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# SCENARIOS FOR THE FUTURE OF THE OIL SECTOR IN POLAND

Report prepared for DG-XVII

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**IGF**

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INTRODUCTORY REMARKS

The report " Options for the future of Oil in Poland" is the result of the assistance given by the EEC Commission, through its Energy General Directorate, to the Government of Poland.

In this line, during August - October 1.990, I was charged by this General Directorate to make a first analysis of the situation of the Oil Sector in Poland in order to define the necessary studies to prepare its smooth transition towards full integration into the world economy.

The main findings of this preliminary report could be summarized in three elements:

1. The Polish Oil Sector was organized alongside very specific rules based on a certain number of State Companies holding exclusive rights on certain areas.
2. The level of efficiency of the whole system was apparently low, specially because the lack of vertebration of different activities inside the



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Sector, and a stable revenue for all companies guaranteed by the State during the last decades.

3. Any opening of the Polish Oil Sector, could be jeopardized in the short term by those factors. No less important is the absolute lack of internal regulations regarding the relations between the different companies involved in the oil activities in Poland, that could enter into serious disruptions should the system be minimally open to competition.

So the recommendations of that initial report, were to establish two different sets of studies:

The first, named as "Quantitative Studies" were defined as those necessary to clarify the future demand for oil products and its spatial distribution, the necessary upgrading and modernization of the refining sector, the definition of new ways to guarantee the supply of crude oil ( now subject to very important constraints) and last but not least the reorganization and modernization of the distribution and retailing facilities.

The second, "Structural Studies" were to tackle the

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definition of the potential options for reorganization of the whole polish oil system and, in a second stage, after the election by the Polish Authorities of a given scenario, to devise in detail the necessary legislative and organizational changes.

This study is the answer to the first part of those " Structural Studies", in order to analyze the potential advantages and drawbacks of the main options for the future, defining also the basic elements in the chosen option.

Crucial to those studies have been the two Seminars held in Plock in October 1.990 and in Serock in April 1.991. Those Seminars were attended by the highest officials from the Polish Ministry of Industry, Finance Ministry and the Antimonopoly Office, as well as by the top management of the Oil Sector and representatives from the Trade Unions. Those Seminars have been aimed to present the first results of the EEC studies, and also to achieve a first hand consensus on the necessary changes to be made. The need to rely on the local expertise was commonly agreed , as well as to elaborate an in-depth report of the existing functionment of the Polish Oil Sector, which for many of the people attending the Seminars was only partially known.

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So the study was organized alongside two parallel lines. The first defined as "Polish Leg" was chaired by Mr. Maciej Zebrowski, Director of the JSRD Institute in Cracow, and a well known personality in the Polish Oil and Chemical Sector. He counted not only with his own experience and that of his staff, but also the inestimable help of an "advisory team" formed by retired high experts from the oil industry. It has to be stated that without Mr. Zebrowski's contribution this study could not have been finalized successfully.

The second, named "The EEC Leg" was formed by Mr. Miguel Lagarejos, charged with the technical side and Miss Marta G. Fidalgo who was responsible for the legal aspects.

These two legs made possible the comparison between the Polish Oil Sector, which is the first part of the report and a similar, although less detailed, analysis of the EEC Sector. That comparison made it possible to establish the existing differences and so pave the way for the definition of the "Options for the Future" final part of the report.

In this Options for the Future, three scenarios have been defined.

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- \* Control Scenario: Continuation of the actual system with only minor whitewashing and repair maintenance of decaying structures.
- \* Free market Scenario: Radical and quick transformation into a full freedom system comparable to these prevailing in EEC Countries.
- \* Gradual liberalization Scenario: Although the Free Market Scenario is the ultimate goal, a consolidation stage is established before a gradual opening of the market takes place.

After the Serock Seminar, following the requests of the Polish Authorities, and after getting permission from EEC Energy General Directorate, the third " Gradual Liberalization Scenario " was taken as a definitive reference and so the analysis of two previous scenarios were minimized and the chosen scenario was enhanced.

Finally, although I have to bear the full responsibility of the study and its results I have to remark that this is the result of a collective work rather than of a single person. I have also to emphasize the key role played by Mr. Zebrowski in designing the scenarios for the future and to involve all the high officials and top

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management related to the Oil Sector in Poland on the  
outcome of this study.

Madrid, June 1.991

## CHAPTER I

# THE POLISH OIL SECTOR

# 1 Introduction

This study is carried out in a very challenging moment for Poland as a country and specifically for its oil sector. This sector emerges after almost half a century of highly distorted development being biased by the pathology of the energy sector dominated by coal. The sector is supplied by a single pipeline to the Soviet crude oil. The alternative pipeline coming in from the Baltic sea shore was never sufficiently used however saved Poland from total dependence on the Soviet crude oil. This dependence was due to shortage of convertible currency, a sad attribute of the economic system.

Now the country faces a period of a very fast transformation of the economy from the so called planned economy model which abruptly speaking was in shambles for more than a decade of ever-deepening crisis. The economy is dominated by heavy industry with large proportion of a backward steel sector, and strongly dependent on coal production. The above situation is even more grave due to the very bad environmental situation of the country. The public approach is also of importance here. After years of the oppressive bans on the public concern with respect to ecological threats, now the public reaction is naturally tied to the opposite swing of pendulum being extremely hostile against any development of large scale industry. This is followed by the mass media that again react following common wisdom and takes advantage of freedom to attack the totally unprepared for defense industry.

To the certain contrary to this picture the organization of this industry though far from any Western standards was performing relatively well based on rather good tradition of performance and organization of refining and petrochemical industry, despite its size being very much below any sensible proportions of the corresponding sectors in the West. The challenge of the current period can be summarized in something that may be called a Polish paradox.

With all the above in mind the oil sector with its technological backwardness and sort of far going loosening of organizational ties performs surprisingly well showing great flexibility and vitality in the newly emerging market conditions. But this paradox may not last long as it offers a unique opportunity of innovative changes and restructurization of the sector since all the main actors: refineries and wholesale as well as distribution and retail are open to the necessity of changes while the conservative past seems not to be an obstacle any more. So it can be summarized as: "now or never" situation.

This expression however must be balanced by the very clear statement that whatever the scenario for change on the way to the free market is — it has to be performed with great consequence but not in a hurry. Only one case has to be eliminated: that things would be left as they are without any action.

The "Options for the future" study comes as the one selected from the set of studies presented by the EEC in the document *Technical description of the oil sector in Poland* which co-analyse the oil sector in this country. The mission was initiated in August 1990 and was finalized at a seminar in Srebrna near Plock in the form of the above document. This document was promptly accepted by the Ministry of Industry (decision ref. No SE/E6/RL/3138/90 of October 24, 1990).

## 1.1 Terms of reference

The scope agreed with the Polish team covered the analysis of the oil sector through collection and elaboration over the data and information necessary to describe and assess its actual state. The term oil sector as understood in the study covers:

- supply of crude oil for further processing e. g. imports by the sea, by the pipeline from USSR and domestic extraction together with geological research and exploration,
- crude processing in Polish refineries,
- distribution of fuels including the problems of wholesale and retail trade of both the domestic and of the foreign origin.

It was assumed that the report is expected to provide information about the existing organization and management of the said industry, basic legal regulations formal and informational linkages between enterprises and institutions acting within the oil sector. It was also assumed that the report is to provide a critical analysis of the existing situation and some suggestions will be given on the potential changes in the management and the legal acts which otherwise would become an obstacle in the transformation of the industry towards the market economy.

In the applied methodology it was assumed that at the advanced stage of implementation of both parts: the one on the actual state of the Polish oil sector and the one done for the Western Europe is to be presented at the seminar (similar to the one that took place in October 1990 in Srebrna near Plock) in order to confront the findings with all the parties involved it is from the oil sector and from the Government. It has taken place in Serock in April and such a methodological step enabled for the consolidation of the report and better formulation of some conclusions and proposals. It is foreseen that the whole study "Options for the future" will result in the selection of the scenario (and its basic contents) showing how and when the Polish oil sector could evolve from its present state to the organization fitting the EEC market.

## 1.2 Scope

The assumed scope reflected in the content of the report corresponds to the methodological assumptions enumerated in the Terms of Reference above but it is edited and outlined in a way which is to fit best communication of the material to the Polish authorities and Polish industry. It was accepted by the Ministry of Industry, namely the Department of Fuels and Energy. In general, the content of the report is also aimed at providing as much as possible the understanding of the Polish situation to the Western partners. That is why following the assumed methodology, special emphasis was given to the legal framework of the Polish industry as well as to some information on the industry and its organization and technicalities, which may be well known to the Polish partners.

Chapter 2 contains general characteristics of the sector providing the basic information in the following subsections: acquisition of domestic and imported crude oil.



refining industry, distribution and retail of fuels. This chapter provides the most synthetic information about the sector and organizations involved and it is to serve as a reference and introduction to the subject by giving just an overview of problem areas that are to be zoomed on in the following chapters.

The existing legal acts and peculiarities of the Polish state enterprises stemming from their legal framework have the impact not only on their current operation but on any scenario for their transformation. For that reason chapter 3 was provided. Its section 3.1 serves as a guide here showing basic elements of the legal acts governing the behavior of the Polish state enterprises in general, since these legal acts are common for practically all state owned enterprises involved in the oil sector. Any particularities relevant only for some companies were given attention while describing each particular company in the course of the analysis and that was shown in the corresponding part of the report. Separate section 3.2 presents legal aspects of privatization which is the key to any structural changes in the Polish industry and that of course involves also the oil sector. Section 3.3 deals with important for the sector in question, legislative framework governing antimonopoly policy of the State.

Chapter 4 covers the area of acquisition of the crude oil with the obvious emphasis on import which is the source of practically 99% of the crude oil being processed in Poland. This is presented in details in the section 4.2. In the following section 4.3, the results of the analysis of the extraction and exploration of the crude oil are given. However it is clear that domestic crude constitutes a marginal quantity in relation to the total volume of crude being processed it shows how very important organizational constraints and economic consequences are, when implied by the integration in the one organization or in fact one enterprise, all the activities covering: exploration of gas and crude oil, extraction of gas and crude oil, distribution and import of the natural gas. The assessment of the whole area covered is given in the section 4.4 separately for the problems concerning imports and for the problems dealing with the exploration and extraction of crude.

The following chapter namely 5 is devoted to the refining industry and it goes through organizational structure of the Polish refining industry, then given are the general techno-economic characteristics of the Polish refineries. This is followed by the basic principles related to the yearly and quarterly planning. The fiscal regulations related to the refining industry are given in section 5.4.

Chapter 6 tackles the key area namely the wholesale or distribution and the retail fuels market in Poland. The chapter starts with section 6.1 providing the general characteristics of the market mainly tackling the institutional interlinkages and the parties involved while the following section deals with market organization and legal aspects of the performance of the CPX<sup>1</sup>, Central Agency as the public utility company. This section, namely 6.2, covers the system of information flows and interactions between the involved parties while the following section shows the structure of the market.

A separate section (6.3) covers the very sensitive area of prices, taxes and duties which in fact are the key factors for the functioning of the fuel market in Poland and appropriate policies dealing with transformation of these parameters will largely govern this sector in its restructuring process which is assumed to lead to the EEC market

<sup>1</sup>CPX — Centrala Produktów Naftowych

type of behavior.

The next, it is 7th chapter, deals with environmental problems related to the oil sector in Poland. It covers in two separate subsections the legal framework as well as environmental characteristics of the industry. Some of environmental aspects are also covered in chapter 5 on the refining industry.

Chapter 8 covers problems of investment with its two basic problem areas. First is the legal framework governing the process of construction of new plants and installations: from site selection and building permission due to local and other authorities subject to spatial planning as well as other constraints. The second area deals with the crucial, in the Polish case, problem, namely with the laws governing the joint ventures. As this is in the stage of transformation clearly aimed at liberalization and attraction of the foreign capital, the process of changes and expected modifications are also discussed.

Last but not least comes summary and conclusions which are given in chapter 9. Two indexes are also provided as appendices to the study. Index of enterprises giving useful information on all the important enterprises of the oil sector in Poland — addresses, telephones, faxes, details on organizational structure etc. Second is the Index of laws and regulations quoted in the study.

## 2 General characteristics of the area

### 2.1 Introduction

The oil sector in Poland has been traditionally organized in a way that does not correspond to the Western trends of vertical organization. Traditionally its formal framework kept separate organizations dealing with acquisition and production of crude, foreign trade, refining as well as wholesale and retail of fuels. On each level of the vertical integration path, the Polish industry was organized traditionally as a chain of monopolies which collaborated between themselves in kind of a mixture of administrative and economic ways.

This seemingly peculiar kind of organization, often difficult to understand by the West, effected in structures that from engineering and technological point of view, were highly performing surprisingly well. This was due to the effort of skilled staff and also engineering and maintenance know-how which paid off thanks to substantial effort devoted to the technology upgrade.

An area covering the state refining industry will be considered in the study. This sector until recently was managed by the branch ministries, heads of which were ministers, members of the Government. This chapter is to present briefly the refining sector being a subject of the analysis. Basic links, material flows and organizational structure of the sector is presented as well as basic enterprises operating in the area are described. That enables for obtaining a wholic view on the area that will be presented in detail in consecutive sections. Various aspects of the problem area can be thus enlightened in a context of different links and dependencies.

The enterprises contained in this sector, all of them belonging to the state, were managed directly by the ministries or by intermediate agencies as Industrial Associations (*Zjednoczenia*). For several recent years, due to the process of reforms in the Polish economy, some visible changes in enterprises operation are seen, and essentially the changes in the economic system of the country performed since 1989, enlarge and deepen those processes. The intermediate agencies which operated in centrally planned economy, such as Industrial Associations and Central Agencies as well as a number of branch ministries were liquidated. One Ministry of Industry was established.<sup>2</sup> The functions of newly created Ministry of Industry have been strongly changed in relation to the former branch ministries which practically did manage operation of respective industrial branches.

All recent changes in industrial management structures had and still have a clear and distinct aim — they increased the role of enterprises as independent economic entities. The enterprises still belong to the state, they depend upon the central authorities and are shaken by the conflicts occurring due to conflicts of interests between the workforce and the enterprise.

However not to exaggerate the dark sides of the problem it should be stressed that in many enterprises healthy tendencies to structural changes occur both in management and in technology. These processes should however be backed by legislation procedures

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<sup>2</sup>As a next stage of reorganization of the government there will be an establishment of the Ministry of Industry and Trade.

and rational policy of the state.

The area in question is presented in figure 2.1a. Three groups of problems are distinguished here: crude oil supplies, crude oil processing and distribution of liquid fuels.

The maps illustrate:

Figure 2.1b — location of Polish refineries, and main pipelines.

Figure 2.1c — areas covered by District Directorates of CPN

In the further description, the organizational and legal status as for the first quarter of 1991 will be presented. This information is important in view of ever changing environment of the Polish economy. The efforts were made to keep up with the changes at least until May 15.

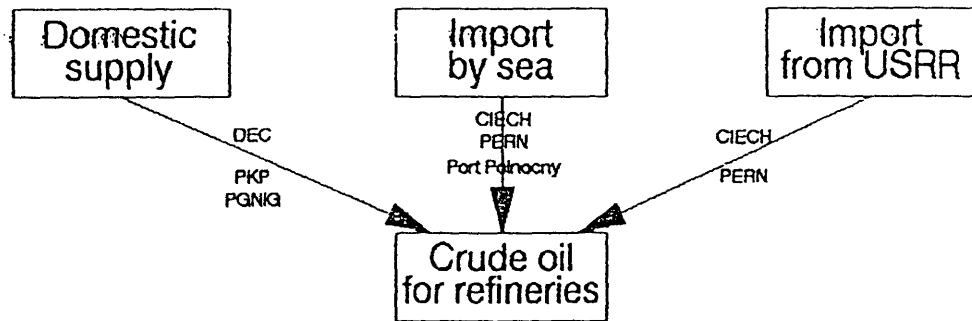
## 2.2 Crude oil supply

Following enterprises play crucial role in crude oil supply for the Polish refineries:

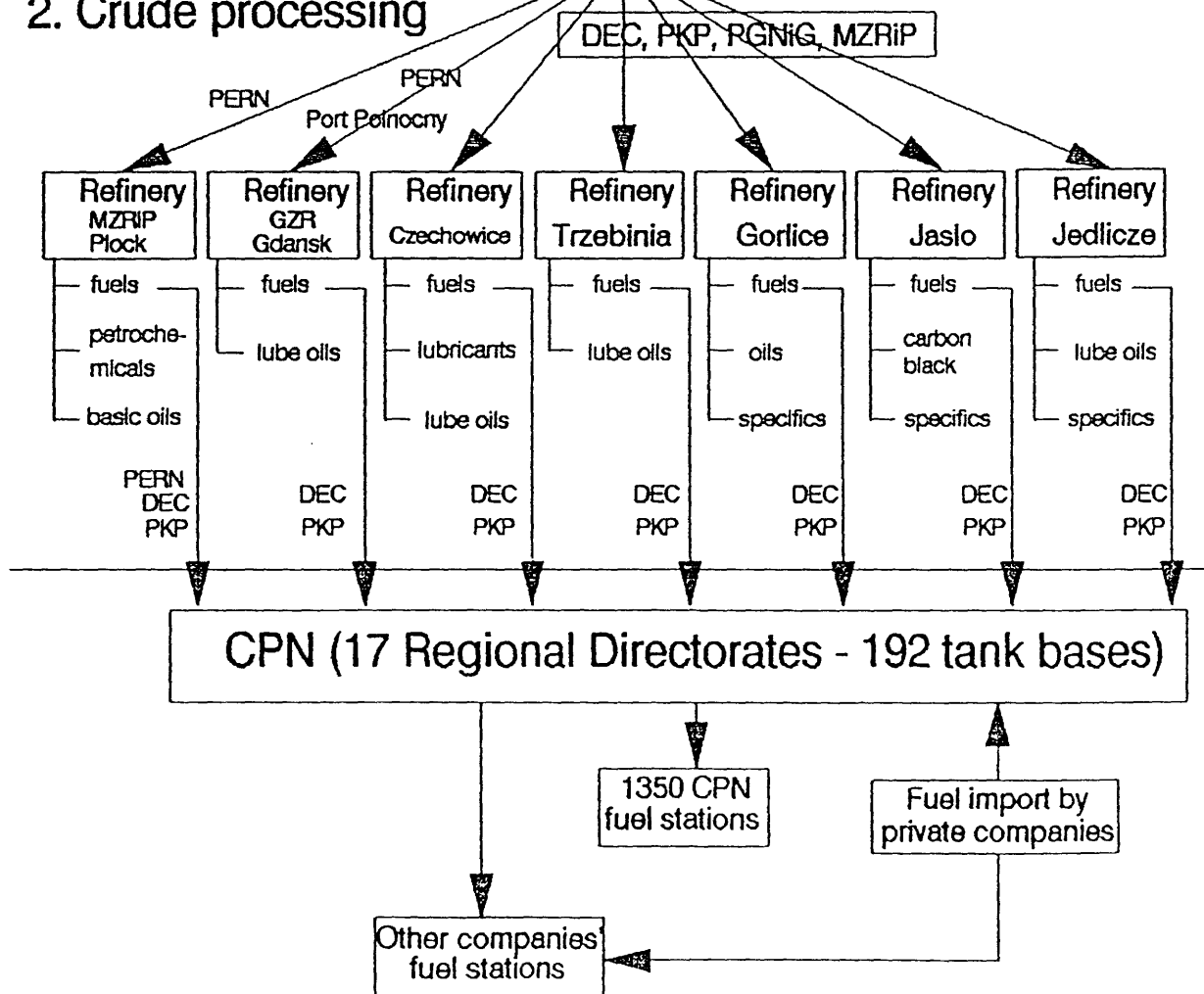
- **Centrala Importowo-Eksportowa Chemikalii CIECH**  
*Central Agency for Export Import of Chemical Products — CIECH*: a limited liability company, dealing with export and import of chemicals, crude oil and crude oil derivatives, as well as technologies and know-how in this area; it also performs distribution and trading activities in the Area of Poland. Matters related to import of crude oil and import and export of crude derivatives are dealt with by a specialized branch office of CIECH called PETROLIMPEX.
- **Przedsiębiorstwo Eksploatacji Rurociągów Naftowych — PERN**  
*Enterprise for Pipelines Exploitation — PERN* a state owned enterprise performing services in the area of pipeline transport of crude oil and crude oil derivatives and oil storage.
- **Dyrekcja Eksploatacji Cystern — DEC**  
*Directorate for Rail Tanks Exploitation — DEC*: included in organizational structure of CPN state owned enterprise; deals with lease of tank wagons for transport of crude oil and derivatives; possesses 12.500 of rail tanks.
- **Polskie Górnictwo Naftowe i Gazownictwo — PGNiG**  
*Polish Oil Mining and Gas Engineering — PGNiG*, a state owned, public utility, multi-plant enterprise operating on the whole territory of Poland, deals with exploration and extraction of natural gas and crude oil, imports of natural gas from the USSR and distribution of gas in throughout the country.
- **Polskie Koleje Państwowe — PKP**  
*Polish State Railways — PKP*, a state owned enterprise operating on the whole territory of Poland, sole organization dealing with railway transports in Poland.

# Structure of oil sector (material flows)

## 1. Crude oil supply



## 2. Crude processing

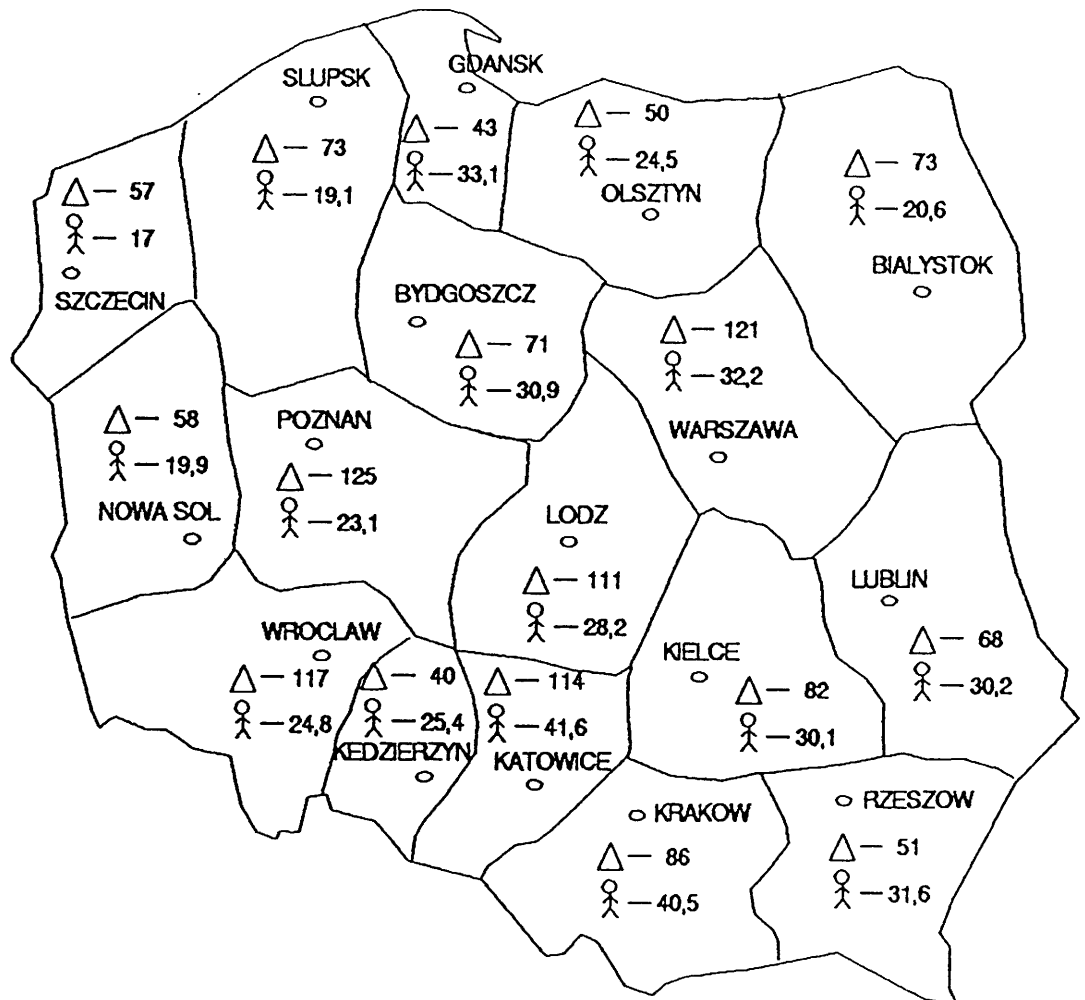


## 3. Fuel distribution



Figure 2.1c

### Areas of CPN operation (Regional Directorates)



- — cities, seats of Regional CPN Directorates
- △ — fuels stations
- 人 — thousands inhabitants per 1 station

- **Morski Port Handlowy — Port Północny**

*Commercial Sea Harbor — Port Północny*, a state owned enterprise<sup>3</sup> a part of Gdańsk harbor complex, disposes of a crude oil pier for tankers reloading, capacity 6 – 8 mil. t of crude oil per year.

Ca. 99% of processed crude oil comes from import, only 1% from domestic production. In 1990 ca. 13. mil. t of crude oil were imported, including 10.7 mil. t from the USSR, volume of domestic extraction was 160.000 t; in 1989 respectively: 11.9 mil. t, 13.1 mil. t, and 157.000 t. Import from the USSR is a basic source of supply. Imports are contracted by CIECH and oil is transported by a pipeline (which belongs) to PERN from the border to MZRiP in Plock. Imports of crude oil and crude oil derivatives by sea is provided via Port Północny harbor in Gdańsk. Crude oil is transported by a pipeline to GZR — Gdańsk Refinery. There also is a possibility of crude oil supplies to MZRiP in Plock by a pipeline linking Gdańsk and Plock. All the pipelines belong to state enterprise PERN — Przedsiębiorstwo Eksploatacji Rurociągów Naftowych. Domestic crude oil extracted by an enterprise Polskie Górnictwo Naftowe i Gazownictwo — PGNiG is transported in tank wagons leased from Directorate for Rail Tanks Exploitation — Dyrekcja Eksploatacji Cystern (DEC), by Polish State Railways (Polskie Koleje Państwowe — PKP) to small refineries in the south of Poland in Czechowice, Trzebinia, Gorlice, Jasło and Jedlicze. In the same way i. e. by railways, Soviet crude oil is transported from MZRiP in Plock to these refineries.

## 2.3 Crude oil processing

The refineries process the crude oil along technologies presented in Chapter 5 of the study. Liquid fuels are supplied from the refineries by rail tanks leased from DEC to tank storage farms that belong to CPN. In figure 2.1a, the lines linking fuels from the refineries with tank farms of CPN are marked marked by abbreviations DEC and PKP. In one case — on the line linking Plock refinery with CPN, also PERN occurs, as the largest producer of liquid fuels gets their supplies of the fuels to tank storages of CPN by fuel pipelines that belong to PERN.

In Poland there are 7 refineries processing in total ca. 15 mil. t/year of crude oil (in 1989 — 15.2 mil. t, in 1990 — 12.8 mil. t), although only two are of significant size and these will be considered in detail in the report.

- The biggest refinery in Poland — **Mazowieckie Zakłady Rafineryjne i Petrochemiczne — MZRiP** in Plock is a state owned enterprise, processing 76% of total volume of crude oil, produces a wide assortment of crude derivatives and petrochemicals.
- Second large refinery is **Gdańskie Zakłady Rafineryjne — GZR**, Gdańsk Refinery, a state owned enterprise, processing 16% of total volume of oil processed in Poland, produces wide range of oil derivatives.

<sup>3</sup>Since May 1991 planned to be transformed in to single-person State Treasury company — see section 3.2



- Five so called small refineries, situated in the south of Poland in a belt 200 km wide. All of them are state owned enterprises and they process remaining 8% of total volume of crude oil processed in Poland. These are (see figure 2.1b):
  - Śląskie Zakłady Rafineryjne in Czechowice-Dziedzice.
  - Trzebinia Refinery.
  - Refinery in Jasło.
  - Glimar Refinery in Gorlice.
  - Refinery in Jedlicze (near Krosno)

## 2.4 Distribution of fuels

Basic role in the area of fuels distribution in Poland, is played by CPN — Centrala Produktów Naftowych Central Agency for Crude Oil Products. CPN has 17 District Directorates covering the territory of the whole country their location is presented on figure 2.1c. CPN, a state owned, public utility enterprise, until recently held monopolistic position on the market of fuels. According to the statute, CPN, being a public utility enterprise is responsible for continuous supplies of fuels to the market as well as for assuring state reserves and special reserves for national security. CPN possesses 1346 petrol stations on the whole territory of Poland, 50% of them operates as agencies, the agents are mostly former workers of CPN. Apart from the stations which belong to CPN there exist also ca. 570 stations of other firms, supplied from import or from local refineries.

In recent months, private importers of fuels as well as private petrol stations, appeared on the market. Many institutions, enterprises, companies and cooperatives began selling fuels in the stations belonging to them that once were for internal use of these institutions. Some data may illustrate this fact — in 1990 for the total volume of 3.081.000 t of leaded gasoline sold, 147.000 t (i. e. ca. 5%) was sold outside the CPN network. It may be seen from the statistics that in 1990 the volume of leaded gasoline sold per one CPN station was 1920 t and per one station outside CPN — 256 t. This problem causes a lot of complications and the role of CPN as an importer of fuels complicates the situation even more. These problems will be described in detail further on, specifically in chapter 6.

It may be summarized that in the oil sector as it is considered here: from acquisition of crude oil to retailing — the most important role is played by CIECH, the two refineries and CPN. Basic economic indicators presenting their activities are given in tables 2.1d, 2.1e and 4.2e.

Table 2.1d: Sales and profits of CIECH in 1990. Source: CIECH

	Sales (mil. USD)	Sales (mil. Rb)	Profit before tax (mil. zl)	Workforce (persons)
<b>CIECH — sales in 1990 (including PETROLIMPEX)</b>				
Import	1883.280	1041.622		
Export	1365.414	964.095	1639828.575	1100
Total	3248.694	2005.717		
<b>PETROLIMPEX — sales in 1990</b>				
Import	1457.190	801.333		
Export	363.611	21.273	550.522.781	84
Total	1820.801	822.606		

Table 2.1e: Basic data on refining industry and CPN in 1990

	Enterprise	Sales in mil. zł	Profit in mil. zł	Workforce	Profit margin %	Profit/empl
1.	MZRiP Plock	17.181.873	4.382.473	8.442	25.5	519
2.	GZR Gdańsk	4.811.758	1.184.582	1.811	24.6	654
3.	Refinery in Czechowice	1.180.281	299.682	1.335	25.3	224
4.	Refinery in Trzebinia	603.576	163.026	774	27.0	210
5.	Refinery in Jaslo	572.740	112.467	1.535	19.8	73
6.	Refinery in Jedlicze	940.997	429.071	1.239	45.5	346
7.	Refinery in Gorlice	474.803	119.238	897	25.1	132
8.	CPN	4.241.198	2.374.430	16.505	55.9	143
9.	PETROLIMPEX	1.820.801	550.522.781	84	302.3	6553.842
	In total	31.828.027	559.588.750	32.622		

Brief characteristics of the area presented here covering the oil sector in Poland as well as further analysis within this study is directed to the problem of fuels market. However economic significance of this sector cannot be underestimated as it exceeds the problem of fuels and covers also vast area of petrochemical industry, plastics sector, problems of natural gas usually accompanying the crude oil extraction and treated as energetic and resource substitute of crude oil. The study according to the Terms of Reference deals only with a fragment of this problem area, i. e. current state of organization, technics and technology, legislation in the area of crude oil acquisition, processing and retailing of liquid fuels. The impact of such understood oil sector on other branches of the industry traditionally linked with the oil sector such as energetics, petrochemical industry, production of plastics will not be examined here. However it seems purposeful that all these factors should be taken into account when development options for the oil sector are to be presented.

### 3 Selected legal aspects of functioning of state owned enterprises

#### 3.1 State owned enterprises

The activities within the State in the area of satisfaction of demands with respect to production of different goods, performing services or other relative activities were based so far predominantly on so called state sector grouping the state-owned enterprises. The figure 3.1.a — a flow diagram of legislative processes presents centers of decision making and way of creation of legal norms, rules and regulations being a basis for activities of state owned enterprises.

The Act on state owned enterprises has been elaborated and implemented (*Ustawa o przedsiębiorstwach państwowych* of 25 September 1981 uniform text Journal of Laws No 24 of 1981 it. 122) in order to create legal and organizational framework for creation and performance of such enterprises. The said Act was subject to numerous changes, corrections, amendments in 1982-1991. By legal authorization, the Minister of Industry issued an official Announcement of February 22, 1991 (Journal of Laws No 18 of 1991, item 80) where a uniform text of the Act was published, and all the changes implemented so far were taken into account and which thus constitute an up-to-date legal document sanctioning the performance of a state-owned enterprise (see Index of Legal Acts). **This Act presents the current legal state of state-owned enterprises.**

Pursuant to the regulation of this law a state owned enterprise is a self-dependent, self-governed and self-financed economic entity having personality at law, which it gains at the moment of court registration (Chapter 5, Art. 14-17).

The governing bodies of an enterprise — general assembly of workers (delegates), employees council and the director of the enterprise (Chapter 8, Art. 30) make the decisions independently and organize the different activities of the enterprise bound by the legal rules and regulations in order to realize the tasks of the enterprise. Particular regulations govern the state-owned enterprises subordinated to the Ministry of National Defense, Ministry of Finance and Polish National Bank (NBP) as well as those subordinated to the Ministry of Justice.

State owned enterprises may be created as:

- enterprises acting along general rules.
- public utility enterprises (e. g. PUP – CPN).

State-owned enterprises may be founded by (Art. 7):

- head and central bodies of state administration (e. g. ministries, voivodes — heads of regional administration).
- National Polish Bank.

thereafter called **founding bodies**. Founding act of an enterprise defines its name, kind, location and scope of activities.

# Schema of legislative activities

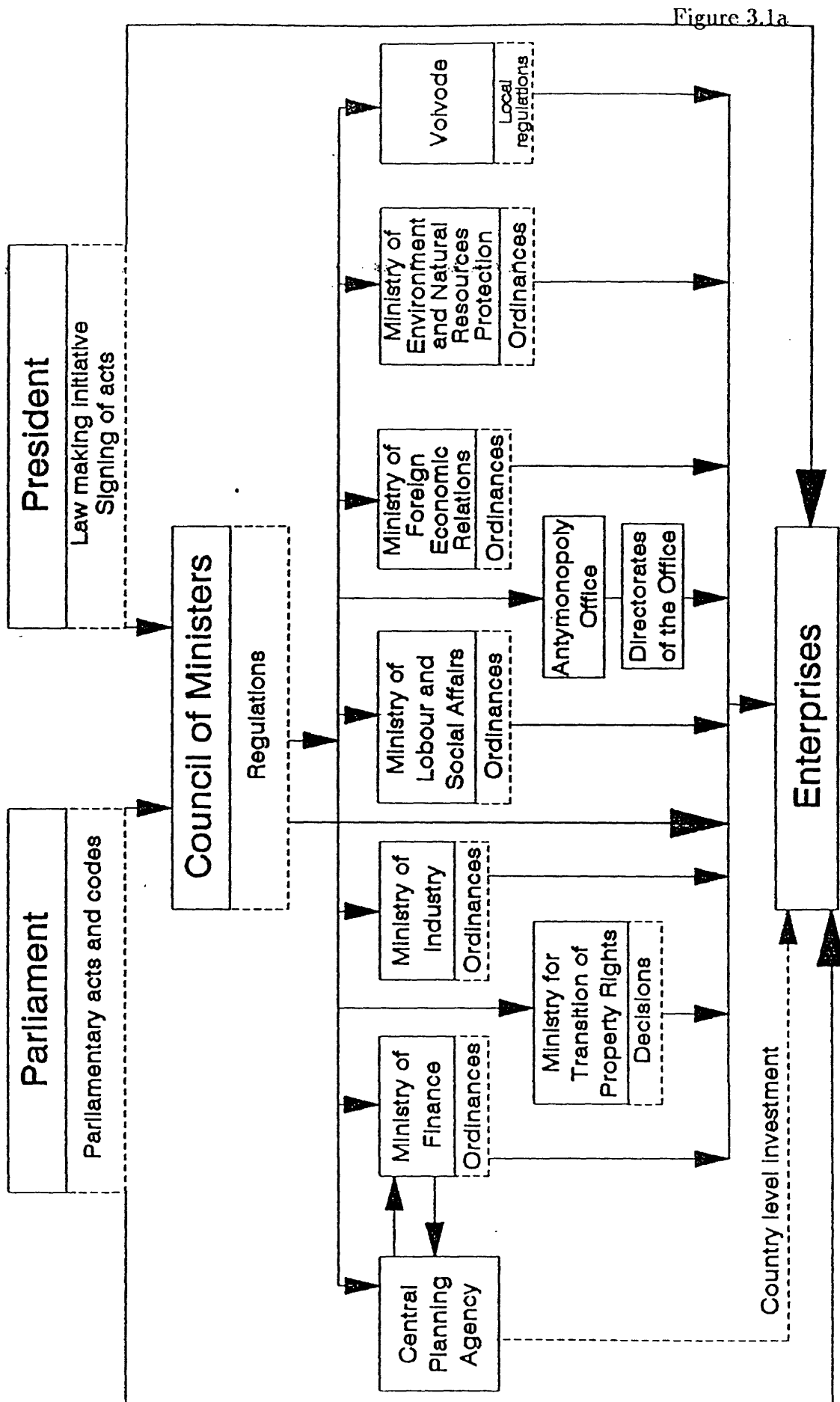


Figure 3.1a

The lawmaker foresaw possibility of founding mixed enterprises — i. e. international ones, based on separate regulations and international agreements (Chapter 3, art. 10-11). Organizational structure and other matters connected with performance of the enterprise are defined in the Statutes of the enterprise. The Statute is resolved by the general assembly of workers at the motion of the director (Chapter 4, Art. 12-13). Organizational regulations of the state-owned enterprise, defining in detail the scope of activities, range of responsibilities and duties of the governing officials and independent workers are prepared by the director after consultations with the employees council (Chapter 7, Art. 27).

The director of a state-owned enterprise (Art. 33), appointed by the employees council, supervises and manages the current activities of the enterprise and represents it, acting pursuant to the legal regulations, makes the decisions alone and bears full responsibility for those decisions. (Chapter 8, Art. 32-33 and next). The director is entitled to undertake legal actions on behalf of the enterprise. Deputy directors and empowered proxies act within the limits of their responsibilities (Chapter 10, Art. 50-51).

The founding body provides the enterprise with all necessary means defined in the founding act, and the enterprise shall contrive its property assuring the necessary protection. The enterprise acts on its own behalf and on the own account (Chapter 9, Art. 46-49). Activities of the enterprise are based on a long-term plan resolved by the general assembly of the workers. Yearly plans are prepared by the employees council at the motion of the director. The plan should take into account capabilities and terms of activities of the enterprise as well as interests of the employees based on rational rules of economy, self-financing and economic accounting (Chapter 11, Art. 52-57).

The founding body supervises the state-owned enterprise, through monitoring and evaluation of its activities and the work of the director. Apart from the above, the founding body has right to include in the working plan of the enterprise the tasks connected with national security, removing the results of disasters or the tasks resulting from international obligations. The founding body may also suspend realization of decisions of the director if they are in contradiction with laws and regulations as well as is empowered to suspend the director in his formal duties.

In case any harm results from a decision of governing (founding) body the enterprise may claim the respective compensation (Chapter 12, Art. 58-64).

So called recovery procedure is dealt with in Chapter 13 of the act. Such a procedure is started at the motion of the founding body in agreement with the Ministry of Finances and after consultation with the employees council, in case the due government dividend is not paid properly. The regulations of recovery procedure are presented in Art. 65-74.

Chapter 8 of the said act, Art. 35 defines the governing bodies of the state-owned enterprise. These are: general assembly of workers (delegates), employees council and the director of the enterprise. To define univocally the rules of share in governing and competences of the personnel in governing the enterprise an Act on self-government of state owned enterprises was issued on September 25, 1981 (*Ustawa o samorządzie pracowniczym*, Journal of Laws No 24, item 123 of 1981; amendments and completions contained in: Journal of Laws No 17, of 1986, item 188, Journal of Laws No 33,

of 1987, item 181, Journal of Laws No 10, of 1989, item 57, Journal of Laws No 17, of 1990, item 99, Journal of Laws No 2, of 1991, item 6).

Among the duties of the self-government of the enterprise, as stated in this act, there are — making decisions on essential matters for the enterprise, expressing opinions, undertaking initiatives and motioning for different matters as well as controlling the enterprise activities. This body as well as its agencies perform the above tasks independently from the administrative agencies, social organizations, trade unions and political bodies (Art. 1).

Main organizational bodies are:

- general assembly of the workers of the enterprise.
- employees council of the enterprise (Art. 2).

Among the competences of the general assembly of workers are:

- resolution of the statute of the enterprise, at the motion of the director.
- resolution of acts on distribution of the profit share of the personnel.
- evaluation of activities of employees council and the director of the enterprise.
- resolution of long range plans for the enterprise.
- resolution, at the motion of the employees council, of the statute of the self-government of the enterprise.

Independently of the above, the general assembly of workers has right to give opinion in all matters concerning the enterprise (Art. 11). **The employees council** acting along the Statute accepted by the general assembly of workers — is a representative of the self-government of the enterprise. The range of its competence is very wide and includes:

- resolution of and implementation of changes in annual plans of the enterprise.
- acceptance of yearly reports on the activities of the enterprise and of its balance.
- making decisions on investment.
- making decisions on changing the directions of activities of the enterprise.
- decisions on distribution of profits among different funds and the rules of utilization of these funds.
- decisions on construction of new buildings (social facilities, houses for workers) and resolving the housing problems of the workers (so called construction fund).
- resolution at the motion of the director of working regulations (Art. 20).

The employees council also make decisions on appointing and dismissal of the director of the enterprise and other persons holding the managing posts according to the regulation of Act on state owned enterprises. Employees council may address to the director with questions on state of the enterprise or activities of its governing bodies and to control the whole of its activities with special emphasis on rational management of its assets.

Independently from the enumerated problems the employees council may also set the problems of relations between the director and self-government of the enterprise, as well as collaboration with other organizations.

Existing controversies between employees council and the director may be resolved by the arbitration commission (Chapter 7, Art. 45,46). The parliament (through appropriate commissions) supervises and evaluates the activities of self-government of a state owned enterprise and evaluates their activities as well as issues appropriate indications.

Formal and legal relations between the employer (state enterprise, autonomous enterprise, cooperative) and the employees are governed by the Work Code (*Kodeks Pracy*) issued as the legal act on June 26, 1974 published in Journal of Laws of 1974, item 141. Particular emphasis should be put on Art. 19 stating that the employees have right to create and become members of trade unions — rules and regulations on creation and association are subject of a separate act.

The Act on Trade Unions (*Ustawa o związkach zawodowych*) was issued on October 8, 1982 (later amendments — see Index of laws and regulations). The said act in its general part due to the date of its formulation and issue by the Parliament is clearly a relict of the past. In that, this act defines the autonomy of trade unions within the limits of the Constitution and other acts including approval of bases of socialist system in the area of social property of production means, leading role of the Polish United Worker's Party as well as constitutionally defined directions of the foreign policy of the country. The quotation given here is more historical than real since amendment to the Constitution abolished its juridical value. But it illustrates the process of economic changes in the country and often arising peculiarities. The act states also that trade unions are to represent and protect interests of workers versus managing bodies of an enterprise, regional authorities, organizations and establish and maintain contacts with trade unions of other countries (Art. 3.5). Trade unions protect the rights of workers with respect to the pay and work conditions in various ways including the right to strikes (Chapter 5, Art. 40-52). In particular their activities concern such areas as:

- policy of rational employment and formation of workers rights and duties resulting from the work contracts.
- salaries for employees and other grants.
- safety, hygiene and culture of work.
- sick benefits, social services, pensions and disability payments.
- formation of prices for basic products and monitoring the market situation.
- environmental protection.



Independently from the above the trade unions assist in realization of economic and social tasks for the sake of country development, multiplication of national product and work on formation of work ethics.

It can be easily seen that in view of recent changes in economic and political system in Poland this act is rather obsolete and does not satisfy the needs and expectations. The Parliament in consultation with the existing trade unions is elaborating a new act on trade unions.

Apart from formal and organizational regulations concerning the state owned corporate sector (Act on state owned enterprises – Journal of Laws No 24 of 1981, it. 122, with amendments in 1982 - 1991) other economic entities base their activities on the acts published in the following documents

- Act of December 23, 1988 on economic activities *Ustawa o działalności gospodarczej* (Journal of Laws No 41, of 1988, it. 324).
- Act of December 23, 1988 on economic activities of companies with the foreign capital share *Ustawa o działalności gospodarczej z udziałem podmiotów zagranicznych* (Journal of Laws No 41 of 1988, it. 324 — new version in the final phase of legislation process a. o. will guarantee the rights of full transfer of profits), this particular area is covered in more detail in chapter 8 on investment.
- Commercial Code *Kodeks Handlowy* (regulation of President of Republic of Poland of June 27, 1934 — Journal of Laws of 1934, No 50, it. 502 – with amendments in 1946 — Journal of Laws No 57, it. 321, 1950 — Journal of Laws No 34, it. 312, 1964 — Journal of Laws No 16, it. 94, 1969 — Journal of Laws No 13, it. 95, 1990 — Journal of Laws No 17, it. 98).
- and appropriate rules resulting from the Civil Code.

Following are the economic activities as understood in these acts: production, construction, commerce and services performed on profit basis and on the own account of the economic entity.

Among many difficulties that impede the Polish economic reforms are also inappropriate legal regulations concerning organizational structures of the state owned enterprises that were formed in different social, economic and political situation of the country. Following can be enumerated here:

1. Lack of factual owner of an enterprise with clearly declared competences and range of responsibilities — neither managing bodies of the enterprise nor the the founding body, e. g. Ministry of Industry play this role. The employees council, having wide competences is a social group and its members are accountable only to the enterprise's personnel.
2. Position of the director in a state owned enterprise is very weak. Pursuant to Act on state owned enterprises the director is appointed by the employees council. Therefore the nomination is handed to him by his subordinates, who also have right to dismiss him at any moment. That is most striking compared with EEC standards.

In any enterprise, no matter what its proprietary structure is, a bi-polar system should occur with interests of the owner (director, supervisory council) on one side and of the personnel represented by the trade unions on the other side. In a Polish enterprise a triple power system exists characterized by the fact that nobody represents interests of the owner in terms of market economy. It is an unclear situation putting the director in the conflicts authorities vs personnel in a non-univocal situation.

The existing structure of state owned enterprises favors a strive for some sort of survival actions rather than increasing effectiveness of the enterprise. Proper care on rational economic effectiveness cannot base only on the level of social consciousness and feeling of responsibility of the workers — it must be backed by sound and clear legal regulations.

In many developed countries there are state owned refineries and other plants but they operate under similar market conditions as private companies. From that it follows that such legal regulations must be created which would allow for creation of appropriate structures, clear distribution of competences and responsibilities so that the Polish state owned enterprise could operate normally and effectively in a market oriented economy.

### 3.2 Transformation of ownership

Transformation of proprietary rights is a crucial factor for carrying into effect the basic tasks faced by the State on its road to the economic restructurization. This also is considered the stronest government policy aimed at correcting these drawbacks which impede state enterprises as described in previous section. To realize the State policy in this important area, a separate **Ministry for Ownership Transformation** was created by an Act of July 13, 1990 (Journal of Laws No 51 of 1990, item 293).

The Council of Ministers, by means of an ordinance, defined in detail the scope of activities of this new Ministry as well as accepted its Statute. The Statute depicts organizational structure of the Ministry, a list of subordinated entities etc. (Art. 4, items 1.2). The activities of this Ministry cover:

- working out basic issues of the State policy in the area of privatization of state-owned enterprises.
- working out (together with the Ministry of Foreign Economic Relations) issues of the State policy with respect to collaboration with foreign parties on their financial shares in newly created or privatized enterprises.
- realization of tasks defined in regulations concerning privatization of the state owned enterprises.
- monitoring of the privatization process and ownership transition.
- cooperation with the trade unions, associations, economic chambers and other social organizations, as well as regional authorities and self-governments in the area of creation and development of private enterprises.

