergency Sharing System will have quite far-reaching implications. Therefore, activating the system is not a decision that can be taken lightly. The system may be activated on the basis of a 'finding' by the IEA Secretariat, unless the Governing Board decides otherwise. Therefore the Secretariat is a crucial body within the organization because the Secretariat makes the operative finding. It is also possible for the Governing Board to activate the system without a Secretariat finding.⁶³

The Secretariat's finding determines whether any of the three possible circumstances, which would lead to the activation of the emergency system, applies. These circumstances are as follows:

- Whenever *the group* sustains or can reasonably be expected to sustain a seven percent reduction in the daily rate of its oil supplies (as noted above, this is referred to as a 'general trigger');
- Whenever *the group* sustains or can reasonably be expected to sustain a 12 percent reduction in its daily rate of oil supplies (thus leading to a higher demand restraint commitment);
- Whenever any *particular Participating Country* sustains or can reasonably be expected to sustain a supply reduction exceeding seven percent of its normal consumption (a 'selective trigger').

The finding process⁶⁴ and the three circumstances were agreed upon when founding the IEA to ensure that the emergency programme will be

⁶² IEP Agreement, Articles 17 and 8.

⁶³ Lefeber, 1986.

⁶⁴ In the 'finding' the IEA secretariat has to show that the available daily supply of all IEA countries or a single country is 93% (or less) of the daily average of the most recent four

activated in reaction to major supply disruptions and that no valuable time is lost waiting for individual Member States to reach a political decision.

Even if a supply disruption is sufficiently severe, the Emergency Sharing System may not be triggered. The founders of the IEA considered that some types of disruptions were intended to be the subject of the Emergency Programme and others were not. Mr. Ulf Lantzke, then the IEA Executive Director, wrote to IEA Heads of Delegation by letter on 2 June 1980:

Under IEP Agreement Article 19.1 the types of cases in which the allocation system is intended to be activated include curtailments of oil exports from producing countries where economically or politically motivated, or interruption of production or transportation due to war or other hostile acts or major natural disaster, and do not include fluctuations of supply attributable to normal market forces, ordinary operational difficulties of the industry, interruptions of supply due **to strikes** or cases in which activation would shortly become unnecessary because of an anticipated resumption of sufficient supply to the affected country or countries.⁶⁵

Thus, for example, the recent severe curtailment of oil to the US caused by the general strike in Venezuela did not fall under the Emergency Sharing System.

3.1.6. *Coordinated Emergency Response Measure (CERM)*⁶⁶

During the 1979-81 crisis it became clear that even an oil supply loss of less than the IEP trigger threshold of seven percent could cause serious economic damage to Western economies. The IEA sensed a strong will among its Member Countries to institutionalize certain defense measures to cope with smaller oil supply disruptions than those agreed upon within the IEP. A High Level Ad Hoc Group, chaired by the Executive Director of the IEA, Mr. Ulf Lantzke was formed to consider such defense measures.

quarters (considered the base period). The necessary data is derived from the Monthly Oil Statistics Questionnaires that IEA governments must submit.

The calculation includes the concept of 'normal supplies' derived from the Monthly Oil Statistics Questionnaires and 'disrupted supplies' which is a more complex calculation derived from detailed questionnaires completed by co-operating oil companies and member governments. The world-wide net supply reduction, which is an estimate made by the Secretariat, is deducted from the forecast world-wide supplies prior to an emergency. This results in a figure for the total worldwide-disrupted supplies. Deducted from the normal supplies, this figure determines the amount of shortfall, as employed in the 7% trigger calculation mentioned above.

The foregoing calculation is made for the entire group of IEA countries. For any individual IEA Member Country, the calculation of the trigger follows the same principle. The system will be triggered when reduction exceeds 7% of the country's previous supply. If not blocked by the Governing Board, the Secretariat calculates the supply right of the affected country and the supply obligations of the other IEA Member Countries and allocation that is being carried out.

⁶⁵ Scott, 1994b, p. 89, emphasis added.

⁶⁶ This section draws mainly on Scott, 1994b, pp. 120 ff.

The Ad Hoc Group reported back to the Governing Board in June 1981. The group put emphasis on disruptions which would result in sharp price increases and consequently severe economic damage. According to the group, these kinds of disruptions should be either prevented or at least, the effects minimized. The Governing Board adopted the report, which was the start of an in-depth consultation between IEA governments and oil companies. They discussed oil supply disruptions below the seven percent level, price increase problems and economic damage, market forces, and supplementary action by governments. It was noted that such action should be “light-handed and flexible in responding to the specific situation at hand and at the same time be taken promptly and effectively”. It was after this round of consultation that the Governing Board adopted the ‘Decision on Preparation for Future Supply Disruptions’.

Should an evaluation of the current oil market situation indicate an oil-supply related danger of serious economic damage, the Governing Board has to meet quickly according to the aforementioned decision, this is also the case even if the supply disruption envisaged is less than the threshold value of seven percent. It is up to the Board to then determine quick and flexible measures to mitigate economic damage. Measures at the disposal of the Governing Board to implement include the following from the well-known catalogue:

- discouragement of abnormal spot market purchases or other undesirable purchases;
- restriction of consumption;
- short-term fuel switching;
- increased indigenous production;
- stock draw by government decision or through government consultation with oil companies;
- informal efforts to minimize and contain the effects of supply imbalances.

While elaborating on the exact content of a more flexible emergency response system, the ‘Standing Group on Emergency Questions’ and the ‘Standing Group on the Oil Market’ of the IEA concluded that stock draw was the most promising measure to quickly counter the effects of a supply disruption, provided sufficient stocks were available. Moreover, the mere existence of a stock draw mechanism could have a calming effect on oil markets, as both price speculation and the use of oil as a political pressure tool become more difficult when faced with an effective and flexible response system.

On 11 July 1984, the Governing Board adopted the ‘Decision on Stocks and Supply Disruptions’ also known as the ‘Coordinated Emergency Response Measures’ (CERM) system. This system established procedures for a consultation process in the event of a difficult oil supply situation. In

the decision it is clearly stated that the CERM is meant for disruptions, which would lead to severe economic damage, regardless of the actual size of the disruption. It is also stated that disrupted supplies, accompanied by public panic might lead to “exaggerated crude oil price increases”⁶⁷. Thus, these exaggerated crude oil price increases should be avoided. The underlying reasoning for this coordinated response system, as for the IEP, is that coordinated action will be much more effective than individual action. However, no prior provisions are made for which measures are to be taken by the individual countries, in order to maintain flexibility in the event of a crisis.