- training, upgrading skills of personnel and management in the area of privatization, bonds and securities market, development of private sector and dissemination of know-how, experience and information on these subjects.

The said act also charges the Minister for Ownership Transformation (together with the Minister of Finance and President of the Polish National Bank) with the task of organization of a bonds and securities market in Poland. According to this indication, a Stock Exchange started its operation in Warsaw on April 15, 1991.

In the said act, a creation of a special body — a **Council for Ownership Transformation** — is foreseen. It is to be an advisory body in all the matters related to the privatization process. The Council operates pursuant to the regulations resolved by the Council of Ministers (Art. 5).

The Parliament resolved also an Act on privatization of state owned enterprises *Ustawa o prywatyzacji przedsiębiorstw państwowych* (Journal of Laws No 51 of 1990, item 298). This Act contains organizational rules, legal proceedings and other regulations governing the privatization of state owned enterprises performed and headed by the Ministry for Ownership Transformation. Essential provisions of this Act are as follows. Privatization of a state owned enterprise consists in rendering stocks and shares in State Treasury companies (created by means of transformation of hitherto state owned enterprises) accessible to third parties, in rendering the assets of these companies accessible to the third parties or in sale of a whole enterprise.

A state owned enterprise may be transformed into a company or liquidated according to the provisions of the said Act on privatization (Art. 1). Regulations on stocks, statute, stockholders equity and stockholders assembly (in the case of joint stock companies) and basic capital, supervisory council and assembly of partners (in the case of limited liability companies) are in compliance with provisions of the Commercial Code in those matters. The act also defines such terms as foreign entity, rendering shares accessible and organized part of state property.

Chapter 2 of the Act on privatization defines the rules of transformation of state owned companies into a joint stock or limited liability company. The decision on transformation may be undertaken by the Minister of Ownership Transformation at the motion of:

- both the director of the enterprise and the workers council (a favorable opinion by the general assembly of workers and of the founding body is indispensable),
- the founding body of the enterprise: in that case the application must be accepted by the director of the enterprise and the workers council (here an opinion must be given by the general assembly of workers).

In both cases irrespective of the decisions and opinions quoted above, the application to the Ministry must contain a financial and economic assessment of the enterprise, proposal of a Founding Act of the company (as foreseen in the Commercial Code) and the scope of preferences for the workers of the privatized enterprise with respect to acquiring shares of the created company from the State Treasury.

The Prime Minister may, at the motion of the Ministry for Ownership Transformation, dispose to transform a state owned enterprise into a company. Such a decision

should be consulted with director of the enterprise in question as well as with its workers council and founding body.

The provisions of Commercial Code apply to the companies created by transformation of the state owned companies (unless the act states otherwise). An important provision of the Act on privatization is that the company created by means of transformation of a state owned enterprise becomes a single-partner State Treasury company (Act of December 23, 1988 on changes in Commercial Code, Journal of Laws No 41 of 1988, item 326) until the shares are acquired by the third parties. Thus creation of a single-partner State treasury companies is to be treated as a first stage of privatization of state owned enterprises. It results from these provisions that a newly created company takes over all the rights and duties of the transformed enterprise (Art. 8). The employees of a transformed enterprise (excluding the personnel employed by vocation/summon) become employees of the company.

After elaboration of a statute of the company, which is prepared on behalf of the State Treasury, by the Minister of Ownership Transformation, the board of the company applies to a respective court for registration in the Commercial Register (according to the Commercial Code, Art. 164). Registration of a company in the register automatically files away the transformed enterprise from the register of state owned enterprises. Therefore all the relations between the founding body and the enterprise are no longer valid.

A company created according to the Act on privatization may become a founder of a joint stock company (Art. 17). One third of members of a supervisory council of a company created by means of transformation of a state owned enterprise, is elected by the employees of the company (Art. 18). According to Chapter 3 of the said Act, a clear preference is given to creation of joint stock companies. The rules and regulations governing operations of sale and purchase of stocks and privatization bonds, which may become in possession of natural persons and foreign subjects are presented in Articles 18-36. State legal persons may not, without consent of the Minister of Finance acquire shares belonging to the State Treasury and take over shares of which the only shareholder is a single partner State Treasury company.

Chapter 4 of the Act on privatization deals with privatization of a state owned enterprise by means of its liquidation. A founding body may, at the consent of the Minister of Ownership Transformation liquidate a state owned enterprise in order to:

- sell the whole enterprise or an organized part of its assets.
- bring the enterprise or an organized part of its assets as a capital fund for a new company.
- lease the enterprise or an organized part of its assets, for a defined time, to a third party.

Formal and legal procedures connected with liquidation of the enterprise are presented in Articles 38-43.

### 3.3 Antimonopoly legislation

To assure development of competition, protection of economic entities against monopolistic practices and to protect rights of the consumers, the Polish Parliament resolved and Act on counteraction to monopolistic practices (*Ustawa o przeciwdziałaniu praktykom monopolistycznym*), of February 24, 1990, announced in the Journal of Laws of 1990, No 14, item 88. This Act is complemented by another Act of May 17, 1990 on division of tasks and competences between communal organizations and State administration bodies and on changes in some acts, as well as a Decree by the Council of Ministers of July 11, 1990 on conditions which must be satisfied in case of merging, transformation or creation of economic entities, announced in Journal of Laws of July 18, 1990, No 46, item 261.

The actually valid acts and decrees govern the rules and ways of counteracting monopolistic practices of economic entities and their associations, which may cause results on the territory of the Republic of Poland as well as define the respective authorities and agencies.

In order to avoid misinterpretation, some basic terms are defined such as: economic entity, merges, agreements, prices, goods, monopolistic position, dominant position. At the same time it is stated that provisions of this Act are applicable to license agreements and other acts of execution of exclusive rights within economic entities. Essential provisions of the said Act comprising organizational and substantial problems are contained in Chapter 2 — on monopolistic practices and 5 — on the creation antimonopoly office.

#### 3.3.1 Monopolistic practices

As understood in the Act monopolistic practices are those which consist in:

- imposition of burdensome conditions of contracts, bringing unjustified profits to the economic entity imposing those conditions.
- subjection of concluding a contract to acceptance or satisfaction by another party some conditions not relevant to the contract in question, that would not be accepted in case this party could have a choice of another partner.
- purchasing of stocks or shares of companies, or assets of state owned enterprises if a result of such purchase could cause essential weakening of competitive parties.
- merging by the same persons functions of director, member of board, supervisory council or audits commission in competitive economic entities, of which at least one has 10% share in the market.

Following agreements are also treated as monopolistic practices:

- fixing, directly or indirectly, of prices and rules of their formation between the competitive parties in their relations with third parties.
- division of market along territorial criteria, assortment criteria or material criteria.

- fixing or limiting of production level, sales level or purchase level.
- limitation of access to the market or elimination from the market of economic entities not included in the agreements.
- setting by the competitive parties conditions of contracts with third parties.

Abusing of dominant position on the market is also treated as a monopolistic practice in particular:

- counteraction (impeding) of formation of conditions favorable for creation or development of the competitive parties.
- division of the market along territorial, assortment or material criteria.
- sales of the products in a way causing privileged position of some economic entities.
- refusal of sales or purchase of some goods discriminating some economic entities in view of lack of alternative sources of supply or demand.
- unfair impacting of the price formation including dumping practices in order to eliminate competitors.

The practices described above are forbidden by law, unless they are indispensable for economic activities and do not cause substantial limitation of competition. Following actions are forbidden to economic entities holding monopolistic position:

- limitation, despite actual production capacities, of production, purchase or sales leading in particular to rising prices.
- suspension of sales of goods leading to rising prices.
- fixing of exorbitant prices

### 3.3.2 Antimonopoly Office (Urząd Antymonopolowy)

Based on the Antimonopoly Act quoted above, an Antimonopoly Office (Urząd Antymonopolowy) was founded as a central body of state administration dealing with counteraction to monopolistic practices. The office is subordinated to the Council of Ministers. The President of the office is nominated and may be dismissed by the Prime Minister and its statute is imposed by the Council of Ministers. President of the Antimonopoly Office creates Directorates, their sites, territory on which they operate or subjects that they deal with. Among the activities of the office are:

- control on obeying the provisions of the Antimonopoly Act.
- examination of the price formation process in the conditions of limited competition,

- issuing, as foreseen by the provision of antimonopoly act, decisions in all the matters connected with counteraction to antimonopolistic practices, formation of organizational structures of economic entities as well as decisions describing responsibility of economic entities for these practices.
- registration of all economic entities holding monopolistic position on country market.
- examining state of concentration of the economy and presentation to the interested parties motions on actions leading to balancing of the market.
- elaboration or consulting proposals of legal acts on monopolistic practices, development of competition or conditions of its creation.
- performance of other tasks foreseen in the said act or in separate acts.

Pursuant to the Act — Law on Common Courts System (*Prawo o ustroju sądów powszechnych*) of June 20, 1985 (Journal of Laws of 1985, No 31, item 137 and Journal of Laws of 1989, No 4, items 24, 33, 175, No 73, item 436) the Minister of Justice by means of a decree originated at the Voivode Court (*Sąd Wojewódzki*) in Warsaw a separate court dealing with matters related to monopolies — so called Antimonopoly Court. Decisions of this court may be of immediate execution penalty. Final settlement of decisions issued by the Antimonopoly Office and appealed by the economic entities, are made at the Antimonopoly Court.

## 4 Crude oil supplies

### 4.1 Introduction

The situation where 99% of crude oil is imported forces to treat imports as a key problem for the economy both today and in the foreseeable future. Low consumption of crude oil by the national economy measured along the indicators applied in other industrialized countries (see table 4.1a), suggests the necessity of development of refining and petrochemical industry, for which the supply of crude oil is a point of departure for all the decisions in that matter. This is based on an assumption that there exists a market of 40 million of consumers. With the present level of crude oil processing (ca. 15 mil. t/year), the domestic extraction: 160 th t/year in 1990, given the present, poor state of the Polish crude extraction sector there is no hope for significant amount of own crude oil for development of the refining industry at least in the coming future.

Table 4.1a: Consumption of crude oil derivatives by the national economy (data for 1986 r.) in kg per capita. Source: *Oil and Gas Journal*, December 22/26, 1986

No	Country	kg per capita
1.	Belgium	1820
2.	Finland	1881
3.	France	1389
4.	Greece	1001
5.	Great Britain	1201
6.	Italy	1310
7.	Holland	1265
8.	Austria	1272
9.	Portugal	799
10.	Spain	872
11.	FRG	1820
12.	USA	2814
13.	Japan	1556
14.	Poland	400

Based on knowledge from the experts dealing with crude oil extraction it can be assumed here that in the coming few years only as much as once the maximum level of extraction i. e. 550.000 t/year can be approached. It does not mean however that no



actions are to be undertaken aimed at increasing the domestic crude extraction. Just the contrary, when taking into account the wholistic view on development of oil sector in Poland effective actions should be undertaken to ameliorate the situation of oil extraction in Poland aimed at increasing in the long run, the share of domestic crude in the global processing. This is based on clear interest expressed by some multinationals in exploring possible crude oil deposits.

The existing possibilities of crude imports are not favorable either, both with respect to their directions and the capacity. One pipeline from the USSR and one reloading harbor wharf constitute too weak a foundation for the future development of the refining industry in Poland and new alternatives are necessary.

The situation as for today is the following. If the information that crude oil supplies from the USSR in 1991 are to be at the level of 4.5 mil t (in the past these supplies reached ca. 13 mil. t), remains valid, we still may expect significantly higher supplies. This expectation is based on the fact that all the trade with the USSR is performed in world prices and therefore Poland is providing an attractive sum of hard currency to the USSR. If we assume that, according to assessments, Port Północny (the Baltic Sea) can reload 6-8 mil t, it is clearly visible that the supplies from these two directions will not satisfy the demand of the refineries which have potential processing capacities ca. 15 mil. t. Railway transport of millions of tons of crude oil from Western or Southern Europe should rather not be taken into account.

## 4.2 Import of crude oil and cooperation of the enterprises involved

Due to the existing technical infrastructure two directions of crude oil imports can be considered:

- from the USSR by so called "Przyjaźń" (*Friendship*) pipeline.
- by tankers from the sea through Port Północny.

Such a state results from the past and may be associated with general development of the refining industry in Poland. The Plock refinery, built in the sixties, was designed based on the Soviet experience and adapted to Soviet crude oil in view of assumed supplies from that direction solely. Soviet crude oil is transported by a pipeline from eastern border do Plock and further on to Eastern Germany to Schwedt refinery (see figure 2.1b). Eastern section of this pipeline i. e. from the Soviet border to Plock (storage farm in Plebanka) is of flow capacity 35 mil t/year. The Western section from tank farm in Plebanka to western Polish border has a capacity 27.5 mil t/year. Two tank farms cooperate with the "Przyjaźń" pipeline:

- St-1 Adamowo at the Soviet border of nominal crude oil tank capacity 348.000 m<sup>3</sup>, and the possibility of continuous storage of 90.000 m<sup>3</sup>.
- BS-Plebanka near Plock, of nominal crude oil tank capacity 700.000 m<sup>3</sup>, and the possibility of continuous storage of 250.000 m<sup>3</sup>.

Gdańsk refinery was built in the seventies. It was assumed to process crude oil supplied by sea. A special crude oil pier constructed in Port Północny is fit for tankers reloading (6-8 mil. t/year of crude oil with the possibility of extension). The adjacent tankers base Górkki Zachodnie belonging to PERN, is of nominal storage capacity 600.000 m<sup>3</sup>. Possibility of continuous storage is assessed for 280.000 m<sup>3</sup>. In total the nominal tank capacities in PERN tank farms are equal to 1.648.000 m<sup>3</sup>, and continuous storage of crude oil 620.000 m<sup>3</sup> is possible.

A pipeline connection was also built to join the Plock and Gdańsk refineries and to enable feeding the Plock refinery with crude oil imported via Port Północny and vice versa: Gdańsk refinery with crude oil from the pipeline (see figure 2.1b). The nominal flow capacity of this pipeline is assessed for ca. 10 mil t/year. By development of an intermediate pumping station this capacity may be extended to ca. 17 mil t/year. Practically, the flow capacity is equal to ca. 7 mil. t/year.

Concluding, it may be stated that to cover the present refining capacity 15 mil. t/year the possible supplies are:

- from the USSR by pipeline ca. 13 mil. t/year.
- from the sea via Port Północny 6-8 mil. t/year.

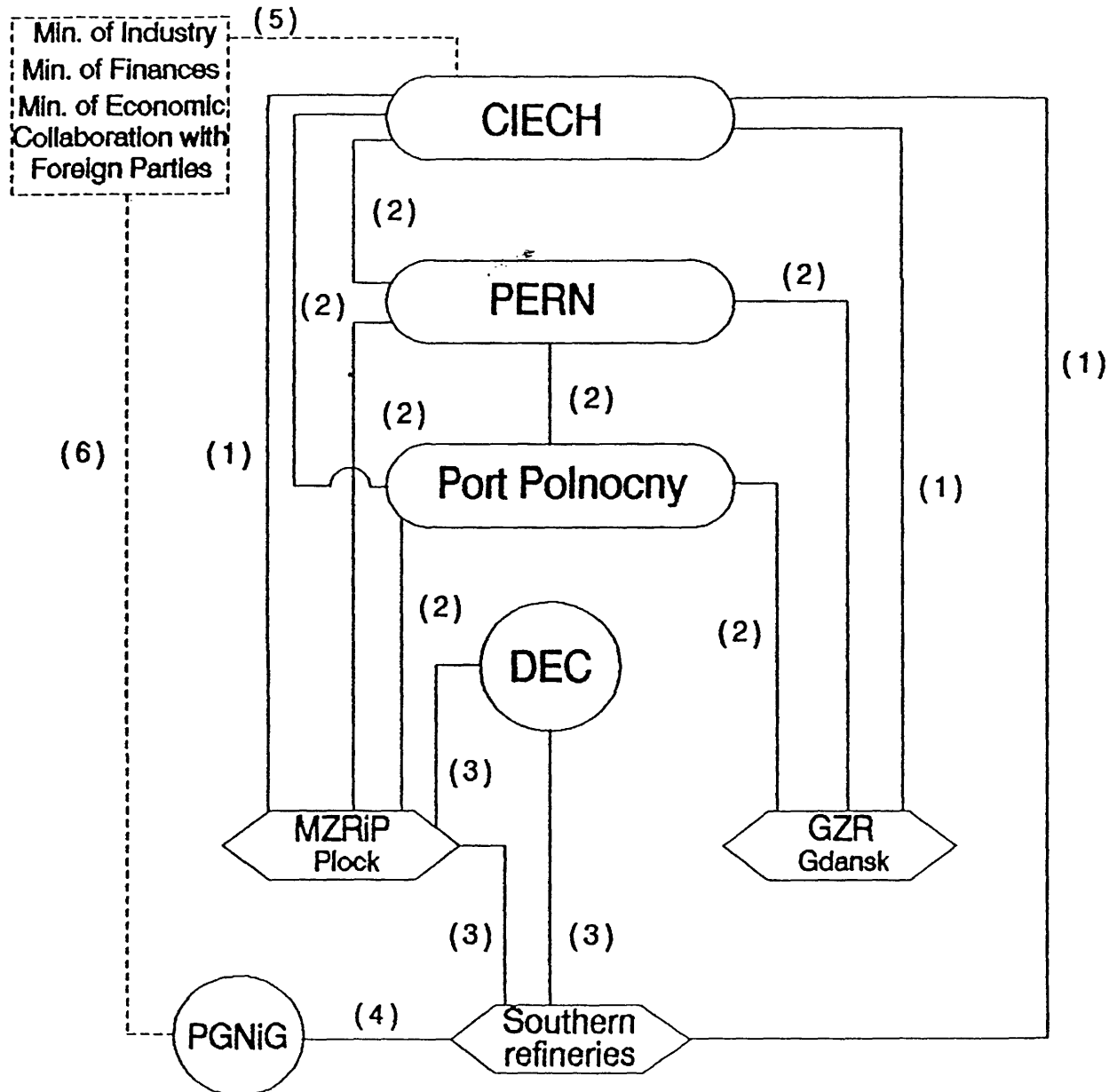
However as it was pointed out in the introduction, an unfavorable situation may occur with respect to crude oil supplies from the USSR which is a significant drawback in full utilization of low, as they are, processing capacities of the Polish refining industry.

In the process of import bilateral links occur between the involved enterprises. It is illustrated on figure 4.2.a presenting mutual links in crude oil supply. Disregarding supplies of domestic crude oil (line 4 in figure 4.2.a) it may be seen that following enterprises participate in crude oil import:

- CIECH — an importer.
- PERN — crude oil pumping.
- Port Północny — reloading from the sea.
- MZRiP Plock — refinery.
- GZR Gdańsk — refinery.
- southern refineries (5 plants).

Analyzing the network further on it may be seen that CIECH plays the dominant role, as PERN and Port Północny perform services. The role of CIECH as the importer, increases as the import from the USSR becomes lower. In 1989 crude oil import in general amounted ca. 15 mil. t, including ca. 13 mil. t from the USSR and ca. 2 mil. t from three other suppliers. In 1990 13 mil. t of crude oil was imported including 10.7 mil. t from the USSR and ca. 2.3 mil. t from six other suppliers (see tables 4.2b and 4.2c).

## Crude oil supply interdependencies & connections



- (1) - Agreements, orders, contracts for import
- (2) - Agreements on volume of supply and crude pumping
- (3) - Agreements on re-expedition of crude oil from MZRI P to Southern refineries
- (4) - Agreements on domestic crude supply
- (5) - Formal contacts resulting from Government policy in the area of fuels, energy, foreign trade and taxes
- (6) - Contacts concerning fiscal policy (e.g. subsidies), import of natural gas and dependencies on Ministry of Industry

Table 4.2b: Import of crude oil by origins (in th. t)

Country	1989	1990
USSR	13075.567	10751.596
Norway	106.576	209.663
Iraq	1422.099	500.727
Iran	380.728	819.807
Others	—	726.184
Total	14984.970	13007.977

Table 4.2c: Import of crude oil derivatives by origins (in th. t) Source of data: CIECH

	1989	1990
<b>Gasoline</b>		
USSR	479.372	201.892
Romania	21.976	8.923
DDR	98.016	23.777
Austria	120.130	11.827
Denmark	72.353	14.575
Norway	124.134	94.613
Sweden	4.965	0.015
FRG	—	2.954
Switzerland	—	60.974
Great Britain	—	131.930
<b>Total</b>	<b>920.946</b>	<b>551.480*</b>
<b>Diesel oil</b>		
USSR	1175.206	1023.898
Hungary	7.055	0.786
Czechoslovakia	30.042	—
DDR	28.823	0.048
Sweden	44.756	9.103
FRG	—	4.740
Norway	—	31.063
Great Britain	—	52.526
Varia — bunker	63.731	7.398
<b>Total</b>	<b>1349.613</b>	<b>1129.562</b>

\* Only gasoline imported by CIECH. private importers not included

A part of the imported crude oil supplied by the pipeline to Plock and received via Port Pólnocny is re-dispatched to southern refineries by tank wagons. These refineries have to pay additionally for the crude transport thus buying the crude oil at higher prices than refineries in Gdańsk and Plock. Practically the re-dispatchment is performed from Plock refinery (sporadically from Gdańsk). MZRIp buys crude oil also for southern refineries and sells the crude oil to these refineries at the prices increased by costs of transport and servicing. The problem of prices will be discussed in detail in section 6.3.

Quantitatively the problem may be shown as follows:

- nominal processing capacity of the five southern refineries is ca. 1.7 mil. t/year.
- actually, in recent years those refineries processed ca. 1 mil. t/year. e. g. in 1990 — 915.2 th t.
- domestic extraction which concentrates in the South of Poland in recent years was equal to 157.000 t in 1989, and 160.000 t in 1990.
- the difference is to be transported from Plock or partly from Gdańsk.
- MZRIp in Plock assesses its maximal re-dispatchment capacity for ca. 800.000 t/year.

Searching for better solutions in re-dispatchment of Soviet crude oil from Plock to southern refineries. Glimar Refinery in Gorlice negotiated and obtained supplies of Soviet crude oil from a refinery in Wojany in East Slovakia. The refinery in Wojany receives the crude oil by pipeline from the USSR, similarly to MZRIp Plock. The two parties namely: the Glimar refinery with the participation of CIECH on one side and refinery in Wojany and CHEMAPOL (a Czechoslovak company equivalent to CIECH) on the other side contracted with respective agencies in the USSR re-dispatchment in 1991 of 100.000 t of crude oil by train transport from Wojany. The amount of crude oil imported from the USSR to Plock will be decreased by this quantity. There are following advantages of such a solution:

- tanks are given by the refinery in Wojany.
- distance from Gorlice to Wojany is 248 km while to Plock 410 km.
- costs of transport and other services constitutes ca. 42% of transport costs from Plock.
- last but not least, evaporation of hydrocarbons due to re-dispatchment creates a great environmental problem for Plock and its elimination should largely improve the situation in that respect.

According to the assessment of Glimar management this concept is a new perspective and development may be foreseen. It is possible to negotiate supplies at the level of as much as 1 mil. t/year. It is by 200.000 t/year more than are the maximal re-dispatchment capacities as assessed by MZRIp Plock.

Centrally controlled import and distribution of crude oil belong to the past. At present these are the direct consumers i. e. refineries who make decisions on the import quantities and qualities. CIECH acts as a commercial agent or supplier on the benefit of a contractor.

The enterprises involved in and cooperating in the process of crude oil acquisition are characterized below. For more detailed information see Index of Enterprises.

## CIECH

CIECH — Centrala Importowo-Eksportowa Chemikalii. Central Agency for Import and Export of Chemical Products is a limited liability company. Its founding body and direct supervisor in view of the organizational structure is the assembly of shareholders and in view of areas of activities are the assembly of shareholders and supervisory council. Basic aims and functions of the company are export and import of chemical products and of the respective know-how as well as distribution and retailing activities all over the country. Organizational structure of the company is presented in the Index of Enterprises. The aims and function are realized through a network of:

- 10 branch offices.
- 10 foreign companies, of which CIECH is a shareholder.
- 12 foreign offices.

Its branch office PETROLIMPEX is of special importance for crude oil import and export of crude oil products. It can be seen in table 4.2d presenting the turnover of CIECH in 1989 and 1990. As it was mentioned before, decisions on imports are made by direct receivers i. e. by the refineries. Decisions on distribution of the purchased oil depend on the place where the oil was bought and such decisions are undertaken by the refining industry (based on agreements between the refineries and CIECH).

The prices for crude oil are now based on world prices and are subject of negotiations with particular suppliers. CIECH acts as an agent or as a supplier for the contractors. No duties are imposed on crude oil imports, at the beginning of 1991 only a differential tax on imports was charged. This tax was calculated as follows: prices of crude oil are fixed by CIECH based on purchase price at western and eastern markets (purchase price + transport + provision for CIECH). These prices were periodically averaged. A difference (in plus) between this averaged price and the purchase price was to be paid to the State Treasury as tax on imports. Based on averaged crude oil prices, the refineries calculated production costs of fuels, making allowance for the tax on sales fixed by the Ministry of Finance. The so created price for fuels loco refinery in particular enterprises was then agreed with CPN.

Since March, the differential tax is no longer imposed. The prices paid by refineries for crude oil are transaction prices resulting from the actual world prices at the moment of transaction.

Table 4.2d: Annual turnover of CIECH and PETROLIMPEX in 1989 and 1990

	in mil. USD	in mil. (Roubels)
<b>CIECH — turnover in 1989</b>		
Import	1626.644	2260.844
Export	961.733	1078.205
In total	2588.377	3339.049
<b>CIECH — turnover in 1990</b>		
Import	1883.280	1041.622
Export	1365.414	964.095
In total	3248.694	2005.717
<b>PETROLIMPEX — turnover in 1989</b>		
Import	540.375	1829.324
Export	240.501	22.320
In total	780.876	1851.644
<b>PETROLIMPEX — turnover in 1990</b>		
Import	1457.190	801.333
Export	363.611	21.273
In total	1820.801	822.606



## PERN

Przedsiębiorstwo Eksploatacji Rurociągów Naftowych — PERN "Przyjaźń" — an Enterprise for Exploitation of Oil Pipelines — PERN "Friendship" plays an important role in the network of links in crude oil imports. It is a state enterprise subordinated organizationally and meritorically to the Ministry of Industry and the Ministry of Internal Market. The main activities of the enterprise are as follows:

- transport services as well as storage of crude oil and crude derivatives.
- construction and development of pipelines, ancillary equipment and storage depots,
- maintenance services, investment and minor services for external contractors.

The enterprise disposes of:

- 1638.5 km of crude oil pipelines.
- 400.1 km of pipelines for oil products,
- 3 tank farms for crude oil.

Location of pipelines is presented on figure 2.1b. An essential information is that pursuant to the Act on trade unions the employees of PERN working by the gas pipelines and crude oil pipelines are deprived of the right to strike (Journal of Laws of 1985, item 277)

## Morski Port Handlowy — Port Północny

Morski Port Handlowy — Port Północny — Commercial Sea Port, is an independent state enterprise. The enterprise was registered on June 3, 1972, the founding body is the Ministry of Transport and Maritime Economy to which the port is directly subordinated. The economic activities of the enterprise are performed in the area of sea port in Gdańsk and cover:

- reloading services for land, sea and river means of transport contracted by local and foreign contractors (loading capacity 8-10 mil. t of crude oil and oil derivatives per year).
- reloading, storage, manipulation, towage services (including seagoing towage) and piloting services to the benefit of ships and cargo for shipowners based on local and foreign orders.
- commercial, transport, expedition and brokerage services,
- modernization and development of the port,
- renting of owned assets.
- performance of tasks contracted in the area of the national security and all other tasks set for by the founding body.
- foreign trade.

### 4.3 Domestic oil exploration and extraction

#### 4.3.1 Introduction

This section covers an area which effectively at present plays a marginal role in the oil sector activities and performance. But when looking at the "Options for the future", it cannot be overlooked. Moreover, as our analysis shows, presentation of some organizational and similar pathologies which affect the activities in this area, provide a better understanding of the Polish industry and of the oil sector in particular.

The area of oil exploration and extraction in Poland is strongly centralized which results probably from known past tendencies for centralization of organizational structures and management. A certain role was also played here by the specifics of this sector in Poland. In the second half of 1982 i. e. after dissolvment of all industrial associations, strongly centralized forms of enterprises management were maintained only in the mining industry (which included extraction and exploration of crude oil).

The presently existing "Przedsiębiorstwo Państwowe Użyteczności Publicznej Polskie Górnictwo Naftowe i Gazownictwo — PGNiG" State Owned Public Utility Enterprise Polish Crude Oil Mining and Gas Engineering PGNiG may be regarded as a consequence of this centralization. The enterprise is an exclusive one for the extraction and exploration of the crude oil and natural gas and acts country wide.

#### 4.3.2 Present state

PGNiG is a multi-plant enterprise grouping plants presented in an organizational scheme (see Index of Enterprises). PGNiG is composed by a board of the enterprise which constitutes an economic entity having personality at law and a number of plants without personality at law, but acting at full economic and financial accountability. Pursuant to Organizational Regulations of the enterprise it can be concluded that the board of PGNiG acts based on:

- Act on State Owned Enterprises of September 25 1981 (Journal of Laws of 1981, No 24, item 122).
- Decision No 56 of the Ministry of Mining and Energy of August 1, 1982, on creation of state owned enterprise called "Polskie Górnictwo Naftowe i Gazownictwo or PGNiG".
- Statute of the public utility enterprise PGNiG, accepted by the Ministry of Mining and Energy on October 9, 1982.
- Decision No 27/82 of the General Director, on creation of a plant called Board of the Enterprise PGNiG.
- Organizational Regulations of Board of PGNiG.

The enterprise performs supervision in such areas as:

- geology,

- mining.
- construction and investment.
- distribution, performed by an organization Krajowa Dyspozycja Gazem — Country Gas Distribution Agency.

#### 4.4 Basic functions of PGNiG

The Board management, in order to realize statutory aims of the enterprise performs the following basic tasks:

1. Planning, management, supervision and controlling of the realization of tasks of the enterprise and accounting for its activities with the founding body and the State budget.
2. Initiation, programming, coordination and supervision of work carried out within realization of tasks in the area of gas engineering, resulting from long-term national economic plans.
3. Initiation, programming and coordination of works performed in the area of geophysical and geological research by crude oil mining plants, aimed at maximum and optimal utilization of national resources of natural gas and crude oil.
4. Supervision of work in the area of geophysics, geology, drilling and exploitation of resources.
5. Inspiration, programming, coordination and supervision of work in the area of technology and technics of structure drilling, probing and development of deposits, exploitation of natural gas and crude oil deposits, liquidation of bore-holes.
6. Management tasks as a direct supervisory body over oil mining plants acting pursuant to the Mining Code as a mining enterprise.
7. Programming, acceptance and passing to execution investment from the common means of the enterprise.
8. Assurance of production means and materials for the enterprise.
9. Organization and coordination of indispensable imports.
10. Centralized commercial activities — purchase and sales of natural gas.
11. Initiation, organization and coordination of foreign exchange and collaboration and export services.
12. Initiation and coordination of research and development activities both in the area of technology and economy.

An attention should be paid to the role of Geological Office of PGNiG called GEONAF-TA. This office prepares all kinds of geological and geophysical surveys for exploration of oil and gas resources, works out exploration and extraction programs and realizes programs of geophysical works, structure drilling as well as deputed tasks within the framework of the long-range working plan with respect to oil and gas exploration to other plants of PGNiG.

The process of exploration (sample drilling) and extraction (exploitation of deposits), as well as some works connected with geological survey, are bound with regulations of the Mining Code. These regulations are exacted by Mining Offices playing in a sense a role of "mining police".

#### 4.4.1 Critical analysis of PGNiG organization

As it was mentioned before, PGNiG is a country wide organization an exclusive one in the area of oil and gas exploration and extraction. It deals also with distribution of gas including:

- natural gas imported from the USSR,
- natural gas extracted in Poland,
- natural gas from de-methanization of coal mines.
- coking gas and gas from urban gas-works.

Figure 4.4.1a presents extraction of crude oil in Poland in recent years. Figure 4.4.1b presents structure of acquisition of gas fuels in 1990 and 1991.

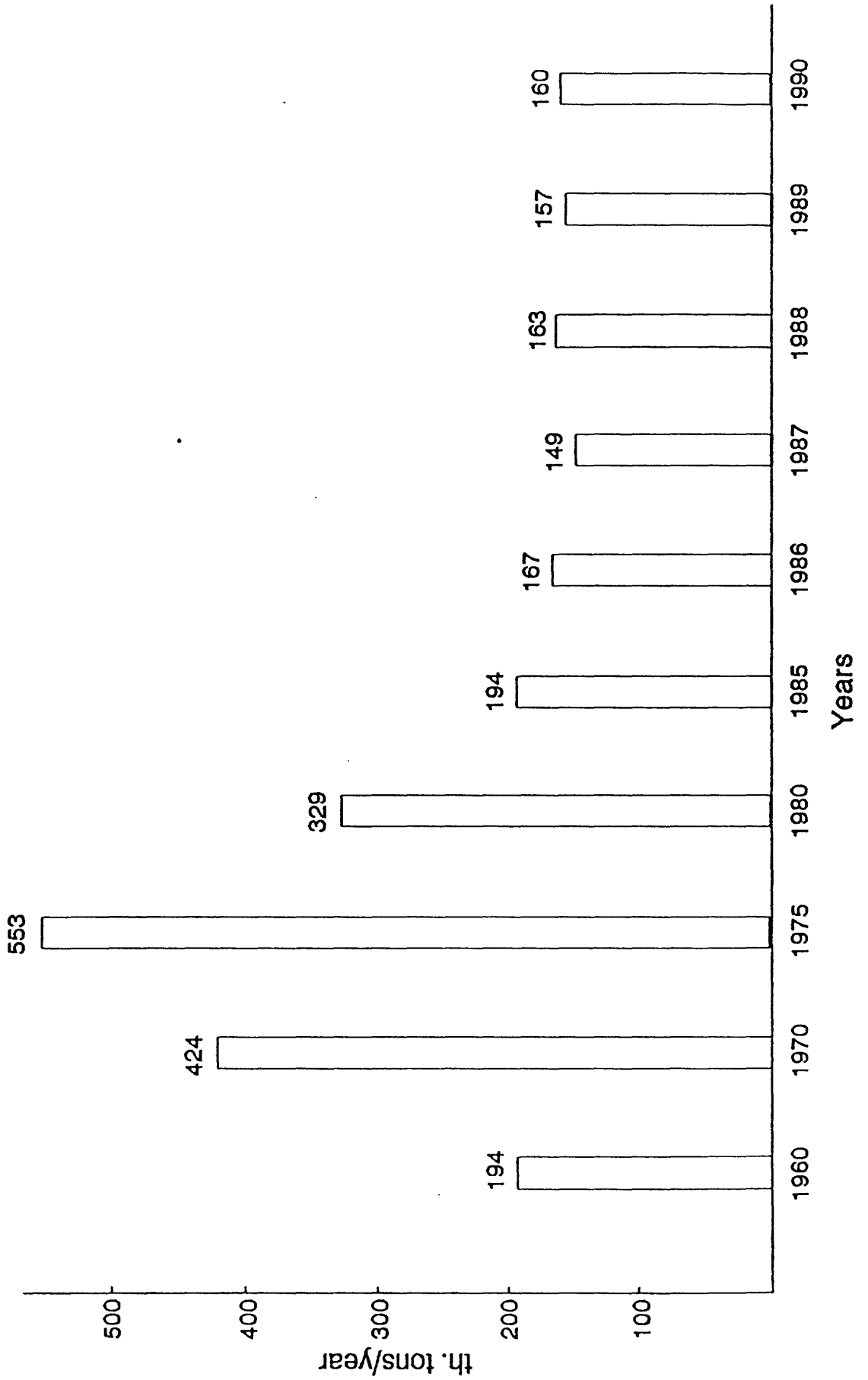
Both in recent years and at present gas is a crucial factor with respect to the financial condition of the enterprise. PGNiG is a planned deficit enterprise due to the fact that the purchase prices are higher than the prices at which gas is sold. These differences became especially visible in 1991 after changing the accountability in the trade with the USSR from Roubels to dollars (see fig. 4.4.1.c and 4.4.1.d). The foreseen deficit in 1991 will reach ca. 4 000 billion zł,<sup>4</sup> which is a high percent as related to the foreseen level of general costs in the enterprise at the level of ca. 18.500 billion zł.

Dominating significance of gas in PGNiG performance can be illustrated also by the fact that the value of crude extracted in 1990 is ca. 200 billion zł (calculated in world prices 19 USD/barrel and at the exchange rate 9500 zł/USD), which constitutes as little as 1.08% of total operation costs of the whole enterprise. These economic proportions cause shifting of interests from crude to the gas the more so that there are 5.7 million of consumers while 99% of crude is nonetheless imported. The greater interest in natural gas is also caused by the volume of resources. Figure 4.4.1e shows that in 1945-1988 nearly as much crude oil was extracted as it was documented, while only 43% of proven reserves of natural gas were extracted.

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<sup>4</sup>An equivalent of roughly 400 mil. USD

# Extraction of crude oil



# Structure of supplies of gas fuels in 1990 - 91

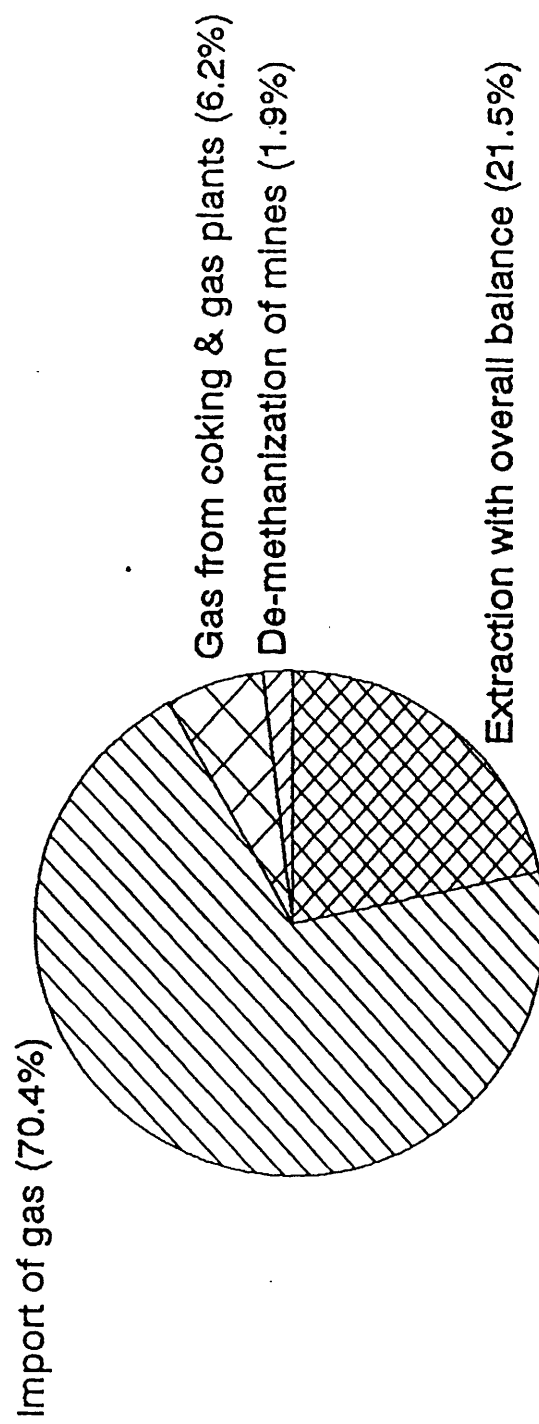


Figure 4.4.1b

# Global costs of gas fuels

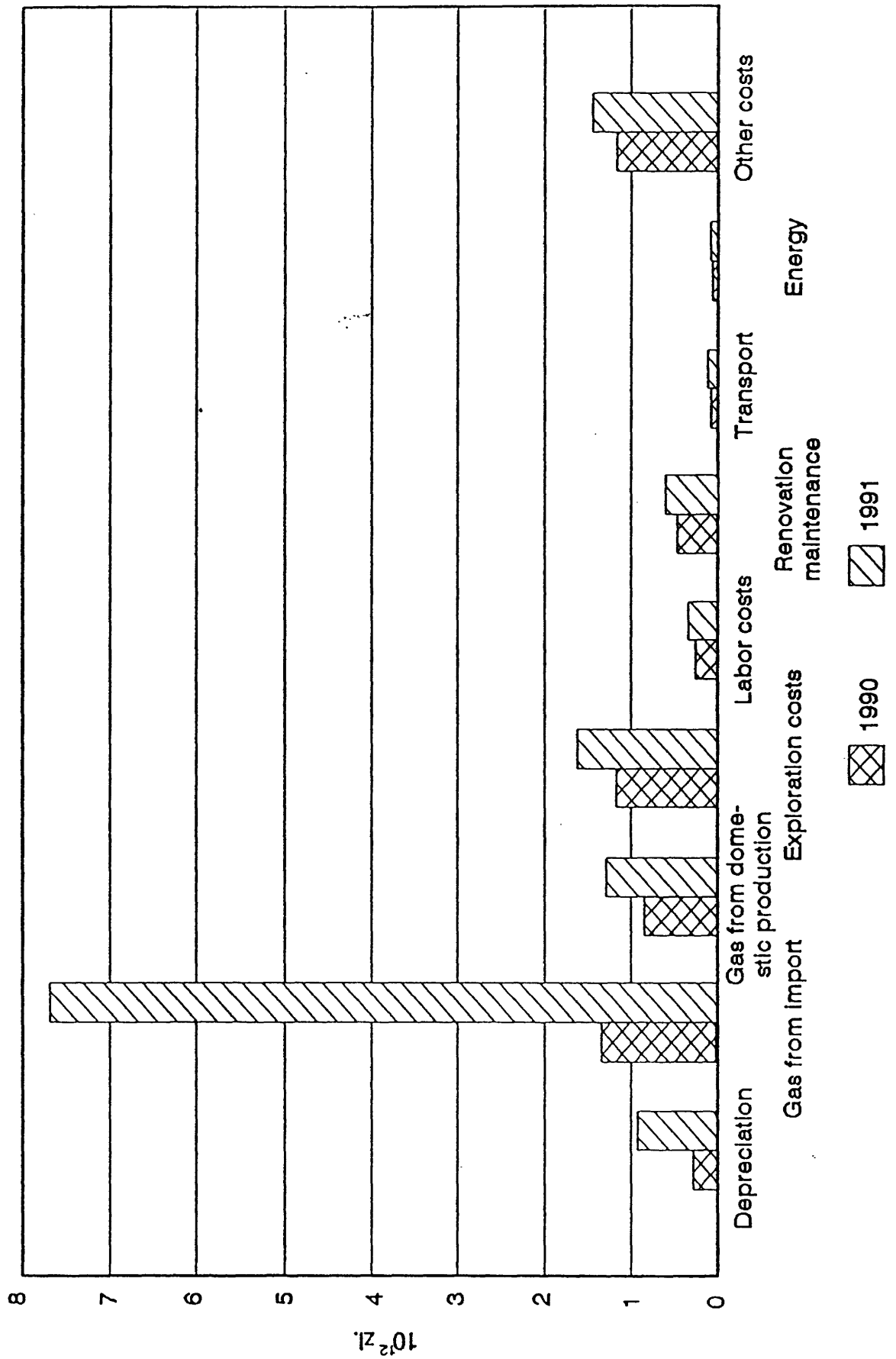


Figure 4.4.1c

# Unitary & average costs of natural gas of high methane contents according to production stages

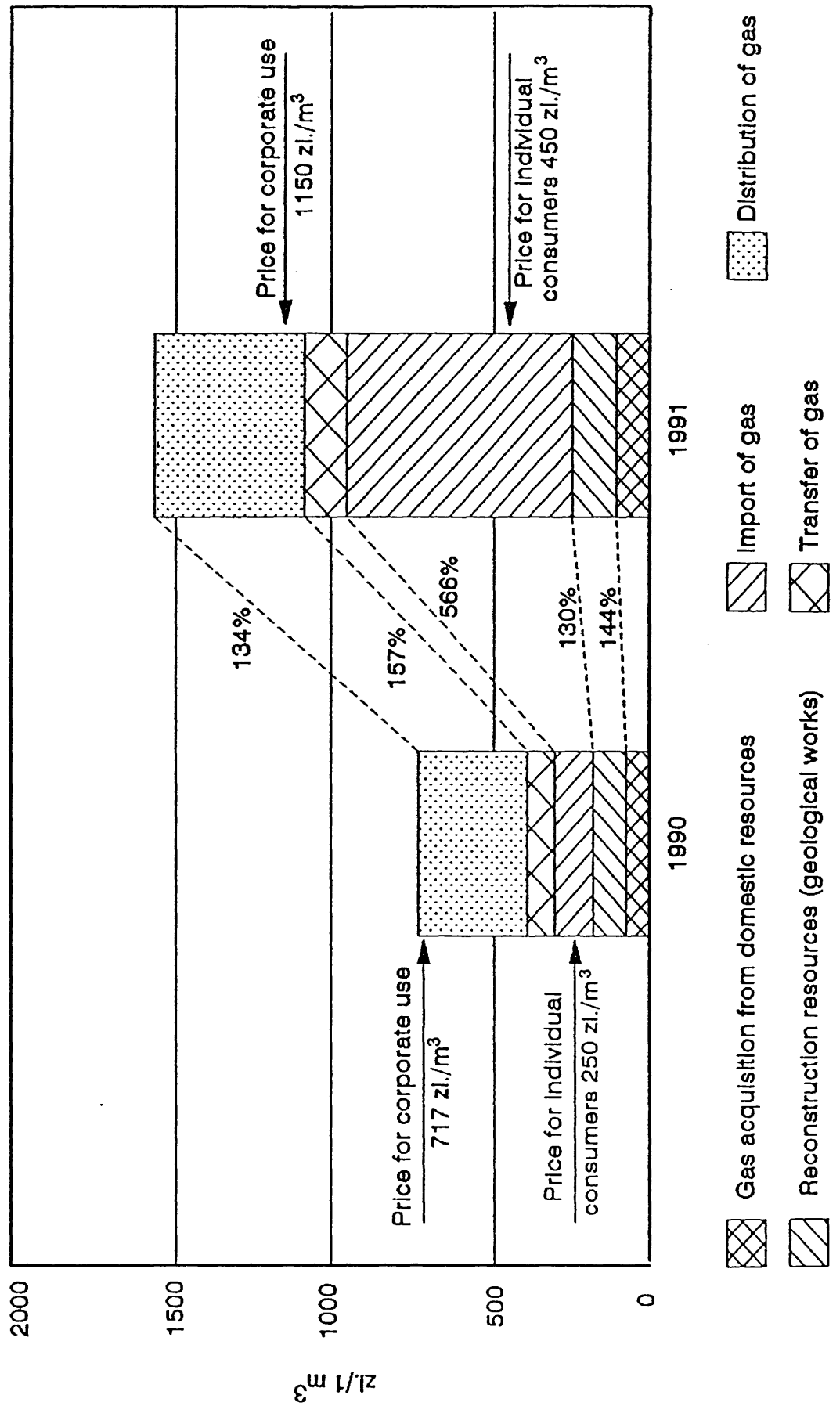
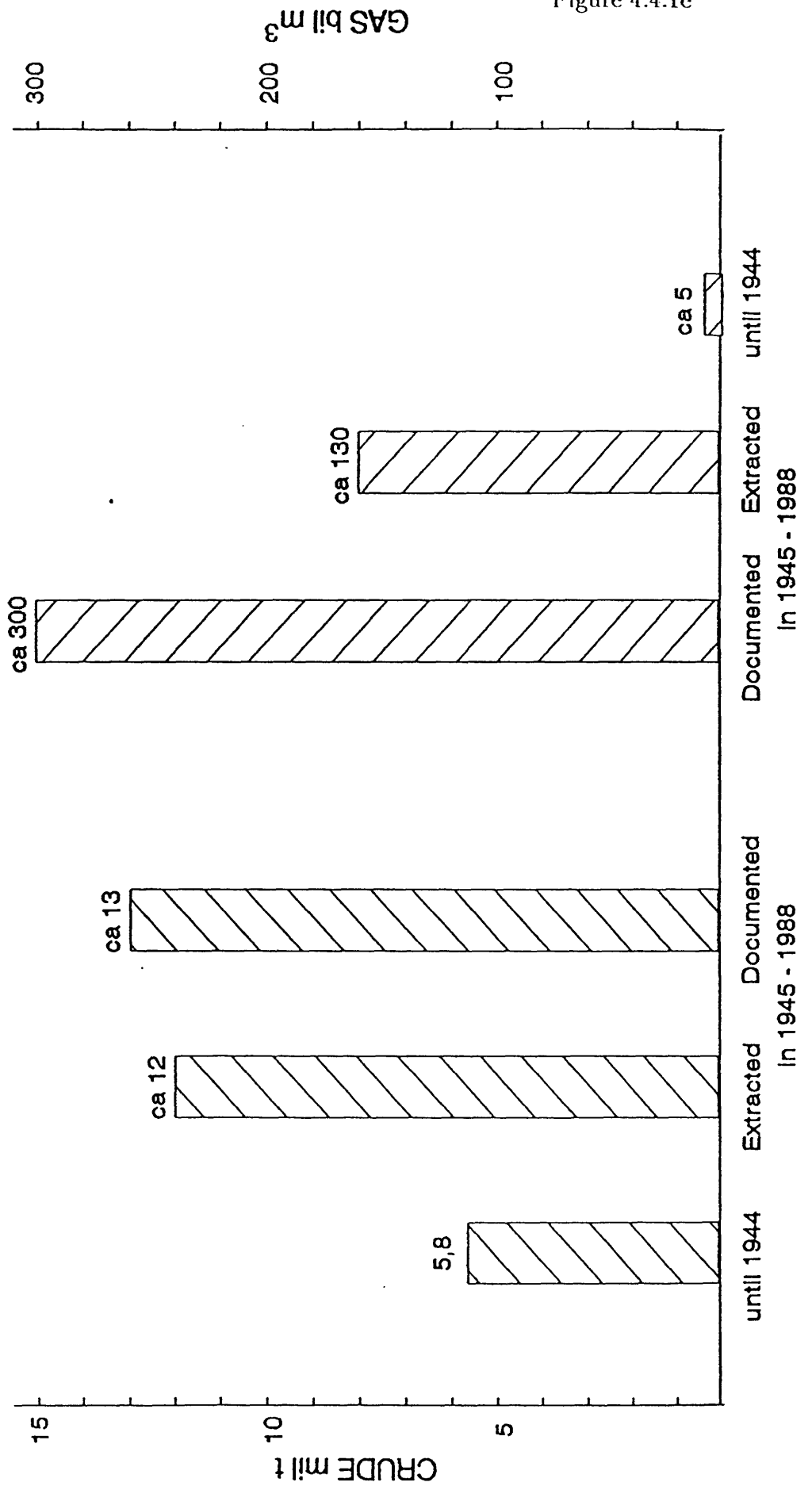


Figure 4.4.1d



# Extraction of crude oil and natural gas in Poland

Figure 4.4.1c



With the consumption maintained at the present level, documented deposits will satisfy the needs for at least ten years.