In contrast to the Emergency Sharing System, the CERM system is not a complete step-by-step described and fixed programme. The IEA and its Member Countries take a decision to deal with the situation on hand. CERM only provides guidelines on the measures that can be taken, such as coordinated stock draw or other complementary actions. In cases where stock draw, demand restraint or other measures prove insufficient or unsuitable for any reason, the Emergency Sharing System provides the ultimate backup for allocating the available oil.

Officially no CERM has ever been activated to-date. However, the presence of the institutional framework for the CERM consultation process certainly supported the preparation of the IEA contingency plan, which was activated on the day that Gulf coalition forces began the military campaign for the liberation of Kuwait on 17 January 1991. The Coordinated Energy Emergency Response Contingency Plan made 2.5 million additional barrels of oil available per day from 17 January⁶⁸ to 6 March 1991. Two million barrels came from participants’ oil stocks, 400,000 barrels from demand restraint measures and 100,000 barrels from fuel switching and the use of spare capacity. All IEA countries adopted the plan, joined by Finland, France and Iceland.

3.1.7. *Criticism on the IEA*

The IEA was founded in reaction to the first oil crisis in 1973. The consuming countries, and especially the US, found it important to combine forces into one organization as a counter-weight to the production power of OPEC. However, despite ingenious designs for emergency programmes and the intensive planning surrounding these programmes, the emergency sharing system has never been activated and the smaller CERM has only been once.⁶⁹ Some commentators go as far as to say that the “IEA is essentially an organization for market forecasts and a data compiling organization.”⁷⁰ Since the IEA’s founding and the implementation of the emergency systems, 30 years have passed, and the oil market has since changed, as detailed in chapter 1. Integrated spot markets have developed,

⁶⁷ IEA, 1984.

⁶⁸ 17 January 1991 was the date that the entering into force of the contingency plan was announced. The plan foresaw that the measures had to be implemented within 15 days time, therefore by the latest on 1 February 1991.

⁶⁹ And in this instance, not even officially, see section 3.1.6.

⁷⁰ Noreng, 2002, p. 48.

with prices being more volatile. At the same time the nature of possible disruptions to EU oil supply has also changed. A new oil crisis caused by a political boycott has not become more likely. Instead, instability in producer countries,⁷¹ terrorist acts causing harm to oil installations and the possibility of major accidents significantly influencing oil supplies, for example at the Bosphorus, pose bigger threats. The current emergency systems, the IEP in particular, were not designed to counteract such threats, which later on were even explicitly excluded as reasons for activation of IEP measures.

As explained in chapter 2 the origins of the IEA are in part political. The IEA was formed under the OECD to ensure an important role for the US and to prevent European countries from pursuing their own plans, such as a producer-consumer dialogue. The IEA itself for a long time was unable to start a fertile dialogue. Robert Priddle⁷² recounted an anecdote from the period when he had just begun to serve as Executive Director of the IEA. He asked his staff to arrange a meeting with the Secretary General of OPEC – and encountered surprised reactions. Obviously, such a meeting was at the time a highly innovative move, and had never taken place before. The IEA and OPEC were not simply parties within a market. They were political opponents. It is only in recent years that this relationship has become more relaxed.

Although measures have been put in place to depoliticize the actual decision to activate the emergency systems, in the end decisions remain political in nature. The IEA consists of 26 participating countries spread over three continents. The countries have indeed very different positions with respect to geographic location, political circumstances and dependence on certain suppliers such as OPEC. Whereas the emergency response system as laid out in the IEP is a fairly automatic system that is very difficult to be blocked by even a group of Member States,⁷³ the CERM system requires unanimity voting. The flexibility inherent to the system, requiring decisions on the general line of reaction at the time of crisis, is in this light not only the strongest but at the same time also the weakest quality of the system.

Further, the IEP is not only built on solidarity, it also requires solidarity at the very time of actual operation. Countries that are relatively less affected by a supply disruption must come to the assistance of those who are more severely affected. The test of this solidarity in the event of a real supply disruption is yet to come. Although unanimity is not necessary within the Governing Board (see Annex I) to invoke measures according to the IEP, it would certainly undermine the IEA were unanimity not to be reached in crisis situations.

⁷¹ Producer countries face a variety of stability threatening circumstances, ranging from strikes to civil wars.

⁷² Robert Priddle was Executive Director of the IEA until the end of 2002. He told the anecdote during his Clingendael Energy Lecture in November 2002.

⁷³ See Annex I.

3.2. European Union

For the EU there is a set of Directives and Decisions dealing with oil supply disruptions. This section discusses the currently active legislation. New ideas of the European Commission for coping with a future oil supply disruption will be discussed in the next chapter.

3.2.1. *Current EU security of oil supply legislation*

As has been illustrated in previous chapters, a common European energy policy did not materialize until recently. However, three Council Directives concerning security of energy supplies and measures to be taken in the event of supply disruptions are in place. These Directives are based on Article 100 (ex Article 103a, emphasis added) of the Treaty establishing the European Community, which says:

Without prejudice to any other procedures provided for in this Treaty, the Council may, **acting unanimously** on a proposal from the Commission, decide upon the measures appropriate to the economic situation, in particular if severe difficulties arise in the supply of certain products.

3.2.2. *Council Directive 68/414/EEC amended by Council Directive 98/93/EC*⁷⁴

Council Directive 68/414/EEC of 20 December 1968 (and amended by Council Directive 98/93/EC of 14 December 1998) obliges the Member States of the European Community to maintain minimum stocks of crude oil and/or petroleum products at all times. These stocks must be equal to at least 90 days of average internal consumption of the previous year. The stocks must be kept within the territory of the EU. The following product categories fall under the Directive:

- motor spirit and aviation fuel (aviation spirit and jet-fuel of the gasoline type);
- gas oil, diesel oil, kerosene and jet-fuel of the kerosene type;
- fuel oils.

Apart from oil stocks, indigenous production also contributes to security of supply. The Directive therefore provides that the consumption of products derived from domestically produced oil can be deducted from the consumption which actually forms the basis for the calculation of required stocks – up to 25 percent of that consumption.

Stocks may be in the form of crude oil and intermediate products as well as finished petroleum products. But the Directive lays down specific conditions for the calculation of crude oil and intermediate products.⁷⁵

⁷⁴ OJ, 1968 and OJ, 1998.

⁷⁵ Crude oil and intermediate products shall be accounted for:

3. IEA and EU emergency systems

Under the European Council Directive, approximately the same supplies can be included as under the IEP. The Directive also states that Member States can enter into partnerships with the private sector by using a stockholding agency.

Member States are not obliged to hold all their emergency stocks on their national territory. If they are situated in another EU Member State, there should be a so-called intergovernmental agreement between the two States. Stocks maintained in another Member State must be reported to the European Commission.

Finally, the Directive prescribes that if difficulties arise with regard to Community oil supplies, the Commission shall, at the request of any Member State or on its own initiative, arrange a consultation between the Member States. However, this Directive does not elaborate what “difficulties with regard to Community oil supplies” exactly means. Prior to the consultation, Member States shall not draw on their stocks to any extent that would bring those stocks under the compulsory minimum level.⁷⁶

3.2.3. Council Directive 73/238/EEC⁷⁷

Council Directive 73/238/EEC, dated 24 July 1973, requires Member States to equip themselves with powers in the event of difficulties arising in the supply of crude oil and petroleum products which might appreciably reduce the supply of these products and cause severe disruption. These powers should enable a compulsory deployment of emergency stocks, which are held in terms of the above-mentioned Council Directive on emergency stocks. The responsible body should also have the power to impose specific or broad restrictions on consumption, depending on the estimated shortages. Furthermore, it should be able to give priority to supplies of petroleum products to certain groups of users and be able to regulate prices in order to prevent abnormal price rises. The Council Directive stipulates that Member States shall draw-up intervention plans for use in the event of difficulties arising with regard to the supply of crude oil and petroleum products.

-
- in the proportions of the quantities for each category of product obtained during the preceding calendar year from the refineries of the state concerned;
 - on the basis of the production programmes of the refineries of the state concerned for the current year;
 - on the basis of the ratio between the total quantity manufactured during the preceding calendar year in the state concerned of products covered by the obligation to maintain stocks and the total amount of crude oil used during that year. The Directive lays down limits in relation to the contribution to stocks of products calculated in this way.

⁷⁶ Article 7 is somewhat unspecific in this respect. It leaves the option for Member States to draw upon those stocks in case of “particular urgency” or “in order to meet minor local needs.”

⁷⁷ OJ, 1973.

3.2.4. Council Decision 77/706/EEC⁷⁸ and Commission Decision 79/639/EEC⁷⁹

Council Directive 77/706/EEC of 7 November 1977 sets a European Community target for reducing petroleum products consumption in the event of difficulties in crude oil and petroleum products supply. The target may be set at a ten percent consumption reduction of petroleum products in the European Community as a whole, for a maximum of two months. To safeguard the unity of the market and to ensure that all European consumers bear their fair share of difficulties arising from a crisis, the European Commission may propose several other targets. One of these exceeds a ten percent consumption reduction and can be extended to other forms of energy in the event of a larger shortfall. The Commission Decision 79/639/EEC gives more detailed instructions for implementing the target.

3.3. The relation between the IEA and the EU's framework for oil stock measures

As noted in section 2.3, the two systems do not compete with each other but are instead complementary.

The IEP foresees an automatic and clearly defined mechanism with obligations which participating countries must fulfil in the event of an oil supply disruption. The EU does not handle any specific thresholds for the activation of emergency measures. In practice, this means that obligations which would arise from the EC system are automatically fulfilled by the activation of the IEP mechanism. On the other hand, through the IEP, EU Member States have committed themselves not to draw upon stocks if doing so would bring the level of stocks below the levels as prescribed in the IEP – unless, of course, required by the IEP emergency programme. Thus, the EU system can only control stocks which are held in excess of the IEP requirements. However, there is currently no central authority in the EU to co-ordinate such measures. The European Commission is aware of the ramifications between the two systems and has advanced propositions to reduce the perceived 'shortcomings' of the EU system. These proposals will be discussed in the following chapter.

⁷⁸ OJ, 1977.

⁷⁹ OJ, 1979.

4. New initiatives of the European Commission⁸⁰

On 11 September 2002, the European Commission adopted two proposals for directives intended to improve, in the context of the internal energy market, the security of the EU's energy supply. One proposals concerns the security of gas supplies, the other concerns the alignment of measures with regard to security of petroleum supplies. This paper addresses the latter proposal for security of petroleum supplies (COM(2002)488).

The Commission states that the directives currently in effect are no longer suitable for the present European internal market. The provisions currently in force do not guarantee sufficient harmonisation and coordination of the national measures.⁸¹

As Mr Prodi, President of the European Commission, said in his address to the European Parliament on 3 October 2000:

You cannot, on the one hand, deplore the lack of effective and united European action, and on the other, be content with the weakness of the instruments available to the European Community for carrying out such action. The recent petrol crisis (2000) is a perfect illustration.⁸²

The Commission formulated the following objectives to help ensure proper functioning of the internal energy market:

- promote solidarity between EU Member States in the event of an energy crisis by putting in place predefined measures and mechanisms which will guarantee coordinated action;
- managing security of supplies by providing for adequate mechanisms to deal with physical disruption of energy supplies;
- manage the safety of supplies and infrastructures by adopting safety measures which will ensure maximum reliability of supply flows from producer countries;
- promote market stability, in consultation with producer countries, by providing for possible responses where a physical disruption of supplies is anticipated in order to restore the proper functioning of the market.

⁸⁰ This chapter draws on CEC, 2002a and CEC, 2002b.

⁸¹ The internal market should be based on sufficiently harmonised and coordinated rules regarding security of supply. Article 14 of the EU Treaty states that the internal market comprises an area without internal frontiers in which the free movement of goods, persons, services and capital is ensured. To help meet this prime objective of the Treaty of Rome, the European Community is responsible for introducing the requirements needed to complete the internal energy market which will make it possible to gradually open up the market making the energy sector more competitive.

⁸² CEC, 2001, p. 13.