Apart from the causes enumerated above the priority of gas in PGNiG was caused also by its consumption structure. 57% of general consumption of gas fuels was bound for production as raw materials and primary energy carriers. It is shown in Figure 4.4.1f. In centrally planned economy it was PGNiG which played a special role in fuel gas distribution. To realize the State policy in the area of gas distribution, a special entity was founded within PGNiG, called Krajowa Dyspozycja Gazem — Country Gas Distribution Agency, with vast authorities. It decides a. o. on amount of gas supplies both as raw material and primary energy carrier for industrial consumers thus defining utilization of their production capacities.

Problems of cost and prices relations connected with acquisition and distribution of gas can be seen as an example of problems common for all significant energy carriers in Poland. As it can be seen from the structure of income of gas fuels (figure 4.4.1b), 70% of these fuels is imported which is of crucial importance for the level of unit costs (zl/m<sup>3</sup>) specifically in 1991. Figure 4.4.1d shows that the unitary cost of gas acquired from domestic sources increased in 1991 by 44% while the cost of imported gas increased nearly sixfold. It caused that the difference between the unitary cost and the price in 1991 (increased two-fold), is still bigger in relation to 1990. It is for social and political reasons only that the prices of gas cannot be raised to reach the profitability level both for communal and industrial needs, especially for the plants where gas is a raw material e. g. for fertilizers production. Next rises of gas and energy prices are already announced<sup>5</sup>. The comparison of prices of high-methane gas in Poland and other European countries points to necessity of significant rises. It is illustrated on figure 4.4.1g. It may be seen from the diagram that only liquid gas, recalculated to methane gas, reaches the world level. However its consumption is only marginal in total balance. It could be foreseen that similar adaptation process of prices to the European level will be necessary in case also of other primary energy carries including liquid fuels.

Centralized system of management of the enterprise deprives the subordinate exploration and oil exploration plants from independence and possibility of acting along the rules of free market economic game. Subsidied enterprise, with such a large area of activities with regulated prices, no chance for credits (due to planned deficit), cannot operate rationally. An immense area of problems that are to be solved by this enterprise imposes upon it a spider web of links and formal dependencies which complicate its operation (see figure 4.4.1.h).

The central position of PGNiG, being a state owned, public utility company, in a scheme of formal interdependencies, cannot be questioned if this enterprise is charged with obligation of exploration and extraction of crude oil and natural gas. However if all dependencies of this enterprise depicted generally in figure 4.4.1.h. are analyzed, one gets an impression that the enterprise is too subordinated in fulfilling its duties. One may not accept it or not understand it but the origins of this situation are clear. It is rooted simply in centrally planned economy rules. Organizational structure of PGNiG reflects also these rules.

<sup>5</sup>Government has agreed with the World Bank policy concerning primary energy carriers

# Consumption structure of gas fuels in Poland

in 1990 - 1991

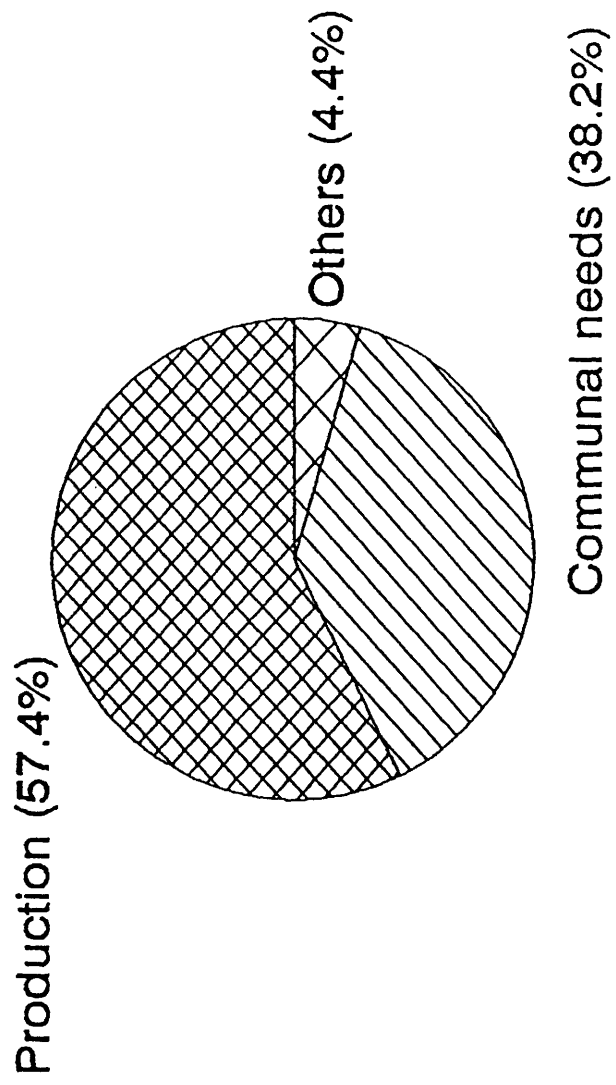


Figure 4.4.1f

# Prices of natural gas of high methane content for individual users (communal needs) at exchange rate 1 USD = 9500 zl.

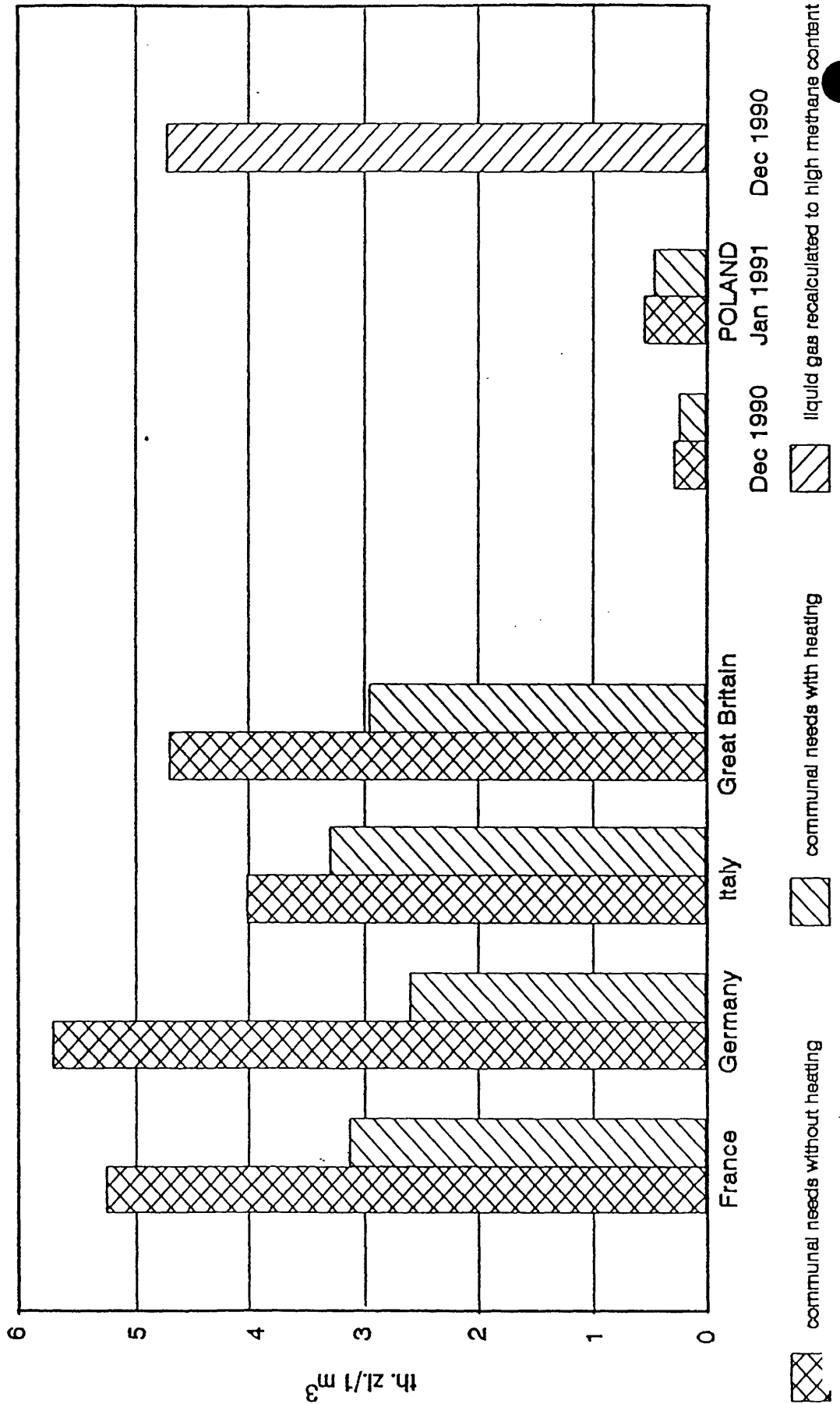
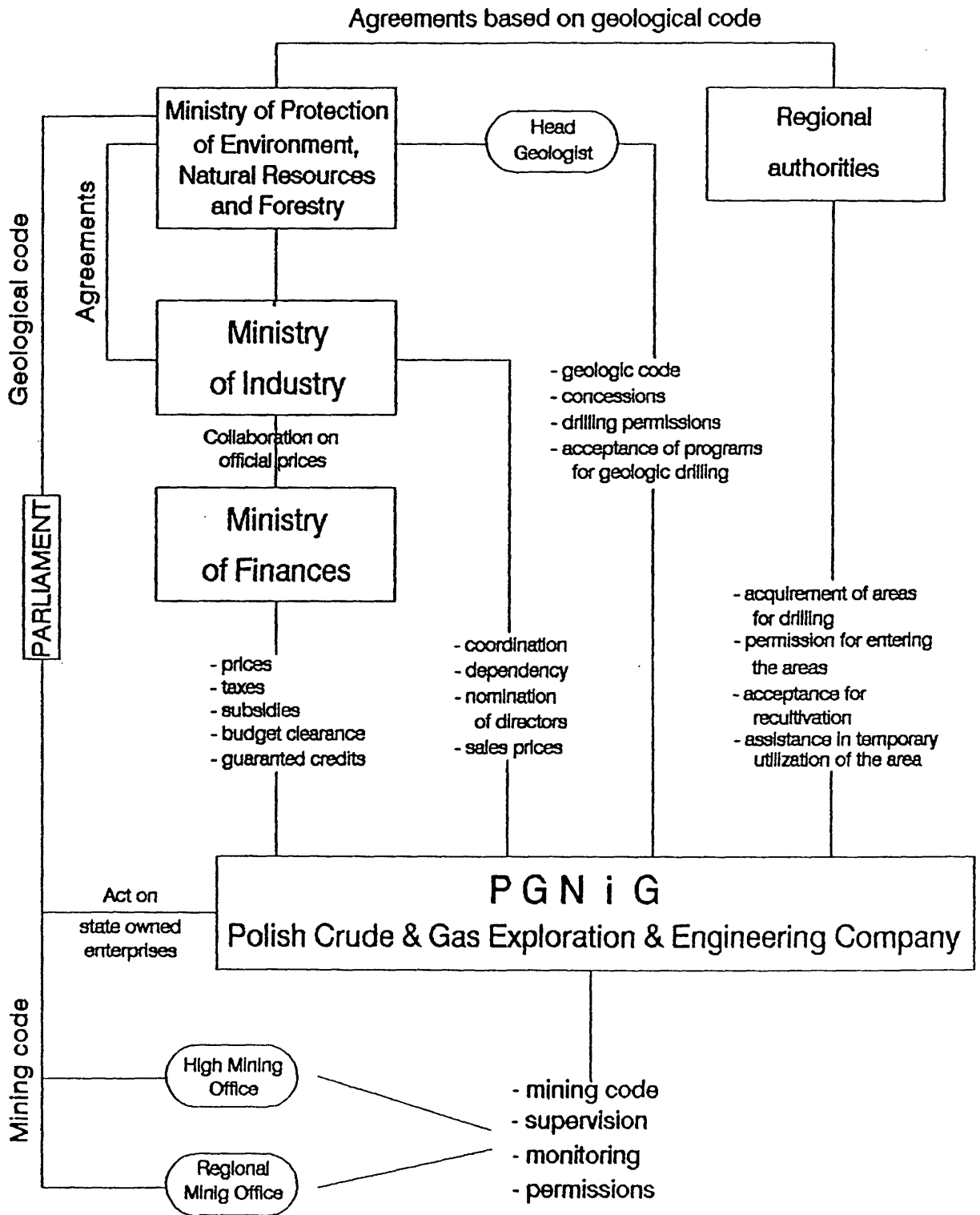


Figure 4.4.1g

Figure 4.4.1h

# Chart of formal dependencies in the area of crude oil exploration & extraction



If the effectiveness of exploration and extraction is to become higher, substantial changes must occur starting from legislation processes ending with ownership transformation. All this has to be done as an integral part of carefully devised program of the restructurization of the oil sector. The PGNiG authorities and workers are conscious of the difficult situation in which their enterprise is and all the threats resulting from it, particularly to financial threats. Many actions were undertaken aimed at fast improvement of the difficult economic situation. The efforts are carried out to devise organizational changes consisting in eventual separation of oil branch from gas branch.

## 4.5 Conclusions and recommendations

### 4.5.1 Conclusions with respect to import

From the considerations presented so far one immediate conclusion may be drawn — that the existing technical capacities of crude oil supply are far from being sufficient. With the existing supply capacities (pipeline from the USSR and sea transport via Port północny) just in the case of supplies from the USSR drop down below 7 mil. t/year it will be impossible to assure the supplies at the level covering processing capacities of the Polish refineries (ca. 15 mil. t/year).

A general concept of problem solving is to be elaborated both with respect to import of crude oil and development strategy for the refining industry in Poland. Following proposals should be considered with this respect:

#### 1. Amelioration of the existing state

- In view of existing threat that supplies from the USSR may not reach 7 mil. t/year, existing possibilities of upgrading the oil pier reloading capacities in Port Północny from present 6-8 mil. t/year to maximal possible must be considered.
- An investment documentation should be prepared to enlarge the flow capacities of oil pipeline from Gdańsk to Płock As it is assessed, there is a possibility of intensification of flow from the present nominal value 10 mil. t/year (practically 7 mil. t/year) to 17 mil. t/year (data according to PERX).

#### 2. New solutions

Alternative crude oil supplies from other sources are to be also considered. However a possibility should be taken into account that limitation can be imposed on crude oil transport by sea as the Baltic is a closed sea basin (limited tankers capacity, limited frequency of voyages or other) environmental factors being a crucial point here.

- The alternatives considered should outreach towards ways of integrating Polish supply lines with West and North of Europe through a pipeline system taking advantage of the pipeline going through Płock to former East Germany — namely to Schwedt.

- A chance of linking to the so called adriatic pipeline should be examined. At present, Poland's access to the regional cooperation of five countries (Austria, Italy, Czechoslovakia, Hungary and Yugoslavia) will be an asset here.

The above suggestions and considerations clearly indicate that working out the concept of supplies for the Polish refining industry is a crucial task for today and for the future. It is very important that the concept should be elaborated in relation with development program for the whole refining industry in Poland.

#### 4.5.2 Suggestions on exploration and extraction

Restructurization tendencies in PGNiG are clear if the problem is to be seen from the side of parties interested in increasing of the extraction volume. As it may be seen from figure 4.4.1a. in the last 15 years a systematic drop in extraction volume of crude oil occurred and it is also known that this drop was not caused solely by lack of resources. The reports and surveys prepared by the exploration enterprises, give a critical assessment of the situation of the oil and gas mining sector in Poland. The list of shortcomings is long and concerns drilling equipment, laboratory equipment, control and measurement equipment, as well as appropriate materials such as pipes, drilling fluids etc. At the same time a high experience and skills of engineering and technical staff is to be underlined. There is a deep understanding of the fact that organizational changes and restructurization are indispensable, a proper selection of alternative routes must be performed for their realization. However sole organizational changes will not solve all the problems but could provide a good starting point. It seems that the first step could be division of PGNiG into two separate companies dealing with:

- exploration and exploitation of oil and gas.
- distribution of gas.

Such a possibility is shown in figure 4.5.2a. In this scheme organization of PGNiG was presented in such a way as to illustrate graphically possibility of would-be division. In upper rectangle, marked GAS there are:

- CONSUMERS — nearly 6 million of consumers.
- DISTRIBUTOR or OZG — these are 6 Regional Gas Engineering Plants (Okregowe Zakłady Gazownictwa) covering the whole area of Poland.
- Krajowa Dyspozycja Gazem (Country Gas Distribution Agency) — responsible for implementation of the country policy with respect to gas distribution for particular groups of consumers : e.g. communal economy, industry. The Agency is also acting as a decision maker in the period of gas shortages on allocation of gas for particular consumers:
- 3 sources of gas acquisition — import from the USSR, de-methanization of coal mines and gas from coking plants.

# Possibility of separation of crude oil & natural gas problems

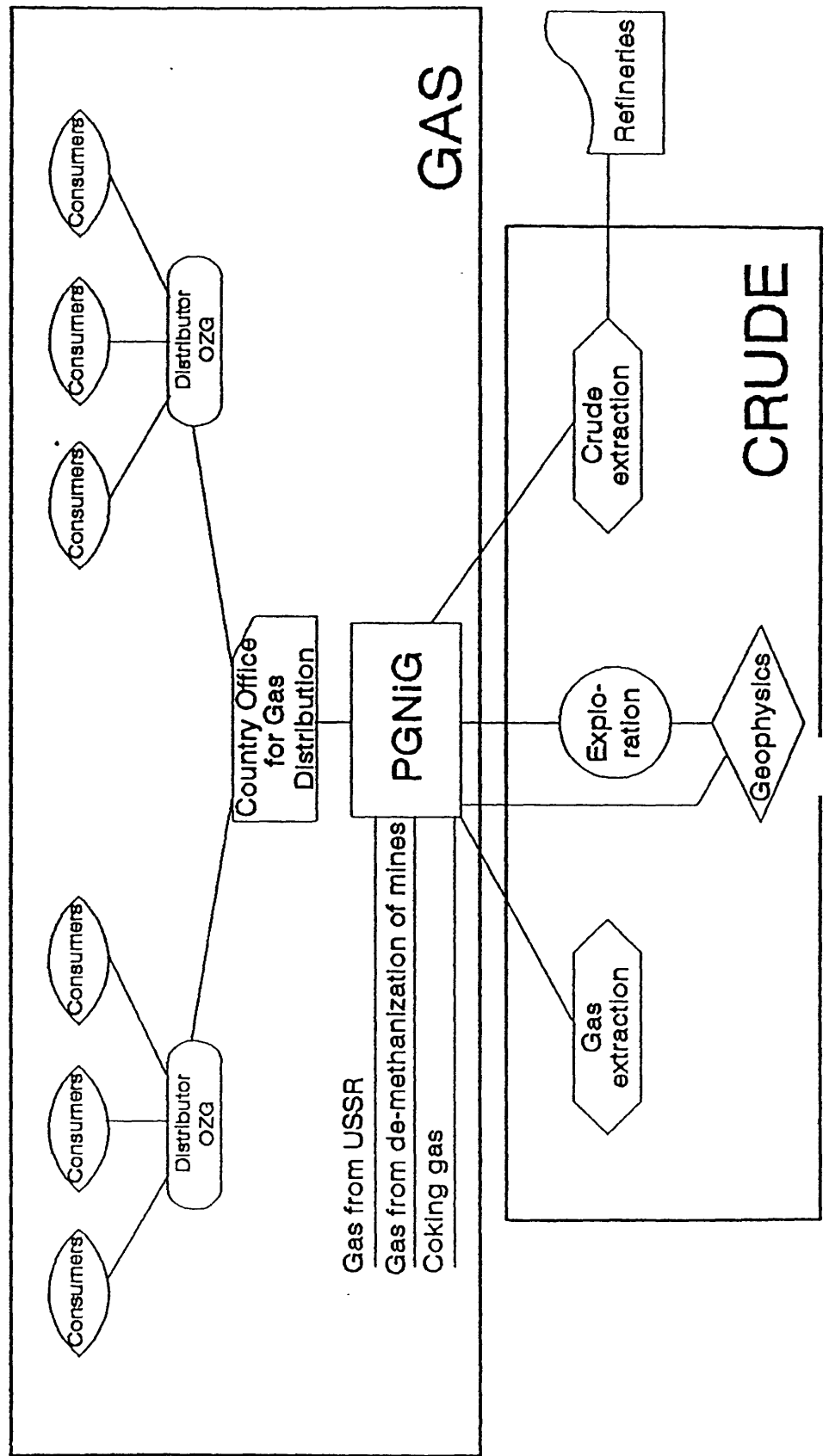


Figure 4.5.2a



As it can be seen such an organization, not involved in production of gas but only purchasing it from the producers (including local extraction), could deal with distribution and sales of gas. The gas would be purchased at prices at least equal to its real value and sold at the first stage at prices fixed by the State (eventual subsidies for the State strategic reasons) and then at the prices assuring profitability of this company (including investment potential). Organizational structure of such a system is a separate problem. The proposal illustrates only the idea of separation of extraction and distribution areas.

In lower rectangle called CRUDE OIL we have:

GEOPHYSICS — 2 geophysics plants.

EXPLORATION — 4 plants for exploration of crude oil and gas (ZPNG - Zakłady Poszukiwań Nafty i Gazu)

OIL AND GAS EXTRACTION — 3 oil and gas mining plants (ZGNG Zakłady Górnictwa Nafty i Gazu)

All the plants enumerated above constitute an internal organizational structure of PGNiG. In the future they may either become separate economic entities or integrate according to their own will and common interests. These organizations could deal with exploration and extraction of crude oil and gas and could sell these resources at prices assuring their profitability to refineries and gas plants. Thus created independent enterprise or enterprises from among those now included in PGNiG will be granted personality at law as a basis of their independence. At this or other stage, especially if the prospects for local crude would become more real, a way for vertical integration in the oil sector could be foreseen.

Other changes and development would depend on entrepreneurship of sole interested parties. There are also many possibilities in view of present legal regulations. That includes projects on amendments in geological code and mining code being at work in the Parliament since December 1990 which are to extend the powers enabling performance of exploration and extraction of natural resources. Also new rules of granting concessions for exploration activities are still to be defined.

## 5 Crude oil processing

### 5.1 Organizational structure of the Polish refineries

Polish refining industry comprises 7 refineries. These are:

1. Mazovian Refining and Petrochemical Works (MZRiP) in Plock.
2. Gdańsk Refinery (GZR) in Gdańsk.
3. Silesian Refining Plant in Czechowice Dziedzice.
4. Trzebinia Refinery in Trzebinia.
5. Carpathian Refinery Works (PZR) in Jasło.
6. Jedlicze Refinery in Jedlicze.
7. GLIMAR Refinery in Gorlice.

Details on addresses, tel. numbers etc are given in the attached Index of enterprises.

The first distillation unit in MZRiP Plock was started up in 1964 — the development and modernization of the refinery was continued in 60-ties and 70-ties. Gdańsk Refinery was started up in 1975. The history of other refineries called small southern refineries (due to their location in the South of Poland) is much longer in fact it goes back to the XIX century. Historically the first industrial distillation unit of crude oil was performed in Jasło. This simply shows a long industrial tradition in the refining industry which exists in this country. The small refineries were re-built after the second world war but quite a number of installations originate from earlier period, some of them even from the second decade of the century. Until 1971 all the seven of the refineries enumerated above were grouped in one organization called Associated Refining Industries (*Zjednoczenie Przemysłu Rafinerii Nafty*) with its Headquarters in Cracow. Due to organizational changes on January 1, 1972 a new organization was created under the name of Associated Refining and Petrochemical Industries PETROCHEMIA as a result of merging former Association of Refining Industries and Association of Nitrogen Industries. The Headquarters of this organization also was sited in Cracow. It was a big economic entity grouping:

- 15 big production plants.
- 2 construction and service companies.
- 2 design offices.
- 3 research and development institutes and one innovation center.
- 2 sales and distribution agencies.
- 1 big computer center (central for all the industry).

The economic potential of this organization (expressed by sales value) constituted ca. 45% of sales value of the whole chemical industry in Poland.

At the turn of 1981/1982 associations of industries in Poland were liquidated. The enterprises became independent entities (Act on state-owned enterprises. *Ustawa o przedsiębiorstwach państwowych* of September 25, 1981, Journal of Laws No 24 of 1981, it. 122) — see chapter 3 of the study. In order to coordinate some of the common actions as well as the interests of the enterprises, the former members of the PETROCHEMIA Association created a (voluntary) association called Zrzeszenie PETROCHEMIA (neither MZRI Płock nor Gdańsk Refinery entered officially this organization). This association was dissolved in 1989.

All the refineries mentioned at the beginning of this section are independent autonomous state owned enterprises and are subordinated only to the Ministry of Industry as their founding body. There are no concerns or corporated structures in the Polish refining industry — neither there are any coordinating intermediate structures between the refineries and the Ministry. The refineries as state-owned enterprises act along the rules and regulations defined by the Act on state owned enterprises quoted above, further amendments to this Act as well as the Statutes of particular enterprises. All these rules are presented in detail in Chapter 3 of this report.

## 5.2 General technical characteristics and description of economic activities of the Polish refineries

### 5.2.1 Location and production capacities of Polish refineries

Location of crude oil processing is presented in table 5.2.1a.

Table 5.2.1a: Processing capacities of the Polish refineries

Refinery	Nominal processing capacity (th t/y)	
	Distillation unit	With min. output of fuel oil <sup>1</sup>
1. MZRIp — Plock	14000	12600
2. Gdańsk Refinery	2900	2800
3. Czechowice Refinery	700	600
4. Trzebinia Refinery	540	300
5. Podkarpackie Zakłady Rafineryjne Jasło Refinery	220	200
6. Jedlicze Refinery	135	135
7. Glimar Refinery	170	170
Total	18665	16805

<sup>1</sup>This capacity is lower than the primary crude distillation capacity (at normal atmospheric pressure topping) and depends on the other downstream plants e.g. vacuum distillation. Such technological profile was aimed at minimisation of the low commercial value of residual fuel oils.

Development of Polish refining industry in the post-war period did not proceed along the same rules that governed development of this industry in other countries, especially in developed countries. Poland did not take part in the dynamic development and great prosperity of oil boom in the years of cheap oil, which brought substantial growth of crude oil processing capacities in the Western Europe:

Year	Capacity
1950	50 mil. t/year
1975	995 mil. t/year

Neither did it experience the reduction of processing capacities and big financial losses in the years of expensive oil after 1973/74. up to mid 80-ties, which affected the refining industry of Western Europe (see table 5.2.1b) but resulted in great rationalization of its structure and technologies.

Table 5.2.1b: Processing capacities of crude oil in European countries in 1980 and 1990

Country	Processing capacity (mil. t/year)		
	1980	1990	% changes 1980/1990
Belgium	55	32	-42%
Denmark	11	9	-18%
France	167	94	-44%
Greece	20	18	-10%
Spain	72	62	-14%
Holland	102	65	-36%
Ireland	3	3	0%
Portugal	19	14	-26%
FRG	154	79	-49%
Italy	180	105	-42%
Great Britain	137	87	-36%
Poland	17	17	0%

Table 5.2.1.c: Consumption structure of basic energy carriers in Poland

Energy carrier	% share in global consumption
coal and lignite	77.6
oil, oil derivatives	12.9
natural gas derivatives	7.6
other	1.9
Total	100.0

The processing capacity presented above was attained by the Polish refining industry in 1975 after the Gdańsk refinery entered into operation. Since then a total stagnation in development of this industrial sector may be observed, lasting as long as 16 years until now and no real chances are seen for a quick change of this situation. Unfortunately this stagnation is accompanied by growing decapitalization of production assets and growing technological and technical gap between the Polish industry and refining industry in the developed countries.

Crude oil processing does not cover fully the demand for crude derivatives, especially liquid fuels, import of which in recent years amounted to:

1989 — 2269000 t

1990 — 1680000 t

Crude oil processing in Poland is very low in relation to other European countries. It results from the underdevelopment of this industry in comparison with the needs in terms of country's potential and reflects a specific structure of energy carriers consumption, dominated by coal (see table 5.2.1c). In recent years Poland held leading position in the ranking lists of producers of coal in the world (see table 5.2.1d). With respect to volume of coal extraction per capita Poland held in 1980 the first place in the world, and in 1989 third place. At the same time the absorptive power of Polish economy for oil measured by volume of consumption of crude oil derivatives per capita is very low, amounts only 400 kg/person which puts Poland on one of the last places in Europe. Table 5.2.1e shows consumption indicators per capita and installed processing capacities per capita in European countries clearly shows the disproportions with that respect. Also with respect to localization of the Polish refining industry a clear disproportion may be seen in relation to rules occurring in the Western Europe refining industry. It concerns mainly scale of production capacity and economies of transport.

Table 5.2.1d: Biggest producers of coal in the world (in mil. t/year)

Country	1980	1985	1989
1. USA	710	736	856
2. China	596	872	946
3. USSR	493	494	502
4. Poland	193	192	178
5. South Africa	117	174	175
6. India	109	150	188

It may be illustrated by an example of size of refineries in France, FRG (former West Germany) and in Poland. Assuming division of refineries to:

- small refineries — up to 1.0 mil. t/year
- medium refineries — from 1.0 — 6.0 mil. t/year
- big refineries — from 6.0 — 12.0 mil. t/year
- huge refineries — over 12.0 mil. t/year

such a comparison is presented in tables 5.2.1f and 5.2.1g. Share of particular types of refineries in total processing capacity (distillation units) is presented in table 5.2.1g.



Table 5.2.1e: Crude oil processing — comparative indicators

Country	processing capacity		consumption of oil deriv.	
	mil.t/year	kg per capita	mil.t/year	kg par capita
Austria	10,2	1298	10.0	1272
Belgium/Lux.	32,4	2575	22.9	1820
France	91.7	1500	84.9	1389
Spain	62.1	1350	40.1	872
FRG *	× 85,3	× 1298	× 119.6	× 1820
Italy	133.9	2086	84.1	1310
Great Britain	89.0	1404	76.1	1201
Czechoslovakia	22.8	1470	16.4	1058
Hungary	15,5	1460	9.3	873
Poland	18.6	498	15.4	412
Japan	239.5	1812	205.6	1556
USA	762,9	2889	743.0	2814

\* - FRG is the only EEC country in which refining industry does not satisfy the needs;

Table 5.2.1f: Structure of size of refineries in France, FRG and Poland

	France		FRG		Poland
	1980	1986	1980	1986	
small refineries	-	-	4	1	5
medium refineries	12	6	19	11	1
big refineries	7	6	8	5	-
huge refineries	3	1	-	-	1
Total	22	13	31	17	7

Table 5.2.1g: Share of particular types of refineries in global processing capacity (distillation unit) in France, FRG and in Poland

	France				FRG				Poland	
	1980		1986		1980		1986			
	mil t/y	%	mil t/y	%	mil t/y	%	mil t/r	%	mil t/y	%
small refineries	-	-	-	-	1.7	1.1	0.3	0.3	1.7	4.0
medium refineries	55.8	32.0	25.4	26.5	88.4	56.2	46.5	52.0	2.9	15.0
big refineries	63.8	37.0	54.1	56.5	67.4	42.7	42.8	47.7	-	-
huge refineries	54.7	31.0	16.1	17.0	-	-	-	-	14.0	75.0
Total	174.3	100.0	96.5	100.0	157.5	100.0	89.6	100.0	18.6	100.0

Visible differences between refining industry in France and FRG with this respect result from different geographic localization of these countries. In France the prevailing refineries are situated at the sea, with higher processing capacities — their production cover not only regional needs. It may be seen from that specification that both small refineries (except for so called speciality refineries) and huge refineries in "continental" countries are not justified economically and after 1980 a great number of them have been closed down.

In FRG even at a peak period of crude processing, there were not and there are not now, refineries as big as MZRIp in Plock. Scale and location of "land" refineries was suited to the volume of consumption of crude oil derivatives in a given region taking into account the economies of transport.

By comparing the data presented in tables 5.2.1f and 5.2.1g, substantial differences between the Polish refining industry and its equivalents in France or FRG could be observed. These differences concern mainly:

- big disproportion in total production capacity,
- high concentration of oil processing in Poland (ca. 75% in one refinery — MZRIp Plock) at the same time with too high dispersion of processing capacities (9% of processing capacities i. e. ca. 1.7 mil. t/year, falls between as many as five small refineries).

Location of particular refineries in Poland, their technical equipment and production potential are not suited to needs of particular regions of the country for crude oil derivatives. An example of highly industrialized south western region may be presented here (voivodships: Opole, Katowice, Czestochowa, Bielsko, Kraków, Tarnów and Nowy Sącz), consuming ca. 25% of total consumption volume<sup>6</sup>. Refineries in Czechowice and Trzebinia located in that region cover only small proportion of the needs. These refineries are not furnished with basic installations for motor fuels production such as gasoline reforming, hydro-desulphurization units for diesel oils.

Concluding it may be stated that the structure of the Polish refining industry results from:

- historical events (some small refineries originate from beginning of this century and even earlier — Polish engineers were pioniers of this industry in the world); also political factors regarding the adscription of Poland to the Warsaw Pact.
- quoted above underdevelopment of this industry and specifics of consumption patterns for primary energy carriers in Poland.
- some tendencies in the state policy in recent years (domination of coal, construction of large industrial complexes and underestimation of negative results connected with exploitation of such industrial colosses).
- necessity of development within small processing units of crude oil and also petrochemical production (olefines, aromatics).

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<sup>6</sup>This subject is dealt with in detail in chapter covering market analysis

## 5.2.2 Production structure and results of Polish refineries

The present structure of the Polish refineries respond in general to the demand for crude oil derivatives with some assortment shortages mainly with respect to motor fuels.

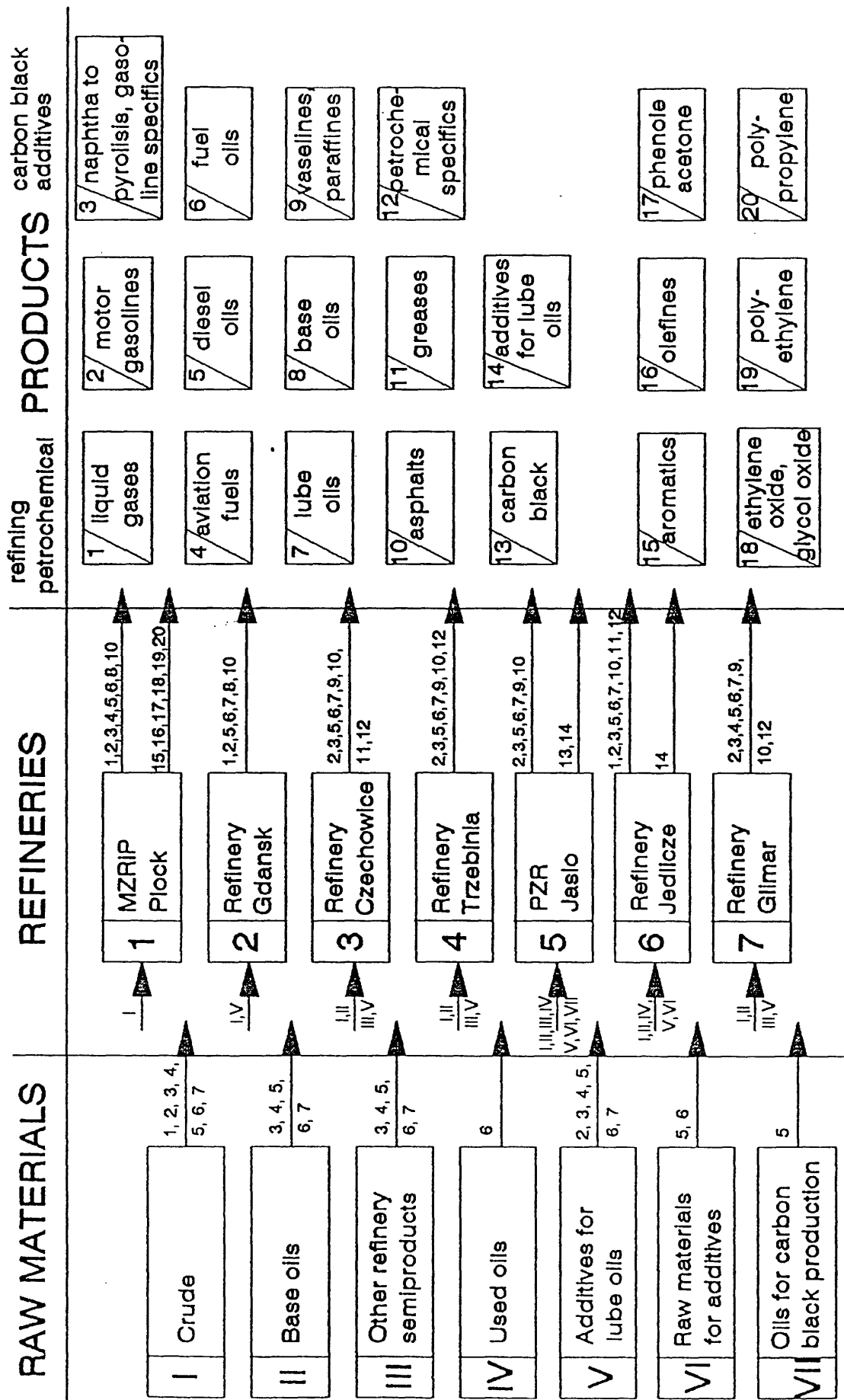
Production profile of the Polish refineries is presented on figure 5.2.2a. Detailed characteristics and technological assessment of the Polish refining industry will be a subject of a separate study.

As it can be seen from figure 5.2.2b the refineries in Gdańsk, Czechowice, Trzebinia and Gorlice (GLIMAR) produce crude oil derivatives only. MZRI Plock is a big production complex composed of two main units — refining installations and petrochemical installations. PZR Jasło apart from crude oil processing deal with production of carbon blacks and additives for lube oils. Jedlicze Refinery apart from crude oil processing deals also (as a unique plant in Poland) with processing of used oils. Some economic indicators for the Polish refineries are presented in tables 5.2.2a and 5.2.2c.

Table 5.2.2a: Crude oil processing (in th. t/year)

	1989	1990	Utilization rate %	
			1989	1990
MZRI Plock	11467	9802	82	70
Gdańsk Ref.	2462	2128	85	73
Czechowice Ref.	572	388	82	55
Trzebinia Ref.	321	185	59	34
PZR Jasło	132	100	60	45
Jedlicze Ref.	115	111	85	82
GLIMAR Ref.	154	132	91	69
Total	15223	12846	82	69

Figure 5.2.2b



Production profile of refineries

Table 5.2.2c: Value of production of refineries (in mln zł)

	1989	1990
MZRI Płock	2094.139	17181.873
Gdańsk Ref.	652.642	4811.758
Czechowice Ref.	200.092	1180.281
Trzebinia Ref.	151.333	603.576
PZR Jasło	128.800	572.740
Jedlicze Ref.	91.641	940.997
GLIMAR Ref.	84.621	474.803
Total	3403.268	25766.028

The significant differences that can be seen result from hyperinflation and changes in prices system in 1990.

Table 5.2.2d: Production of some crude oil derivatives (th. t/year)

	1989	1990
leaded gasoline	2755	2180
diesel oil	4865	3905
fuel oils	2955	2879
asphalts	1145	713

### 5.2.3 Technology level in Polish refineries, quality problems

State of the art in technology in Polish refineries is very diversified. Small southern refineries are the most backward and it is only in part that they may be called speciality refineries. They produce a wide range of valuable products and specifics on small and medium scale but the technological effectiveness of processed crude oil is very low. No catalytic or hydrogen processes exist in these refineries which makes impossible production of leaded gasolines and diesel oils of highest quality. Processing scale in these refineries is so small that implementation of these process is not justified economically. Abandoning of the project to build a modern, big refinery at the south made rational restructurization and technological modernization of the small refineries difficult if not impossible.

As it was mentioned in section 5.2.1. development and modernization of the Polish refining industry were concluded in mid 70-ties. This statement must not exclude particular efforts done by refineries towards upgrading particular installations. It only is to stress the general state of the industry. The most modern installation in MZRI Plock i.e. catalytic cracking II represents the level of technology of beginning of 70-ties. The same concerns production installations in the Gdańsk refinery. "Depth" of processing measured by conversion capacity was in the second half of 70-ties higher than in Western Europe, now the situation has changed — see table 5.2.3a. No modern installations for catalytic reforming exist in the Polish refining industry which would allow for production of reformates of high octane numbers with high efficiency of reformat from processed gasoline fractions. It makes impossible any amelioration of quality of produced motor gasolines. Significant progress may be accomplished only after a MTBE installation is completed as well as new catalytic reforming installation of 700.000 t/year in MZRI P. It will enable production of motor gasolines of low lead content (less than 0,15 g/l), which will satisfy the regulations to become valid from 1992.

Processing capacities of hydro-desulphurization of diesel oils are strongly insufficient — sulphur content is as high as 0.6% and even 1% in some products.

A low level of crude oil processing with a significant share of semi-products and raw materials for petrochemical industry (olefines, aromatics) and relatively high destruction processing solely via catalytic cracking creates a number of difficulties impacting mainly the quality of crude oil derivatives — particularly motor fuels. Necessity of supply of nearly 1 mil. t of naphtha fraction of straight run type for olefine pyrolysis and reformates for production of aromatics (benzene, xylene) cause quality problems in gasolines blending. High share of cracking material in motor gasolines (ca. 40%) lowers the octane number of gasolines and increases the resins content.

Also fractions of diesel oils from catalytic cracking have negative impact on quality of diesel oils (lowering of cetane number, decreasing sulphur content).

It should be stressed here that despite low production potential, the Polish refining industry made and still makes strong efforts to utilize to a maximum degree the precious crude oil in most effective way. Indicators of share of lubricants and asphalts in global oil processing may be a good example here: lube oils — 3.4%, asphalts — 8.4%.

Table 5.2.3a: Conversion capacity in EEC countries and in Poland

	EEC (12)		Poland	
	1980	1990	1980	1990
1. Conversion capacity (FCC equivalent) mil t/y	81.0	145.0	2.3*	2.3*
2. <u>incl.</u> catalytic cracking (FCC) + hydrocracking (HC)	53.4	101.0	2.3*	2.3*
3. (Conversion capacity)/ (processing capacity) x 100%	9.0	25.0	13.7	13.7
4. (FCC + HC)/ (processing capacity) x 100%	5.9	17.4	13.7	13.7

\* — only FCC



All the products of the Polish refining industry are produced along quality standards for Poland. Following is taken into account in the standardization process:

- consumers requirements.
- technical capabilities of the industry.

as well as international quality standards such as ASTM (USA), DIN (FRG) and others. Poland is associated with the International Standards Organization. Depending on importance of the product for the national economy, areas of its application and other specific features, the quality standards are divided into:

- national standards (*PN - Polskie Normy*)
- branch standards (BN).
- factory standards (ZN)

Essential improvement of quality of crude oil derivatives, mainly motor fuels and heating oils, transformation towards unleaded gasoline and motor oils with low sulphur content is integrally connected with the development and parallel modernization of the Polish refining industry.

Quality standards for leaded gasolines and oils are presented in tables 5.2.3b, 5.2.3c, 5.2.3d and 5.2.3e.