The proposal for a new directive argues that the Member States must have powers to use security stocks in two types of situations:

- a physical disruption of oil supply (which forms the basis of the current system);
- a general perception of risk of physical disruption. This concerns situations where operators' perception of risk of a potential future disruption causes unacceptable price volatility on the spot markets.

With regard to security of oil supply, the Commission has proposed a series of measures that should lead to joint and coordinated action.

4.1.1. *Increase the level of emergency stocks*

To guarantee a regular oil supply at reasonable prices, the present minimum level of security stocks corresponding to 90 days of internal consumption should be increased to 120 days of internal consumption, as soon as possible following the publication of proposed Directive but no later than 1 January 2007. Although not explicitly stated, this increase in the level of security stocks also is closely related to the need for the EU to create stock levels which exceed the IEP requirements, as only stocks above IEP requirements would be under control of a new European supply emergency response system (see also section 4.1.3).

4.1.2. *Harmonisation of national storage systems*

The EU emergency oil stock system is currently divided into 15 different national systems, as some Member States have established public stockholding bodies for holding emergency oil stocks, whereas in other Member States private oil companies hold the emergency stocks. According to the Commission, this fragmentation affects the proper functioning of the internal market in energy as different rules apply in different Member States. Another problem with the fragmentation of system is the lack of visibility of security stocks in countries without a central stockholding body. Where company stocks alone provide the security stocks, it is uncertain which quantity can actually be used as additional supplies in case of an emergency. Some Member States have been regularly singled out for not providing sufficient transparency with regard to the actual size of available strategic stocks. To deal with this situation, the Commission proposes that all Member States should set up a public body to hold oil stocks, which would own stocks representing at least one-third of the 120 days of required internal consumption.

The proposal aims to reduce barriers oil market entry for non-refiners by obliging the public stockholding bodies to hold the required emergency stocks for non-refiners (on their request) against cost-covering payment. This provision seems to be included in the proposal to safeguard the position of independent operators such as the super-markets that distribute petroleum products in France and Great Britain.

4.1.3. Coordinated use of emergency stocks

The European Commission has expressed concern regarding the appropriateness of the IEA framework for dealing with oil market disruptions. Although the IEP agreement is recognised as providing an effective and very useful automatic safety net in cases of severe supply disruptions, the Commission doubts that the CERM system is suitable for dealing with smaller market disturbances.

The Commission stipulates that the geographic origins of the participating countries and their sometimes very different interests, do not make it easy to reach consensus.⁸³ Countries such as the US, Japan, Australia and Korea are participating countries. Given the requirement for unanimous voting, it is unlikely that quick and flexible responses will be found in cases where interests of participating countries diverge. The lack of clear criteria for activating a CERM certainly does not help to alleviate these concerns.

As stated in section 3.2, the EU currently has no authority over the strategic stocks located within the Member States. Firstly, due to the IEP agreement stock levels may not become lower than the minimum IEP requirements unless so decided by the IEA. Secondly, the control of stocks exceeding the IEP requirements resides at the national rather than the European level. Consequently the Commission concludes that the EU currently has no available instruments with respect to stockdraw. This is viewed as a too-far reaching limitation for policy tools in such an important area as oil supply security.

In response to these concerns, the European Commission's proposal establishes a decision-making mechanism under which the EU would be able to define the action it planned to take in the event of a crisis. If the need urgently arose due to changes in the oil market, the European Commission will have the powers to take the emergency measures required.

There are two instances in which the European Commission may require Member States to gradually release emergency oil stocks.

1) If there is a seven percent disruption of the normal level of crude oil supply at world level, the Commission may take measures to make security stocks gradually available. In that case, the Commission may also restrict consumption in a specific or overall manner. In order to do so, a Commission representative needs to submit a draft of the measures to be taken to a committee composed of the representatives of the Member States and chaired by that Commission representative. That committee will deliver its opinion on the draft measures. At least 62 votes in favour are necessary for a positive opinion; the chairman of the committee is not allowed to vote. This voting procedure is known as the 'regulatory

⁸³ CEC, 2002b, p. 8.

procedure'. The distribution of voting weights corresponds to the voting weights of Member States in the Council.⁸⁴

If the opinion of the committee is positive, the Commission will adopt the measures. If not, the Commission has to submit a proposal relating to the measures to the Council and inform the Parliament. The Council can act by qualified majority on the proposal within one week. If within that week the Council has indicated by qualified majority that it opposes the proposal, the Commission has to re-examine it. It may submit an amended proposal to the Council, re-submit its proposal or present a legislative proposal on the basis of the Treaty. If upon expiry of the week the Council has neither adopted the proposed implementing act nor indicated its opposition to the proposal for implementing measures, the Commission shall adopt the proposed act.

2) A general perception of a risk of disruption of oil supply is the second occasion when the Commission may require Member States to release emergency oil stocks. The perception of risk could give rise to a high level of volatility in oil markets, which might seriously disrupt the functioning of the economy and the internal market in petroleum products. The proposed decision-making process is exactly the same as with the seven percent world crude oil disruption threshold mentioned above.

The Commission's proposal establishes some criteria for the implementation of measures in order to counter, high or volatile oil prices. If crude oil prices reach a level which if sustained for 12 consecutive months would cause the Community's external oil bill for the coming 12 months to increase by an equivalent of more than 0.5 percent of the EU's GDP as compared with the average external oil bill of the previous five years, then the Commission can start the regulatory procedure to gradually release emergency stocks.

4.1.4. Holding stocks in another Member State

Council Directive 68/414/EEC specifies that Member States are not obliged to hold all their emergency stocks on their national territory. However, if they hold (a part of) their emergency stocks in another Member State there should be a so-called intergovernmental agreement between the two States. The absence of such an intergovernmental agreement, which is often the case, constitutes a *de facto* prohibition. This restriction may disadvantage a cross-border downstream supply chain as compared with a purely national chain.⁸⁵ Oil stocks are usually concentrated at refineries for operational reasons. If a downstream company obtains its supplies from a refinery abroad, the situation might arise in which operational stocks present at that refinery cannot be counted as emergency stocks. The company might be required to hold additional stocks in the country of sale. In this case a downstream company with a domestic refinery has a

⁸⁴ Austria 3; Belgium 5; Denmark 3; Finland 3; France 8; Germany 10; Greece 5; Italy 10; Ireland 3; Luxemburg 2; Netherlands 5; Portugal 5, Spain 8; Sweden 4; UK 10.

⁸⁵ CEC, 2002a, p. 6.

competitive advantage since the operational stocks of that refinery can be counted as emergency stocks.

To overcome this situation, article 4.2 of the proposal for a new Directive provides that Member States need to ensure that their stockholding arrangements do not disadvantage supplies from refineries in other Member States as compared with supplies from refineries located on their own territory.

Member States must authorise companies that obtain their products from other Member States to fulfil their obligation through emergency oil stocks held in the Member State where the supplies originate. The latter States may not object to these emergency oil stocks being transferred to the other Member State. For identification, registration and monitoring the emergency oil stocks held in their territory on behalf of undertakings, organisations or agencies established in another Member State, a system of verification has to be put in place.

4.1.5. *European observation system for oil and gas supplies*

In order to facilitate and monitor the implementation of the proposed legislation, as well as to gain better market insight, the proposal for a new directive provides for the set-up of a European observation system for oil and gas supply.

The observation system should monitor the application of aforementioned legislation and should assist in evaluating the effectiveness of the measures in force and their effects on the functioning of the internal market in petroleum products. The Commission will manage the system.

4.1.6. *Repealing existing Council Directives*

The recently proposed directive concerning the alignment of measures with regard to security of supply of petroleum products would take the place of the existing Directives. The existing Directives 68/414/EEC, 68/416/EEC, 98/93/EC and 77/706/EEC would therefore be repealed.

4.2. Assessment of the new proposal

4.2.1. *Appropriate legal basis*

The aim of the proposal for a new directive is to encourage greater harmonisation and coordination of national measures regarding security of oil supplies, thereby helping to ensure that the internal market functions properly. The Commission states that the measures should provide joint Community action and are necessary to ensure the opening up of the market in petroleum products to non-refiners. Also, the measures should avoid cross-border downstream supply chains from being disadvantaged compared with purely national chains and in this way would help to create a genuine internal market in refined products. Therefore, Article 95 of the Treaty establishing the European Community would represent the appropriate legal basis for the proposal of a directive, according to the

4. New initiatives of the European Commission

Commission. The provisions of Article 95 introduce majority voting in the Council in case decisions have to be taken which aim at the completion of the internal market. Thus far the EU's oil stockholding system has been developed on the basis of Article 100 (ex Article 103a), requiring unanimity voting (see section 3.2). The reference to Article 95 now lowers the threshold for an acceptance of the new directives.

There are significant doubts that the reference to Article 95 is justified. The Dutch government for instance argues that Article 95 should only be taken as legal basis if the internal market is the principal aim of the directive, which would not be evident in this case. The Commission would not have made it sufficiently clear which trade barriers will be removed by implementing the proposed directive.⁸⁶

4.2.2. *Genuine EU emergency response system*

The reasoning that the EU has currently no means to influence the oil market on its own is understandable. However it remains doubtful that the proposed measures to be taken alone by the EU in case of a market disturbance not falling under IEP criteria would be very effective. In case of a stock release from EU stocks at times of extraordinarily high oil prices, those additional supplies would 'leak' also to the world oil markets.⁸⁷ The effect on the EU would therefore be limited and the rest of the world would be 'free-riding' on the EU measures. In this light, co-ordination at the highest international level possible seems to be in the interest also of the EU and unilateral action is thus not sensible.

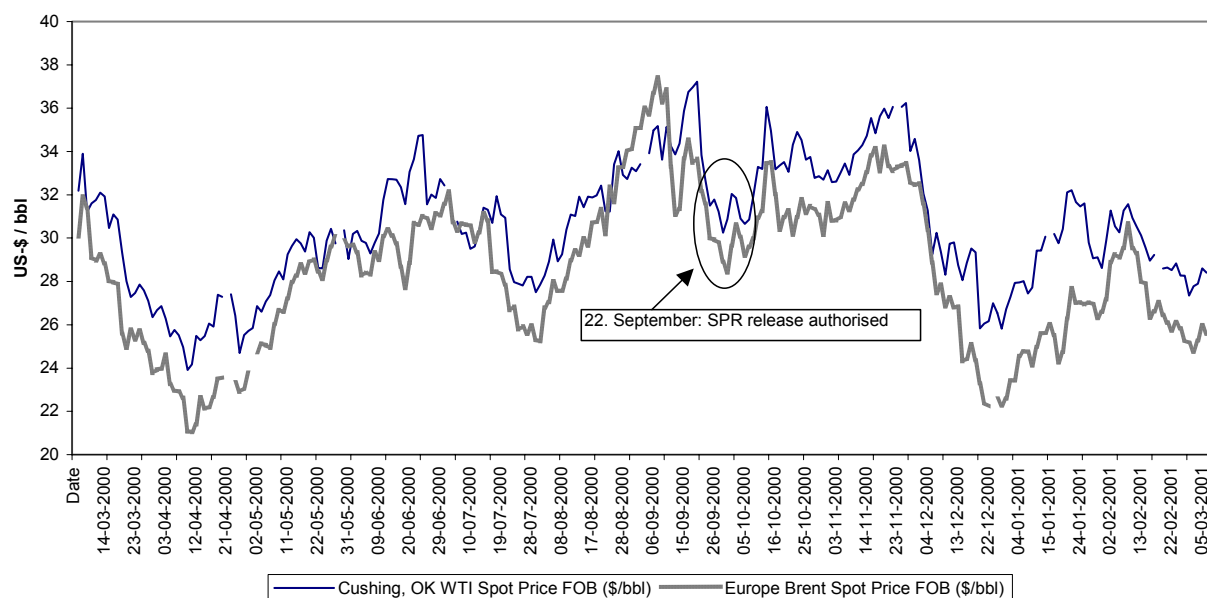
An illustration of the limited effect of unilateral stock release on world oil markets can be found in the release of 30 million barrels oil from the US Strategic Petroleum Reserve over a period of 30 days by the US in September 2000. Given the absence of a real 'strategic' crisis, the move can only be explained as intended to bring down crude oil prices.⁸⁸ Although no econometric analysis is performed here, figure 5-1 strongly suggests that the effects on oil markets were limited. The resulting price dip was short-lived and international crude prices subsequently climbed back to even higher levels, indicating that this intervention was not much of a success. This certainly has to do with the limited amount of oil that can be made available to markets from stock draw.