Table 5.2.3b: Motor gasolines quality standards: leaded gasoline 91

	Valid till 31.12.1991	Valid from 01.01.1992
1. Octane number (RON) – not lower than	94	94
2. Octane number (MON) – not lower than	84	85
3. Fraction content		
— beg. of distill. – not lower than		
- winter (°C)	30	–
- summer (°C)	35	–
— 10% distillate not more than (V/V)		
- winter (°C)		65
	70	
- summer (°C)		70
— 50% distillate not more than (V/V)		
- winter (°C)		110
	120	
- summer (°C)	120	115
— 90% distillate not more than (V/V) (°C)	185	180
— end of distillation	215	215
— sum: resid. + losses max (%)	3.5	3.5
4. Vapor pressure (kPa)		
winter	50 – 80	50 – 80
summer	40 – 70	40 – 70
5. Lead content (g Pb/litr) max	0.3	0.15
6. Resins content ( mg/100 ml) max	5	5
7. Inductive period not lower than (minutes)	480	600
8. Reaction of water extract	neutral	neutral
9. Sulphur content (%m/m) not more than	0.15	0.10

Table 5.2.3c: Quality standards of motor gasolines: leaded gasoline 86

	Valid till 31.12.1991	Valid from 01.01.1992
1. Octane number (RON) – not less than	86	86
2. Octane number (MON) – not less than	80	80
3. Fraction content		
— beg. of distill. – not lower than		
- winter (°C)	30	–
- summer (°C)	35	–
— 10% distillate not more than (V/V)		
- winter (°C)	–	65
	70	
- summer (°C)		70
— 50% distillate not more than (V/V)		
- winter (°C)	–	110
	125	
- summer (°C)		115
— 90% distillate not more than (V/V) (°C)	185	180
— end of distillation	215	215
— sum: resid. + losses max (%)	3.5	3.5
4. Vapor pressure (kPa)		
winter	50 – 80	50 – 80
summer	40 – 70	40 – 70
5. Lead content (g Pb/l) max	0.56	0.15
6. Resins content (mg/100 ml) max	5	5
7. Inductive period not lower than (minutes)	480	600
8. Reaction of water extract	neutral	neutral

Table 5.2.3d: Diesel fuels — quality standards

	Type I				Type II	
	L (summer)	Z (winter)			DS	II
	sort					
	LŚ/LW	Z-20	Z-35	Z-50		
1. Cetane number not less than	45	45	45	40	45	—
2. Distillation						
— 50% dist. not more than (°C)	290	280	280	280	280	
— to 340°C dist. not less than (%)	—	—	—	—	96	
— to 350°C dist. not less than (%)	90	90	95	95	—	60
3. Kinematic viscosity (mm <sup>2</sup> /sek)						
— in 20°C	2.8 - 8.0 <sup>1)</sup>	2.4 - 6.0	2.4 - 6.0	3.0 - 8.0	—	7.5 - 19.0
— in 50°C	—	—	—	—	2.5 - 4.0	
4. Relative viscosity (°E)						
— in 20°C	1.18 - 1.67	1.16 - 1.48	1.18 - 1.48	1.20 - 1.67	—	1.62 - 2.83
— in 50°C	—	—	—	—	1.15 - 1.29	
5. Freezing temp., not more than (°C)	-5	-20	-35	-50	-15	+5
6. Temp. of blocking cold filter (°C) not higher than	—	-12	-20	-30	—	—
7. Ignition temp. (°C) not less than	40	40	40	50	90	60
8. Reaction of water extract				neutral		
9. Coking residue in 10%-res. post-distill. (%) not more than	0.2	0.2	0.2	0.1	0.1	—
10. Post-coking resid. (%) not more than	—	—	—	—	—	1.2
11. Post-icineration resid. (%) not more than	0.01	0.01	0.01	0.01	0.01	0.015
12. Water and impurities content				none		
13. Water content (%) not more than	—	—	—	—	—	0.3
14. Sulphur content (%) not more than	0.6/1.0	0.6	0.6	0.2	0.2	1.2
15. Corrosive activity exam. on Cu plate				resistant		
16. Acidity (mg KOH/g) not more than	8.0	8.0	5.0	5.0	5.0	—
17. Iodine number (g iodine/100 g) not more than				6		

Type I — oils for high speed engines

Type II — oils for low speed engines (ships)

Table 5.2.3e: Fuel oils — quality standards

	Type of fuel oil		
	1	2	3
1. Kinematic viscosity (mm <sup>2</sup> /sek cst) not more than			
– at 50°C	92	–	–
– at 80°C	–	59	122
2. Relative viscosity (°E) not more than			
– at 50°C	12	–	–
– at 80°C	–	8	16
3. Post-incineration res. (%) not more than	0,1	0,15	0,20
4. Sulphur content (%) not more than			
– low-sulphur crude	0,5	0,5	0,5
– medium-sulphur crude	1,0	1,0	1,0
– high-sulphur crude	2,0	2,5	3,0
5. Content of solid impur. (%) not more than	0,5	0,5	0,5
6. Water content (%) not more than	1,0	1,0	1,0
7. Reaction of water extract		neutral	
8. Ignition temp. (°C) not more than			
– in closed pot	70		
– in open pot	–	90	110
9. Freezing temp. (°C) not more than			
– from low-paraffine crude	-8	+10	+25
– from paraffine crude	+25	+30	+35
10. Heating value (KJ/kg) not lower than	41300	39900	39700
11. Vanade content (ppm) not more than	150	150	150
12. Density at 20°C (g/cm <sup>3</sup> ) not more than	0.950	0.960	0.975

#### 5.2.4 Basic environmental problems in crude oil processing in Poland

With the chapter 7 dealing with environmental aspects of the oil sector, below are given some information relevant for the discussion on technology and structure of the industry. Polish refining industry is responsible for environment protection in two areas:

- direct pollution due to operation of production plants (refineries) — waste waters, emission, wastes;
- environment pollution due to utilization of crude oil derivatives (e. g. gasolines).

In the first area main problems are: emission of hydrocarbons to the atmosphere, emission of waste waters polluted with crude oil derivatives and other wastes. The following problems should be mentioned here:

- re-expedition of ca. 1 mil. t/year of crude oil from MZRIp to refineries in the south of Poland (emission of hydrocarbons to the atmosphere during rail tanks loading in MZRIp).
- emission of post-oxidation gases in the asphalt production (in all refineries).
- significant SO<sub>2</sub> emission due to combustion of 1 mil. t /year of high sulphur residue in MZRIp power plant (which serves both the needs of the Plock refinery and the city of Plock), as well as 300.000 t/year of high sulphur heating oils in MZRIp (it concerns also in lower degree the Gdańsk refinery).
- disposal sites (wastes from refining process, bleaching earth).
- obsolete and ecologically harmful process of used oils utilization process in Jedlicze Refinery (under modernization now).

Another problem resulting from utilization of crude oil derivatives is connected with their quality. Some amelioration may be expected with respect to motor gasolines — present standards accept lead content of 0.3 g/l. from 1992 this parameter will be changed to 0.15 g/l. It means lowering lead emission levels to the atmosphere by 500 t/year. Decrease of sulphur content in diesel oil and heating oils is not technically possible at present. New installations for hydro-desulphurization are necessary and development and modernization of the refining industry in Poland is indispensable.

### 5.3 Preparation of annual and quarterly production plans

No detailed annual plans are at present prepared by the refineries — these are replaced by annual forecasts. Quarterly and monthly tasks are defined in more detail. The forecasts are prepared based on foreseen financial loads (salaries, taxes, depreciation, prices of raw materials etc). Forecasts and quarterly plans are prepared with regard to:

- mutual agreements with CPN.

- mutual agreements between different refineries (e. g. with respect to products trade).
- consumers needs.
- volume of imported crude oil.

Southern refineries orders crude oil in MZRI Plock, which in turn contracts supplies of crude oil with CIECH. All due payments connected with purchase costs and transfer of crude oil are paid by the refineries to MZRI Plock as it was mentioned in Chapter 4. Due to the present organization and past history of the refining industry, the planning based on strong marketing activities is not the case. Among the different actors which constitute oil sector in Poland only CIECH has long tradition and know-how of dealing with markets in the international scale and is now prepared to cope with international trading. This subject will be dealt with in chapter 6.

## 5.4 Tax regulations

Fiscal system is not stable and it will be a subject to changes along with the economic reforms in Poland. Some fiscal charges result from Parliament resolutions, some are defined by the Ministry of Finance. Basic tax charges for refineries include:

- dividends paid to the State budget each year: their value depends on assets of the enterprise (as for 1.01.1983) being subject to revalorization — the percent value is given by the Ministry of Finance:
- tax on sales of products: in 1991 (as for May) equals to:
  - for motor gasolines — 60%.
  - for diesel oils — 20%.
  - for motor oils — 12%
- tax on profit — 40% of gross profit.
- tax on salaries (20%).
- eventually tax on excess salaries/footnote This is a public issue often present and discussed in press and the problem goes beyond the scope of the study. (if the limit values calculated according to the governemental regulation are exceeded): this tax being the main tool of strict fiscal policy of the Governemnt towards state owned enterprises is the cause of bitter labor and union conflicts all over the country (also see Chapter 8).

## 6 Wholesale and retail market for fuels

### 6.1 Market overview

When characterizing the fuels market in Poland one must start from a brief overview of the past. It may seem at least from the average citizen's reception irrelevant, but the changes are fast and big.

A permanent lack of fuels, crowned by strict reclamation through system of coupons, was a main feature of the market for fuels in Poland for most of the last 10 years. Rationing of fuels ceased its existence in 1989. The centrally managed system controlled the quantity of supply of fuels to the market, fixed the prices, and eventual intervention imports of gasolines and diesel oils depending on available financial means (hard currency). These central decisions were realized by centrally governed refineries and CIECH acting as a central agency as well as centrally managed CPN — a monopolist on the market of liquid fuels.

Due to economic reforms, the refineries became independent and autonomous bodies. CIECH was transformed into a limited liability company subordinated to the association of partners and to the Supervisory Council. CPN no longer is a monopolist at the fuels market, however still plays the important and key role.

The trade links between CIECH and refineries are no longer bound by rigid distribution limits but only by individual agreements and contracts resulting from the Commercial Code and other legal regulations. The provisions of Act No 207 of the Ministers Council of September 27, 1982 on contracts on sales and supplies between state owned economic entities, govern the trade of refining and petrochemical products (for changes and amendments see Index of laws and regulations).

Owing to changes in economic systems since 1990, private importers of fuels appear on the market. Also many institutions, enterprises, companies and agricultural organizations started market sales of fuels in petrol stations being until then used solely for the needs of those entities. Import of fuels by CPN gained substantial position in their sales activities which are dominant for the market. It is illustrated in table 6.1a.

Table 6.1a: Import and sales of crude oil derivatives by CPN in th. t (1990)

	Product	Sales by CPN	Import	% Import/Sales
1.	gasoline	2933.1	551.5	18.8
2.	diesel oil	4216.8	1129.5	26.8



CPN for the better part of its history, being a public utility company, was a monopoly in the wholesale and retail distribution of fuels. With the distribution network underdeveloped in the proportion to the whole Polish economy it still managed to create quite a complex and relatively well organized company which in last two years succeeded in transferring from the former system of fuel coupons (valid for the most of the 80-ties) to the current situation of the distributor of fuels acting on the market where a substantial amount of the fuels is imported. Currently a very liberal policy towards imports by independent importers is applied. Despite relatively good economic condition the company is very much indefensive being under permanent attack of public opinion agitated by mass media that have in the CPN "a very good example of a despised monopoly". That image has put the company into deep defensive and indeed suppresses any real strategy for development. But fortunately there is an ever-growing understanding in the company staff of the necessity of changes and necessity of integration with the refining industry — the basic step towards the vertical integration common in the EEC countries.

When describing the Polish fuel market it still in fact has to be done from the CPN perspective. And this was the course assumed in this chapter in its following paragraphs. However other activities whatever their relation to CPN may be, are also described (e. g. private imports).

## 6.2 Organization of the market — links and dependencies

Links of CPN and other partners in wholesale trade of fuels are illustrated on figure 6.2a. Lines illustrating links between particular enterprises involved in the wholesale of liquid fuels are marked with ciphers in brackets. The ciphers do not define hierarchy of the link in the whole system — order of description is incidental. Therefore:

- (1) This line joins all refineries with CIECH, Port Północny and CPN in export of fuels. The export of fuels is circumstantial and results from temporary surplus of fuels. E. g. in last 2 years no export of gasoline occurred, only diesel oil was exported. Export is performed by the refineries and contracts on their behalf are made by CIECH. CPN input consists in transport (through DEC) and obligation of balancing of liquid fuels in a country's scale.
- (2) Symbolises contacts between CPN and CIECH on import of fuels as ordered by CPN.
- (3) As since 1990 market for fuels has been extended by import supplies made by private importers, part of them import fuels via CIECH and using transport or tank farms of CPN. These links are constantly changing.
- (4) This link reflects the old system where refineries were to produce fuels and CPN was to sell them in retail network. The system results from specialization of functions. Connections with PERN result from the fact that the pipelines for crude oil derivatives (in fact fuels) are utilized by this enterprise.



- (5) These links occur since 1990 and are a consequence of creation of a network of petrol stations independent from CPN. Such supplies occur in the case of small refineries and Gdańsk refinery. MZRiP in Plock services only CPN tank farms via a network of product pipelines so it is at present defined by the existing logistic infrastructure.
- (6) These lines inform on formal links resulting from the Government policy in the area of energy and fuels sector and import-export policy as well as tax policy (taxes, duties).

Density of lines illustrating connections going to CPN and CIECH can be seen. It results from the leading role of those organizations and from the fact that the trade concerns mainly:

- supply for the domestic retail market of liquid fuels.
- export (marginal) and import of liquid fuels.
- private import of liquid fuels.

## 6.3 Supplies to retail market

### 6.3.1 CPN potential

CPN possesses:

- 192 tank farms of total capacity ca. 1500 m<sup>3</sup> (called ZGPN<sup>7</sup> plants including:
  - 47 tanks of the capacity exceeding 5000 m<sup>3</sup>.
  - 81 tanks of the capacity from 1000 to 5000 m<sup>3</sup>.
  - 58 tanks of the capacity up to 1000 m<sup>3</sup>.
- 42 laboratories, which may be adapted for performance of quality control of oil products.
- 1346 petrol stations (see below). 50% of all the stations are run by agents (see map 3).
- 6 discharge wharves on Gdańsk and Szczecin coast.
- 12.500 of rail tanks (DEC).
- 863 car tanks.

A significant diversity may be noted with regard to tank capacity and basic assortment of motor fuels stored and sold by ZGPN plants which is shown below:

---

<sup>7</sup>ZGPN — Zakłady Gromadzenia Paliw Naftowych — Fuel Storage Plants

<u>ZGPN plants group</u>	<u>Total No plants</u>	<u>Plants without leaded gas. 86</u>	<u>Plants without leaded gas. 94</u>	<u>Plants without diesel oil</u>
up to 1000 m <sup>3</sup>	61	21	45	2
1000 to 5000 m <sup>3</sup>	83	7	17	-
over 5000 m <sup>3</sup>	48	11	12	1
total	192	42	74	3

The plants situated near the eastern frontier are furnished with technological equipment for reloading of given assortment of fuels:

1. ZGPN plant in Żurawica — motor gasoline A-76 imported from USSR as a component for production of leaded gasoline 86.
2. ZGPN plant in Zawadówka — jet fuel imported from USSR.
3. ZGPN plant in Małaszewicze — diesel oils imported from USSR
4. ZGPN plants in Narewka and Walily — (for State reserves) not operating in import trade with USSR.
5. ZGPN plant in Sokółka — motor gasoline A-76 (component for E-86) from USSR, motor gasoline AI-93 from USSR, aviation gasolines, reloading of liquid chemical products in import and transit.
6. ZGPN plant in Chruściel — not operating in imports from USSR.
7. ZGPN No 2 in Gdańsk — diesel oil II and fuel oil export by sea.
8. ZGPN No 3 in Gdańsk — motor gasolines, leaded gasolines imports by sea.
9. ZGPN plant in Debogórze — crude oil and diesel oil imports by sea.
10. ZGPN plant in Świnoujście — diesel oil II and fuel oil exports by sea.

The above plants due to their location and equipment and lack of possibility of dealing with train supplies of other assortments of fuels cannot at least at present play the role of regional supply centers for the nearby wholesale traders, public petrol stations and petrol stations located in industrial plants.

The plants at the terminals of fuel pipelines in Koluszki-Slotwiny and Nowa Wieś Wielka have output units for rail tanks and car tanks shipment of leaded gasoline 94, leaded gasoline 86 and diesel oil I.

### Petrol stations

CPN manages 1346 petrol stations. The network of petrol stations is composed of

petrol stations located in cities, bigger towns and by main roads. Urban regions are supplied by so called complementary distributors.

The CPN petrol stations built or significantly modernized in 70-ties and 80-ties (about 500 of total number), have relatively large tank capacities which enable for continuous sales on peak period. Their storage areas are sufficient for handling multi-assortment sales of different products and car accessories. They have also basic sanitary facilities for the clients.

Other stations, often located in the outskirts of town, with small storage capabilities satisfy the needs of local consumers. The volume of sales in such stations is subject to significant variations. Many of them cannot be modernized or expanded due to siting problems and local specific constraints of the environmental character.

According to the opinion expressed by CPN leaving 30% of total number of petrol station under their management is satisfactory for development the competitiveness on the retail market. Assessment as to what stations are to be left for CPN should according to their feeling be made by this enterprise. It should be performed with particular knowledge of the market, including local markets and specific oscillation of demand. Legal formula of management of these stations is also an open question.

At the same time, as it was stated in section 6.1 above, due to the particular situation of CPN, their expansion plans and marketing activities seem to be at least at hold.

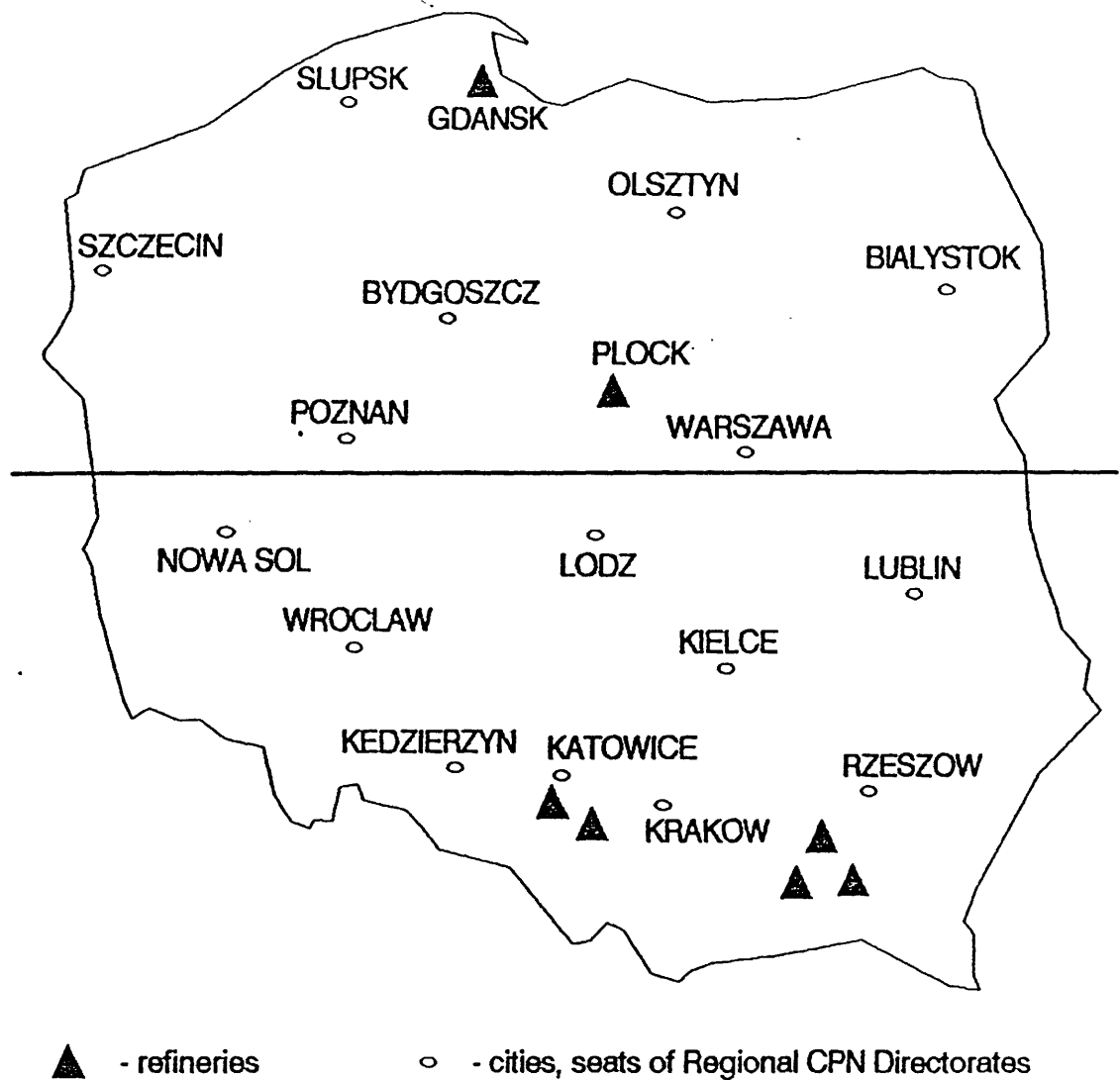
### 6.3.2 Supplies to the market

With the above potential in terms of distribution and retail we may enter the area of operation on the market on the supply side.

The supplies are organized by means of rail tanks from the domestic refineries to the regional tank farms of CPN and from the biggest producer of fuels in Plock also by product pipelines (ca. 75% of production of Polish refining industry). The network of pipelines is presented on figure 2.1c. From the tank farms to petrol stations, the fuels are transported by car tanks possessed by CPN. Rail tanks belong to Directorate for Rail Tanks Exploitation (DEC) an organization being a structural element of CPN.

A drawback of this system, comes from the geography of production of fuels which does not fit the geography of their consumption. Complementary import of fuels performed by CPN through harbors of Szczecin and Gdańsk only makes this disproportion even bigger. Over 90% of supply of fuels occur in the north of Poland while the demand is bigger in the south. It makes the transport routes longer to the storage tanks and petrol stations, makes the transport more expensive and decreases the provision. This fact is illustrated in figures 6.3.2a and 6.3.2b and in tables 6.3.2c, 6.3.2d and 6.3.2e.

## Motor fuels supply and demand - geographic confrontation

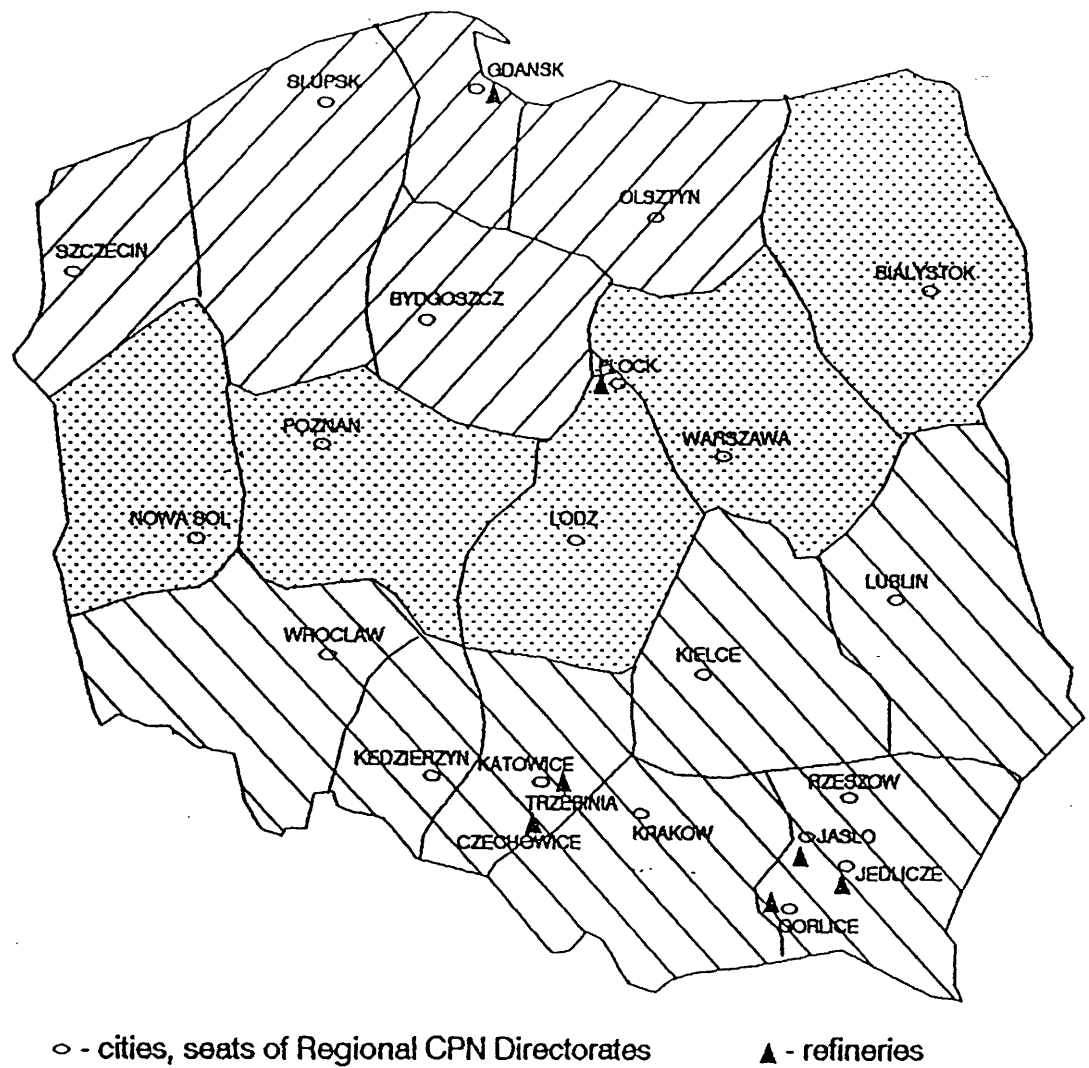


If by convention Poland may be divided into southern and northern part by a line going to south from Poznań and Warsaw and north to Łódź it may be stated that:

- 90% of liquid fuels is produced in the North but consumption is less than 50% of total country sales;
- 8% of fuels is produced in the South where consumption exceeds 50% of total country sales.

Figure 6.3.2b

## Comparison of supply and demand in CPN districts.



### Share of total production:

- ▲ Gdansk Refinery - 16%
- ▲ Plock Refinery - 76%
- ▲ Southern Refineries - 8%

### Sales in 1989:




	gasoline - 19%	diesel oil - 26%
	gasoline - 37%	diesel oil - 31%
	gasoline - 44%	diesel oil - 43%

Table 6.3.2c: CPN Regional Directorates — petrol stations in regions

No	CPN Regional Direct.	Region covered	Population in th.	Number of CPN stations	Persons per 1 station in th.
1.	Białystok	Białostockie Lomżyńskie Suwalskie	1.502.2	73	20.6
	Bydgoszcz	Bydgoskie Toruńskie Włocławskie	2.191.2	71	30.9
3.	Gdańsk	Gdańskie	1.423.3	43	33.1
4.	Katowice	Częstochowskie Katowickie	4.744.4	114	41.6
5.	Kędzierzyn-Koźle	Opolskie	1.014.9	40	25.4
6.	Kielce	Kieleckie Radomskie Tarnobrzeskie	2.470.7	82	30.1
7.	Kraków	Bielskie Krakowskie Nowosądeckie Tarnowskie	3.481.3	86	40.5
8.	Lublin	Bielsko-podlaskie Chełmskie Lubelskie Zamojskie	2.053.9	68	30.2
9.	Łódź	Łódzkie Piotrkowskie Płockie Sieradzkie Skierniewickie	3.126.3	111	28.2
10.	Nowa Sól	Gorzowskie Zielonogórskie	1.155.7	58	19.9
11.	Olsztyn	Olsztyńskie Elbląskie	1.225.1	50	24.5
12.	Poznań	Kaliskie Konińskie Leszczyńskie Poznańskie	2.888.3	125	23.1
13.	Rzeszów	Krośnieńskie Przemyskie Rzeszowskie	1.614.8	51	31.6
14.	Ślupsk	Koszalińskie Pilskie Ślupskie	1.392.6	73	19.1
15.	Szczecin	Szczecińskie	967.3	57	17.0
16.	Warszawa	Stol. Warszawskie Ciechanowskie Ostrołęckie Siedleckie	3.890.4	121	32.2
17.	Wrocław	Jeleniogórskie Legnickie Walbrzyskie Wrocławskie	2.896.5	117	24.8
	Average		38038.9	1340	28

MAX

MIN

Population:	Katowice	4.744.400	Szczecin	967.300
CPN stations:	Poznań	125	Kędzierzyn	40
Persons per 1 station:	Katowice	41.600	Szczecin	17.000



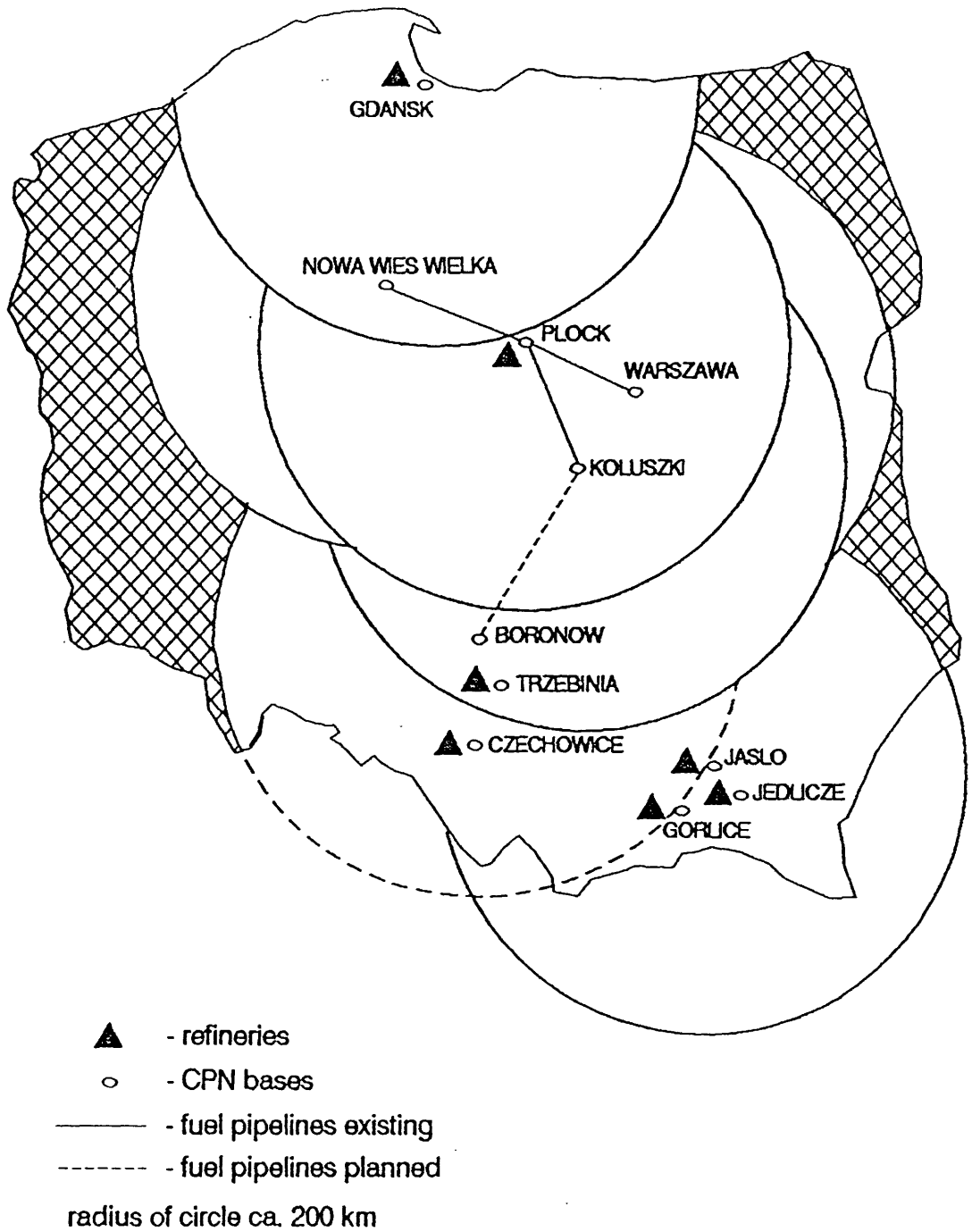
Table 6.3.2d: Regional Directorates of CPN — consumption and sales of gasoline and fuel oil

No	Regional Directorate CPN	Consumption 1989 Sales by CPN		Consumption 1990 Sales by CPN		Consumption per capita			
		Gasoline	Diesel oil	Gasoline	Diesel oil	Gasoline		Diesel oil	
						1989	1990	1989	1990
		th. t	th. t	th. t	tys. ton	kg	kg	kg	kg
1.	Białystok	128.0	238.5	102.3	139.2	85.2	68.1	159	92.6
2.	Bydgoszcz	205.5	400.5	177.3	311.3	93.8	80.9	183	142
3.	Gdańsk	127.6	317.4	119.0	228.2	89.6	83.6	223	160
4.	Katowice	385.7	598.4	325.3	417.9	81.3	68.6	126	88.1
5.	Kędzierzyn	99.3	180.6	95.1	151.1	97.8	93.7	179	149
6.	Kielce	179.6	308.9	157.5	232.8	72.7	63.7	125	94.2
7.	Kraków	281.5	354.6	238.8	255.5	80.9	68.6	102	73.4
8.	Lublin	154.4	378.6	135.6	296.5	75.2	66.0	184	144
9.	Łódź	280.7	409.2	259.7	310.2	89.7	83.1	131	99.2
10.	Nowa Sól	106.6	231.3	104.6	157.4	92.2	90.5	200	136
11.	Olsztyn	103.3	236.5	82.9	163.9	84.3	67.7	193	134
12.	Poznań	286.9	454.0	235.2	263.8	99.3	81.4	157	91.3
13.	Rzeszów	120.0	209.4	96.3	148.7	74.3	59.6	130	92.1
14.	Ślupsk	125.0	300.4	99.6	193.2	89.8	71.5	216	139
15.	Szczecin	84.7	295.7	78.8	224.8	87.6	81.5	306	232
16.	Warszawa	429.6	466.5	393.1	352.7	110	101	120	90.6
17.	Wrocław	252.9	464.6	233.1	352.2	87.3	80.5	160	121
Total		3351.3	5845.1	2934.2	4199.4	88.1	77.1	154.0	110.4

Table 6.3.2e: Regional CPN Directorates — consumption of gasoline and diesel oil per 1 station

No	Regional Directorate	Number of stations	Consumption per 1 CPN station			
			Gasoline		Diesel oil	
			1989	1990	1989	1990
			t	t	t	t
1.	Białystok	73	1733	1401	3267	1907
2.	Bydgoszcz	77	2668	2202	5641	4042
3.	Gdańsk	43	2267	2767	7362	5307
4.	Katowice	114	3363	2853	5249	2666
5.	Kędzierzyn	40	2462	2277	4515	2777
6.	Kielce	62	2120	1529	3767	2839
7.	Kraków	66	3273	2776	4123	2971
8.	Lublin	66	2270	1394	3567	4360
9.	Łódź	111	2529	2340	3666	2795
10.	Nowa Sól	56	1636	1693	3268	2713
11.	Olsztyn	50	2066	1656	4730	3278
12.	Poznań	125	2295	1881	3632	2110
13.	Rzeszów	51	2353	1666	4106	2915
14.	Ślupsk	73	1712	1264	4115	2646
15.	Szczecin	57	1466	1262	3187	2944
16.	Warszawa	121	3550	3246	3655	2915
17.	Wrocław	117	2161	1292	3970	3010

### Possibility of liquid fuels supply in conventional area 200 km around refineries and CPN bases.



Fuel pipelines that provide CPN tank farms in Warsaw, Koluszki, Nowa Wieś Wielka with fuels from MZRIp in Plock, and future pipeline from Koluszki to Boronowo will substantially expand the outreach of Plock Refinery facilitating the distribution. As it is illustrated in figures 6.3.2a and 6.3.2b, geography of fuels production to far extent is not the same as geography of consumption. Location of 192 tank farms belonging to CPN is another impediment for CPN in delivering fuels to its 1346 petrol stations. Re-dispatchment of fuels between tank farms due to their geographical location is indispensable which cause higher costs.

Figure 6.3.2f illustrates the thesis that the network of fuels pipelines significantly facilitates supply of fuels to the stations. Conventional circles of radius of ca. 200 km are drawn from the Gdańsk refinery, from three small refineries in the south of Poland (Jasło, Gorlice, Jedlicze) and from the refinery in Plock as well as from the four CPN tank farms supplied by Plock via pipelines. The territory covered by the pipelines transport is nearly the whole territory of Poland. Hatched territories situated out of reach of these circles are in worse situation with respect to fuels supply. Of course other conclusions may be drawn by application of different length of radius and taking into account location and storage capacities of CPN tank farms. The situation presented above is to be taken into consideration in any further analysis regarding the physical restructurization of the Polish oil sector.

### 6.3.3 Brief characteristics of CPN network

However the network of 192 CPN tank farms is rather heterogenous with respect to their geographical density as well as to the tanks capacity but is not adequate to the area or population of regions (which defines roughly the consumption of oil products). It may be illustrated by the indicators on capacity of tanks per 1000 inhabitants and the throughput per m<sup>3</sup> as shown in table 6.3.3a.

In the regions where the tanks capacity is low even small disturbances in supply from domestic refineries or from imports may cause discontinuity of sales in petrol stations.

### 6.3.4 Export and import of fuels

Provisional plans of fuels export are prepared by the refineries while preparing annual production plans. In practice the export of fuels is the export of temporary surplus and is agreed by the refineries with the CPN. The CPN prepares an annual production plan, including the plan for supply of the country market along the Regulation No 1 of the General Director of the CPN of January 1, 1987, on preparing the annual plans of the enterprise activities.

The import plan is formally created taking into account the differences between demand and capabilities of its satisfaction by the local industry. CPN as a public utility enterprise is obliged to assure continuous sales (by assuring continuity of stock reserves) and is fully responsible to its founding body i. e. the Ministry of Industry.

Table 6.3.3a: CPN storage tanks capacity

CPN Directorate	Capacity m <sup>3</sup> /1000 inhab.	Throughput/m <sup>3</sup> capacity
Białystok	29	6.9
Bydgoszcz	112	2.5
Gdańsk	117	2.6
Katowice	15	13.0
Kędzierzyn Koźle	56	5.4
Kielce	27	7.3
Kraków	17	10.3
Lublin	39	6.7
Lódź	50	4.5
Nowa Sól	31	9.0
Olsztyn	22	11.4
Poznań	21	10.4
Rzeszów	20	9.5
Słupsk	56	4.7
Szczecin	131	3.0
Warszawa	23	10.3
Wrocław	34	7.5
Average in the country	39	

No export of gasolines in 1989 and 1990 occurred. With respect to diesel oil the export volume was as follows

- 1989 — 221.000 t.
- 1990 — 177.000 t.

Import of gasolines:

- 1989 — 921.000 t.
- 1990 — 551.000 t.

Import of diesel oil:

- 1989 — 1.350.000 t.
- 1990 — 1.130.000 t.

No concessions for trading with these products are required and this fact enabled the profitable imports by private companies and individuals. Such imports took place mainly at the beginning of 1991 when the duty on gasoline was 12% and the tax on sales for the companies was 24% and for the individuals 40%. All these taxes were raised in March and now the rate is same for all buyers and amounts to:

- 90% tax on sales of gasolines.
- 20% tax on sales of fuel oils

The duties remain on the same level — 12%.

### 6.3.5 Private imports of fuels

The scheme of interdependencies show also that CPN is engaged in private imports of fuels. The fuels imported through this channel are transported by rail tanks and car tanks possessed by CPN. These fuels also go through the network of tank farms of CPN. It results from the fact that private importers do not have at their disposal the infrastructure responding to the adequate regulations and requirements as well as the necessary equipment for wholesale trading of liquid fuels.

## 6.4 CPN — basic economic indicators

Basic economic indicators concerning CPN activities are presented in the tables 6.4.a and 6.4b.

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Table 6.4a: CPN operation — basic values. Source: CPN

	Crude oil		Motor gasoline		Diesel oil		Fuel oil	
	1989	1990	1989	1990	1989	1990	1989	1990
Total imports	14722,4	13126,3	920,9	1242,5	1285,9	1491,4	227,7	101,7
Supplies from domestic prod. (crude oil processing)	157,0	160,0	2453,6	2023,3	4844,6	3923,1	2921,7	2913,1
Sales via CPN	—	—	3355,5	2933,1	5849,5	4216,8	2532,5	689,2
Exports	—	—	4,3	6,4	139,5	200,4	587,0	982,6

	Liquid gas		Aviation gasol.		Jet fuel		Motor oils		Lube
	1989	1990	1989	1990	1989	1990	1989	1990	1989
Total imports	—	2.2	19.1	6.6	178.4	184.1	2.2	2.9	32.7
Supplies from domestic prod.	178.0	140.6	—	—	191.7	200.7	213.6	135.2	289.3
Sales via CPN	2.0	1.8	19.6	5.8	327.0	183.0	209.9	118.3	249.9
Exports	—	—	—	—	19.3	23.8	8.0	9.8	68.1

	Lubricants		Paraffines		Solvents		Naphtha		Gasol. for pirol.	
	1989	1990	1989	1990	1989	1990	1989	1990	1989	1990
Total imports	2.8	0.7	9.4	2.9	38.2	19.1	-	-	-	-
Supplies from domestic prod.	16.3	14.3	29.6	18.0	69.9	46.1	3.0	0.9	1084.9	984.8
Sales via CPN	18.6	12.6	35.5	2.1	101.7	27.0	7.2	2.1	-	-
Exports	-	-	-	0.5	5.3	5.9	-	-	112.0	52.1

Item "Sales via CPN" does not include direct sales for the users and own consumption of the refinery. Differences between the data by CIECH and CPN result from the time elapse between import and reception of crude oil by CPN.

Table 6.4b: CPN — basic economic indicators

		1989	1990	% increase
Sales and services revenue	mil. zł	1402453.9	4241198.0	302.4
Total costs	mil. zł	275724.5	1728024.0	626.7
Gros income	mil. zł	1126729.4	2513174.0	223.0
Tax on sales	mil. zł	769885.2	138744.0	18.0
Gross profit	mil. zł	356844.2	2374430.0	665.4
Corporate tax	mil. zł	153986.2	952512.0	618.6
Tax on excess salaries	mil. zł	4077.2	195209.0	4787.8
Dividend	mil. zł	4849.6	9984.0	205.9
Net profit	mil. zł	193931.2	1216725.0	627.4
Labor	persons	18806	16505	87.8
Labor costs	th. zł	49421371	235268778	476.0
Average monthly pay	zł	218996	1187866	542.4
Effectiveness (sales. t/1 empl.)		686.8	505.3	73.6
Total investment	mil. zł	47585.3	300542.0	631.6
incl. construction	mil. zł	30433.9	208908.0	686.4
investment from central fund of the enterprise	mil. zł	12825.5	104743.0	816.7
Transport				
car transport	th. t	5156.6	4800.0	93.1
tank transport	th. t	13535.0	10902.8	80.5
bunker transport	th. t	621.7	292.3	47.0

## 6.5 Legal and organizational aspects of CPN

As it was mentioned earlier, CPN dominates the market of fuel liquids both in wholesale and retail trade. CPN being a public utility company is charged legally with additional duties. It is subordinated both and organizationally to the Ministry of Industry which is, from the legal point of view its founding body (refer to chapter 3). Organizational structure of CPN together with full text of the Statute is presented in the Index of enterprises. It is stated there that CPN as a public utility enterprise, deals with supply and distribution of crude oil products thus realizing the State policy, so as to satisfy the current needs of all sectors of the national industry, army and individual consumers within the balance of liquid fuels and also to sustain effective economic results.

The main functions of CPN as defined in the statute are as follows:

- forecasting the country demand for fuels and crude oil products
- forecasting the development of infrastructure for storing, transport and distribution of crude oil products,
- balancing the country needs for crude oil products.
- acting as a dealer of oil products in Poland.
- realization of the country policy in the area of state reserves and special reserves for country defenses.
- current supplies with oil products all the industrial sectors, the army and individual consumers.
- dealing with and administration of special means of transport of oil products.
- retail sales and motorization services through a network of public petrol stations.
- dealing with reloading of crude products from the sea and land, in harbors and land reload tank farms.
- construction and production of specialized ancillary equipment for trade and transport of crude oil products.
- blending of products based on complements and semi-products as well as retailing of oil products (e. g. motor oils).
- information and technical assistance for individual consumers of liquid fuels, motor oils and lubricants with respect to their selection, proper and rational application.
- scientific and technical collaboration with foreign parties.
- research and development studies.

CPN activities are governed by many legal regulations — acts, decrees, decisions etc. In general statements of CPN Statute it was defined that the enterprise acts based on:



- Act on state owned enterprises (*Ustawa o przedsiębiorstwach państwowych*).
- Act on self-government of state owned enterprises (*Ustawa o samorządzie załogi przedsiębiorstw państwowych*).
- Decree by the Council of Ministers of November 30, 1981 (Journal of Laws, No 31 of 1981, item 170).
- Decision No 11/Org/83 of the Ministry of Chemical and light Industry of January 26, 1983 on establishment of state owned, public utility enterprise called : Centrala Produktów Naftowych — CPN. Ref. No EO-1/HP/01231/83.

Operation of CPN is governed by the following legal regulations:

1. Basic legal regulation on distribution of crude oil derivatives in the country with respect to wholesale and retail are contained in:
  - Statute of the enterprise.
  - Price list for the crude oil derivatives (informational part).
  - Resolution N 207 of the Council of Ministers of September 27, 1982 on contracts of sales and supplies between the state owned economic entities (Monitor Polski No 33 of 1986, item 247) with later amendments.
2. Legal regulations concerning transport.

- Act of November 15, 1984 — Conveyance Code (*Prawo przewozowe*) published in Journal of Laws No 53, of 1984, item 272) valid from July 1, 1985.

The Act defines regulations concerning transport of persons and goods by rail, by cars, planes and inland navigation means, performed against payment based on an agreement by authorized transporters excluding means of public conveyance in cities. The act defines in detail ways and types of contract agreement and range of duties and responsibilities of parties in the process of conveyance. Based on authorization contained in the Act a number of detailed executive regulations was issued as resolutions of the Council of Ministers and decisions and decrees by the Minister of Communication (then Ministry of Transport, Shipping and Communication and at present Minister of Transport and Sea Economy). Provisions of this Act apply also for international conveyance if it is not stated otherwise.

- Act of February 1, 1983 — Traffic Code (*Prawo o ruchu drogowym*) published in Journal of Laws No 6 of 1983, item 35, valid from January 1, 1984.

The act defines rules and conditions of cars and pedestrian circulation on public roads and rules of road utilization for other purposes than traffic. Provisions of this act bind also circulation on other roads than public roads e. g. on closed area of an enterprise if it is indispensable for evading dangerous situations in traffic. Specifically the act defines traffic rules (on

circulation of cars and pedestrians). order and safety on the roads (general rules. stoppage and pulling up). usage of traffic lights. conditions of cars usage. utilization of roads for special purposes. conditions concerning vehicles (technical. admission for traffic. technical examination of vehicles). conditions that are to be satisfied by the drivers. physical and psychological fitness. checking of qualifications and matters connected with traffic control. Respective ministers were authorized to issue detailed regulations in the above matters.

- Ordinance by Minister of Communication and Minister of Internal Affairs of December 2, 1983 on condition and control of road transport of dangerous substances (Journal of Laws No 67 of 1983. item 301 and No 42 of 1986. item 206). The ordinance is valid from January 1, 1984. except for provisions §17. it. 1. points 3 and 4 and §43. item 1 and 2 which are valid from May 1, 1984. The ordinance defines classification of dangerous materials from the point of view of kind of threats and enumerates the materials which are admitted for transport in Poland. Also ways of performance of reloading activities is described as well as way of packaging and setting. The required documents are listed such as: certificate on technical checking of a vehicle, safety instruction in case of danger. information of respective agency of the Ministry of Internal Affairs on such a transport. Detailed conditions under which such a transport may be performed are defined also for international transports — patterns of warning signals. license numbers. warning stickers and list of dangerous materials.
- Announcement of Ministry of Communication of November 28, 1986 on detailed specification in alphabetic order of all dangerous materials (Dz.T. i Z.K. No 15. item 121). valid from January 1, 1987.
- International regulations for railway transport of dangerous materials called RID. Valid from May 1, 1985.

The provisions contained there define classification of materials. defines packages in which such materials may be transported and way of checking of such packages. It contains regulations concerning materials and ways of construction of tanks. wagons. containers. ways of checking pressure containers. on usage of wagons with electric devices. regulations on radioactive materials. regulations on marking of rail tanks and containers. Defines kinds and types of warning signs and stickers.

3. Price formation for crude oil and crude oil derivatives are governed by an Act of February 26, 1982 on prices (Journal of Laws No 27. of 1988. item 195) and decision on treating prices of motor fuels as negotiable ones.
4. Legal regulations concerning environment protection are described in Chapter 7.

## 6.6 Prices, taxes and duties

The process of formation of prices for crude oil was described in section 4.2. In brief it may be stated that the price for crude oil is a transaction price multiplied by the actual exchange rate USD/zł plus a provision for CIECH. It was also mentioned that the price for crude oil transferred to southern refineries is increased by transport costs from Plock to these refineries and by the costs of operations connected with this transfer born by the sender (MZRiP).

Formally, price formation is governed by Act on prices (*Ustawa o cenach* of February 26, 1982, Journal of Laws of 1988 No 27, item 195) and the decision on treating fuels prices as negotiables (*ceny umowne*). According to the said Act, the General Director of CPN is empowered to issue in the form of his decision a Price list for crude oil products. The price list is worked out based on proposals of suppliers i.e. refineries and CIECH – PETROLIMPEX. As it was stated in section 4.2, proposals of the suppliers are created based on transaction price of crude oil and the calculated costs of processing.

CPN acting at the final phase of formation of market price for fuels issuing the Price list not only negotiates the prices with particular refineries but also sets the final price for fuels with the Ministry of Finance and the Ministry of Industry. The current Price List contains maximum prices for motor fuels. The policy of CPN with this respect can be backed by the events which took place in March 1991. The fixed prices for gasolines:

- Leaded gasoline 94 — 4100 zł/l.
- Leaded gasoline 86 — 3800 zł/l.

were decreased in the whole network of CPN to the level of:

- Leaded gasoline 94 — 3800 zł/l.
- Leaded gasoline 86 — 3500 zł/l.