Nevertheless, the sheer presence of a system that will release additional oil to the market could in theory put a price-cap on markets.

⁸⁶ Letter from the Secretary of State of the Ministry of Foreign Affairs, 'New Commission proposals and initiatives of the Member States of the European Union', Tweede Kamer, vergaderjaar 2002-2003, 22 112, nr. 254.

⁸⁷ There would be at least an indirect effect. If oil stocks are released in Europe, thus lowering the EU price for oil, supplies from producing countries would be redirected to other markets with still higher prices. The effect would be again a levelled world oil price.

⁸⁸ Financial Times, 'If you take Venezuela out, you have a real crisis', 10 January 2003.

Figure 4-1: Crude oil prices 2000/2001

Source: EIA.

With respect to market intervention it should also be noted that if an intervention by any actor other than OPEC (i.e. the EU, US or Japan) is likely to have an impact that is unacceptable to the oil cartel, OPEC Member Countries could counter with their own intervention to neutralise things. OPEC accounted for approximately 37 percent of the world's crude oil supply in January 2003 and can therefore still have a considerable impact. Given the distribution of reserves and the economics of alternative fuels, the importance of OPEC is likely to increase in the future, although some doubts about this still exist (cf. chapter 1).

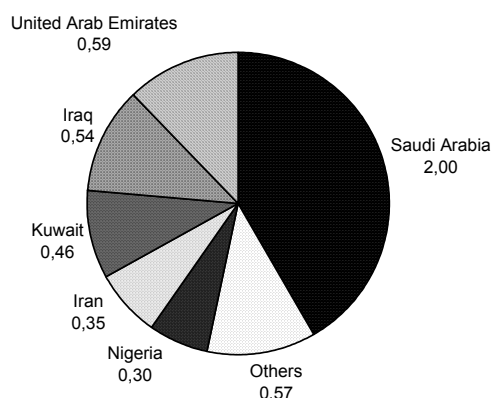
4.2.3. *Market intervention and relation to producing countries*

The establishment of this security stock system could have a backfiring effect on the stability of markets. In fact, there already is a flexible global system for reducing crude oil price volatility, backed-up not by eventually limited stocks in tanks but by (spare) production capacity. So far producing countries, amongst which are OPEC countries, have had an interest in maintaining spare capacity. According to OPEC's price band mechanism,⁸⁹ OPEC basket prices above US\$ 28 per barrel for 20 consecutive trading days or below US\$ 22 per barrel for ten consecutive trading days results in production adjustments. The motivation for keeping prices high is clear, as it safeguards producing countries profits. But

⁸⁹ OPEC collects pricing data on a basket of seven crude oils, including: Algeria's Saharan Blend, Indonesia's Minas, Nigeria's Bonny Light, Saudi Arabia's Arab Light, Dubai's Fateh, Venezuela's Tia Juana Light, and Mexico's Isthmus (a non-OPEC crude oil). The OPEC basket price – which was introduced on 1 January 1987 – is the arithmetic average of the price of these seven crude oils. It uses the price of this basket to monitor world oil market conditions.

producers also have an incentive to not let prices run up excessively high, as this fosters the development of alternative fuels.⁹⁰

Figure 4-2: OPEC surplus production capacity⁹¹



Million barrels per day, 4th quarter 2002. Maximum production that can be brought online within 30 days and sustained for at least 90 days. Source: Financial Times, 10 January 2003.

OPEC's track record for acting as the first line of defence against lost oil supplies and/or high oil prices is strong. In 1991, during the Gulf crisis, OPEC Member Countries increased their output to make up for any shortfall at the time. At the turn of the century, when the US suffered inadequate refining capacity due to clean fuel legislation coupled with the Californian energy crisis, which saw oil prices rise over US\$ 30 per barrel, OPEC put an additional 3.7 million barrels per day on the market. More recently, after September 11th 2001, the organization made it clear that should prices rise excessively, they would act immediately to make up for any shortage.⁹²

Should there be an alternative system for keeping prices low, the incentive to maintain – costly – spare production capacity diminishes. The Commission could end up – of course in a kind of worst-case scenario – with a situation in which security stock systems would constantly have to be expensively enlarged due to declining spare production capacity in producing countries.

⁹⁰ The oil crises of the 1970s triggered tremendous energy saving programmes throughout the world and motivated, for example, the huge nuclear programme of France, reducing demand for crude oil.

⁹¹ The amount of spare production capacity fluctuates relatively strongly, depending, e.g., on OPEC production policy. The graphic however at least illustrates in which country spare capacity can be expected.

⁹² Silva-Calderón, 2002.

It is understandable that the European Commission feels uncomfortable relying to a large extent on OPEC to flatten out the oil price curve, and to not having its own instruments at its disposal. But the signal sent to producing countries, as a result of attempting get more control of world market prices might hamper the so-far constructive dialogue between producer and consumer countries. Producing countries are in a stronger position anyway since strategic stocks will reach their end much quicker than the reserves of producing countries.

5. Conclusion

At present, the EU's oil supply position looks good. The share of oil in the EU's energy supply is likely to continue its decreasing trend. Compared to the early 1970s, oil supply origins of the EU are more diversified thereby reducing the danger of being negatively affected by the disruption of a particular supply source.

Diversification policies with regard to energy carriers and supply origins have reduced the EU's supply vulnerability in both physical and economic terms.

Given this reduced vulnerability, the existing emergency stock systems offer more security than ever before. The IEP agreement and the IEA CERM system provide the advantage of broad internationally co-ordinated frameworks.

Although it is expected by many that the Middle East will regain market share, it is doubtful whether this necessitates adjustments to current emergency response systems. Firstly, new findings of oil outside the Middle East continue to be made and unconventional sources of oil might put even more pressure on the Middle East's ability to dominate world oil markets. Secondly, by the time that the Middle East (or any other arbitrary group of countries) gains significant market share again – according to current assumptions – the threat originating from that region might be perceived much less due to political changes.

From this perspective, an increase of relative stock levels appears currently unjustified. Moreover, measures could still be initiated if the oil supply situation actually starts showing more risks.

Since the early 1970s IEA countries have not faced a supply shortfall that would have required activation of the IEP. Therefore, the test of its actual functioning remains to be seen. When in 1991 a strong risk of supply shortfall was perceived, IEA participating countries demonstrated that they were able to achieve effective co-ordinated action.

One needs to keep in mind that in 1991 there was broad international agreement on the necessity to liberate Kuwait from Iraqi occupation. International disagreement in a new crisis situation might make it more difficult to act jointly in world oil markets. Recent political disagreements among industrialized countries about how to react to crisis situations have been sharp at times. This kind of tension might also make it more difficult to come to an agreement on, for instance, the activation of the CERM system.

Even if there is no actual physical shortage in world oil supply, crude oil prices regularly show strong volatility. Although the importance of the crude oil price has lost importance in fuel costs relative to the tax component, it still has a strong influence on the economy. In this light, the idea of reducing strong price fluctuation through a stockholding system, as proposed by the European Commission, is understandable.

5. Conclusion

The Commission, however, has failed to substantiate the effectiveness of using strategic stocks as a price correctional tool and to assess the possible negative effects. It is likely that the downside of introducing this new price correctional system, including possibly worsening relations with producer countries and other IEA participating countries and incentives for producer countries to reduce spare capacity, will outweigh the expected benefits. Investments in new oil supply sources might also be discouraged if there is in fact a price cap on oil markets. Finally, it is hard to understand why European consumers and taxpayers should bear the substantial cost for a system for which the rest of the oil consuming world could be free-riders.

Price risks are inherent to markets. There are possibilities for market participants to hedge those risks on future markets. State intervention in a global market that is the size of the oil market will probably only achieve its intended effect if co-ordinated at the highest possible international level. The EU alone will probably be unable to gather sufficient capacity to significantly influence prices.

The existing emergency response systems provide a safety net that has not yet been put to the test. It appears groundless to assume the general provisions would not be sufficient. The Council of the European Community discussed the proposals of the European Commission in its meeting on 14 May 2003 and seems to reason along similar lines of not seeing the necessity to broaden the scope of the current systems, but rather noting possible positive effects of a closer linking of the EU system to the IEA system.⁹³

The proposed harmonisation measures in this respect can make a contribution to the effectiveness of current emergency response systems. In particular, increased visibility of stocks by establishing public stockholding bodies will benefit the credibility of the EU as well as of the IEA systems.

⁹³ Council of the European Union, 2003.

Post Scriptum

The proposal for a directive on security of supply for petroleum products is treated in the legislative process of the EU under the co-decision procedure. In the first reading, the European Parliament voted on 19 November 2003 that the proposal on security of supply for petroleum products be rejected. It followed a recommendation of the Industry Committee (EP 2003). That recommendation was mainly based on the substantial cost the proposed system would incur, in particular with respect to the increase in oil stock levels, as well as on doubts that the intended effect of price stabilization could be achieved.

The Industry Committee however acknowledges the desirability of an observation system for oil and gas supplies as well as stronger cooperation between the EU and the IEA. The Commission is asked to work further on these aspects.

Formally, the Council of the European Union in its first reading can, by developing a common position in favour of the Commission's proposal, keep the proposal in the legislative process and transfer it to a second reading in Parliament. However, the Council has already signalled in its meeting on 14 May 2003 that such fundamental amendments to the existing strategic oil stock system are considered to be unnecessary (Council of the European Union, 2003). The Council acknowledges the positive effects of further harmonisation of national oil stock systems and of increased co-operation between EU and IEA. In this light, it is likely that the legislative process regarding this proposal will come to a halt by rejection of the proposal also in the first reading of the Council and that the Commission will be invited to work on a new proposal which should focus on harmonization of national oil stock systems as well as on better coordination with the IEA.

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Annex 1 IEA organisation and voting procedures

Institutional and general provisions

The IEA consists of the following bodies:

- Governing Board;
- (Management Committee);
- Standing Groups on:
 - Emergency Questions;
 - The Oil Market;
 - Long Term Co-operation;
 - Relations with Producer and Other Consumer Countries;
- Committee on Non-Member countries;
- The Coal Industry Advisory Board;
- Industry Advisory Board;

- Secretariat to assist above-mentioned organs.

The Governing Board is the IEA's highest and main decision-making body. The Board is composed of one or more ministers or their delegates from each member country. It elects its Chairman and Vice Chairmen itself, acting by majority. The Board has extensive powers. If requested by the Board, based on Article 6 in the decision of the OECD Council, it can even be given more responsibilities by that Council. Based on Article 51 of the IEP, the Governing Board can adopt decisions necessary for the proper functioning of the IEP. The Board regularly reviews the world energy situation as well as national energy policies, to assess future energy supply and demand patterns and to recommend to member countries energy policies aimed at meeting changing energy and economic conditions.⁹⁴

The Management Committee is composed of one or more senior representatives of the government of each Participating Country. Its most important function is to examine and make proposals on any matter within the scope of the IEP and present them to the Governing Board. The Committee elect its own Chairman and Vice-Chairmen.

⁹⁴ See <<http://www.iea.org>>.

There are four Standing Groups whose tasks are approximately the same as the objectives of the IEP. Each Group is composed of one or more representatives from the government of each Participating Country and the Management Committee elects the Chairman and Vice-Chairmen of the Standing Groups. The Groups may review and report to the Management Committee on any matter within the scope of their respective fields. Standing Groups may consult oil companies with their respective competence except for the Standing Group on Long Term Co-operation.

The Committee on Non-Member Countries is responsible for IEA relations outside of the IEA. In light of the fact that non-OECD energy demand will soon surpass OECD demand, it is essential for the IEA to monitor energy developments and maintain contacts with major energy producing and consuming countries outside the OECD.⁹⁵

The purpose of the Coal Industry Advisory Board is to assist the IEA in the practical implementation of the “Principles for IEA Action on Coal” – measures aimed at ensuring a ready supply and trade of coal to underpin energy security.

The Secretariat consists of an Executive Director who shall be appointed by the Governing Board and such staff as necessary.

Voting procedures

The IEA’s voting rules are among the most complex and innovative of any international organization.⁹⁶ They comprise two separate systems of voting weights assigned to the Members. In adopting those voting arrangements, the IEA departed from the traditional principle of ‘one country, one vote’, which could not be applied in the IEA because it failed to reflect the different magnitude of interests of Member Countries in the decisions to be taken by the IEA. For majority voting, the voting weights reflect two major considerations: (1) an element of equality, and (2) an element of relative oil consumption.