Two explanations of this fact may be given:

1. An official one — a discount on gasolines sold to CPN by refineries.
2. An unofficial one — large, very profitable import of gasolines by private importers and trading companies outside CPN caused overflowing of tanks in refineries and CPN. Lowering prices caused an increase in demand for CPN products and allowed for disposing the reserves (threat of factual stopping production of refineries — no room for reserves).

High profitability of individual imports of gasolines at the beginning of this year was caused by relatively low taxes and duties. The duties were at the level of 12% and the tax on sales for the companies 24% and for individuals 40%. The refineries paid then 30%.

Increased demand for fuels caused lowering of high reserves, therefore the conditions were favorable for coming back to the prices contained in the Price list which happened on April 3. At the same time the fiscal regulations were changed:

- Duties remained at the level of 12%.
- Tax on sales with respect to import of gasolines was increased univocally for all importers up to the level of 90%, and for the fuel oil to 20%, in both cases tax is calculated on the purchase price increased by duties.
- Tax on gasolines for the refineries was set for 60% and for fuel oil on the level of 20% (in both cases as a percent of realization price)

The situation in the area of prices and taxes is presented in tables 6.6a, 6.6b, 6.6c, 6.6d and on following figures. Also some elements of price formation and fiscal policy of the State are presented there (data of April 1991). It results from the figures and tables that the tax burden for domestic producers only resulting from tax on sales is higher than for the importer (together duties and tax). It results from the fact that despite the lower tax rate, the tax basis in the case of domestic producers is much higher as it includes value of net sales from the refinery and the value of tax on sales (so called realization price). If the tax was transferred on the buyer from the refinery playing the same role as an importer – then the rate will be equal to 100% net value. Such a situation is a significant drawback for competitiveness of domestic production of the refining industry versus imports and may cause the same results as were observed at the beginning of the year i. e. drop of production which was not justified by costs of production thus caused only by fiscal policy.

Therefore the situation in the area of prices and taxes is far from being stable.

It must be concluded here that the fundamental for any restructurization process in the oil sector must be a creation of a price, tax and duties system based on clear rules as well as with defined rights and responsibilities of the involved parties. The system must be able to absorb changes in the world market on fuels and crude and help to harmonise them with the domestic market. It must take into account a long range policy with respect to the refining industry sustaining an opportunity for its revival and potential expansion. Leverage on import is to be used to exert on the industry pressure towards increasing its competitiveness and efficiency. This must be a part of a coherent and robust state policy encouraging competition within the oil sector (by proper organization of the industry).

Table 6.6a: Prices of basic refinery products in 1990 (CPN data)

Specification	3.01 - 31.06.1990			1.09 - 4.10.1990		
	Leaded gasol. 86	Leaded gasol. 94	Diesel oil 1 Ls	Leaded gasol. 86	Leaded gasol. 94	Diesel oil 1 Ls
I Purchase price at refinery (zl/kg)	2.700	2.900	1.700	3.600	3.600	2.250
II Tax as % of purchase price at refinery	53%	53%	44%	40%	40%	33%
III Prices :						
- sales price (zl/kg)	2.920	2.991	2.062	3.826	4.009	2.389
- wholesale price (zl/kg)	3.026	3.097	2.156	3.936	4.115	2.463
- wholesale price (zl/l)	2.235	2.325	1.635	2.903	3.103	2.113
- retail price (zl/kg)	3.117	3.163	2.233	4.065	4.244	2.565
- retail price (zl/l)	2.300	2.400	1.900	3.000	3.200	2.200

Specification	5.10. 1990 - 2.01.1991			3.01.1991		
	Leaded gasol. 86	Leaded gasol. 94	Diesel oil 1 Ls	Leaded gasol. 86	Leaded gasol. 94	Diesel oil 1 Ls
I Purchase price at refinery (zl/kg)	4.320	5.510	2.630	4.730	5.040	2.900
II Tax as % of purchase price at refinery	33%	33%	26%	30%	30%	20%
III Prices :						
- sales price (zl/kg)	4.460	4.650	2.730	4.890	5.160	3.060
- wholesale price (zl/kg)	4.590	4.760	2.830	5.000	5.290	3.160
- wholesale price (zl/l)	3.390	3.590	2.410	3.690	3.990	2.710
- retail price (zl/kg)	4.740	4.910	2.940	5.150	5.440	3.290
- retail price (zl/l)	3.500	3.700	2.500	3.800	4.100	2.600

Table 6.6b: Calculation of retail price of fuels from domestic production (in zł/t — CPN data)

Specification	Leaded gasol. 94	Leaded gasol. 86	Diesel oil ILs
Purchase price at refinery of basic gasoline	4.790.000	4.480.000	2.900.000
Ethylization costs (cost of ethyl liquid, detergent, dyes, other costs and 10% profit)	250.000	250.000	
Total	5.040.000	4.730.000	
Sales margin (overheads) (sales costs + 10% profit)	140.000	160.000	180.000
Sales price at storage tank	5.180.000	4.890.000	3.080.000
Wholesale margin (wholesale costs + 10% profit)	110.000	110.000	100.000
Wholesale price	5.290.000	5.000.000	3.180.000
Retail margin (retail sales costs, tax 1% of retail price and 10% profit)	150.000	150.000	110.000
Retail price	5.440.000	5.150.000	3.290.000
In zł/l	4.100	3.800	2.800
Density (g/cm <sup>3</sup> )	0.754	0.738	0.851

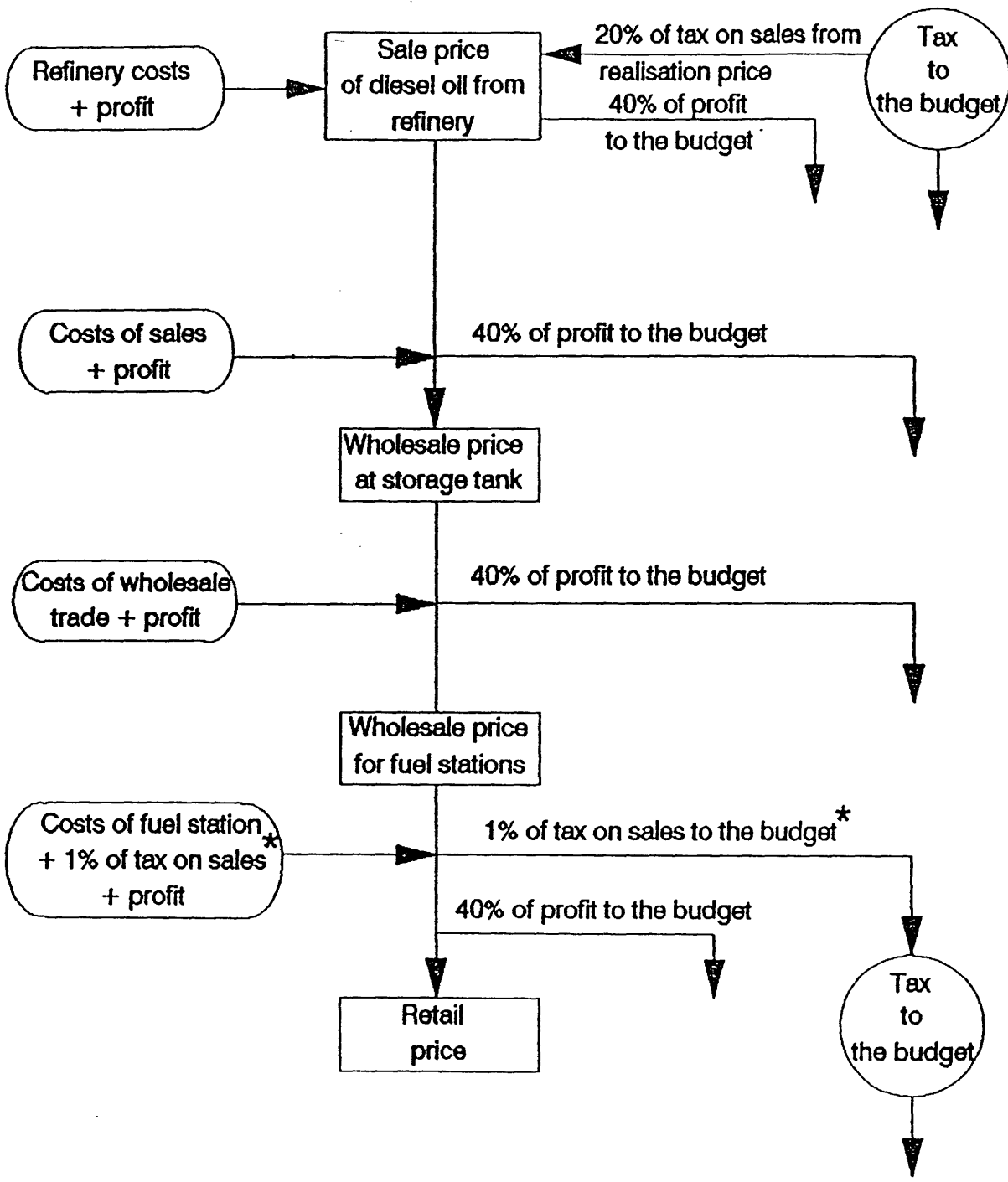
THE POLISH OIL SECTOR

Table 6.6c: Prices of fuels calculated according to stock quotations for 2.04.1991 — cargo CIF NWE basis Ara at exchange rate 1 USD/zl: current 9.547, 10.500, 11.500 i 12.500. Supply by sea (CPN data).

Specification	Costs at exchange rate 1 USD/zl			
	9.547 zl	10.500 zl	11.500 zl	12.500 zl
<u>Leaded gasoline 98</u> price: 233 USD/t	<u>in zl/t</u>			
value of product	2.224.451	2.446.500	2.679.500	2.912.500
duty 12%	266.934	293.580	321.540	349.500
tax 90%	2.242.246	2.466.072	2.700.936	2.935.800
total price	4.733.631	5.206.152	5.701.976	6.197.800
harbor costs	80.000	80.000	80.000	80.000
average transport costs incl. in sales provision	250.000	250.000	250.000	250.000
price at storage tank	5.063.631	5.536.152	6.031.976	6.527.800
	<u>in zl/l</u>			
price at storage tank	3.817	4.174	4.548	4.922
margins (overheads) by CPN (wholes. & ret.)	193	193	193	193
calculated price	4.000	4.370	4.740	5.120
retail price	4.400			
<u>Diesel oil</u> price: 171 USD/t	<u>in zl/t</u>			
value of product	1.632.537	1.795.500	1.966.500	2.137.500
duty 12%	195.904	215.460	235.980	256.500
tax 20%	365.688	402.192	440.496	478.800
total purchase price	2.194.129	2.413.152	2.642.976	2.872.800
harbor costs	80.000	80.000	80.000	80.000
transport costs incl. in sales provision	250.000	250.000	250.000	250.000
price at storage tank	2.524.129	2.743.152	2.972.976	3.202.800
	<u>in zl/l</u>			
price at storage tank	2.148	2.334	2.530	2.726
CPN margins (overheads) (wholes. and ret.)	175	175	175	175
calculated price	2.320	2.500	2.700	2.900
retail price	2.800			

Figure 6.6.c

### Prices & taxes for domestic production of diesel oil

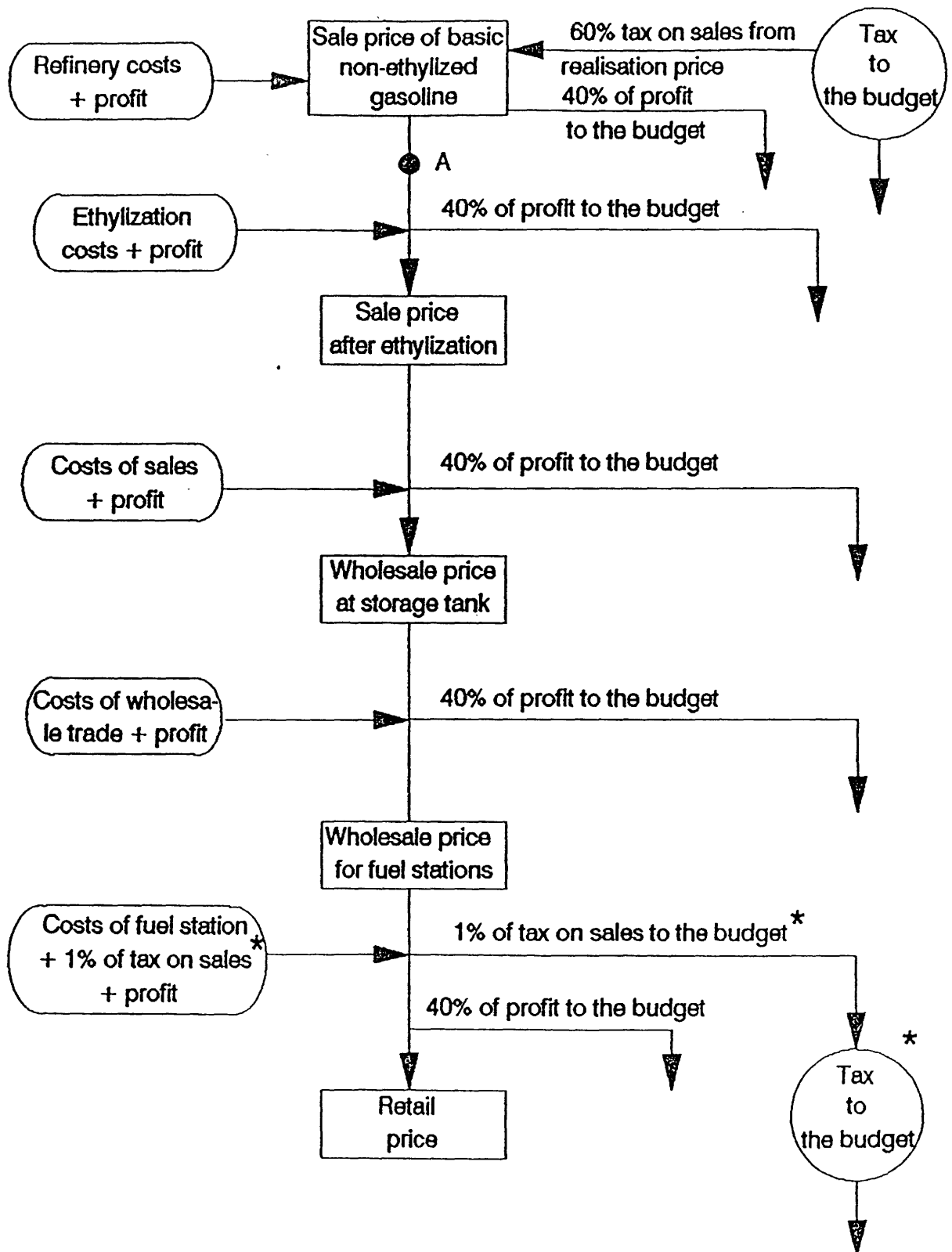


\* - valid until 1.03.1991



Figure 6.6f

## Prices & taxes for domestic production of basic gasoline

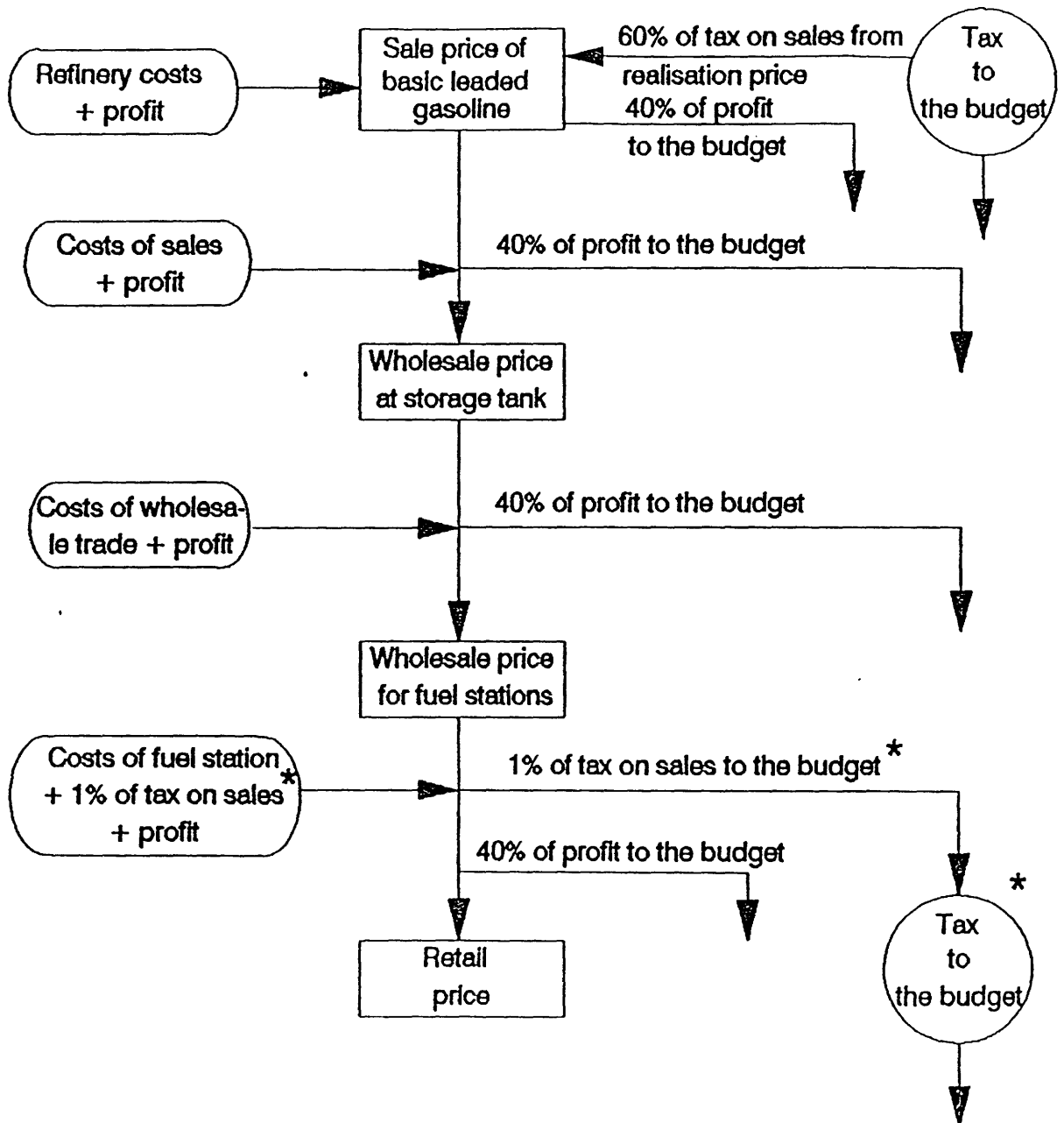


A - realisation price, basic non-ethylized gasoline sale from refinery

\* - valid until 1.03.1991

Figure 6.6g

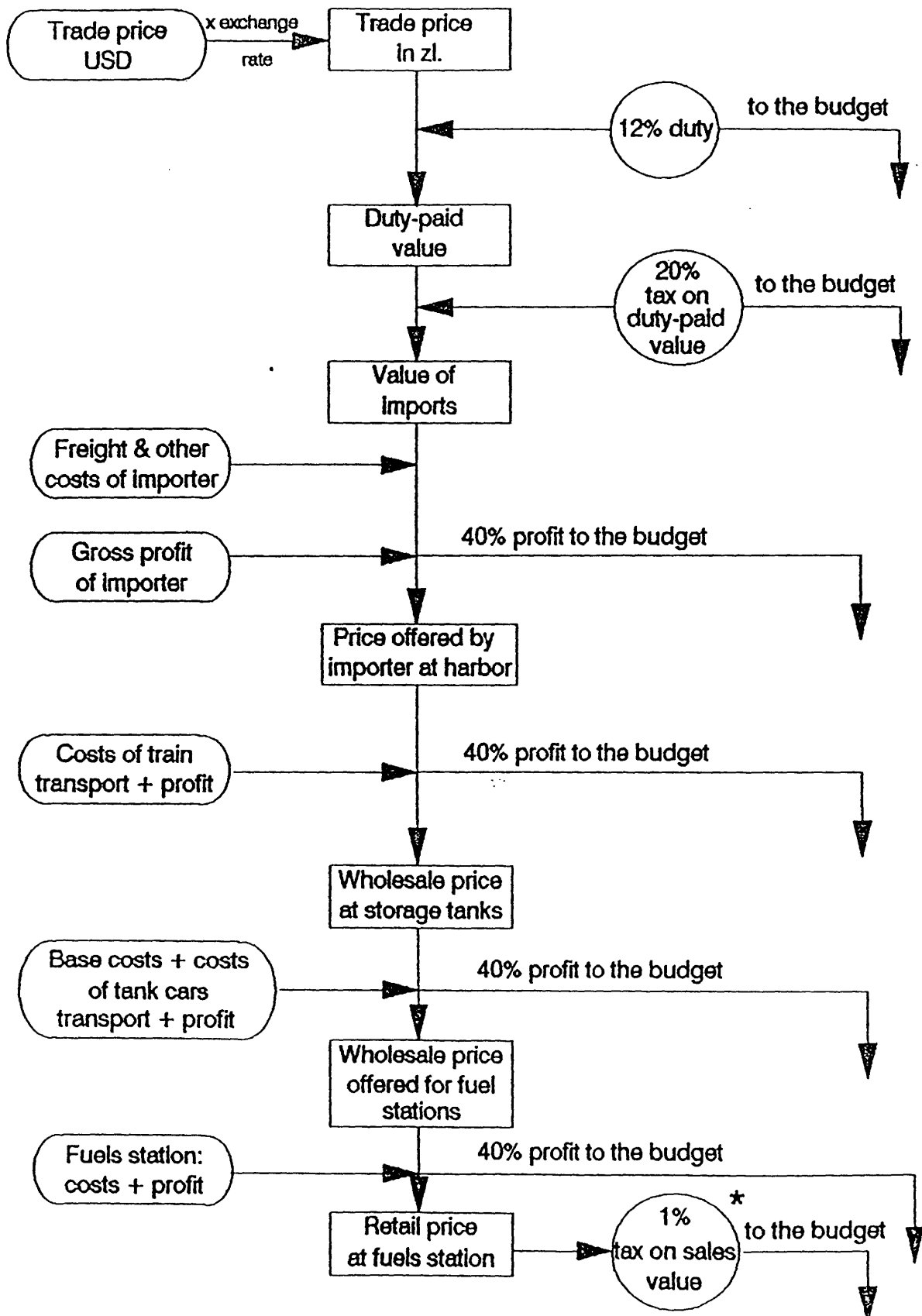
## Prices & taxes for domestic production of gasoline ET94



\* - valid until 1.03.1991

Figure 6.6h

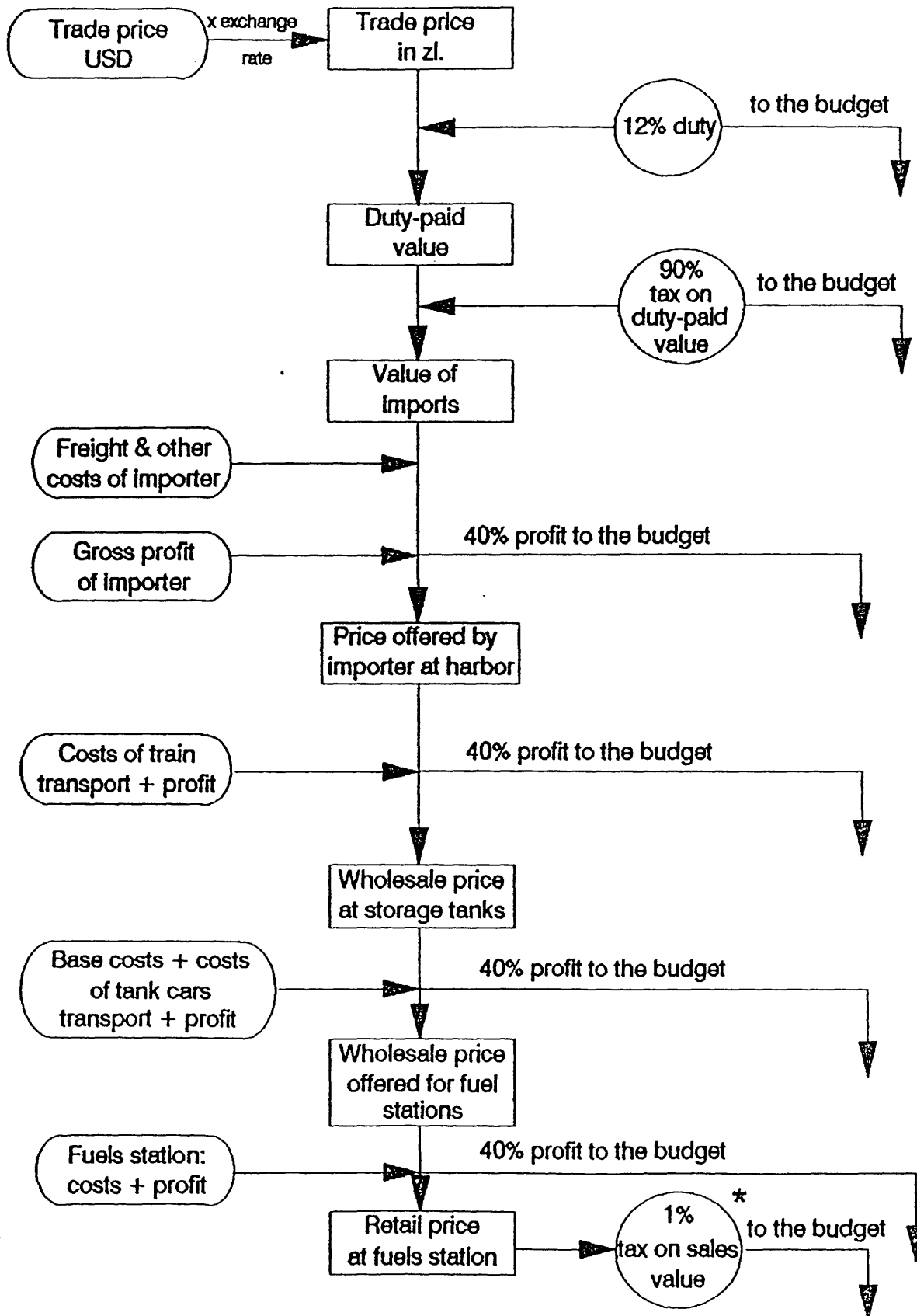
## Prices, taxes & duties in the case of imported diesel oils



\* - valid until 1.03.1991

Figure 6.6i

### Prices, taxes & duties in the case of imported gasoline



\* - valid until 1.03.1991

## 7 Environmental protection

### 7.1 Introduction

In this chapter a presentation of some aspects of environmental protection in Poland is made. Some problems related to the refining industry, especially with respect to quality of products and technologies were tackled in chapter 5. Let's start with some general comments.

General situation with respect to environment in Poland is very bad. An official document discussed further in this study, presents Poland as a country of ecological disaster. The problem in the country scale is illustrated in figure 7.1a. Despite of relatively good and complex legal framework with respect to environmental protection elaborated by the former communist government, the common practice frequently deviated from the accepted rules. Economic afflictions for the industry, resulting from pollution of the environment, were small in comparison with necessary investments in the area of environmental protection. As a result, investments for environmental equipment hold traditionally low positions in the ranking lists of necessary investments and often fell a victim of financial thrifts in industrial plants.

The long lasting crisis and resulting decapitalization and growing technological backwardness contributed to the bad situation. It was accompanied by growing social anxiety, which in view of lack of democratic institutions could not be well expressed. In the period preceding the political turning point, freedom of expressing views and opinions in this area did not however lead to any essential decisions and effective changes in industrial practice. It resulted, after establishment of new political system, in great social sensitivity (especially visible in the case of local authorities) to environmental hazards. The industry suffering from unstable management rules (see Chapter 3) is under great pressure, being at the same time totally unprepared for such a situation. It concerns specifically the mass media attacks which try to catch up with all the backlogs in the area of freedom of expression and in a very subjective manner, often unprofessionally, de facto shake any sense of industrial development. It concerns to a high degree the refining industry and all the investment in this sector. It results from the fact that no assessments are made (and become known to the public opinion), on net effects of restructurization i. e. replacing of old, obsolete technologies with new ones, both in direct neighborhood of the industrial plant and in global scale (as in the case of fuels). This system should be changed and stress should be put on economic rather than political or even emotional aspects. Public and institutional framework for environmental assessment should be created.

In consecutive sections of this chapter some basic legal aspects of environmental protection are presented, then comes section presenting statistic data depicting the current situation of the refining industry and assessment of environmental challenges. Then basic rules of the state policy and eventual direction of changes in the legal regulation, which are to be implemented in order to ameliorate the situation are presented.

Table 6.6d: Impact of tax policy on competitiveness of the domestic refining production versus imports (in zł/t)

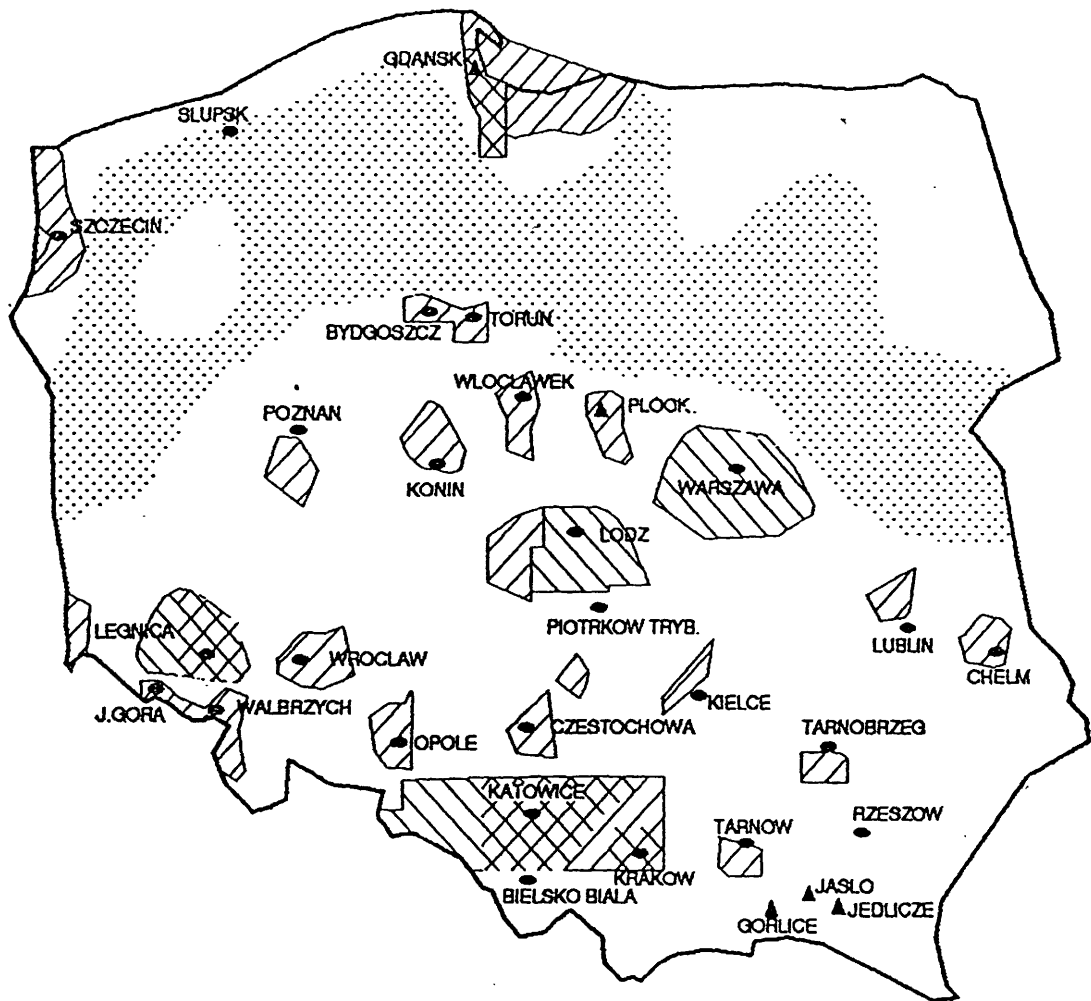
	Leaded gasoline	Diesel oil
Domestic production		
Price for not ethylized gasoline <sup>(1)</sup> (Paid by CPN to refinery)	4.790.000	2.900.000
Tax <sup>(2)</sup>	2.874.000	580.000
Tax rate	60%	20%
Net price obtained by refinery <sup>(3)</sup>	1.916.000	2.320.000
Tax/net price <sup>(4)</sup> (%)	150 %	25 %
Imports		
Purchase price CIF	233 x 9547 = 2.224.451	171 x 95547 = 1.632.537
Duty 12%	266.934	195.904
Tax	2.242.246	365.688
In total to the budget	2.509.180	561.592
(Duty + tax)/purchase price CIF (%)	112.8 %	34.4 %
(Duty + tax)/net price obtained by refinery (%)	130.9 %	24.2 %


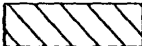
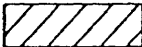


(1) This price includes tax (2) which is paid by the refinery. Therefore the net price obtained by the refinery (3) is lower and must cover production cost, net income and income tax.

To compare competitiveness of domestic production and the imports a ratio of budget charges and net price obtained by the refinery is presented.

Figure 7.1a

## Map of environmental hazards in Poland (Siting policy of the State in 1983 - 85)



-  - preference area for industrial siting
-  - ban on industrial siting
-  - areas of environment hazards  
(ban on siting of noxious industrial plants)
-  - refineries
-  - cities

## 7.2 Legal regulations

1. Resolution by the Polish Parliament of 31 January 1980 on protection and framing of environment is published in Journal of Laws of 1980. No 3. it. 6 while the amendments and modification are published in following documents: Journal of Laws of 1983. No 44. it. 201. Journal of Laws of 1987. No 33. it. 180. Journal of Laws of 1989. No 26. it. 139 and Nr 35 it. 192. Journal of Laws of 1990. No 34. it. 198 and Nr 39 it. 222.

The Act defines rules and regulations governing protection and rational framing of environment. aimed at securing for the present and future generations favorable living conditions and assuring rights to utilize environmental resources while preserving its value.

Following basic areas of environmental protection are distinguished in the Act:

- protection of soil surface and mining resources.
- protection of waters and sea environment,
- protection of atmosphere,
- protection of flora and fauna,
- protection of landscape values.
- protection of green areas in urban areas and in the country.
- protection against noise and other vibrations.
- protection against wastes and other pollutants.
- protection against radiation.

With respect to investment and environmental protection attention should be drawn to the following provisions. Requirements imposed by environmental protection as contained in plans for spatial development of a given area. are to be obeyed when location of a new investment is considered (Art. 69). Newly built or modernized construction or set of constructions cannot become operational if appropriate environmental protection devices had not been implemented.

The Act defines range of responsibilities of natural and legal persons utilizing the environment. competences of regional and state authorities as well as fines for not obeying the respective rules of the said Act.

2. Based on Art. 29 of the Act on environmental protection of January 31. 1980. the Minister of Environmental Protection. Natural Resources and Forestry, issued a decree of February 12. 1990 on air protection (Journal of Laws of 1990. No 15. it. 92). Basic provisions of this act are as follows:
  - Admissible concentration of air polluting agents is assessed separately for so called specially protected zones. and separately for the other areas.
  - A decision accepting emission of a fixed volume of a noxious agent, for a fixed period of time, is issued by appropriate administrative body (at the level of voivodeships).



Table 7.2a: Admissible concentration of polluting substances (in micrograms/m<sup>3</sup>)

No	Name of substance	Other areas			Protected areas		
		30 min	24 h	yearly avg.	30 min	24 h	yearly avg.
10.	benzene	–	10	2.5	–	10	2.5
25.	xylene	300	100	16	40	10	1.3
37.	SO <sub>2</sub> till 1998	600	200	32	250	75	11
	from 1999	440	150	32	150	75	11
40.	carbon monoxide	5000	1000	120	3000	500	61
41.	toluene	300	200	50	100	50	13
44.	carbon	150	50	8	50	20	4

- In order to obtain such a decision, an organizational unit is obliged to provide the authorities with the following documents:
  - description of the applied technology.
  - characteristics of particular emitters.
  - definition of working time and emission time.
  - characteristics of kind and volume of polluting agents from particular emitters.
  - description of purification units and their efficiency.
  - definition of circumstances under which the polluting agents are emitted to the atmosphere.
  - assessment of current and future level of air pollution.
  - time of emission and maximum concentration of emitted substances and their volume.
  - conditions of spreading of noxious substances.
  - plans of decreasing the pollution.

Appendix 1 to this decree contains values of admissible concentration of air polluting agents. Some examples concerning the oil sector are given in table 7.2a.

3. Based on Art. 86 of the Act on environmental protection, the Council of Ministers fixed by means of a decree of June 25, 1990, fees for environment utilization and alteration due to economic activities:

Table 7.2b: Selected examples of fees per 1 kg of polluting substance emitted in the air (in zł)

No	Name of substance	Fine
11.	Benzene	720
13.	Gasoline	1800
24.	TEL	28800
26.	SO <sub>2</sub>	270
27.	Phenoles	2160
34.	Xylene	720
42.	Dust	70
45.	Black	720
46.	Hydrogen sulfide	720
49.	Carbon monoxide	10
50.	NO <sub>x</sub>	270
53.	Aliphatic hydrocarbons	70
54.	Aromatic hydrocarbons	720

- Fees on emission of air polluting agents are fixed depending on their kind and volume.
- The fees are fixed and collected by a voivode (administrative head of a region).
- natural and legal persons involved in economic activities, emitting polluting agents to the atmosphere without a decision quoted above pay fees by 100% higher than fixed values.
- Up till January 31 of each year, natural and legal persons emitting polluting agents into the atmosphere are obliged to provide a voivode with a list of such agents emitted.
- In case such a list is not presented (or in case of delay or if some reservations may occur), the voivode is to charge fees according to his own decisions.
- In Cracow and Katowice regions, due to the high level of pollution existing there, the fees are higher by 100% than those given in the decree.

Examples of fees per 1 kg of emitted substance are presented in table 7.2b.

Daily fee on exceeding admissible limits on noise level per each dB(A) of excess value are as follows:

in the range	zloty
from 1 to 5 dB(A)	16.200
from 6 to 10 dB(A)	27.000
from 11 to 15 dB(A)	43.200
16 dB(A) and more	64.800/1 dB

4. maximum admissible concentration and intensity of noxious substances in human working environment were announced in a decree by the Minister of Labor and Social Welfare of December 1. 1989 (Journal of Laws of 1989, No 69, it. 417).

In the decree maximum admissible concentration of chemical and dust noxious agents in the human working environment are classified as follows:

- maximum admissible concentration — MAC (*Najwyższe Dopuszczalne Stężenie — NDS*) weighted average per 8 hours.
- maximum admissible momentary concentration — MAMC (*Najwyższe Dopuszczalne Stężenie Chwilowe — NDSC*) as an average value up to 30 minutes.
- maximum admissible threshold concentration — MATC (*Najwyższe Dopuszczalne Stężenie Progowe — NDSP*) which cannot be exceeded at any moment.

An exemplary specification of values of maximum admissible concentration of noxious agents in the human working environment for a refinery is presented in table 7.2c.

- maximum admissible concentration of industrial dusts containing less than 2% of silica is 10 mg/m<sup>3</sup>.
- maximum admissible noise level should not exceed 85 dB for 8 hours' exposition: maximum momentary value of A level of sound cannot exceed 115 dB.

5. Law on waters — Act of October 24, 1974 was published in Journal of Laws of 1974, No 38, it. 230 followed with amendments: Journal of Laws of 1980 No 3, it. 6. Journal of Laws of 1983 No 44, it. 201. Journal of Laws of 1989 No 26, it. 139. No 35 it. 192. Journal of Laws of 1990 No 34, it. 198, No 39, it. 222.

This law states that a special legal permission called *pozwolenie wodno-prawne* which stands for "water related legalization act" is indispensable for utilization

Table 7.2c: Maximal admissible concentration of noxious substances in the human working environment in a refinery

No	name of polluting agent	Max admissible concentration in mg/m <sup>3</sup>		
		MAC	MAMC	MATC
17.	Benzene	10	40	-
19.	Gasoline			
	- extraction	500	1500	-
	- for varnishes	300	900	-
23.	Butadiene	100	800	-
112.	n-hexane	100	400	-
127.	Xylene	100	350	-
157.	Naphtha	100	300	-
176.	TEL	0.05	0.1	-
188.	SO <sub>2</sub>	2	5	-
190.	Hydrogen sulfide	10	20	-
201.	Toluene	100	350	-
218.	Carbon monoxide	30	240	-

MAC — maximum admissible concentration weighted average per 8 hours.

MAMC — maximum admissible momentary concentration as an average value up to 30 minutes.

MATC — maximum admissible threshold concentration which cannot be exceeded at any moment.

of waters and waste waters disposal (Art. 20). Such a permission is issued by a chief officer of local administration (wójt, wojewoda) based on a special application called *operat wodno-prawny* submitted to the authority by natural and legal persons involved or intending to be involved in economic activities (Art. 30).

- Fees are charged for water consumption and waste waters disposal pursuant to the decree of Council of Ministers of January 13, 1988. (Journal of Laws of 1988. No 37. it. 295 and of 25 June 1990 Journal of Laws 1990 No 42. it. 243).
- Production plants that drain off waste waters to water flows or to soil without the legal permission quoted above are charged with appropriate financial fines. Amounts and rules of such fines are fixed by the Council of Ministers on June 25, 1990 (Journal of Laws of 1990. No 42. it. 244).

6. In 1979 Poland ratified a convention on protection of the Baltic Sea — Helsinki 1974 — announced in Journal of Laws of 1980. No 18. it. 64 and 65, where an Appendix HELCON 6/2 contains rules that are to be obeyed in the case of waste waters coming from crude oil processing.

Following means are to be applied in the existing refineries:

- Since 1987 storm water from contaminated areas is to be collected and conveyed to waste water treatment plant.
- Since 1994. cooling water is to be separated from other waters and protected from pollution with oils.
- Since 1990 waste waters are to be purified biologically or treated with any other efficient methods and the oil content (measured by spectroscopy methods IR) in waste waters should not exceed monthly average 5 mg/l. total waste dump should not contain more than 3 g /t of crude oil and other materials bound for processing.

### 7.3 The refining industry — assessment of environmental challenges

Crude oil refineries of basic significance, such as MZRI Plock, Gdańsk Refinery, Refinery in Czechowice and Trzebinia are located in the areas of environmental hazard (see figure 7.1a). It should be stressed that the refining and petrochemical complex in Plock is the main cause of hazard in Plock region, while other refineries constitute only a component of such hazards in their regions.

Volumes of waste waters conveyed to the Baltic Sea reception area and air polluting substances dumps are presented in tables 7.3a and 7.3b.

Table 7.3a: Dusts and gases emission

	Admittissible volume defined in decision	Real volume
<b>MZRiP — Płock</b>		
Dusts total (t/y)	<u>Remark:</u> for 50 existing emitters decision was issued on admissible emission only for 15 of them	1.031
Gases total (t/y)		81.299
including:		
— SO <sub>2</sub>		59.205
— NO <sub>x</sub>		4.579
— hydrocarbons		8.961
— CO	8.381	
— others	171	
Fines and fees for emission of polluting substances to the atmosphere in 1990 10.758 mil. zł		
<b>GZR — Gdańsk</b>		
Dusts total (t/y)	1016	26
SO <sub>2</sub> (t/y)	8.603	8.698
Nitric oxides (t/y)	1.330	1.155
Methyl chlorides (t/y)	9	111
Ethylene chlorides (t/y)	21	6
Benzo-pirene (kg/y)	175	0.3
Gasolines (t/y)	196	130
TEL (kg/y)	87.6	78.7
Aliphatic hydrocarb. (t/y)	—	39
Hydrogen sulphide (t/y)	18.6	1
Fines and fees for emission of polluting substances to the atmosphere in 1990 1.651 mil. zł		
<b>Śląskie Zakłady Rafineryjne in Czechowice</b>		
Dusts total (t/y)	<u>Remark:</u> In December 1990 an application was made and a respective study on atmosphere protection was elaborated in order to get an appropriate decision	572
Gases total (t/y)		1.680
Including :		
— SO <sub>2</sub> (t/y)		754
— NO <sub>x</sub> (t/y)		370
— hydrocarbons	459	
Fees and fines for emission of polluting substances to the atmosphere in 1990 652 mil. zł		

THE POLISH OIL SECTOR

Table 7.3b: Polluting agents contained in waste waters (in 1990)

	Admissible volume according to permit	Maximum acc. to HELCOM	Real volume
<b>MZRiP — Płock</b>			
Waste waters total (m <sup>3</sup> /24 h)	87.000	—	55.378
Load of toxic substances (kg/24 h)	19.140	—	10.934
Phenol (kg/24 h)	22	—	6
Ether extract (kg/24 h) (hydrocarbons - oil)	1.305	95	493
Suspension total (kg/24 h)	6.743	—	4.430
Fees and fines for waste waters dump in 1990 5.366 mln zł			
<b>GZR — Gdańsk</b>			
Industrial and sanitary wastes to Wisła - Przekop			
Max. Volume (m <sup>3</sup> /24 h)	9.600	—	6.409
Max. concentr. of toxic subst. (g O <sub>2</sub> /m <sup>3</sup> )	60	—	49,4
Hydrocarbons (g/m <sup>3</sup> )	5	5	1.52
Phenoles (g/m <sup>3</sup> )	0.2	—	0,01
Suspension total (g/m <sup>3</sup> )	30	—	18.13
Waste waters from draining systems to the Martwa Wisła river			
Max. volume (m <sup>3</sup> /24 h)	13.000	—	—
Average (m <sup>3</sup> /24 h)	5.000	—	2.861
Max. concentration of toxic subst. (g/m <sup>3</sup> )	84	—	77,4
Hydrocarbons max. (g/m <sup>3</sup> ) (ether extract)	10	5	2,0
Phenoles (g/m <sup>3</sup> )	0.2	—	0.11
Suspension total (g/m <sup>3</sup> )	30	—	29.0
Fees and fines for waste waters dump in 1990 294 mil. zł			
<b>Ślaskie Zakłady Rafineryjne in Czechowice</b>			
Total volume (m <sup>3</sup> /24 h)	<u>Remark:</u> no permit is granted	—	6968
Load of toxic substances (kg/24 h)		—	1931
Hydrocarbons (kg/24 h) (ether extract)		ok. 4	268
Fees and fines for waste waters dump in 1990 1.680 mil. zł			

Following conclusions may be drawn from the presented facts:

1. Only in the case of GZR Gdańsk, the situation with respect to decisions and permits for emission of pollutants to the atmosphere and dump of waste waters is clear and the factual volume of emission are not exceeded.
2. In 1990 the refineries paid fees and fines for emission of polluting agents:
  - MZRIp Płock ca. 1500 zł/t of crude oil.
  - GZR Gdańsk ca. 900 zł/t of crude oil.
  - ŚZR Czechowice ca. 5200 zł/t of crude oil.
3. Both in MZRIp in Płock and in ŚZR Czechowicach, modernization of technology and wastes treatment is indispensable for decrease of emission of polluting agent to the atmosphere and to the waters.

### **Basic rules of the new environmental policy of the state**

Minister for Environmental Protection, Natural Resources and Forestry worked out and published new rules of environmental policy of the state (November 1990). This study contains 6 chapters.

1. Prerequisites of the new environmental policy of the State.
2. Development taking into account ecologic aspects as a basis of state policy.
3. Organization of environmental protection, powers and responsibilities.
4. Priority areas.
5. Tools of environmental policy.
6. International collaboration.

For the sake of this study only the problems linked directly or indirectly to the oil sector were selected and are presented below. The numeration of chapters and items was preserved as in the original.

#### Chapter I

Pt 1 Poland, a country of ecological disaster faces a very difficult task of performing essential changes in ecological policy in view of far-going restructurization of the economic system of the country. A new development policy, taking into account environmental aspects should be of profit for environment, society and economy.

#### Chapter II

Pt 6 Areas of environmental hazards cover 11% of the total area of the country.

Pt 7 Efficient development policy should include all aspects of the Polish economy.



- Pt 8 New rules of ecological policy impose the necessity of reconstruction of the legal system and creation means for keeping its provisions.
- Pt 9 Prevention should be the main rule — i. e. liquidation of pollutants at its source.
- Pt 17 Rationalization of energy management is to be stressed — among others gradual changes in consumption structure of energy carriers towards less hazardous ones is to be considered.
- Pt 21 Restructurization (and modernization) of the industry should lead to:
- decrease in energy, water and resources consumption.
  - wider implementation of wasteless technologies, closed water circuits, wastes utilization, hermetization of production processes.
- Pt 24 Decrease of environmental harms caused by transport — development of motorization depends on production capacity and imports of vehicles and machines with diesel engines characterized by low emission of polluting agents, assuring supplies of international standards, reconstruction or elimination of engines for leaded gasoline and acceleration of start-up of production of unleaded gasoline and catalysts.
- Pt 26 The Governemnt policy with respect to water resources will consist in:
- lowering admissible concentration of polluting agents in waste waters conveyed to sewage, waters and soil and introducing progressive fees for their dump.
  - increase economic means in order to force lowering of water consumption and closing water circuits in industry and energetics.

#### Chapter IV

##### **Pt 55 Short term priorities for 3-4 years**

- 1 liquidation, alteration of production profile or realization of protection tasks in extraordinary course in the plants dumping the noxious substances — it will concern 80 plants of country scale list and 500 plants of regional scale.
- 3 significant decrease of emission of dusts and gases in zones of ecological hazards.
- 7 start-up of a program for decreasing harms caused by communication and transport.

##### **Pt 56 Medium range priorities up to year 2000**

- reduction of SO<sub>2</sub> emission to the atmosphere by 30%.
- reduction of NO<sub>x</sub> emission to the atmosphere by 10%.
- reduction of emission of volatile substances, organic hydrocarbons including benzo - a - pirene, heavy metals and other pollutants.

Pt 57 With respect to water treatment, reduction by 50% charge of polluting agents conveyed from urban areas and industrial plants to the rivers.

Chapter V

Pt 62 A complex novelization of binding acts on environmental protection and linked acts such as water code, mining code, building code etc.

Pt 69 Values of fees and fines will be raised by 150% in 1991.

Pt 70 It is foreseen to implement environmental overhead on fuels, first on crude oil and gas.

## 8 Investment and construction problems

### 8.1 Introduction

This chapter covers practically the two basic legal areas on investment. First is the one that deals with legal aspects of new investments in terms of permission to locate a new plant and the second one deals with the crucial for the future of the Polish economy legal aspects of foreign investment in this country.

Unfortunately little is to say about investment in the refining industry or oil sector in general. This vital area came into practical standstill (except for some important modernization effort). The sector is longing for new investment. Its readiness for such effort can be reflected in a number of feasibility studies concerning all major enterprises (including new locations of refining industry — so called Southern Refining and Petrochemical Complex).

To report on this, a separate study is required, which goes beyond the scope of this report. However it can be expressed here that should the process of organizational restructurization be successfully launched, it definitely will provide a very favorable ground for revitalization of the whole industry and consequently, due to the scale of the whole market, the investment will follow.

### 8.2 Legal framework

1. Construction Code (Prawo Budowlane) is an act of key importance in the area of investment — Act of October 24 1974, published in Journal of Laws of 1974, No 38, it. 229 with following amendments: Journal of Laws of 1981, No 12, it. 57, Journal of Laws of 1983, No 44, it. 200 and 201, Journal of Laws of 1984, No 35, it. 185 and 186, Journal of Laws of 1987, No 21, it. 124, Journal of Laws of 1988, No 41, it. 324. This act gives legal norms concerning land utilization according to local Site Planning Programme (*Plan Zagospodarowania Przestrzennego*) as well as design, construction, maintenance and pulling down of buildings. It defines operation rules for regional and state administration authorities in these areas (Art. 1, it. 1). This act does not apply to mining sector since it is governed separately by the Mining Code and to machines, means of transport, mechanical, electromechanical and electrical devices and other machines utilized directly in the production process and processing of products, semi-products and raw materials (Art. 1, it. 3). Pursuant to the Construction Code, the buildings may be erected only on land devised for this purpose according to regulations on Site Planning Programme of a given area (Art. 3). Before any construction process can be started following legal steps must be undertaken by an investor:

- first so called application for location indication is to be made to appropriate local authorities, then based on Site Planning Programme of the region in question, local authorities may issue a document called site indication (*wskazanie lokalizacyjne*) which is valid for 6 months.
- the next stage is an application for decision on fixed location establishment (*decyzja o ustaleniu lokalizacji*), the local authorities after examination of

the application and attached documents will issue a decision on siting (*decyzja lokalizacyjna*) which is valid for 2 years during which the construction process must be started:

- then design documentation must be approved and a building permit (*pozwolenie na budowę*) is issued.
- at last, when the construction is completed, after controlling the accordance with all the respective regulations, a permission for utilization is issued.

Each construction process is to be in accordance with provisions contained in the Construction Code, decrees and regulations issued based on this Code, relevant acts and resolutions (Law on waters, Act on environment protection, Act on Site Planning) and should satisfy norms, standards and rules of construction art. It is assessed that this legal area is governed by ca. 3500 different legal acts.

2. Second legal act of basic importance for any investment planning is an Act on Site Planning of July 12, 1984 (*Ustawa o planowaniu przestrzennym*) with amendments of 1989 included in: Journal of Laws of 1989, No 17, it. 99 (uniform text), Journal of Laws of 1989, No 34, it. 178, Journal of Laws of 1989, No 35, it. 192. This act defines scope, way of preparation and acceptance of Site Planning Programmes. In a decree by the Council of Ministers issued pursuant to the authorization contained in Art. 36 and 38 of the said Act, the breakdown of construction investments is presented as well as special regulations concerning the localization. The decree was announced in Journal of Laws of 1985, No 31, it. 140, Journal of Laws of 1988, No 33, it. 250, Journal of Laws of 1990, No 4, it. 22, and codified regulation of Journal of Government Regulations *Monitor Polski* of 27 February 1990, No 11, as an appendix to Announcement of the Minister of Spatial Programming and Construction. Pursuant to this decree three groups of constructions according to their significance are distinguished:
  - of national importance.
  - of regional (voivodeship) importance
  - of local importance

Among those of national importance are (only those connected with the oil sector are presented here):

- Item 1 construction of mining plants dealing with extraction of mineral resources (subject to Mining Code), and plants dealing with extraction of mineral resources not governed by the Mining Code if the volume of extraction does not exceed 500 th t/year.
- Item 2 construction of pipelines for transport and distribution of gas fuels in national gas distribution system and crude oil pipelines of national importance,
- Item 5 industrial investment qualified as central investment and investment causing labor increase surpassing 500 persons.
- Item 11 construction of sea harbors.

Item 12 construction of inland harbors,

Item 18 other constructions of particular importance for the national economy, qualified to this group by the Central Planning Agency (*Centralny Urząd Planowania*).

**Investment of regional significance are:**

Item 1 construction of pumping stations and reloading stations for natural gas, bottling plants and mixers for liquid gas, pipelines for gas and crude oil derivatives for the use of the region.

Item 2 investment in the industry excluding investment of local and country significance,

Item 8 investments in the area of waters economy, waters protection against pollution, provision of water and sewage facilities of regional range.

Item 14 all constructions in the area of sea harbors and inland harbors.

Item 16 construction of plants dealing with extraction of mineral resources being not governed by the provisions of the Mining Code if the level of extraction does not exceed 500 th. t/year.

**Investment of local significance are all those not mentioned as of regional or country significance.**

The siting of investment is performed in two stages:

- Stage I — acquiring of a Site Indication document (*wskazanie lokalizacyjne*),
- Stage II — acquiring of a Site Acceptance (*decyzja lokalizacyjna*).

In order to obtain the Site Indication document mentioned above an investor applies for site indication. The application should include a general characteristics of the investment and requirements connected with its realization and further utilization — in particular:

- size and kind of investment expressed in size of indispensable land, number of employees, volume of production or services and characteristics of basic buildings,
- requirements with respect to communication services, water and energy supplies and wastes disposal,
- other information depending on the type of construction,
- for investments included as harmful to environment and human health (Decree by the Minister — Head of Department for Environment Protection and Water Economy of March 27, 1985, published in *Monitor Polski* of 1985, No 8, it. 74) and for investment that could cause deterioration of the environment state, a survey should be attached presenting foreseen environmental impact, the survey is to be elaborated by a qualified expert.

The Site Indication document is valid up to 6 months.

After obtaining the above document the next stage is application to respective administrative authorities for a Site Acceptance (*Decyzja lokalizacyjna*). The application should include:

- description of architectural and construction concept of the future investment.
- two copies of geodetic maps with land improvements presented.
- excerpts from land registers.
- copies of documents presenting required by detailed regulations opinions by respective state administration bodies and other units (e. g. Department of Environment Protection, Sanitary Inspector, Commanding Office for Fire Brigades etc. ).
- for investments particularly deteriorating for the environment and human health a complex assessment of impact of this investment on the environment should be attached.

The Site Acceptance is valid for 2 years during which the realization plan should be presented for acceptance and building permit is to be obtained.

Following comments should be made here:

- Acquisition of the Site Indication Document should not be treated as a promissory note for getting a Site Acceptance. It is a document indicating to a possibility of siting the investment in a certain area under the condition that further agreements and opinions gathered at the stage of preparation of application for Site Acceptance are positive.
  - The Site Acceptance enables the purchase of land and the elaboration of design documentation for the investment including a realization plan being a basis condition for obtention of the building permit. It means that a Site Acceptance is not equal to a building permit. At the moment of purchasing the land from private owners — legal and natural persons— some impediments may be faced connected with definition of factual land owners with appropriate notarial confirmation of ownership.
3. Another legal act connected with location of construction is an Act on land utilization and expropriation of real estates of April 29 1985 (Journal of Laws of 1989. No 14. it. 74. No 29. it. 154, Journal of Laws of 1990. No 14, it. 90. No 34 it. 198). and Act of September 29, 1990 (Journal of Laws of 1990, No 79. it. 464)
- a) The following types of owners are distinguished by the act:
- State Treasury.
  - Community (*gmina*),
  - legal persons (e. g. enterprises. institutions).
  - natural persons.

- b) The land being in possession of State Treasury or Community can be sold to natural and legal persons or given them for perpetual utilization (for 40-99 years), leased or rented. In the case of sale or perpetual utilization of the land an appropriate agreement should be prepared and an appropriate registration must be made.
  - c) A real estate may be expropriated on the benefit of State Treasury or Community in case it is indispensable for social purposes (Art. 50). Expropriation procedure may be followed only if an estate cannot be purchased by means of an agreement (Art. 52). Expropriation can be performed only to the benefit of State Treasury or Community (Art. 53).
  - d) To assess the value of land (built over and empty), special experts from a list of voivode are designated or other authorized persons (Art. 44).
4. Based on Art. 6 of the Construction Code, a decree of Minister of Administration, Land Development and Environment Protection was issued on July 3, 1980. The decree defines technical conditions required in the construction process of the buildings — houses, public utility buildings, and production plants. (Journal of Laws of 1980, No 17, it. 62).
  5. Minister of the Chemical Industry<sup>8</sup> by a decree No 36 of April 21, 1971, implemented temporary indications on fire protection in the refineries. The regulations concern designing, realization and utilization of buildings and other facilities from the point of view of protection against fire.
  6. The Minister of the Chemical Industry and the Minister for Regional Economy and Environment Protection, by a decree No 4 of May 28, 1973 defined rules of construction of crude oil and oil derivatives tank bases and pipelines for these products (published in Construction Journal *Dziennik Budownictwa* of 1976, No 6).

A proposal for updating of these rules was elaborated by CPN and conveyed to the Ministry of Industry for legislation procedure on April 11, 1989.

7. Construction and operation of liquid fuels stations are governed by provisions of a decree by the Minister of Internal Affairs and President of the Committee for Construction, Town Planning and Architecture, of June 11, 1962 (Journal of Laws of 1962, No 40, it. 174) and an amendment to this act of November 12, 1963 (Journal of Laws of 1963, No 51, it. 285). The quoted decree apart from fire protection regulations, defines requirements with respect to siting and conditions of reloading of liquid fuels.

A proposal for updating of these rules was also elaborated by CPN and conveyed to the Ministry of Industry for legislation procedure on April 5, 1989.

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<sup>8</sup>The Ministry of Industry took over responsibilities of this ministry after changes which results in merging ministries, especially the Ministry of Chemical Industry.

8. With respect to sea harbor are binding the regulations of a decree by the Minister of Foreign Trade and Sea Economy of February 24, 1981 on fire security in sea harbors and havens (Journal of Laws of 1981, No 5, it. 20). The quoted decree defines conditions of reloading of crude oil and its derivatives in sea harbors and havens.
9. A decree by the Council of Ministers of September 1980. defines rules of formation and establishment of protected zones (Journal of Laws of 1980, No 24. it. 92). The above regulation states that a special area called protected zone is to be established around a source of noxious substances or pollution impacting the environment, and defines duties of respective development of such areas.

### 8.3 Investment with foreign capital share

A synthetic view on legal regulations governing foreign investment in Poland is given below. First, a currently binding Act is presented and then the foreseen amendments that are to be presented to the Parliament by the Government in order to create more favorable conditions and to facilitate foreign investment in Poland. It proves the strong will of the Government to create the most favorable conditions to encourage foreign investment in Poland.

Current legal regulations are contained in an Act of December 23 1988 on Economic Activities with Foreign Capital Share (*Ustawa o działalności gospodarczej z udziałem podmiotów zagranicznych*, Journal of Laws of 1988. No 41, it. 325) with amendments of December 28. 1989 (Journal of Laws of 1989. No 74. it. 442) and provisions of the Commercial Code included in a decree by the President of the Republic of Poland of June 27, 1934.

Following rules of creation of joint ventures are defined in this Act:

- Range of activities: production, construction, trade and services, performed on profit basis (Art. 1. it. 2).
- Above activities can be performed by limited liability companies or joint stock companies, and the foreign capital share cannot be lower than 20% of the basic capital of the company (Art. 2. it. 1) and not less than 50.000 USD (Art. 16. it. 4).
- To create a joint venture company a permit from the President of Agency for Foreign Investment, is indispensable (Art. 5 it. 1).
- Such a permit should also be acquired for: transfer of shares or stocks between partners, purchase of shares or stocks by a new partner and making changes in the founding act of a company (Art. 5. ust. 2).
- Such a permit is not issued in case the company activities (Art. 6. it. 1):
  - threaten the economic interests of the state,
  - are a serious threat for environment.



– are not purposeful with respect to country defenses and safety.

An application for the said permit should define (Art. 10, it. 1):

1. Partners
2. Range and kind of economic activities (including range of imports and exports),
3. Foreseen duration of the company's operation.
4. Means indispensable for a start-up of the company's activities including volume of the basic capital.
5. Proportion of shares in the basic capital of the company brought by the partners and forms of their input.
6. Location of the company and location of its production plants.

Following documents should be attached to the application:

1. Proposal of a founding act of the company pursuant to the provisions of Commercial Code.
2. Documents presenting legal and financial status of the would-be partners.
3. Feasibility analysis of the projected company.

After getting the permission (up to 2 month after presenting a complete application with all the attachments required), the company is registered at appropriate court (Art. 12, it. 1.2). Two weeks after the registration, the board of the company should send to the President of the Agency for Foreign Investment an excerpt from the register books and copy of the founding act of the company (notary act). Registration of the company in commercial register is equal to creation of a company which obtains at this moment the legal personality. Following fees are charged: fee for issuing of permit, court fees, notarial fees and duties. Notarial fee is equal to 3% of basic capital of the company and thus constitutes a significant item.

The inputs to the basic capital may be brought both in cash and in kind (Art. 16). Value and type of shares in basic capital should be defined in the founding act of the company. Duties and other fees for import (tax on imports) are not charged for (Art. 30):

1. Items constituting input in kind to the basic capital of the company in form of machines, equipment and other means for performing the economic activities defined in the permission.
2. Machines and other equipment indispensable for performing economic activities of the company as defined in the permission in case they are purchased (imported) in the period of three years from the foundation of the company.

The profit of the company decreased by due income tax is distribution profit (Art. 17, it. 3). Profit after tax is divided proportionally to the shares of particular partners in the basic capital of the company. Other distribution of profit after tax, is possible only after an appropriate permission is granted by the President of Agency for Foreign Investment. During three years from the start-up of the economic activities (date of the first invoice), the company does not pay income tax (Art. 28, it. 1). After that period the rate of income tax is 40%. The company pays tax on sales, agricultural tax, tax on property and local taxes, duties, fees for communal funds pursuant to appropriate regulations concerning legal persons. No tax on excess salaries is charged (Art. 32, it. 5)<sup>9</sup>. Should the activities of the company be performed in the preference areas defined by the Council of Ministers, tax exemption may be prolonged to the further three years.

The partners may use their share in profits for extension of basic capital without a separate permission if such extension does not change the proportion of shares of particular partners as defined in the permission granted by the Agency (Art. 21, it. 1). Foreign partners may, after paying appropriate tax transfer abroad without any currency permissions, sums from sale of shares or stocks and the due sums after liquidation of the company (Art. 21, it. 2). Transfer of profits is limited to net value of profit in foreign currency + 15% of remaining profit. After a separate permission is granted, a company can set accounts in foreign banks. Without any separate permission, a company can apply for loans in foreign banks (Art. 22, it. 3, 4).

State land allotments can be given to the companies on terms of:

1. perpetual utilization.
2. lease.

Companies may purchase and lease land and other property not being in possession of the State pursuant to relevant regulations (Art. 26).

Provisions of this act do not respond to needs of development of companies with foreign capital share. Therefore the Council of Ministers on February 19, 1991 accepted and motioned towards the Parliament a new proposal of the Act on foreign investment. New act contains 4 chapters and 31 articles. Essential changes as foreseen in this proposal are as follows:

1. A rule of full transfer of profit and capital is introduced (Art. 16).
2. Three year tax exemption is abrogated. In transitive period, up till December 31, 1993, individual decisions on exemption of taxes can be made by the Minister of Finances up to the value of an input of a foreign partner into the basic capital of the company if such share exceeds 2 mil. ECU (ca. 2.8 USD), and the company is involved in production activities, construction or telecommunication services.
3. Permission for establishing a company is indispensable only for certain areas of activities such as:

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<sup>9</sup>This tax due to very tough monetary policy of the Government is applied to state owned enterprises: for every unit rise of salaries (above certain norm) company is taxed 5 units. This is meant to discourage inflationary pressure by employees

- railway and sea transport.
- operation of harbors.
- production of high-power energy.
- sanitary engineering.
- provision of electrical energy, gas and heat for individual consumers.
- real estate agencies.
- urban communication in towns of more than 100 th. inhabitants.
- and in the areas when concessions are required as results from separate regulations.

In other areas of activities no permission is necessary for establishing of a company. However permissions are to be granted for:

- Lease agreements for the period longer than 6 months of the entire state enterprise or communal enterprise.
- Purchase of shares or stocks in existing companies which perform activities in restricted areas (Art. 5).
- Purchase of shares and stocks in companies being state or communal legal persons or entering of such persons to the company if the net value of the company exceeds the sum in zloty equal to 5 mil. ECU (ca. 7 mil. USD), and the foreign partner gains more than 50% of votes.
- Threshold value of 50.000 USD as minimum input of foreign investor is eliminated.
- So called *grandfather clause* is implemented i. e. the regulation assuring that the companies which acquired permission for establishment of a company and did not start operation or applied for such a permission pursuant to regulation of the Act of 1988. are exempted from taxes for the period foreseen in the Act of 1988 (Art. 26).
- A *loss carry forward* rule is implemented for 3 years i. e. possibility of writing off losses incurred in a given accounting year from the tax basis in the period of 3 consecutive years.
- A rule of so called accelerated depreciation may be applied by the companies.
- An auto-correction (i.e. by the Government) to this proposal of new Act was also proposed recently (May 2. 1991) — on liquidation of the Agency for Foreign Investment and creation of State Agency of Foreign Investment within the Ministry of Ownership Transformation. It is assessed that in coming months, the Parliament will resolve new Act on foreign investment which as it can be seen clearly from the above, will be more favorable for foreign investors than the current one.

Remark:

Apart from the quoted Act on foreign investment with foreign capital share, since 1982 new production and trade companies have been founded in Poland based on Act on small enterprises founded by foreign legal and natural persons (*Ustawa określająca zasady prowadzenia drobnej wytwórczości przez zagraniczne osoby prawne i fizyczne* — uniform text of the Act published in Journal of Laws of 1989, No 27, it. 148, with modification in Journal of Laws of 1989, No 74, it. 442). Based on this act several hundred of small firms were created mainly with share of foreign investors of Polish origin and many of them are very successful.

## 9 Summary and conclusions

As it was mentioned in the Introduction this study is carried out in a very challenging moment for Poland as a country and specifically for its oil sector. This sector emerges after almost half a century of highly distorted development being biased by the pathology of the energy sector dominated by coal. The sector is supplied by a single pipeline to the Soviet crude oil. The alternative pipeline coming in from the Baltic sea shore was never sufficiently used however saved Poland from total dependence on the Soviet crude oil. This dependence was even greater due to chronic shortage of convertible currency, a sad attribute of the centrally planned economy.

Now the country faces a period of a very fast transformation of its economy from the so called centrally planned economy model which abruptly speaking was in shambles for more than a decade of ever-deepening crisis. The economy is at present still dominated by heavy industry with large proportion of a backward steel sector, and strongly dependent on coal production. The above situation is even worse due to the grave environmental situation of the country. The public approach is also of importance here. After years of the oppressive bans on the public concern with respect to ecological threats, now the public reaction is naturally tied to the opposite swing of pendulum being extremely hostile against any development of large scale industry. The public is very sensitive to environmental issues.

To the certain contrary to this picture the organization of this industry though far from any Western standards was performing relatively well based on rather good tradition of performance and organization of refining and petrochemical industry, despite its size being very much below any sensible proportions of the corresponding sectors in the West. The challenge of the current period can be summarized in something that may be called a Polish paradox.

With all the above in mind the oil sector with its technological backwardness and sort of far going loosening of organizational ties performs surprisingly well showing great flexibility and vitality in the newly emerging market conditions. But this paradox may not last long as it offers a unique opportunity of innovative changes and restructurization of the sector since all the main actors: refineries and wholesale as well as distribution and retail are open to the necessity of changes while the conservative past seems not to be an obstacle any more. So it can be summarized as: "now or never" situation.

The assessment of the oil sector, attained so far, shows that it has been traditionally organized in a way that does not correspond to the Western trends of vertical organization. Its formal framework kept separate organizations dealing with acquisition and production of crude, foreign trade, refining as well as wholesale and retail of fuels. On each level of the vertical integration path, the Polish industry was organized traditionally as a chain of monopolies which collaborated between themselves in kind of a mixture of administrative and economic way.

This seemingly peculiar kind of organization, often difficult to understand by the western standards, produced structures that from engineering and technological point of view were surprisingly able to perform. This was due to the a heavy involvement by skilled staff and also a high engineering and maintenance know-how which paid off

through substantial effort devoted to keeping up aging technology.

Among many difficulties that could jeopardise the Polish economic reforms are also inappropriate legal regulations concerning organizational structures of the state owned enterprises that were formed in different social, economic and political situation of the country.

Following can be enumerated here:

- **Lack of factual owner of an enterprise with clearly declared competences and range of responsibilities** — neither managing bodies of the enterprise nor the the founding body. e. g. Ministry of Industry play this role.
- **Position of the director in a state owned enterprise is very weak.** Pursuant to Act on state owned enterprises the director is appointed by the employees council.

In many developed countries there are state owned refineries and other plants but they operate under similar market conditions to the private companies. From that follow such legal regulations must be created which would allow for creation of appropriate structures, clear distribution of competences and responsibilities so that the Polish state owned enterprise could operate normally and effectively in a market oriented economy.

APPENDIX 1

INDEX OF ENTERPRISES

## Specification of enterprises presented in the Index

1. Centrala Importowo Eksportowa Chemikalii CIECH. spółka z o. o. — Central Agency for Import and Export of Chemical Products CIECH. a limited liability company.
2. Przedsiębiorstwo Eksploatacji Rurociągów Naftowych PERN — Enterprise for Pipelines Exploitation.
3. Dyrekcja Eksploatacji Cystern DEC — Directorate for Rail Tanks Exploitation DEC (see CPN).
4. Przedsiębiorstwo Polskie Górnictwo Naftowe i Gazownictwo PGNiG — Polish Oil Mining and Gas Engineering — PGNiG.
5. Port Północny (Morski Port Handlowy) — Sea Commercial Harbor in Gdańsk.
6. Mazowieckie Zakłady Rafineryjne i Petrochemiczne MZRiP w Płocku — Refining and Petrochemical Plant in Plock MZRiP.
7. Gdańskie Zakłady Rafineryjne GZR — Gdańsk Refinery.
8. Śląskie Zakłady Rafineryjne w Czechowicach-Dziedzicach — Refinery in Czechowice Dziedzice.
9. Rafineria Nafty w Trzebini — Refinery in Trzebinia.
10. Podkarpackie Zakłady Rafineryjne w Jasle — Refinery in Jaslo.
11. Rafineria Nafty GLIMAR w Gorlicach — GLIMAR Refinery in Gorlice.
12. Rafineria Nafty w Jedliczach koło Krosna — Refinery in Jedlicze by Krosno.
13. Centrala Produktów Naftowych CPN — Central Agency for Crude Oil Products.



CIECH — CENTRALA IMPORTOWO EKSPORTOWA  
CHEMIKALII, SPÓŁKA Z O. O.  
CENTRAL AGENCY FOR IMPORT AND EXPORT OF  
CHEMICAL PRODUCTS

1. Centrala Importowo Eksportowa Chemikalii Sp. z o. o. CIECH.  
Central Agency for Import and Export of Chemical Products, a limited liability company.  
00-950 Warszawa, ul. Jasna 12, skr. pocztowa 271.
2. A limited liability company, court register No 214, number in Commercial Register B-13570.  
District Court for Warszawa Praga.
3. Founding body — Assembly of Partners  
Board accepted by the Assembly of partners.
4. Subordinated to Assembly of Partners and Supervisory Council.
5. Basic aims and functions: export and import of chemical products and the related know-how as well as trade and distribution of chemical products in Poland.
6. Organizational structure presented on scheme.
7. Directors:

General Director  
Marian Malecki  
00-950 Warszawa ul. Jasna 12  
tel. 26-98-68, telex 814561, 814691

Deputy Director  
Mieczysław Zając  
00-950 Warszawa ul. Jasna 12  
tel. 27-63-63, telex 814561, 814691.

Deputy Director  
Krzysztof Staniszewski  
00-950 Warszawa ul. Jasna 12  
tel. 26-92-36, telex 814561, 814691.

Deputy Director — Chief Accountant  
Tadeusz Kiernożycki  
00-950 Warszawa ul. Jasna 12  
tel. 27-05-33, telex 814561, 814691, fax. 26-13-65.

Director of Economy Department

Roman Tarnawski

00-950 Warszawa ul. Jasna 12

tel. 26-38-66. telex 814561. 814691. fax. 26-38-66.

Director in Charge of Administration

Waldemar Dąbrowski

00-950 Warszawa ul. Jasna 12

tel. 27-28-86. telex 814561. 814691.

Director of the Trade Policy Office

Edward Kosiorek

00-950 Warszawa ul. Jasna 12

tel. 27-80-25. telex 814561. 814691. fax. 26-69-40.

Director of the Transport and Insurance Department

Jacek Janowski

00-950 Warszawa ul. Jasna 12

tel. 26-57-72. telex 814561. 814691. fax. 26-56-44.

Director of CIECH — Polfa Office

Konstanty Dylewicz

00-193 Warszawa ul. Stawki 2. INTRACO I

tel. 635-01-16 telex 812458. 813571. fax. 635-14-00.

Director of CIECH — Organika Office

Janusz Broński

00-193 Warszawa ul. Stawki 2. INTRACO I

tel. 635-37-59 telex 812458. 813571. fax. 635-37-61.

Director of CIECH — Nieorganika Office

Andrzej Siedlecki

00-193 Warszawa ul. Stawki 2. INTRACO I

tel. 635-79-12 telex 812458. 813571. fax. 635-51-12.

Director of CIECH — Agrochemia Office

Marek Jurecki

00-950 Warszawa ul. Jasna 12

tel. 27-04-76. telex 814561. 814691. fax. 26-57-45.

Director of CIECH — Pollena Office

Leonard Pograniczny

00-033 Warszawa ul. Górskiego 9

tel. 27-08-76. telex 812351. fax. 27-29-12.

Director of CIECH — Siarkopol Office  
Józef Karolak  
00-193 Warszawa ul. Stawki 2. INTRACO I  
tel. 635-54-45 telex 812458. 813571. fax. 635-38-28.

Director of CIECH — Stomil Office  
Marian Seweryn  
90-646 Łódź. ul. 22 Lipca 74  
skr. poczt. 118  
tel. 33-30-29. telex 885166. fax. 32-93-07

Director of CIECH — Petrolimpex Office  
Stanisław Kaczmarek  
00-950 Warszawa ul. Jasna 12  
tel. 27-36-06. telex 814561. 814691. fax. 26-51-56.

Director of CIECH — Plastofarb Office  
Henryk Paszkowski  
00-950 Warszawa ul. Jasna 12  
tel. 26-71-20. telex 814561. 814691. fax. 27-04-70.

Director of CIECH — Technochem Office  
Witold Krasuski  
00-193 Warszawa ul. Stawki 2. INTRACO I  
tel. 635-66-85 telex 812458. 813571. fax. 635-66-94.

8. External links:

Companies in which CIECH is a shareholder

• Great Britain

Daltrade Ltd.  
181 — 183 Warwick Road  
London W14 8PV  
telex 916074

• Austria

Polcommerce GmbH  
Weyringergasse 35  
1040 Wien  
telex 136183 poldma

• Belgium

Beldal SA  
Rue L. Van Boeckel 15-17  
1140 Bruxelles  
telex 25257

- Denmark

Danske Unipol A/S  
Hammersholt Byvej 6  
Hammersholt  
3400 Hilleroed  
telex 40982 danup dk

- Holland

Calanda BV  
Dorpstraat 26  
1191 BK Ouderkerk aan de Amstel

Mailing address:

P.O. Box. 114  
1190 AC Oudekerk aan de Amstel  
The Netherlands  
telex 13336/13341

- Japan

Agropol Ltd.  
Tochnan Building  
17. Kanda Nishiki-cho 3chome  
Chiyoda-ku, Tokyo 101  
telex 26221 frutpol j

- Nigeria

Polfa (Nigeria) Ltd.  
Block M. Plot 9  
Isolo Road  
P.M. Bag 1003  
Mushin - Lagos  
telex 21262 daltd

- Germany

Chemiepetrol GmbH  
Neue Rabenstrasse 12  
2000 Hamburg 36  
telex 217014 ctro d

Chemiepetrol GmbH  
Zweigniederlassung in Berlin  
Warschauerstr. 6. 1034 Berlin

Mailing address:

1006 Berlin. PF 0412.  
telex 112470

- Singapore

Polsin Pte. Ltd.  
78 Shenton Way 30-02  
Singapore 0207  
telex RS 24719

- Sweden

Nordiska Unipol AB  
Nybohovsbacken 43  
Box 47040  
100 74 Stockholm  
telex 17767 unipol s

Foreign CIECH agencies — companies

- Algeria

Bureau du Conseiller Commercial pres de l'Ambassade de la Republique  
de Pologne  
140 Route Ali Remli Bouzereah. Alger.  
telex 61575

- Bulgaria

Bureau du Conseiller Commercial pres de l'Ambassade de la Republique  
de Pologne  
Weliko Tyrnovo 27. ap.3. Sofia  
telex 22322

- China

Commercial Councillor Office at the Embassy of the Republic of Poland  
1. Ri Tan Lu. Beijing  
telex 210288

- Czechoslovakia

Bureau du Conseiller Commercial pres de l'Ambassade de la Republique  
de Pologne  
Francouska 2 m.5,  
120-00 Praha  
telex 121415

Consulat General de la Republique de la Pologne  
Section du Commerce Exterieur  
Jancova 8 m.5. 811-02 Bratislava  
telex 93219

- Egypt

Commercial Councillor Office at the Embassy of the Republic of Poland  
7. Abou El Karaimat Str. Dokki/Aqouza. Cairo  
telex 21915 ple un

- Jugoslavia

Bureau du Conseiller Commercial pres de l'Ambassade de la Republique  
de Pologne  
Tomazcova 17. 11000 Beograd  
telex 72018

- Romania

Bureau du Conseiller Commercial pres de l'Ambassade de la Republique  
de Pologne  
Section des matieres premieres et de produits chimiques  
Sec. N. Balcescu 26. Bucuresti  
telex 11865

- Switzerland

Buero des Handelsrates bei der Botschaft der Republik Polen  
Elfenstrasse 9. 3006 Bern  
telex 912189

- USA

Commercial Councillor Office at the Embassy of the Republic of Poland  
820 Second Av. 17 fl. New York. NY 10017  
telex 595657, 595658

- Hungary

Buero des Handelsrates bei der Botschaft der Republik Polen  
Chemie Abteilung  
Tanacs Korut utca 25, 1075 Budapest VII.  
telex 226388

- Italy

ITALCIECH

Viale Monza 171. 20127 Milano

telex 315462

- USSR

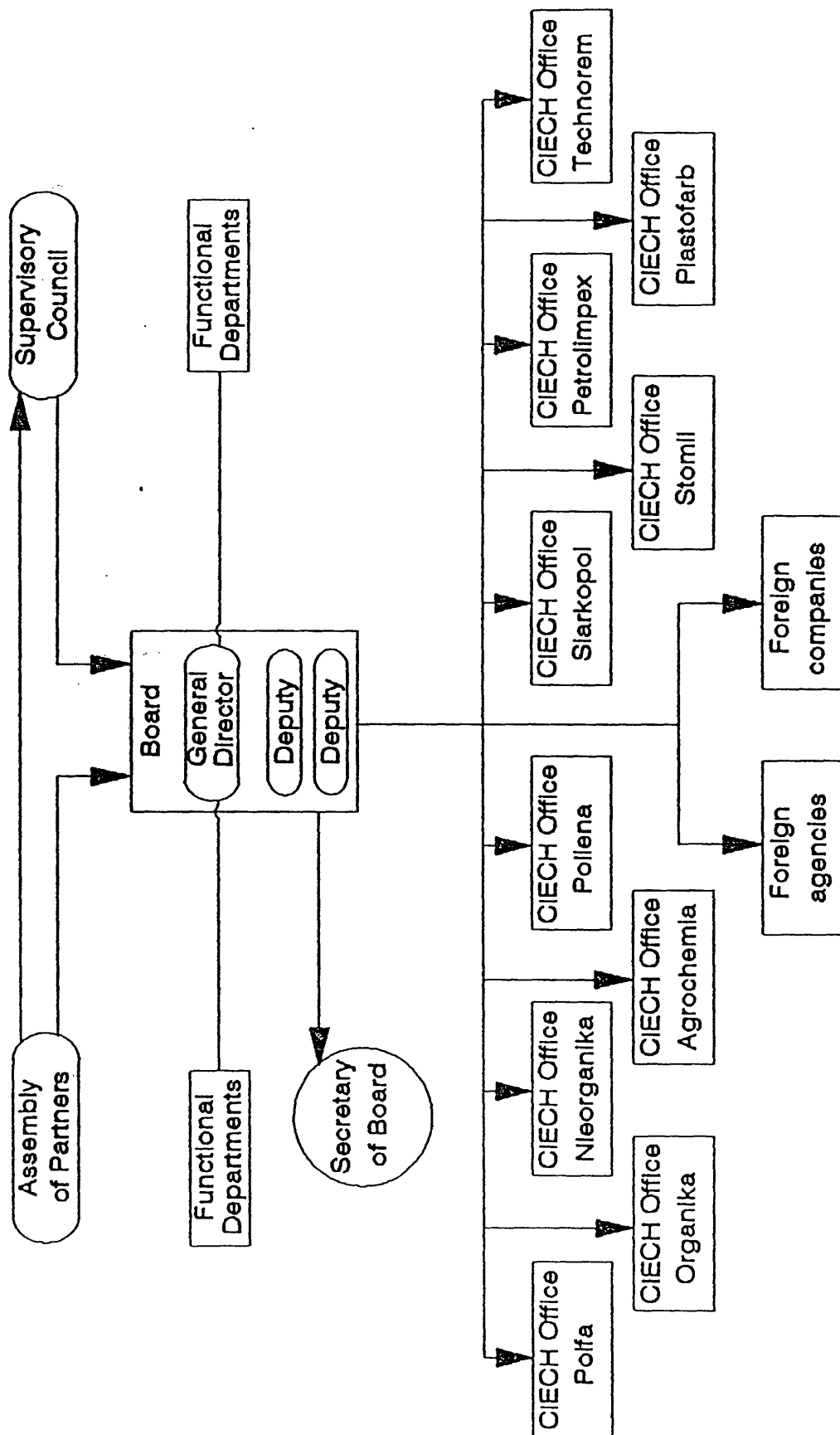
Commercial Councillor Office at the Embassy of the Republic of Poland

Permanent Representative of CIECH

Kutuzovskij Prospekt 7/4. Korpus 5, kwart. 11. Moskva

telex 414310.

# Organizational chart of CIECH Foreign Trade Agency for Chemicals a Limited Liability Company





PRZEDSIĘBIORSTWO EKSPLOATACJI RUROCIĄGÓW  
NAFTOWYCH "PRZYJAŹŃ"  
ENTERPRISE FOR PIPELINES EXPLOITATION

1. Przedsiębiorstwo Eksploatacji Rurociągów Naftowych "Przyjaźń". PERN — "Przyjaźń". Enterprise for Pipeline Exploitation. PERN. 09-400 Plock. ul. Wieczorka 2a, skrytka pocztowa Plock 81.
2. State owned enterprise (register book No 15 of 2 April 1982).
3. Subordinated to the Ministry of Industry and the Ministry of Internal Market.
4. General Director

Henryk Janczewski  
09-400 Plock  
ul. Wieczorka 2a  
tel. 262-99, fax. 247-62. telex 83298.

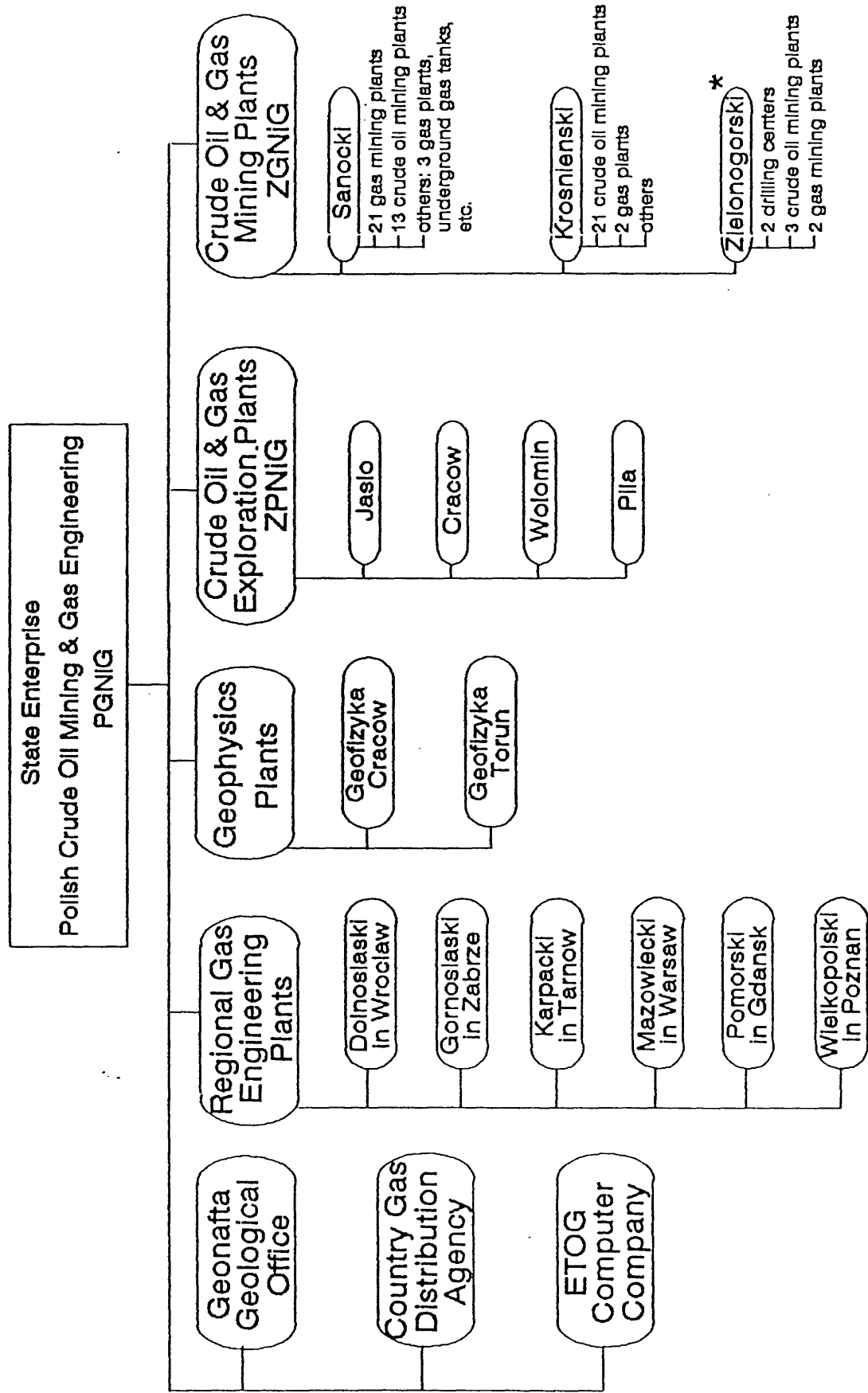
POLSKIE GÓRNICTWO NAFTOWE I GAZOWNICTWO —  
PGNiG  
POLISH CRUDE OIL MINING AND GAS ENGINEERING

1. Polskie Górnictwo Naftowe i Gazownictwo — PGNiG. Polish Oil Mining and Gas Engineering — PGNiG.
2. State owned public utility enterprise. multi-plant. country-wide operation.
3. Deals with exploration and extraction of crude oil and natural gas.
4. Sole importer of natural gas from the USSR. Sole distributor of gas in Poland (natural gas + gas from de-methanization of coal mines + coking gas).
5. The enterprise is seated in Warsaw. ul. Krucza 6/14.
6. Founded by an Ordinance No 56 of the Minister of Mining and Energetics of August 1 1982.
7. General Director:  
  
Mieczysław Kaczmarczyk  
00-537 Warszawa. ul. Krucza 6/14  
tel. 28-16-42. telex 813466 pol
8. List of plants as well as list of adressess. telephones and names of directors is presented below.

## INDEX OF ENTERPRISES

No	Plant	Address	Tel.	Telex	Fax	Name of Director
1.	Polish Oil Mining and Gas Eng. PGNiG	00-537 Warszawa ul. Krucza 6/14	centr. 26-22-71 dyr. 26-16-42	613466	xxxxxxx	mgr inż. Mieczysław Kaczmarczyk
2.	Country Gas Distribution	00-537 Warszawa ul. Krucza 6/14	centr. 26-22-71 dyr. 22-02-37			mgr inż. Jerzy Grzędowicz
3.	ETOG Computer Office	00-537 Warszawa ul. Krucza 6/14	centr. 26-22-71 dyr. 22-91-72			mgr inż. Wojciech Iwanowski
4.	Geologic Office GEONAFTA	00-522 Warszawa ul. Krucza 36	centr. 26-02-41 dyr. 26-75-50			dr Zygmunt Śliwiński z-ca dyr PGNiG d/s Geofizyki
5.	Geophysics Plant Kraków telegraf. Kraków Geofizyka	31-503 Kraków ul. Lubicz 25	centr. 21-04-33 21-05-11, 21-05-31 dyr. 21-03-29	0322462 0325306		mgr inż. Krzysztof Sojka
6.	Geophysics Plant Toruń	87-100 Toruń ul. Chrobrego 30	centr. 300-11 do 17 302-12 dyr. 306-00	055336		mgr inż. Ludwik Król
7.	Crude Oil and Gas Exploration Plant Jasło	36-200 Jasło ul. Asnyka 6	centr. 20-61 dyr. 32-12	065556		mgr inż. Adam Nowak
8.	Crude Oil and Gas Exploration Plant Kraków	30-960 Kraków ul. Lubicz 25	centr. 21-04-33 dyr. 21-06-59	0322462		mgr inż. Jarosław Balasz
9.	Crude Oil and Gas Exploration Plant Wołomin	05-200 Wołomin ul. Lukaszewicza 11	centr. 76-34-61 do 69 dyr. 76-23-10	612597		mgr inż. Jan Klukowski
10.	Crude Oil and Gas Exploration Plant in Pila	64-920 Pila Plac Ślaski 9	centr. 263-13 dyr. 233-30	047201		mgr inż. Kazimierz Świątkowski
11.	Crude Oil and Gas Extraction Plant	36-500 Sanok ul. Sienkiewicza 12	centr. 32-174 dyr. 32-676	065517		mgr inż. Benedykt Oleksy
12.	Crude Oil and Gas Extraction Plant	36-400 Krosno n/W ul. Lukaszewicza 93	centr. 232-11 dyr. 205-25	065476 identyfik. 0022970		mgr inż. Jacek Munia
13.	Crude Oil and Gas Extraction Plant	65-034 Zielona Góra ul. Bohaterów Westerplatte 15	centr. 720-61 do 69 dyr. 707-17	0432326		mgr inż. Tadeusz Kulczyk

# Organizational chart of crude oil & natural gas exploration & extraction



\* exploration, drilling and extraction

MORSKI PORT HANDLOWY, — PORT PÓLNOCNY  
SEA COMMERCIAL HARBOR IN GDAŃSK

1. Morski Port Handlowy. Gdańsk. Sea Commercial Harbor Gdańsk ul. Zamknięta 18. 80-955 Gdańsk. Nowy Port.
2. State owned enterprise registered on June 3 1972 in District Court Gdańsk. Department II.
3. Founding body: Ministry of Transport and Sea Economy. The director is accepted by employees council and Minister of Transport and Sea Economy.
4. The enterprise is subordinated directly to the Ministry of Transport and Sea Economy.
5. The main aim of the enterprise is gaining profits from economic activities in the area of Gdańsk Harbor.
6. Single plant organization with following departments:

Management:

- Director.
- Exploitation and Trade.
- Technics and Development.
- Finance and Accounting
- Administration. Human Resources.

and

- Reloading Departments. I, II, III, IV, V.
- Energetics Department.
- Department for Navigation Services.
- Construction Department.
- Department of Equipment Repairs.
- Department of Reloading Equipment Repairs.
- Transport Department.
- Supply Department.

7. Director: mgr Marian Świtek  
80-955 Gdańsk Nowy Port. ul. Zamknięta 18.  
tel. 430200. 430927. tlx 0512324. fax 439308

Deputy Director

mgr Mieczysław Płoski  
Address as above  
tel. 436300. 430307

Deputy Director  
inż. Norbert Perszewski  
Address as above  
tel. 439500. 430588

Deputy Director  
mgr Jan Burakowski  
Address as above  
tel. 439228. 430872

Deputy Director  
mgr Marian Podgórski  
Address as above  
tel. 439374. 430811

8. The enterprise collaborates with economic entities. performs services to their benefit. Different companies operate in the area of the harbor.