As can be seen in table 1, each participating country has been assigned three ‘General Voting Weights’ (GVW), representing juridical equality amongst the Members, whatever the size of a Member Country’s economy or the importance of its oil consumption. In aggregate, these GVW amount to approximately 44 percent of the Combined Voting Weights (CVW). Apart from the GVW, each Member Country obtains Oil Consumption Voting Weights (OVW). The amount of OVW is calculated by the ratio between the oil consumption of a country and the total oil consumption of all participating countries in the IEA.

The most recent distribution is as follows, including Norway:

⁹⁵ Ibid.

⁹⁶ Scott, 1994a.

Table 1: Voting weights distribution

	General Voting Weights	Oil Consumption Voting Weights	Combined Voting Weights
Australia	3	1	4
Austria	3	1	4
Belgium	3	1	4
Canada	3	4	7
Czech Republic	3	1	4
Denmark	3	1	4
Finland	3	1	4
France	3	6	9
Germany	3	8	11
Greece	3	0	3
Hungary	3	1	4
Ireland	3	0	3
Italy	3	5	8
Japan	3	14	17
Korea	3	1	4
Luxembourg	3	0	3
The Netherlands	3	1	4
New Zealand	3	0	3
Norway	3	0	3
Portugal	3	0	3
Spain	3	2	5
Sweden	3	2	5
Switzerland	3	1	4
Turkey	3	1	4
United Kingdom	3	5	8
United States	3	43	46
Totals	78	100	178

Source: IEP*Consensus*

The IEA voting rules have rarely been directly employed in the sense of having a recorded vote on an issue decided by the Governing Board. Instead of using the voting rules, the Governing Board has preferred acting on the basis of consensus. With the emphasis on integrity and reliability with respect to the Emergency Sharing System and to maintain a confrontation free atmosphere within the IEA, it became necessary to employ all available means to avoid situations in which disputes might arise under the Emergency Sharing System or during consideration of

other issues.⁹⁷ The practice of substituting consensus for formal voting procedures is the most important of those means.

Consensus reduces possibilities for polarization and isolation of the minority, makes workable compromises possible and has enhanced the atmosphere of co-operation in the general interest. The successful application of the consensus procedure also has provided a remarkable means for strengthening overall institutional development.⁹⁸ But the underlying ‘passive’ IEA formal voting system should not be underestimated. Application of consensus has not altered the institutional force of the formal voting rules, which are still applicable. Each Member remains entitled to invoke the applicable voting rule if it wishes to do so.

Four formal voting rules

Although recorded votes have rarely been employed on issues decided by the Governing Board, due to the tacit role of the voting system it is helpful to elaborate on the four formal voting rules: unanimity, IEP majority, Special Majority A and Special Majority B.

Unanimity

Article 62.1 of the IEP states that: “Unanimity shall require all the votes of the Participating Countries present and voting. Countries abstaining shall be considered as not voting”.

In the IEP agreement, unanimity is specified for particular subjects in the following cases:

Article 22: the Governing Board may decide to activate any appropriate emergency measures not provided for in the IEP;

Article 27.1: additions to the list of subjects relating to oil companies operating within their jurisdictions on which Members are to report information to the Secretariat;

Article 62.5 and 62.6: in the event that a country accedes or withdraws from the IEP, the Governing Board shall, acting by unanimity, decide on the necessary increase, decrease and redistribution of the voting weights as presented before as well as on amendment of the opting requirements. The Board also annually reviews the number and distribution of voting weights and decides whether to adjust these weights due to a change in a country’s share in total oil consumption or for any other reason.

IEP Majority

Article 62.3 states that: “Majority shall require 60 percent of the total combined voting weights and 50 percent of the general voting weights

⁹⁷ Scott, 1994a.

⁹⁸ Ibid.

cast". When the necessary (combined + general voting weights) majority gives favorable support to a Governing Board action, the adopted decision is binding upon all IEA Participating Countries. Article 61.1 divides majority vote questions into three categories:

- Decisions on the management of the Program;
- Decisions on procedural questions;
- Recommendations.

The last paragraph of the voting section in the IEP states that any change in the voting weights distribution paragraphs shall be based on the concepts underlying these paragraphs. The IEP does not explain what these concepts are, but according to the Explanatory Memorandum with respect to the IEP agreement, one of these concepts is that neither the US nor the European Community as a group can block a decision by majority or special majority.⁹⁹

Table 2 shows the distribution of voting weights of powerful members of today's world: the US combined with Canada, the EU (15) and Japan.

Table 2: distribution of voting weights

	General Voting Weights	Oil Consumption Voting Weights	Combined Voting Weights
EU (15)	45 (58%)	33 (33%)	78 (44%)
United States + Canada	6 (8%)	47 (47%)	53 (30%)
Japan	3 (4%)	14 (14%)	17 (10%)
Totals	78	100	178

The formulation of the particular requirements for IEP Majority was intended to reflect the intentions of the framers of the IEP Agreement who wished to ensure that, in the balance between the EU and the US, neither would be able alone to command a majority or block a majority.¹⁰⁰ From table 2 it can be concluded that neither the EU nor the US can command an IEP majority vote which requires 60 percent of Combined Voting Weights. However at this time it is possible for the EU acting together to block an IEP Majority vote because The EU possesses 58 percent of the General Voting Weights and at least 50 percent is needed for a positive vote.

Special Majorities

In addition to the IEP Majority concept described above, there are two IEP Special Majorities that require greater support. Article 62.4.A states that

⁹⁹ Lefeber, 1986.

¹⁰⁰ Scott, 1994a.

Special Majority A shall require 60 percent of the total Combined Voting Weights and 52 General Voting Weights for only a few – but important – decisions, including:

- the decision to increase the emergency reserve commitment;
- the decision *not* to activate the general trigger in cases of an oil supply disruption suffered by the group (see paragraph 2.5.3 on Allocation);
- decisions on the measures required for meeting the necessities of the situation;
- decisions to maintain or to deactivate the emergency measures referred to in Article 13 and 14 of the IEP.

Special Majority B is the most demanding of the three majorities. It requires 60 General Voting Weights, which translates into the affirmative vote of 20 countries and is only applied to:

- the decision to *not* activate the trigger with respect to a shortfall for one or more individual countries, but not for the group as a whole;
- decisions to maintain those measures; and
- decisions to deactivate those measures.