## SPECIFICATION OF DATA ON REFINERIES

Lp	Refinery	General Director	Address	Telefon	Telex	Fax
1.	Mazowieckie Zakłady Rafineryjne i Petrochemiczne MZRiP	mgr inż. Czesław Dolański	00-400 Płock ul. Chemików 7	820-11	63341	521-80
2.	Gdańskie Zakłady Rafineryjne GZR Gdańsk Refinery	mgr inż. Jan Dyrka	80-718 Gdańsk ul. Elbląska 133	36-71-11 36-61-11	0512276 0512279	316636
3.	Śląskie Zakłady Rafineryjne Refinery in Czechowice	mgr inż. Alojzy Wasyl	43-322 Czechowice Dziedzice ul. Fabryczna 2	526-45 do 49	035224 035645	52719
4.	Rafineria Nafty Trzebinia	mgr inż. Kazimierz Trembosz	32-340 Trzebinia ul. Fabryczna 22	2.19.121	0312223	Chrzanów 3016 w. 421
5.	Podkarpackie Zakłady Rafineryjne Refinery in Jasło	mgr inż. Zbigniew Balik	36-200 Jasło ul. 3 Maja 101	60	065291 065292	6414
6.	Rafineria Nafty GLIMAR Glimar Refinery in Gorlice	mgr inż. Zenon Malachowski	36-300 Gorlice ul. Michałusa 1	226-50	0325669	
7.	Rafineria Nafty Jedlicze Jedlicze Refinery	mgr inż. Mieczysław Markiewicz	36-200 Jedlicze ul. J. Krasickiego	1. 2. 33 34	065523	Krosno 23069 w 422

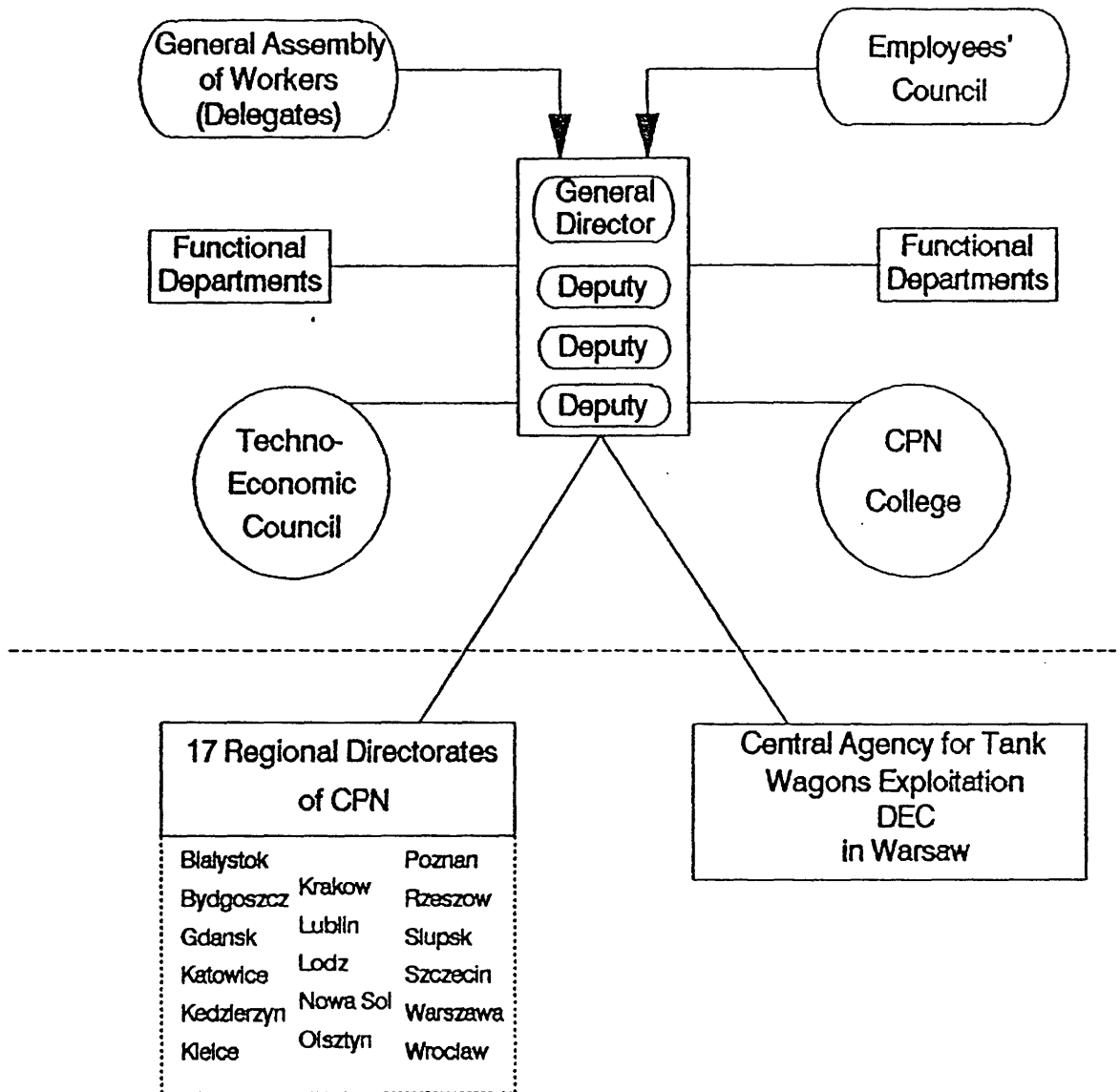
## PPUP CENTRALA PRODUKTÓW NAFTOWYCH CPN

1. Państwowe Przedsiębiorstwo Użyteczności Publicznej Centrala Produktów Naftowych "CPN". State Owned. Public Utility Enterprise — Central Agency for Crude Oil Products. Warszawa ul. Mysia 2.
2. Register of State Owned Enterprises. District Court for Warszawa Praga, Dept I. No RPP 599. registered on May 18 1983.
3. Founding body and institution accepting the director is the Minister of Industry.
4. Subordinated to the Ministry of Industry.
5. CPN as a public utility enterprise deals with supply and distribution of crude oil products thus realizing the State policy. so as to satisfy the current needs of all sector of the national industry, army and individual consumers within the balance of liquid fuels and also to sustain effective economic results.
6. Organizational structure is presented on the attached scheme.
7. Names and addresses of directors are given in the table below.



# Organizational chart of CPN

Central Agency for Crude Oil Products



INDEX OF ENTERPRISES

Lp	Institution	Address	Telefon	Telex
<b>CPN Management Board</b>				
1.	General Director dr inż Jerzy Małycka	Warszawa ul. Mysia 2	26-19-42	
2.	Dir. in charge of Trade	-- " --	26-75-32	
3.	Dir. in charge of Technics mgr inż. Władysław Głowala	-- " --	21-82-30	
4.	Dir. in charge of Economy mgr Jerzy Plichta	-- " --	29-47-26	
<b>Regional CPN Directorates</b>				
5.	Dir. Regional CPN Directorate in Białystok mgr Winicjusz Borowski	15-950 Białystok ul. Ogrodowa 31	41-70-32	652105
6.	Dir. Regional CPN Directorate in Bydgoszcz mgr Czesław Kobus	65-959 Bydgoszcz Al. 1 Maja 76	21-10-76 21-16-92	0502261
7.	Dir. Regional CPN Directorate in Gdańsk Jerzy Skorowski	60-630 Gdańsk ul. Długi Targ 30	31-60-91	0512206
8.	Dir. Regional CPN Directorate in Katowice mgr inż. Henryk Śniegoń	40-932 Katowice ul. Warszawska 33	56-67-44	0312430
9.	Dir. Regional CPN Directorate in Kędzierzyn Koźle p. o. inż. Tadeusz Jedrzejczyk	47-200 Kędzierzyn Koźle ul. M. Curie Skłodowskiej 1	229-76	039224 039543
10.	Dir. Regional CPN Directorate in Kielce mgr Bogusław Domagała	25-367 Kielce Pl. Obronców Stalingradu 10	454-05	0612316
11.	Dir. Regional CPN Directorate in Kraków mgr inż. Piotr Krzanowski	31-120 Kraków Al. Mickiewicza 45	33-59-24	0322240
12.	Dir. Regional CPN Directorate in Lublin mgr Stanisław Adamczyk	20-916 Lublin ul. Narutowicza 63	247-33	0642214
13.	Dir. Regional CPN Directorate in Łódź mgr Edward Głiszczyński	90-950 Łódź ul. Gdańska 70	66-75-11	664141
14.	Dir. Regional CPN Directorate in Nowa Sól mgr inż. Paweł Kwiecień	67-100 Nowa Sól Al. Wolności 4	43-37	0432111
15.	Dir. Regional CPN Directorate in Olsztyn mgr Kazimierz Kwaśniewski	10-959 Olsztyn ul. Kopernika 46	27-29-60	0526227
16.	Dir. Regional CPN Directorate in Poznań mgr Stanisław Juszkowiak	61-023 Poznań ul. Śródka 10.12	77-57-03	0413307
17.	Dir. Regional CPN Directorate in Rzeszów Kazimierz Kozdeba	35-959 Rzeszów ul. Ujejskiego	356-61	0632320
18.	Dir. Regional CPN Directorate in Słupsk mgr inż. Roman Ślagowski	76-200 Słupsk ul. Grodzka 6	236-37	0532512
19.	Dir. Regional CPN Directorate in Szczecin mgr Zbigniew Baszanowski	70-952 Szczecin ul. Świerczewskiego 29	696-35	0422110
20.	Dir. Regional CPN Directorate in Warszawa inż. Roman Sławiński	00-950 Warszawa ul. Flory 3	49-30-92	613576
21.	Dir. Regional CPN Directorate in Wrocław mgr Ryszard Gumulski	50-950 Wrocław ul. Kollataja 15	44-10-29	0712643
22.	Dir. of DEC in Warsaw mgr inż. Marek Bakula	00-236 Warszawa ul. Długa 4	31-95-21	613960
23.	Dir. of CPN BUDONAFI mgr Aleksander Musialik	30-363 Kraków ul. Skoźna 31	60-79-41	

APPENDIX 2

INDEX OF LEGAL ACTS

I State owned enterprises

1. Journal of Laws of 30.09.1981 No 24. item 122 (original uniform text)
2. Journal of Laws of 20.11.1987 No 35. item 201 (uniform text announced by the Planning Commission of Council of Ministers).
3. Journal of Laws of 28.02.1989 No 10. item 57
4. Journal of Laws of 10.04.1989 No 20. item 107
5. Journal of Laws of 21.03.1990 No 17. item 99
6. Journal of Laws of 1.08.1990 No 51. item 298
7. Journal of Laws of 7.01.1991 No 2. item 6
8. Journal of Laws of 7.03.1991 No 18. item 80 (uniform text announced by the Council of Ministers)

II Self-government of the enterprise

1. Journal of Laws of 30.09.1981 No 24. item 123 (uniform text I/1),
2. Journal of Laws of 7.05.1986 No 17. item 88
3. Journal of Laws of 21.03.1991 No 17. item 99 (I/5)
4. Journal of Laws of 7.03.1991 No 18. item 80 (I/8)

III Trade unions

1. Journal of Laws of 25.11.1985 No 54. item 227 (uniform text)
2. Journal of Laws of 7.05.1986 No 17. item 88 (II/2)
3. Journal of Laws of 10.04.1989 No 20. item 105 (I/4)
4. Journal of Laws of 1990 No 30. item 179

IV Economic activities

1. Journal of Laws of 28.12.1988 No 41. item 324 i 325
2. Journal of Laws of 13.03.1990 No 14. item 88
3. Journal of Laws of 18.07.1990 No 46. item 271
4. Journal of Laws of 1.08.1990 No 51. item 298 i 299

V Contracts on sales — supplies

1. M. P. (*Monitor Polski* Journal of governmental announcements) of 27.12.1986, No 33. item 247 (uniform text).

VI Prices

1. Journal of Laws of 15.08.1988, No 27, item 195 (uniform text).

VII Duties

1. Journal of Laws of 18.12.1989, No 75, item 445 (uniform text).

VIII Transport

1. Journal of Laws of 28.11.1984. No 53. item 272 (uniform text).
2. Dziennik taryf (*Journal of fares*) and Ordinance of the Minister of Communication of 31.01.1985. item 6
3. Journal of Laws of 11.02.1983. No 6. item 35.
4. Journal of Laws of 12.12.1983. No 67. item 301

IX Environment protection

1. Journal of Laws of 30.10.1974. No 38. item 230.
2. Journal of Laws of 11.02.1980. No 3. item 6.
3. Journal of Laws of 5.11.1980. No 24. item 89, 92.
4. Journal of Laws of 1.08.1983. No 44. item 201 (XI/8).
5. Journal of Laws of 24.10.1987. No 33. item 180.
6. Journal of Laws of 21.11.1988. No 37. item 295.
7. Journal of Laws of 9.05.1989. No 26. item 139.
8. Journal of Laws of 8.06.1989. No 35. item 192 (XI/20).
9. Journal of Laws of 20.12.1989. No 69. item 417.
10. Journal of Laws of 14.03.1990. No 15. item 92.
11. Journal of Laws of 26.05.1990. No 34. item 178 (IX/24).
12. Journal of Laws of 21.06.1990. No 39. item 222.
13. Journal of Laws of 30.06.1990. No 42. item 243 i 244.
14. Document "Polityka Ekologiczna Państwa" (*State Policy in the Area of Ecology*).  
Warsaw 1990.

X Protection against fire

1. Journal of Laws of 11.07.1962. No 40. item 174.
2. Journal of Laws of 28.02.1981. No 5. item 20.

XI Investment

1. Journal of Laws of 11.07.1962. No 40. item 174
2. Journal of Laws of 14.07.1963. No 51. item 285 (X/1).

3. Journal of Laws of 30.10.1974. No 38. item 229.
4. Journal of Laws of 14.08.1980. No 17. item 62.
5. Journal of Laws of 5.11.1980. No 24. item 92.
6. Journal of Laws of 28.02.1981. No 5. item 20.
7. Journal of Laws of 12.05.1981. No 12. item 57.
8. Journal of Laws of 1.08.1983. No 44. item 200. 201.
9. Journal of Laws of 19.07.1984. No 35. item 185. 187.
10. Journal of Laws of 12.07.1985. No 31. item 140.
11. Journal of Laws of 25.07.1987. No 21. item 124.
12. Journal of Laws of 17.09.1988. No 33. item 250.
13. Journal of Laws of 28.12.1988. No 41. item 324 (IV/1).
14. Journal of Laws of 14.03.1989. No 14. item 74.
15. Journal of Laws of 30.03.1989. No 17. item 99.
16. Journal of Laws of 15.05.1989. No 27. item 148.
17. Journal of Laws of 23.05.1989. No 29. item 154.
18. Journal of Laws of 6.06.1989. No 34. item 178.
19. Journal of Laws of 8.06.1989. No 35. item 192.
20. Journal of Laws of 30.12.1989. No 74. item 442.
21. Journal of Laws of 27.01.1990. No 4. item 22.
22. Journal of Laws of 13.03.1990. No 14. item 90.
23. Journal of Laws of 26.05.1990. No 34. item 198.
24. Journal of Laws of 20.11.1990. No 79. item 464.
25. Dz. Urzędowy Budownictwa (*Official Journal of Construction*) of 10.03.1973. No 6. item 19.

## CHAPTER II

# THE EEC OIL SECTOR



# 1 Organization of the oil sector in the EEC

*Basic sources of data for this section are the publications PANORAMA of EC INDUSTRY 1990 and EUROSTAT Energy Statistics*

## 1.1 Exploration/production

### 1.1.1 Description of the sector

Since 1975, the EEC has been producing substantial quantities of crude oil. This was the result of the discovery and later entry into service of the Northern Sea fields which accounted for more than 90% of the total crude oil produced in the EEC - 12, as could be seen in table 1.1.a.

TABLE 1.1.a

#### CRUDE OIL PRODUCTION IN THE EEC-12

	<u>1975</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>
Total Production (MM Tm)	12.8	89.6	144.2	112.7
North Sea Production	1.7	78.4	127.5	89.7
% Production/Internal Consumption	2.7	20.2	14.1	22.9

That substantial increase helped to reduce the dependence on foreign oil and so improve the global energy picture.

During the last four years, exploration activity has declined from a 1985 peak of 500 wells/year to an average of 300-400 wells/year, which are barely more than 1% of world total exploration.

Of more significance is the participation of different oil companies in that global effort. A list of the more active companies in that field is represented in table 1.1.b.. The sharing of investments in a single field are a common feature to minimize the heavy risks involved in the oil exploration. Another feature is also, except for the UK, the predominant role of the National Oil Companies of each country in the exploration/production activities done in their country, due to the legislative framework that will be analysed later.<sup>10</sup>

<sup>10</sup>A general remark to this EEC Section is that the information refers, exclusively to the former West Germany, without including in any case the Eastern Landers.

TABLE 1.1.b.

<u>COMPANY</u>	<u>COMPANY STATUS</u>	<u>DK</u>	<u>FR</u>	<u>GER</u>	<u>IR</u>	<u>IT</u>	<u>NETH</u>	<u>SP</u>	<u>UK</u>
SHELL	1	x		*				x	x
ESSO	1		x	*					x
BP	1		x						x
KPC (QS)	2		x						x
TOTAL			x				x		x
CONOCO	1								x
DSM							*		
PETROFINA	2								x
AGIP	2					*			x
REPSOL	2							x	x
TEXACO	1	x		*					x
OTHERS	-	x			*			x	x

Notes: Company status: 1. Private company  
2. Public company

A common feature is the association of two or more companies into a specific company for each country (for instance ESSO/SHELLs NAM in The Netherlands, BEB in Germany or SHELL/TEXACO's DUC in Denmark)

### 1.1.2 Legislative features

There is not any specific EEC law or regulation in this field. Only general principles of the EEC Treaty could be of application. Between them:

Art. 7: No discrimination based on nationality grounds

Art. 8a: Granting of an effective interior market for 1992

Art. 36: Granting special exceptions to the free movement of goods based on national security reasons.

Art. 52: Elimination of discriminations regarding the freedom of establishment in other EEC countries.

Though, the national legislation does not differ widely and all have in common the following features:

1. Exploration/production activities are regulated by a law approved by National Parliaments. The General framework of those laws is similar across the whole EEC.
2. Hydrocarbons reserves are declared propriety of the State.

3. Any exploration/production activity has to be formally awarded through a license given by the National Administrations.
4. A license gives right to the exclusive exploration and, eventually, production in a given plot of the national territory.
5. Those licenses are open to a public awarding procedure, although the final decision is always discretionary.
6. For several countries, the State takes hold of a variable share of the production, usually 50%, when the exploration efforts prove successful.

Some of these features were considered against EEC Law, and so, in the document "Energy Interior Market", produced by the EEC Commission, several national regulations were considered discriminatory and so bound to be modified. Specifically:

1. Discriminatory procedures for granting permits in favor of national companies.
2. Landing obligation (in two countries the crude oil produced in the country has to be discharged in the territory of that State).
3. "Buy National" practices for the supply of goods as equipment.

All these obstacles, are under close scrutiny by the EEC Commission, and would be possibly removed in a near future.

## 1.2 Refining

### 1.2.1 Description of the sector

The refining sector of the EEC has undergone a process of structural change during the years 1980-1990. This process has been driven by three main objectives.

1. To reduce the basic distillation capacity to a more balanced to oil consumption figure.
2. To improve the flexibility of the refineries and the qualities of the oil products supplied by them.
3. To adapt to new, more strict, environmental regulations.

The first objective was the result of a twofold push. The first, the substantial reduction in demand (930 MM Tons in 1980, 458 MM Tons in 1990), due to the increase in energy efficiency and the switch from oil to other energy sources after the oil shocks of 1973 and 1979. But this demand reduction was also accompanied by a substantial increase in final products imports from third countries that represented 37% in 1990.

The results were an important decline in refining capacity ( 930 MM Tons in 1980 to 586 in 1990) but also at the same time, a recovery of utilisation rates ( 62% in 1980, 64% in 1985 and 85% in 1990). That helped the industry to raise refining margins which were insufficient or negative during the first part of the decade.

The second objective, refinery upgrading and new products strategy, was also the result of several forces. The first one was the non symmetrical drop in demand that affected mostly the heavier ends, like fuel oils, whilst gasoline and middle distillates were not so affected. That called for heavy investments in the "first stage conversion" (CAT cracking + visbreaking), and in the last years a selective approach to "deep conversion" (coking or hydrocracking routes).

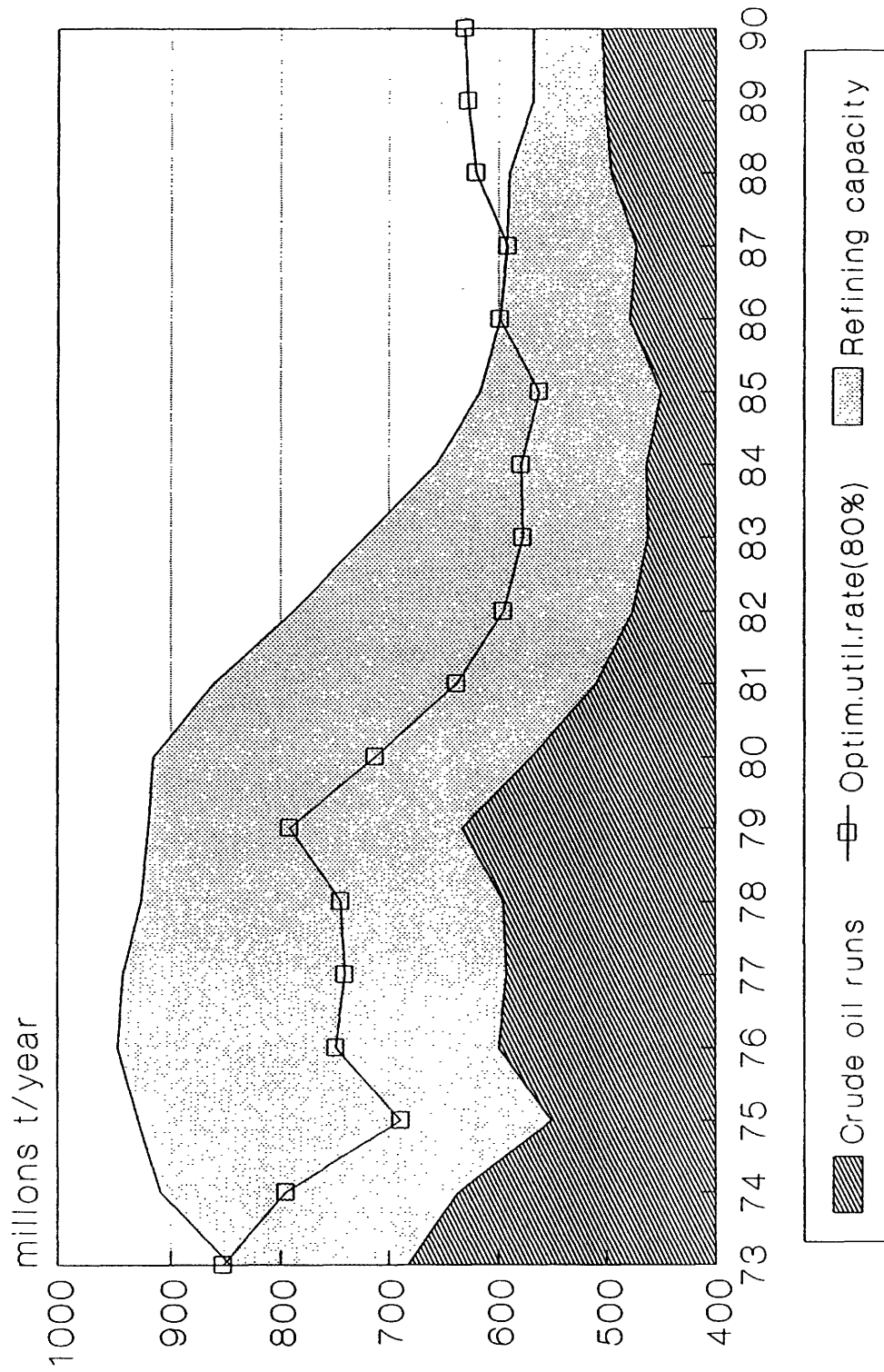
At the same time, environmental pressures are demanding a higher product quality: low lead, and later unleaded petrol, lower sulphur diesel, heating and fuel oils. This process has also implied a massive upgrading or new refinery units to produce the required qualities.

The third objective, environmental demands, run parallel to the improvements in product qualities and related to the sound, environmental respectful operation of the refineries. Although this will be analysed later, in chapter 5, it is necessary to point out an extensive list of critical issues such as SO<sub>2</sub>, NOX or volatile hydrocarbons emissions, water effluents quality, oil spills, wastes and industrial security of the installations.

An exhaustive numerical information of the refining industry can be observed in tables 1.2.a. to 1.2.c. and tables 1.2.d and 1.2.e. The main conclusions that can be drawn are:

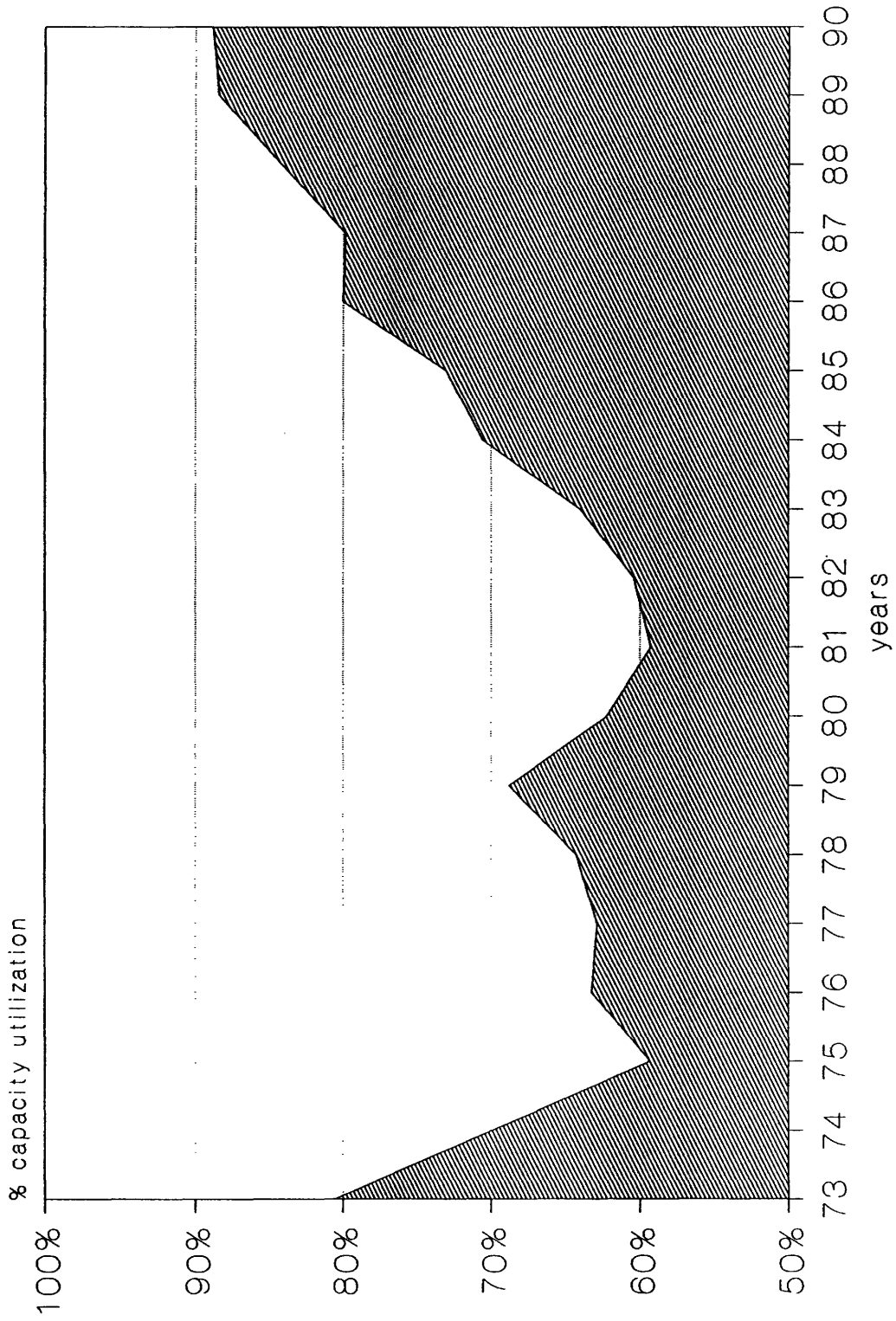
1. The reduction in capacities has not been similar in all the EEC countries, being more intense in the Northern countries than in the Southern and Peripheral Countries.
2. So utilisation rates are lower (except Spain) in this area than in the Northern countries of the EEC.
3. Notwithstanding the apparent surplus capacity. During the last years the "core refinery" (reforming, hydrotreating, and cracking facilities) have been running close to full capacity in the whole of the EEC.
4. The "closure" has concentrated in old small, and inefficient refineries, close to other refineries, and so eliminating higher distribution costs.
5. Some more modern refineries are apparently "mothballed" and so could re-start operation as it has been recently the case of a Belgium refinery:
6. The refining companies, or more precisely the refining divisions of oil companies, could be classified along the following pattern: (see table 1.2.f)
7. This refining presence is usually linked with their respective market shares in distribution/retailing. Only some Italian/Spanish refineries have been consistently exporting bulk quantities in the last years. On the other hand, the Dutch refineries are big exporters, half in bulk quantities, half as product transfers to their affiliated companies in West Germany.
8. It is difficult to envisage a new refinery site being approved in the whole of the EEC. Nor is any primary capacity expansion, and only upgrading of old facilities can be foreseen as well as some "mothballed refineries" starting again their operation.

**FIGURE 1.2.a**  
**REFINING CAPACITY IN THE EEC-12**



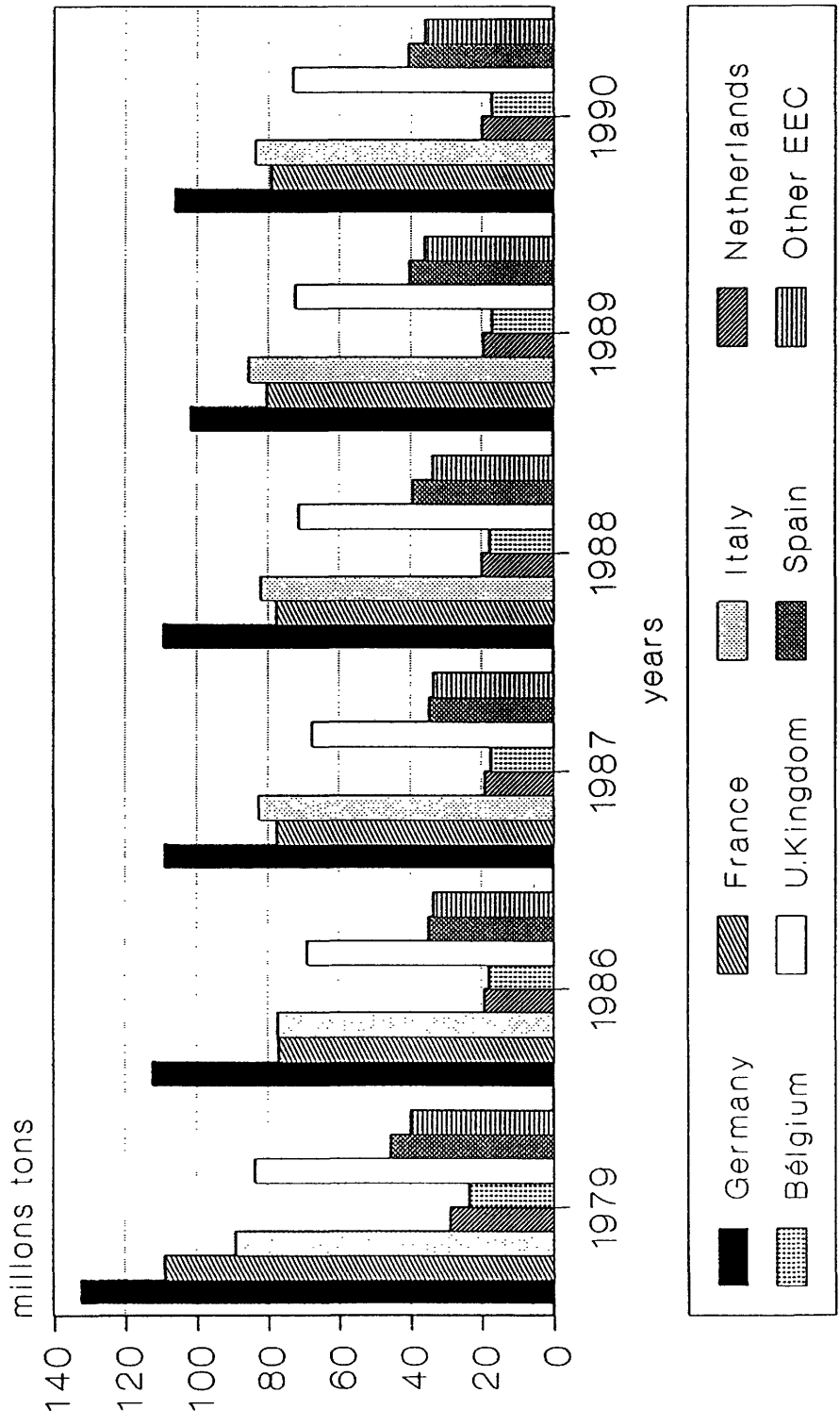
Source : EUROSTAT

**FIGURE 1.2.b**  
**UTILIZATION OF EEC REFINING CAPACITY**



Source:EUROSTAT

**FIGURE 1.2.c**  
**OIL CONSUMPTION IN SELECTED**  
**EEC COUNTRIES**



Source : EUROSTAT

TABLE 1.2.d  
CONVERSION CAPACITY IN THE EEC

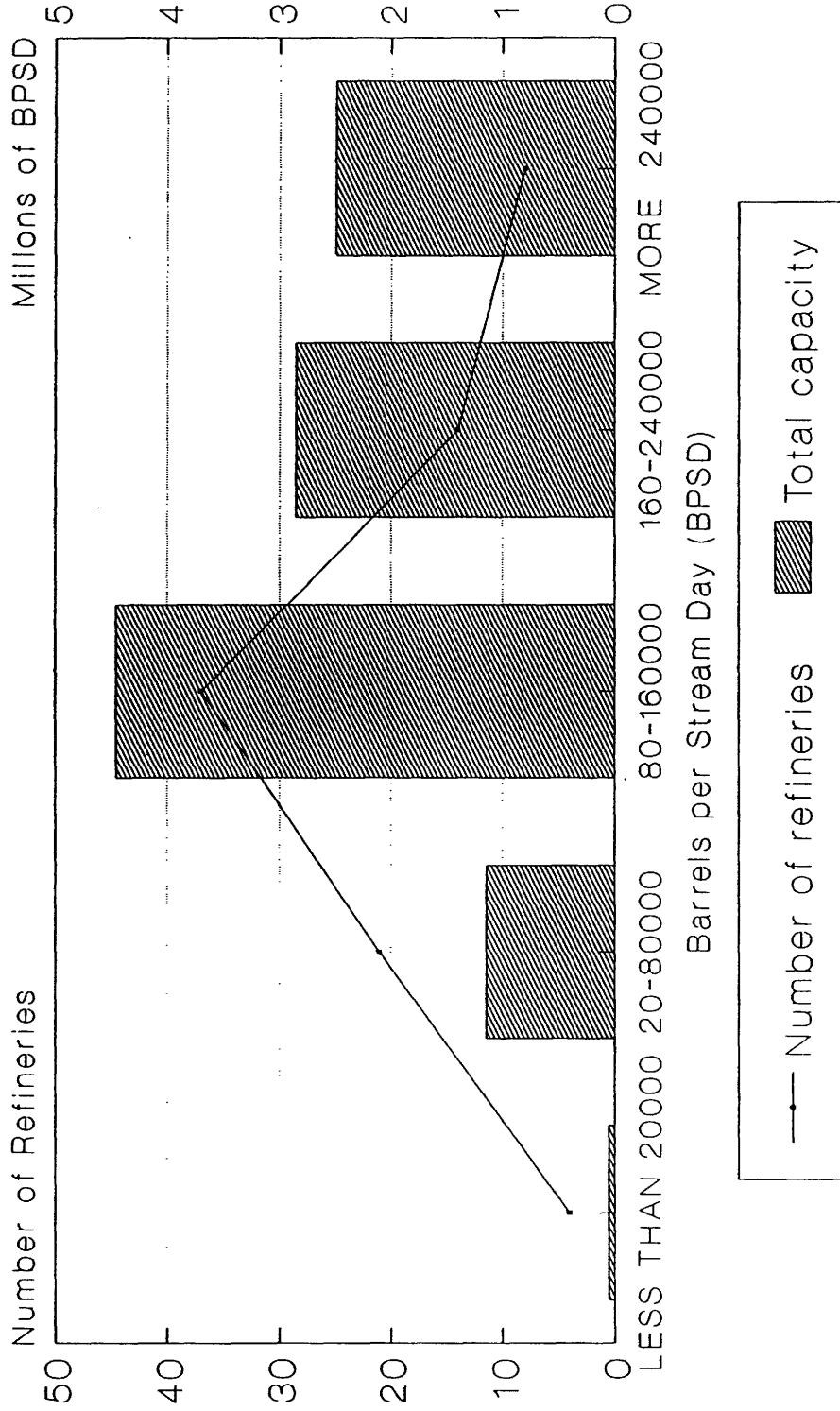
<u>REFINERY UNIT</u>	<u>1980</u>	<u>1985</u>	<u>1990</u>	<u>ECC EQUIV.</u>
CATAL.CRACKER	47.6	83.1	81.3	1.00
THERMAL CRACK.	19.3	20.8	18.8	0.65
VISBREAKER	24.9	46.1	56.3	0.33
HYDROCRACKER	5.8	10.6	18.4	1.30
HYDROCONVERSION	-	-	1.3	2.10
COKING	2.9	8.5	2.3	1.70
FLEXICOKING	-	-	1.9	2.10
TOTAL	100.5	169.1	181.3	- -
% PRIMARY CAPAC.	9%	21%	25%	- -

In millions of metric tons

Source : EEC Commission - 1990 Figures estimated



**FIGURE 1.2.e**  
**DISTRIBUTION OF EEC REFINERY SIZES**  
**FIGURES FOR 1989**



Source: Int. Petroleum Encyclopedia (1989)

## TABLE 1.2.f

### 1. PLURINATIONAL : SHELL,BP,ESSO

- \* Presence in five or more countries
- \* "Normal market share" 15-20%

### 2. OTHER PLURINATIONAL : MOBIL,TEXACO

- \* Same as plurinational companies although with a minor market share.

### 3. NATIONAL EXPANDED : ELF,TOTAL,FINA,KPC

- \* Strong position in their own country
- \* Some involvement in other countries.

### 4. NATIONALLY ORIENTED : AGIP,REPSOL,VEBA PETROGAL,CEPSA.

- \* Strong position in their own country.
- \* No significant interests elsewhere.

### 5. INDEPENDENTS :

- \* Small companies
- \* Small share in a single country.

TABLE 1.2.G.  
RETAIL STATIONS SHARE OF THE REFINING COMPANIES IN  
EEC COUNTRIES (1.989)

COMPANY	COUNTRY										
	BEL	DK	GER	GR	SP *	FR	IR	IT	NL	P	UK
AGIP	-	-	2.1	-	-	0.6	-	26.8	-	-	-
ARAL	3.9	-	15.7	-	-	0.4	-	-	-	-	-
BP	11.9	-	8.2	18.1	-	3.5	10.2	-	32.1	7.5	9.8
CEPSA/ELF	-	-	-	-	23	-	-	-	-	-	-
ELF	4.0	-	2.3	-	-	6.9	-	-	-	-	-
ESSO	10.6	-	9.5	-	-	3.1	19.4	7.4	11.4	-	15.4
KPC	5.9	18.0	-	-	-	-	-	4.2	5.5	9.0	10.4
MOBIL	3.8	-	-	10.9	-	2.2	-	-	-	-	-
PETROFINA	13.8	-	3.0	-	-	1.7	-	-	-	70.0	-
PETROGAL	-	-	-	-	-	-	-	-	-	-	-
REPSOL/CAMPSA	-	-	-	-	74	-	-	-	-	-	-
SHELL	13.6	11.9	9.1	15.1	-	4.2	15.2	-	25.7	11.5	18.5
TEXACO	13.8	-	10.5	6.9	-	-	15.4	-	15.2	-	10.0
TOTAL	3.6	-	1.3	2.7	-	9.5	-	-	9.6	-	-
OTHERS	15.1	70.1	29.2	46.3	3	67.9	39.8	61.6	0.5	2.0	30.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In %

\* Situation in 1.991

Source : CPDP

### 1.2.2 Legislative features

The only EEC legislation related to the refining sector is the aforesaid regulation covering environmental aspects such as air and water emissions, waste and soil protection and industrial security.

As for the regulations regarding the investments in new refineries/upgrading of existing facilities, the general rule is that this activity is considered as a strategic sector. So any significant new investment, or even a transfer of the company assets, are considered a "national issue" subject to governmental approval. Also, there is a secondary line of scrutiny based on competition grounds. Due to the limited number of operators in this field any merging or takeover of oil companies are first analysed at national level by the Anti-Trust Authorities and even, in most of cases, have to apply for prior approval to the EEC Commission in Brussels, under the new regulation covering those activities at EEC level (this has been very recently the case of the acquisition of the ERTOIL refinery in Spain by ELF/CEPSA).

As for specific conditions of construction they are based on national and even regional or local regulations, which are in many cases more strict than EEC regulations.

Last, specific conditions, deriving from old petroleum monopolies, subsist in Greece, Portugal and Spain, but these are to be progressively adapted or eliminated in the very near future.

## 1.3 Distribution

### 1.3.1 Description of the sector

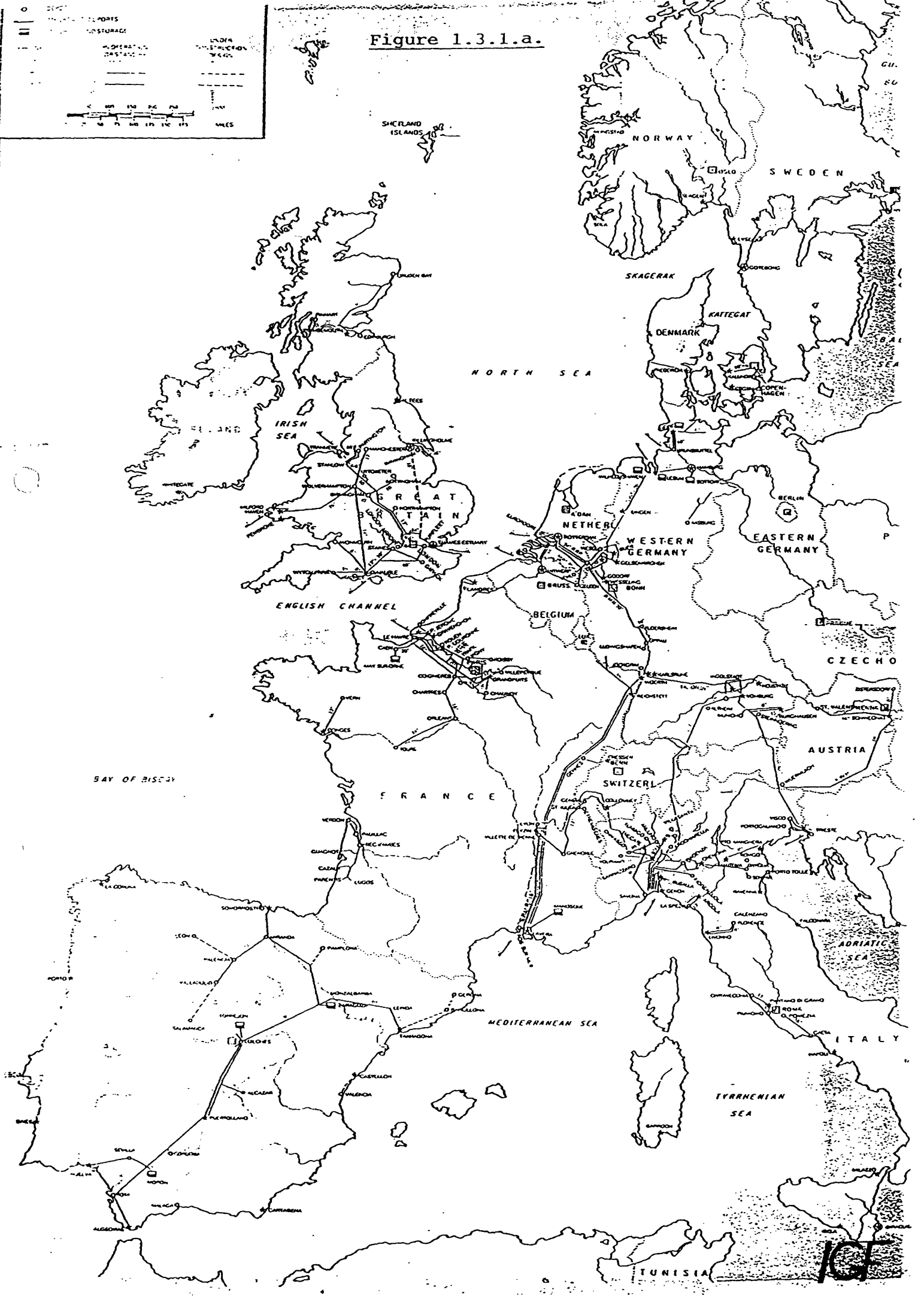
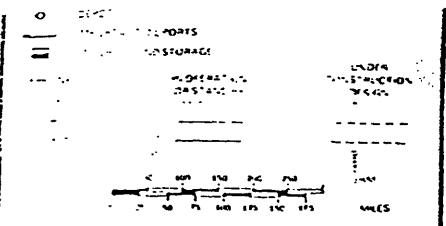
There is not a systematic information about the gross distribution facilities around the EEC. The structure of the system is primarily based on the tank farms existing at the refineries plus a number of storage installations prepared for receiving/dispatching products in bulk. Those storage facilities are in some cases the remnant of an old closed refinery or a truly independent installation. In this last case it is either owned by an independent company, which normally acts merely as keeper/dispatcher of the product without actually owning it, or it is a pool of oil companies that jointly operates the terminal.

The three main areas where such independent facilities concentrate, are the ARA Zone (Amsterdam, Rotterdam, Antwerp), the Eastern Coast of England and the Mediterranean (specially the Marseille - Fos - Lavera Zone).

Those primary depots are linked with regional depots of a smaller size by mean of barges, pipelines and eventually rail. Those regional depots are owned by the refining or wholesaling companies, which in many cases do share the same installations in order to reduce costs. In that respect the last 20 years have seen a process of reorganization in this sector, closing down old small facilities and concentrating in some selected ones with a high degree of automatization and a higher throughput.

The pipeline network can be seen in figure 1.3.1.a. It can be appreciated its high density specially in France, Germany and the Benelux. Notwithstanding the barge traffic is also intense in the Rhine Basin.

Figure 1.3.1.a.



Some of the pipelines are of public propriety, specially that designed eventually for military purposes <sup>11</sup> and some others are owned by the refining/wholesale companies.

### 1.3.2 Legislative features

Again there is not any specific EEC legislation in this field, except those related to environmental protection, competition policy or to external trade policy. These will be analyzed later on. So, the prevailing legislation is that of the national countries in relation to industry regulation or, for pipelines and major storage facilities, those deriving from their strategic importance for the country and, are so subjected to special permits from the Government. There is nevertheless, some "special regimes" that are worth to be considered both in pipelines utilization and in the importation/distribution area. A special situation in the pipelines picture is that of TRAPIL in France and CAMPSA in Spain.

The CAMPSA pipeline network is owned by this company which has as shareholders, the Spanish oil companies, proportionally to their refinery capacity. This network is then open to all those refining companies plus all independent operators in the Spanish market, provided they do arrive at an agreement with CAMPSA for regularly using those facilities.

As for TRAPIL, or Societe des Transports Petroliers par Pipeline, it is worth to mention that it was constituted in 1949 to exploit the network of oil pipelines existing in France, and later extending its activities to military pipelines during normal times. The last figures pointed out, that TRAPIL manages a network of 4.000 Kms with two main axes being the Havre - Paris and Marseille-Fos-Strasbourg, and storage facilities for 1.5 million cubic meters of oil products.

Its shareholders are the French State (30%), the public companies (ELF and TOTAL with 30%), other refining companies (SHELL, and ESSO with 20%) and other smaller shareholders. The French Government has also a Commissioner charged of looking after the normal activities of TRAPIL.

An important feature of the system is again the EEC competition policy. That prevents the pipeline companies from exercising an unfair abuse of their "dominant position". So, the operation of the pipeline network has to be organized alongside the following lines:

1. The pipeline network has to be open to the operation of all interested parties.
2. The owners of the company have the right of priority of use, without prejudicing an unfair use of this priority.
3. The operational conditions and costs of utilisation have to be fixed along non - discriminatory, nor unfair principles.
4. No two different companies will be charged differently for the same conditions of utilisation.

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<sup>11</sup>There is an extensive network of military owned, NATO, pipelines, whose main utilization in normal times is commercial. Figures of capacity and throughput are classified.

Another interesting feature of some countries in the Community is the regulation of the importers wholesalers. This system is actually working in France, and the French case has been also taken as a reference for Spain, Greece and Portugal.

The basic element of this situation is the consideration of these activities as strategic for the country and so needing a special monitoring from the Government.

So the so called A-5 French System gives right to importers/wholesalers to operate for a five year period, provided they fulfill a set of conditions such as financial soundness, technical expertise and guarantee of supply of products.

Only companies approving the discretionary examination by the Government are given permission to operate in the Country.

This whole system is under close scrutiny because of its potential negative effects upon the EEC Energy Interior Market and so, it is possible that, not later than 1992, this system now in operation in the above countries, could be either eliminated for EEC based companies, or transformed in an alternative system, where a company recognition to operate in the Oil Sector from a National Government will be guarantee enough for immediate recognition in the rest of the EEC.

As summary, it must be said that the distribution network could be considered as a necessary "cost center" for the oil companies. That implies, that whilst the need of vertical integration implied that they actually own (in most cases) and operate such facilities, they tend to share those assets with other oil companies and their main concern is to reduce the cost through higher automatization and throughput.

As for the special status of "importers/distributors" it could be used as a useful mean to stabilize a new market and prevent the lust of speculators, but it has also some anticompetitive side effects that recommended in any case a careful use and specially a precise timing for its removal.

## 1.4 Retailing

### 1.4.1 Description of the sector

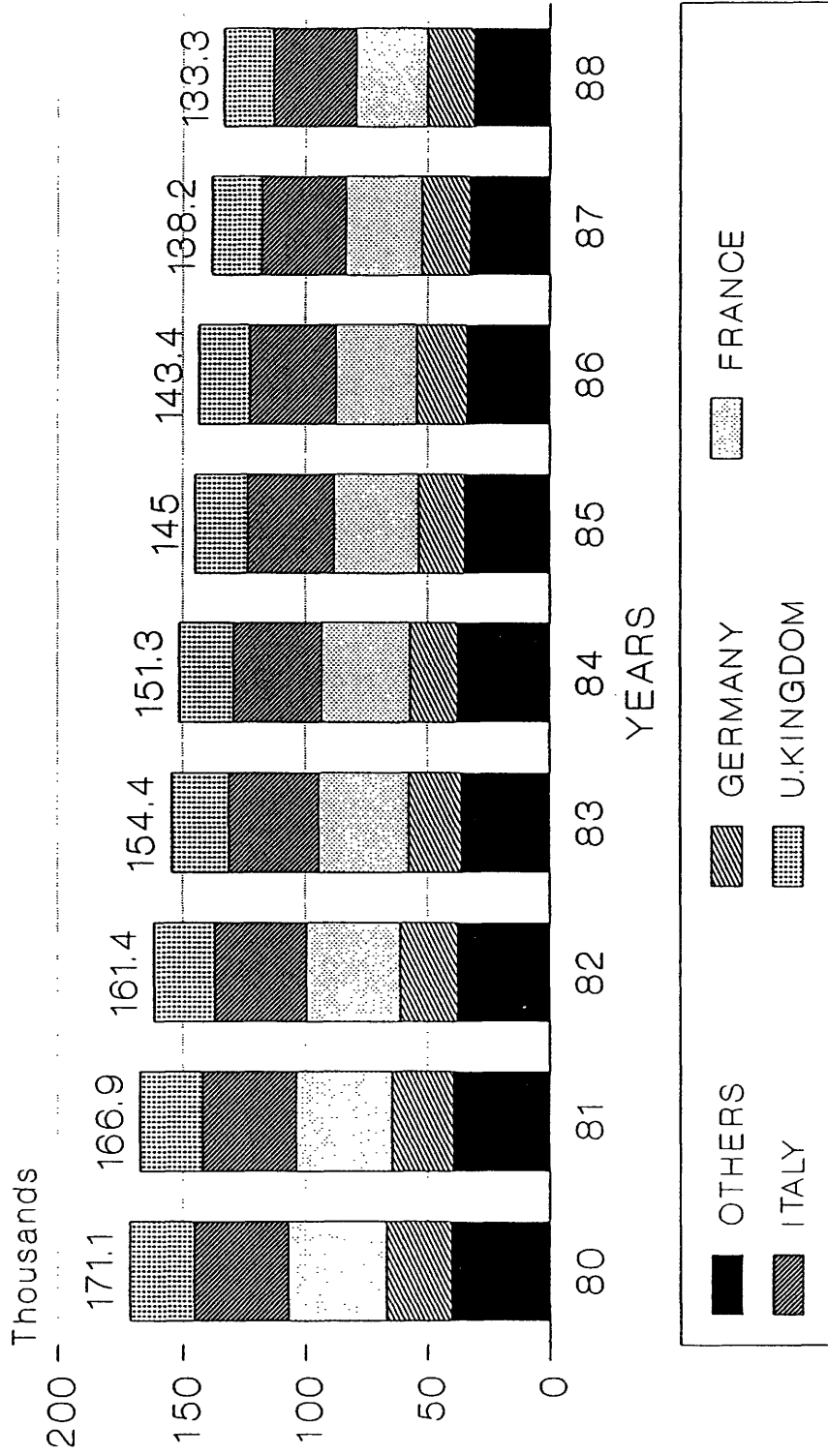
Though the 7% increase in automotive fuels (petrol + diesels) in EEC Countries between 1980 and 1990, the number of petrol stations has declined by 22% in the same period.

This substantial reduction was not similar across the whole of the EEC as could be appreciated in figure 1.4.a.. So in 1988, the density of petrol stations per inhabitant and per square Km were relatively similar all across the EEC (see figure 1.4.b) with the notorious exception of the newly joining countries, Portugal and Spain. In this last country, the density was obviously low, due to the former Oil Monopoly that established a "minimum distance regime" that prevented petrol stations to be established within a certain distance from an existing one.

The consequence is the figure 1.4.c. that shows the annual theoretical throughput per station in the EEC Countries. Again Spain, has the highest figures, while in general the countries with a higher output are those that had closed down the largest proportion of their existing 1980 net work.

Of more significance is the figure 1.4.d. that pictures the share of the EEC retail market by the main oil companies.

# FIGURE 1.4.a EVOLUTION OF THE NUMBER OF PETROL STATIONS IN THE EEC

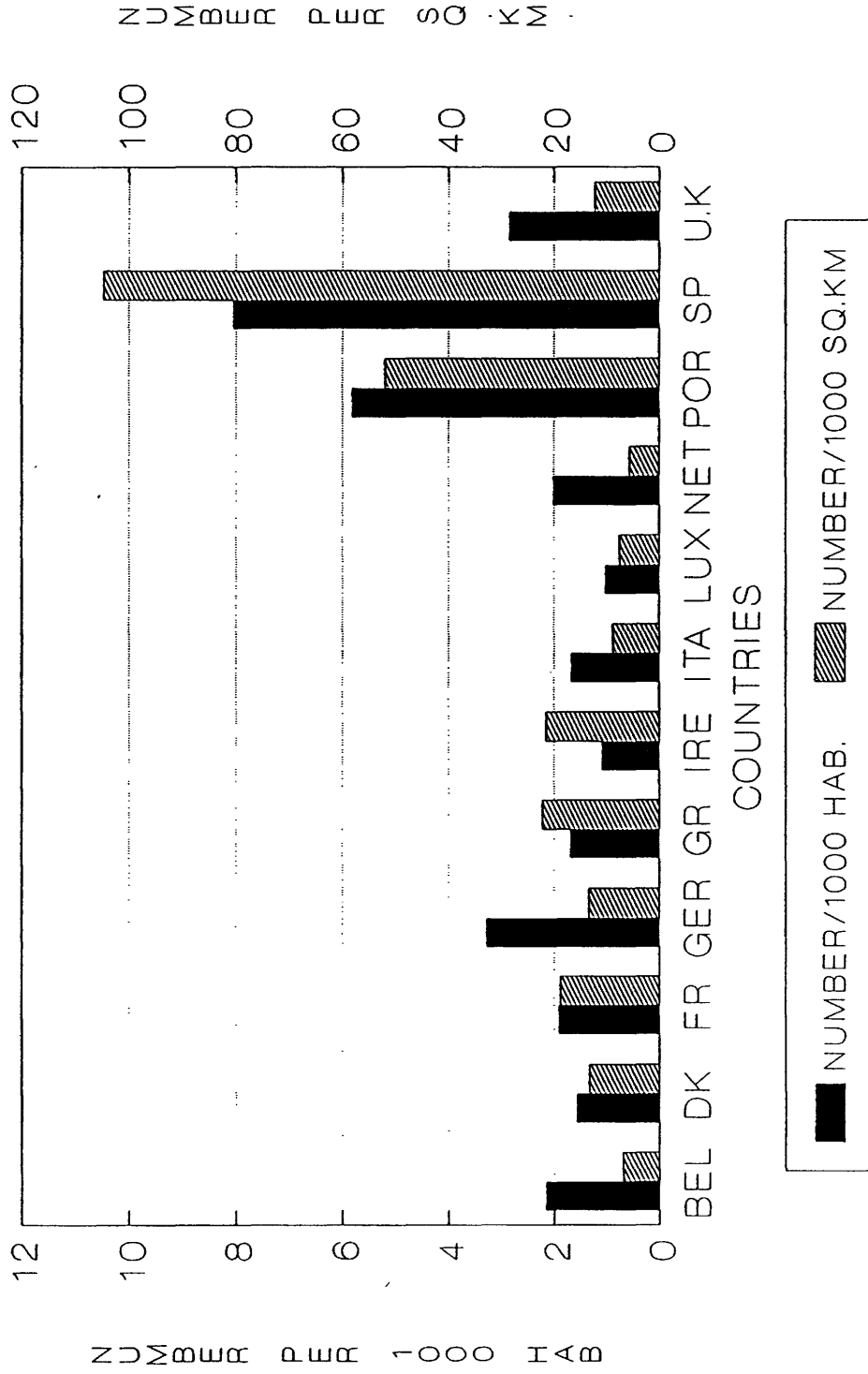


Source : Panorama of the EEC Industry

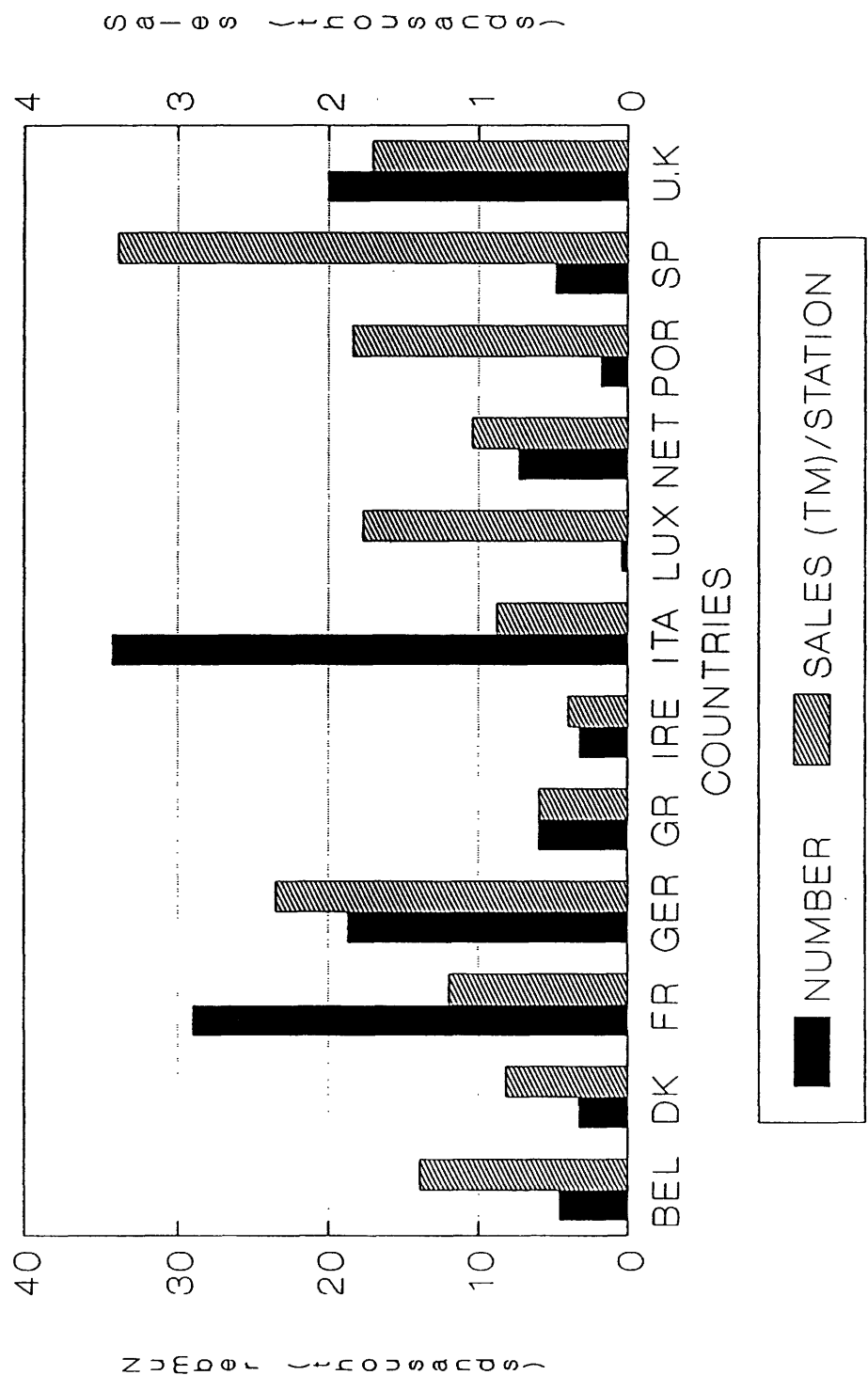


FIGURE 1.4.b.

RETAIL STATIONS DENSITY (1989)

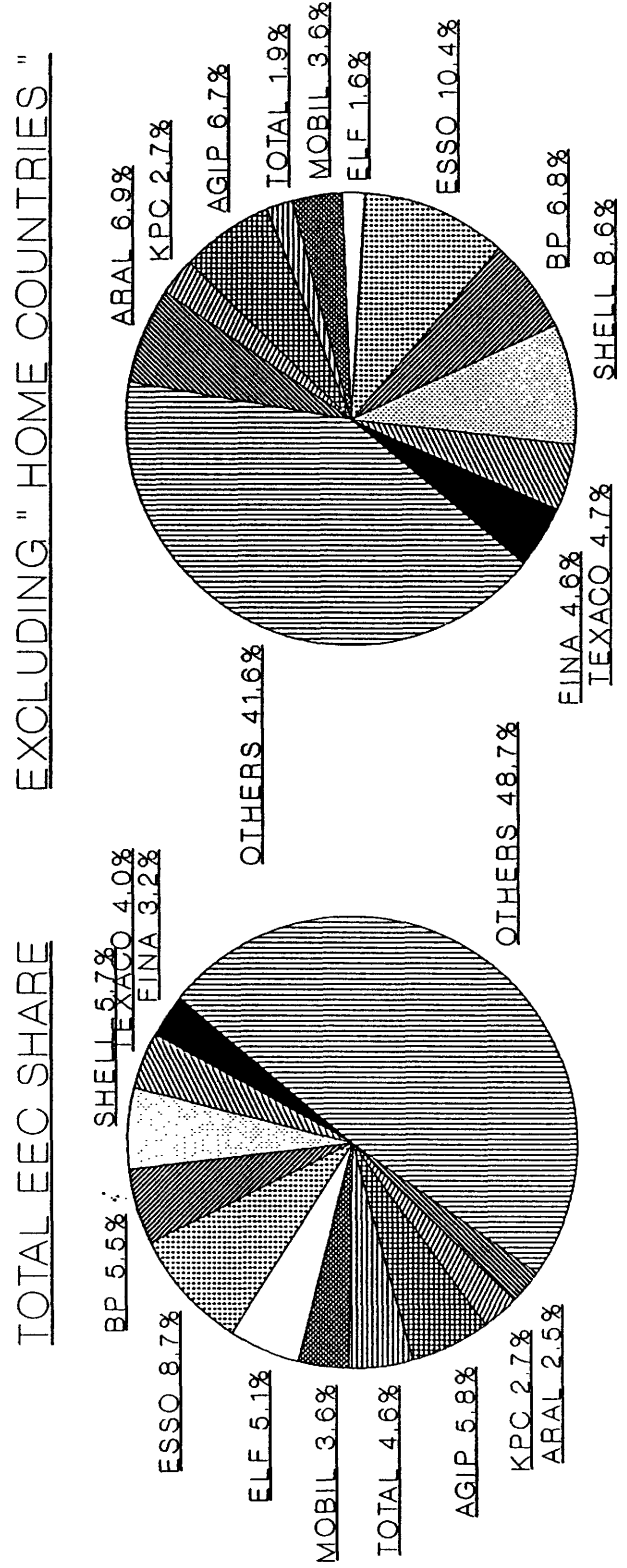


**FIGURE 1.4.c**  
**SALES PER PETROL STATION (1989)**



Note : Total petrol & diesel consumption / number of petrol stations ( Direct sales are also included )

FIGURE 1.4.d.  
SHARE OF RETAIL STATIONS NETWORK  
BY COMPANIES IN THE EEC (1989)



Source : National Oil Assoc.

The distribution between "total share" and "share excluding home countries" is significant because in this latter figure the retail stations situated in the "home country" (Shell-The Netherlands, ELF-France, Agip-Italy, ESSO-Italy) are not considered. That gives a better picture of the spread of a company in different EEC markets which correspond with the definition given in table 1.2.f. Comparative figures are given in table 1.4.e.

Also important to notice is the high figure (40 - 50%) of "others". These are truly independent retail stations not featuring any brand, or retail stations linked to smaller oil companies. In any case that higher figure, represent an intense fragmentation of the retail market much higher than the refining sector.

In the case of "brand retail stations" they could be classified in three main categories:

1. **Fully owned** : Land and equipment belong to the refining "brand company". Also the personnel usually belong to the same company. They could be considered the "flagship" of their network. Their usefulness is to provide ground for experimentation and also as a means of "feeling the market".
2. **Leased** : The normal situation is that the ownership belongs to the oil company although the retail station is leased for a rent ( usually a lump sum plus a sales percentage) to an individual who is to engage the personnel and manage the station. The degree of control of the "oil company" is again intense, although the common practice is to sell the product and not to give it as an agent's contract to the station. There is no clear evidence of the average duration of such loose contracts, although there are suggestions of a range from one to five years.
3. **Long term contracts** : In this last case, land and equipment belong to an independent owner. In this case the oil company provides the refurbishment of the station in order to comply with its "brand image standards" and also guarantee supply with a minimum sales margin for the owner. According to EEC regulations the long term contracts have to be of a maximum duration of ten years, although they could be renovated.

As for the "wholly independent" retail stations, its number and significance varies enormously between countries. In this respect, France can be considered the most representative country as can be seen in the following figures for the 1989 (table 1.4.f.).

The typical profile for the independents, is small retail stations located in the countryside or large throughput stations located in hyper and supermarkets, who usually make an intense competition (operating in many cases at non profit) in order to attract consumers to their main business.

TABLE 1.4.e

RETAIL STATIONS SHARE OF THE REFINING COMPANIES IN  
EEC COUNTRIES (1.989)

COMPANY	COUNTRY										
	BEL	DK	GER	GR	SP *	FR	IR	IT	NL	P	UK
AGIP	-	-	2.1	-	-	0.6	-	26.8	-	-	-
ARAL	3.9	-	15.7	-	-	0.4	-	-	-	-	-
BP	11.9	-	8.2	18.1	-	3.5	10.2	-	32.1	7.5	9.2
CEPSA/ELF	-	-	-	-	23	-	-	-	-	-	-
ELF	4.0	-	2.3	-	-	6.9	-	-	-	-	-
ESSO	10.6	-	9.5	-	-	3.1	19.4	7.4	11.4	-	15.4
KPC	5.9	18.0	-	-	-	-	-	-	5.5	-	5.6
MOBIL	3.8	-	-	10.9	-	2.2	-	4.2	-	9.0	10.4
PETROFINA	13.8	-	3.0	-	-	1.7	-	-	-	-	-
PETROGAL	-	-	-	-	-	-	-	-	-	70.0	-
REPSOL/CAMPESA	-	-	-	-	74	-	-	-	-	-	-
SHELL	13.6	11.9	9.1	15.1	-	4.2	15.2	-	25.7	11.5	18.5
TEXACO	13.8	-	10.5	6.9	-	-	15.4	-	15.2	-	10.0
TOTAL	3.6	-	1.3	2.7	-	9.5	-	-	9.6	-	-
OTHERS	15.1	70.1	29.2	46.3	3	67.9	39.8	61.6	0.5	2.0	30.3
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

In %

\* Situation in 1.991

Source : National Oil Association

TABLE 1.4.f

## REPARTITION OF PETROL STATIONS IN FRANCE

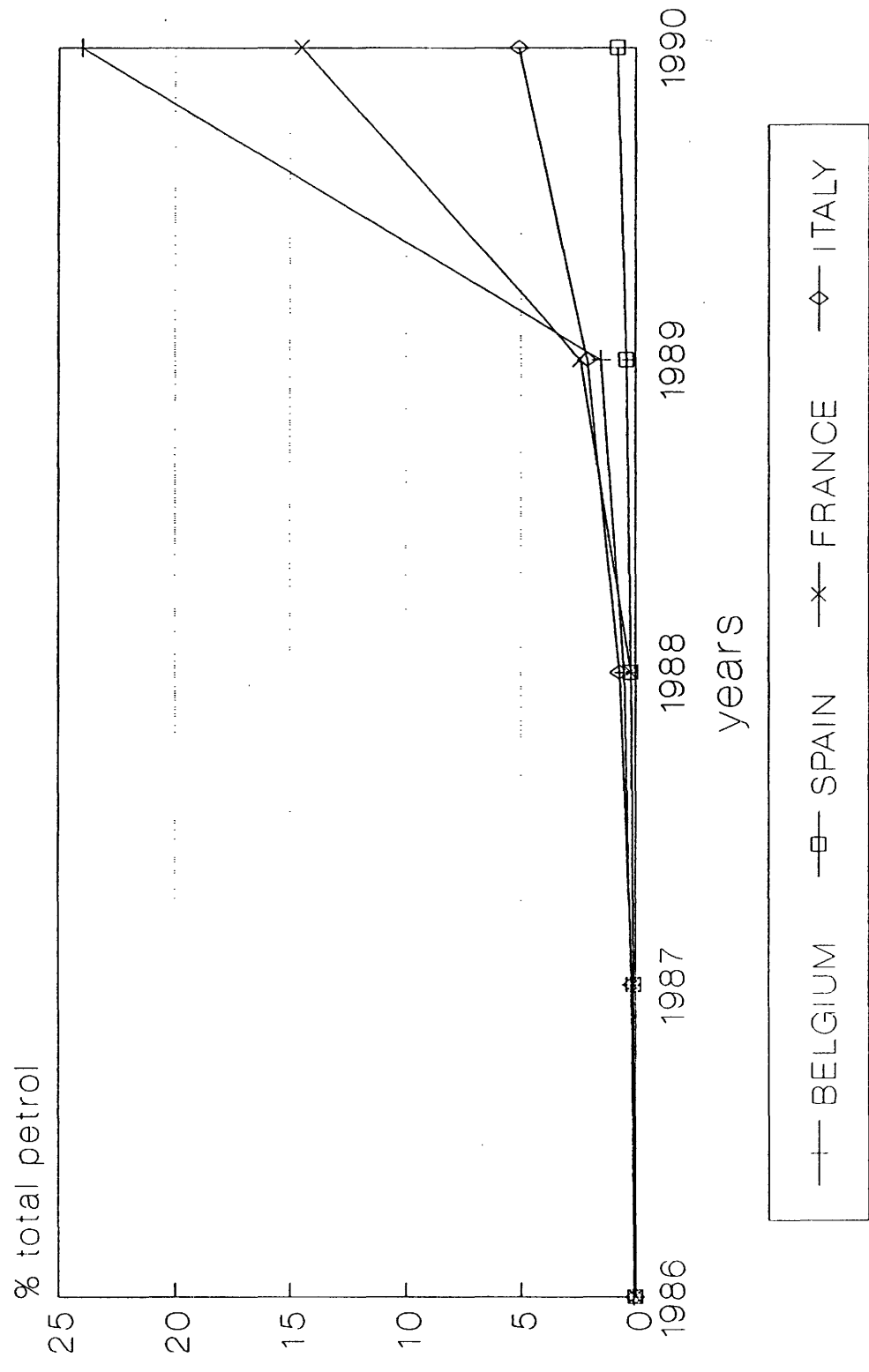
TYPE	NUMBER	%
Fully owned	5.100	17.6
Leased	350	1.2
Long term contracts	13.250	45.7
Independents	7.200	24.8
Hyper & supermarkets	3.100	10.7
Total	29.000	100.0

The last feature worth to mention, is the evolution of the sales of unleaded petrol. Not a definite pattern can be observed in the case of the EEC. Some northern EEC countries (such as Germany) can be classified as "fast runners" whilst others, as Italy or Spain do run on the "slow lane". The main conclusion however, is that the speed of introduction of unleaded petrol is closely linked to the establishment of a fiscal bonification to enhance its sales rather than actually the number of cars fitted with catalytic converters or the number of petrol stations supplying unleaded petrol (figures 1.4.g. and h.).

As a summary of this description of the retailing sector it could be said that :

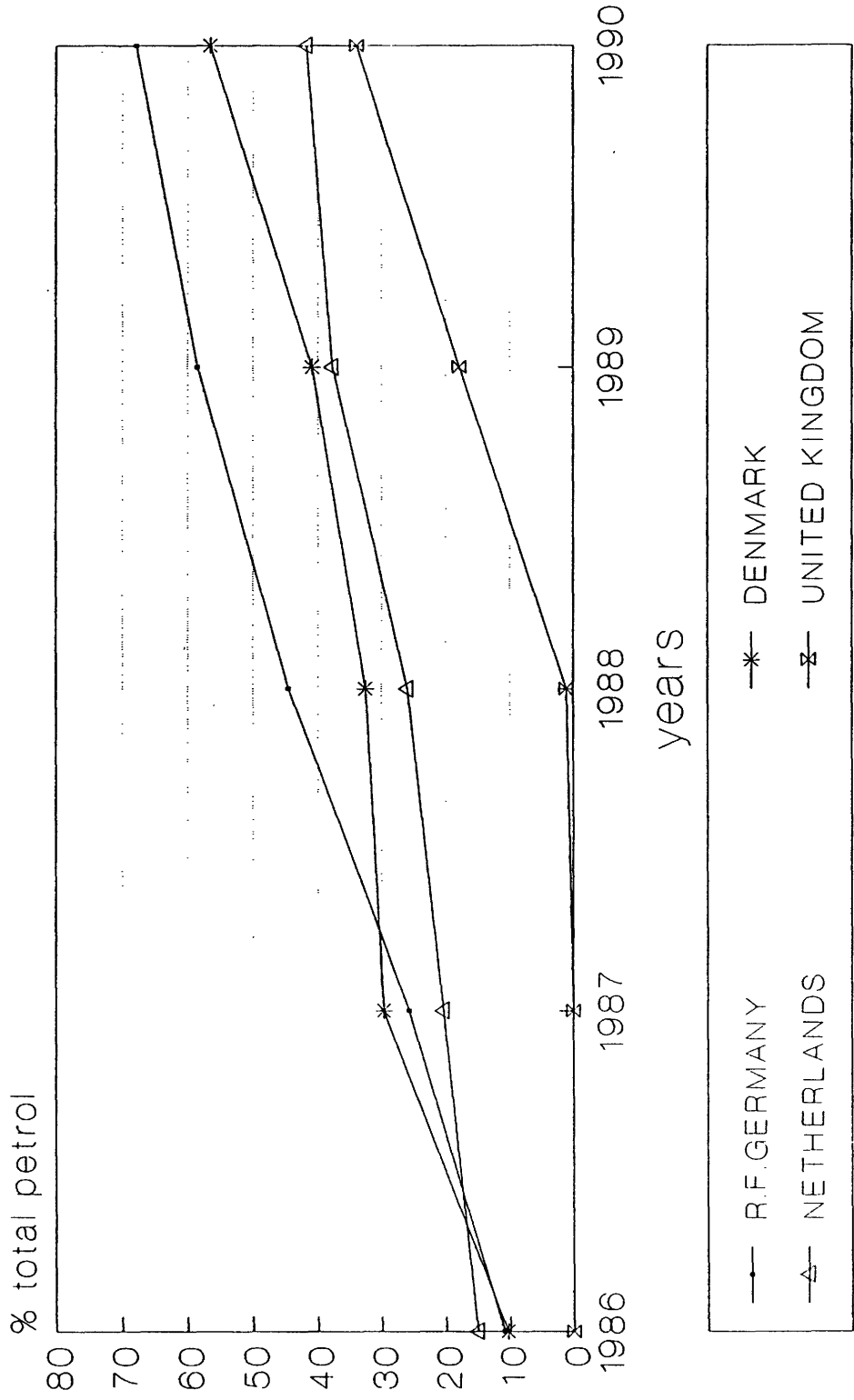
1. There has been an intense reduction in the number of petrol stations during the last ten years that lead to a more satisfactory throughput figures.
2. The density of retail stations do not differ widely across the EEC with the notorious exceptions of Portugal and Spain. Those densities, could be then used as a long term reference to Poland.
3. The participation of oil companies by countries, show a different picture that the one portrayed by the refining share. In any case that confirms the differences between EEC oil companies.
4. The participation of independents and the structure of the sector differ substantially in a country by country analysis. In must be pointed out that France has a very specific situation with a very large net of sales channeled through hyper and supermarkets at very low margins.
5. The "brand" retail stations" can be classified in three main groups : Fully owned (small in number but important flagships), leased (with a strong control by the oil company) and long term contracts (with a maximum duration of ten years and in general a lesser control).
6. The repetition of the model in almost all EEC countries shows that the model is consolidated and so could be taken as a reference for Poland.

**FIGURE 1.4.g**  
**UNLEADED PETROL IN THE EEC : THE SLOW**



Source : EUROSTAT

**FIGURE 1.4.h**  
**UNLEADED PETROL IN THE EEC : THE FAST**



Source : EUROSTAT



#### 1.4.2 Legislative figures

No significant legislative information has been found at EEC level. According to several sources the basic legislation regarding the construction of those retail stations is based on national (or regional) legislation regarding aspects such as security of installation or compliance with traffic requirements. Stricter demands are normally fixed at municipal level, specially regarding safety aspects.

In general, the network established in highways, are is subject a minimum distance regime, although the tender for installation in those service areas has to be open to public bidding. This "regime distance" is also a common feature of the Spanish system, although affecting the full network. (It has also to be pointed out that this system is under strong pressures for change, on behalf of the EEC Commission, due to its potential restriction of free competition).

## 2 Price formation for oil products in the EEC

### 2.1 Introductory remarks

Although Poland is not bound by any constraint to EEC legislation or practices related to oil prices formation, those elements prevailing in EEC countries constitute a good reference for the future.

The first remark, necessary to point out, is that the internal prices in the EEC Countries are somewhat different from those prevailing in the international markets as the figures 2.1.a-c show, comparing the EEC-12 average with the average Rotterdam Prices for 1990.

So, although national consumer EX-TAX prices go along the international quotations, the variations differ widely, being the internal prices less erratic and more stable than the corresponding international quotations.

The second remark is that from 1976, a growing trend towards price freedom is clearly perceptible in EEC countries. Now in 1991, as could be seen in the following table 2.1.d., price freedom is the rule and government controlled prices the exception. This trend is to consolidate in the light of the creation of the EEC Interior Market in 1993.

Table 2.1.d  
Oil products price formation in the EEC

<u>COUNTRY</u>	<u>1976</u>	<u>1991</u>
BELGIUM	CONTROL	PARTIAL FREEDOM
DENMARK	CONTROL	FREEDOM
FRANCE	CONTROL	FREEDOM
GERMANY	FREEDOM	FREEDOM
GREECE	CONTROL	CONTROL
IRELAND	CONTROL	PARTIAL FREEDOM
ITALY	CONTROL	PARTIAL FREEDOM
LUXEMBURG	CONTROL	PARTIAL FREEDOM
NETHERLANDS	CONTROL	FREEDOM
PORTUGAL	CONTROL	CONTROL
SPAIN	CONTROL	PARTIAL FREEDOM
UNITED KINGDOM	CONTROL	FREEDOM

The term **CONTROL** means the establishment of a fix price at governmental level. In contrast the term **PARTIAL FREEDOM** describes several situations ranging from a semi-automatic formula (Belgium), maximum prices (Spain) or price control over some products (Italy). All those national regimes will be analyzed later on the following headings.

Figure 2.1.a.

## PRICE COMPARISON BETWEEN DOMESTIC INTERNATIONAL PRICES-PREMIUM GASOLINE

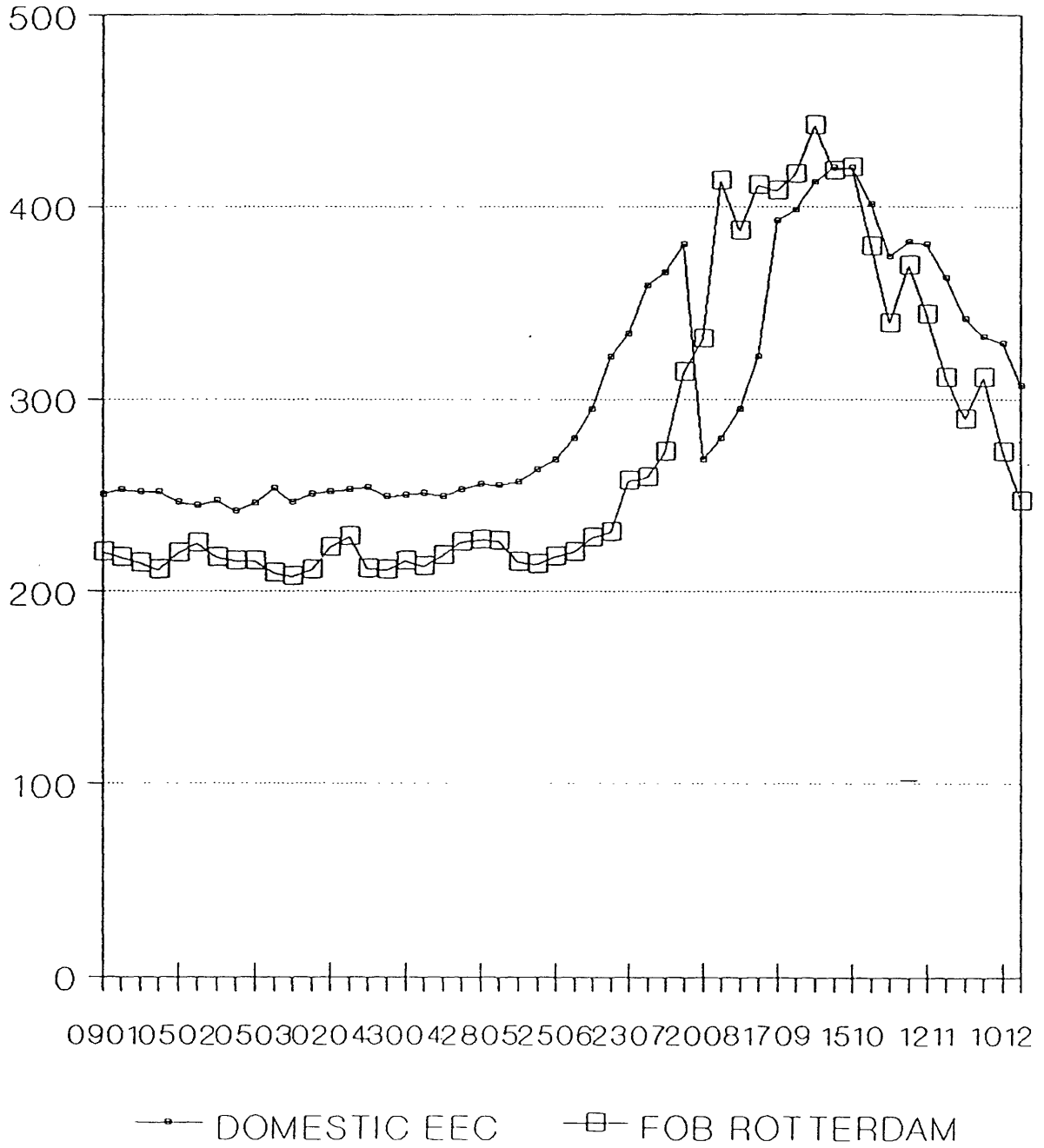


Figure 2.1.b.

## PRICE COMPARISON BETWEEN DOMESTIC INTERNATIONAL PRICES-AUTOMOTIVE DIESEL

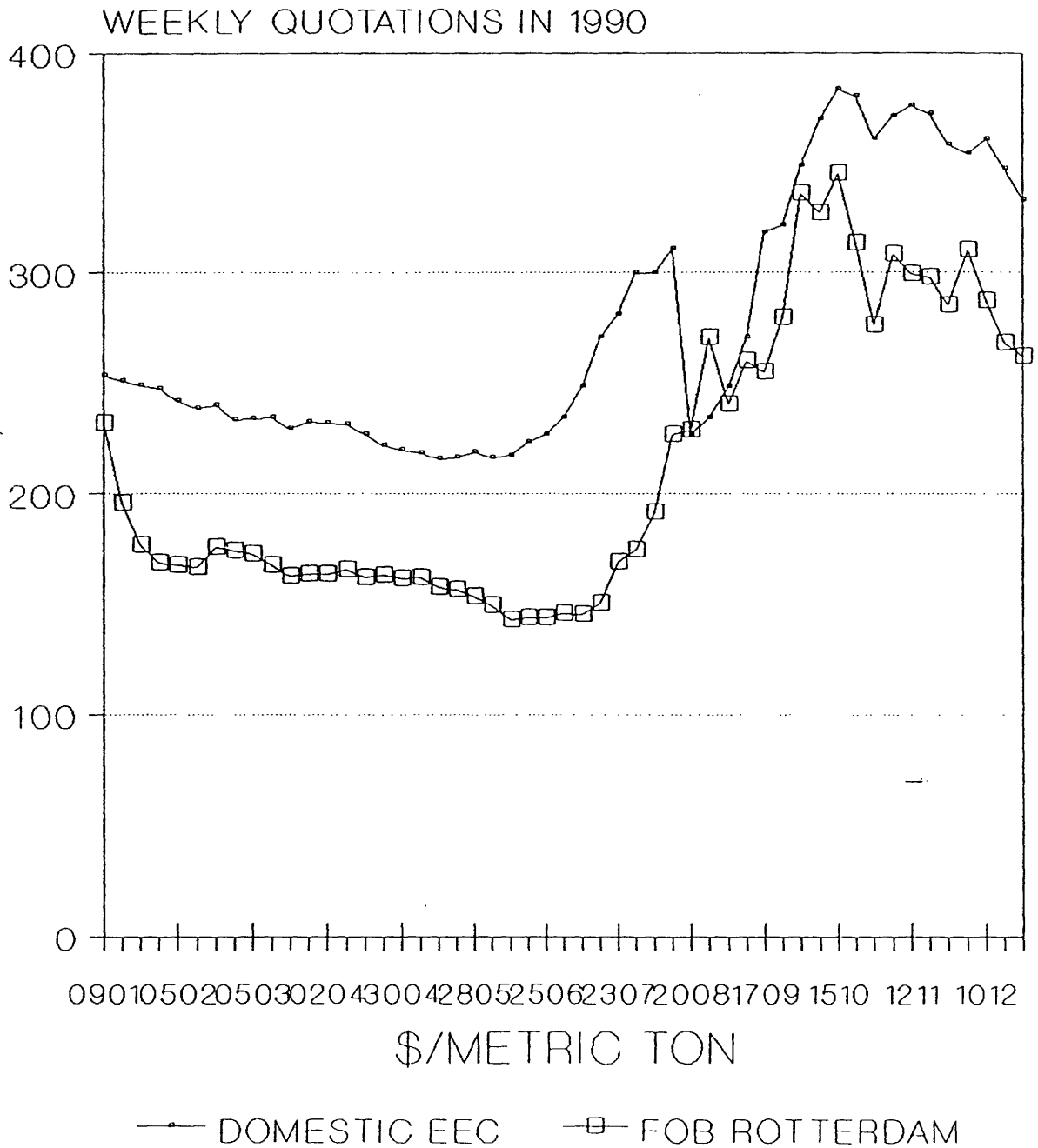
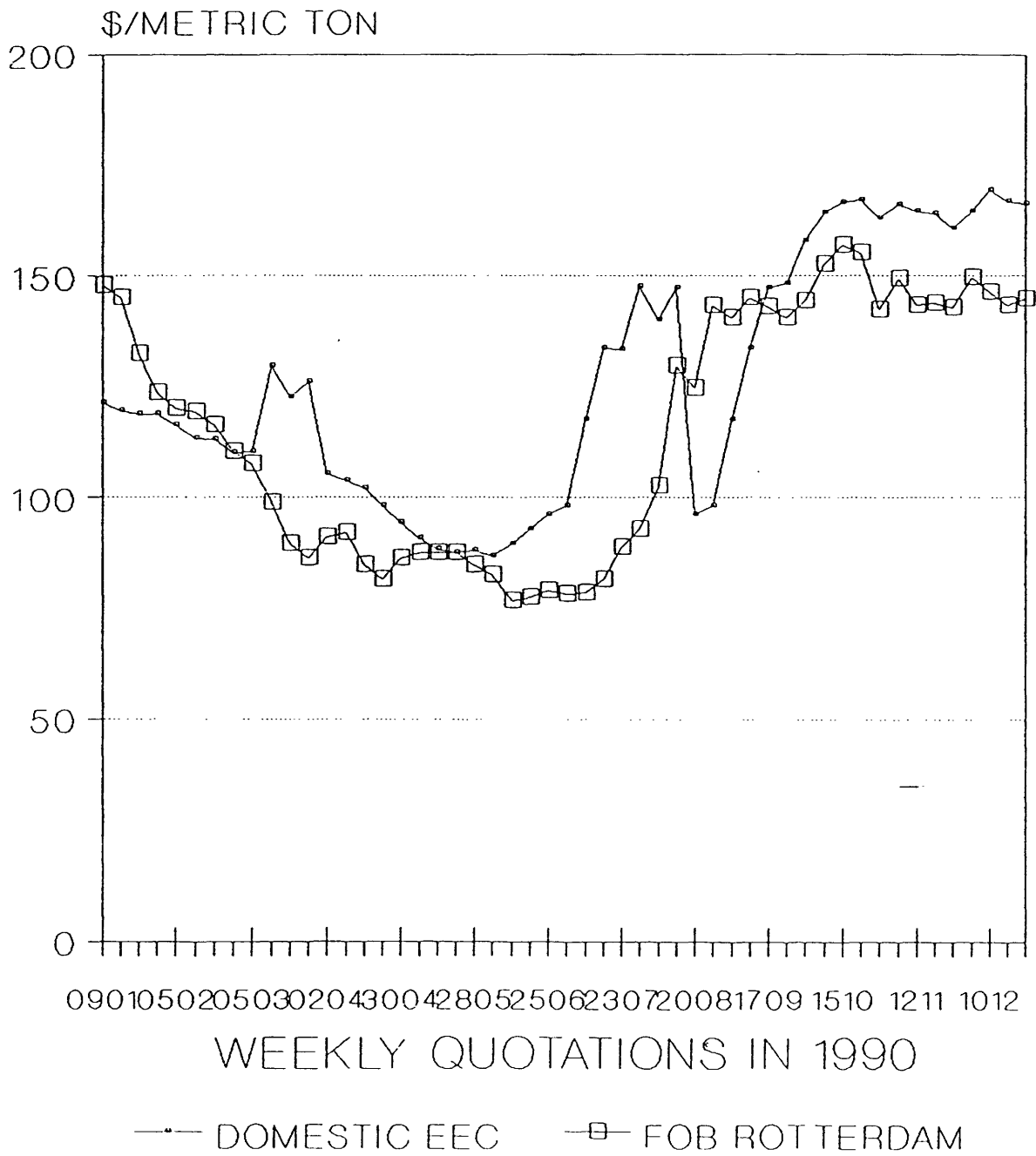


Figure 2.1.c.

## PRICE COMPARISON BETWEEN DOMESTIC INTERNATIONAL PRICES-HEAVY FUEL-OIL



This situation is clearly coherent with the reality of the Oil Sector inside the EEC. Its intense integration intracommunity trade represents 20% of total consumption the application of Community Law and its prohibition of any clause protecting the national production, means that any controlling prices system turns back against the national producer in benefit of other EEC producers, since it introduces an important degree of rigidity in their day to day operations.

But before we descend to a country by country sketch of the situation, it is necessary to deepen the analysis of EEC legislation in this field.

## 2.2 EEC legislation in relation to oil prices

To analyze the impact of EEC legislation on oil prices formation is necessary to distinguish between the basic legislation and those arising from Rules of the EEC Court of Justice.

### 2.2.1 Basic legislation regarding oil prices formation

It is recognized at EEC level, the National Government authority, to impose a pricing system for industrial products and so for oil products. Nevertheless, these powers are limited to what could be defined as the "internal dimension" of the country: because those pricing criteria could not oppose one of the four basic Foundations of the EEC Treaty, namely the Freedom of Movement of Goods established in articles 9 to 37 of the foresaid Treaty.

Specially those pricing criteria could be against article 30, that establishes as forbidden: any import quotas or similar measures against the free imports of goods from other EEC countries. For that reason, any pricing criteria of national dimension will have to satisfy two conditions:

1. That any pricing formula or criteria, derives from a Public Authority (whether National or Local), but not from a company or association of enterprises whatever its legal status.
2. Those criteria have to be established in such a way, that do not constitute a hamper to intracommunity trade.

The public nature of the "pricing system" implies that in any other case, even if the company is a state owned one, the pricing system will be considered as "market prices" subject to articles 85 & 86 of the EEC Treaty regulating free competition between companies.

The adaptation to the Freedom of Movement of Goods could not be defined a priori, and every single measure has to be analyzed against EEC legislation before a final judgement could be made.

An old EEC Directive, the 70/550 defines the limits within which the Public Authorities could establish a price system. Those negative references which are to be avoided are:

- To establish, only for imported products, minimum or maximum prices.

- To fix prices less advantageous for imported prices than for national products.
- To fix profit margins only for imported products or to establish lesser margins for imported products.
- To establish the selling prices, taking into account only the costs or quality of the national products at such a level that imports are hampered or discouraged.
- Any type of measures in relation with the marketing of the products such as the shape, dimensions, weight, composition or presentation even if applicable not only to national but to imported products, established in such a way that effectively discouraged or prevented the free imports of goods.

### 2.2.2 Jurisprudence of the EEC Court of Justice

The Rules of the Court of Justice in relation to industrial prices, have been very intense since 1957. Only as a reference, the following Rules have to be quoted:

- Rule INNO. ATAB (13/77) Fixed prices of books in Belgium.
- Rule VAN TIGGELE (82/77). Minimum prices for alcoholic beverages in The Netherlands.
- Rule ROUSSEL LABORATORIA (181/82) Prices of drugs in The Netherlands
- Rule VAN DE HAAR AND KAVEKA (177/84). Minimum prices for tobacco products in Belgium.
- Rule LECLERC- THOUVARS (229/83) Book prices in France
- Rule LECLERC-CULLET (231/83) Petrol prices in France.
- Rule BUREAU NATIONAL COGNAC (123/83) Price fixation of alcoholic beverages by a semipublic institution.
- Rule LECLERC/SARL (34/84) Oil Product prices in France.
- Rule CAMPUS OIL Security of supply and fixation of oil prices in Ireland.

The basic elements that can be summarized from all these Rules of the Court are :

1. A minimum price could **not be so low** as to prevent imports, by neglecting to consider the extracosts incurred by the imported products.
2. A maximum price could **not be so high** as to reduce competition through the way that cheaper imported products could not use price rebates as a way to increase their share in the market.
3. A price system or formula could not be established **only on national terms**, but has to consider its basic elements in reference to other representative EEC Countries.

4. A group of companies/institutions acting on behalf of a Public Authority have not the power to fix prices for their members, being that procedure under article 85 of EEC Treaty
5. Competition law is only applicable, whenever the products under consideration are marketed in two or more EEC countries or a substantial part of the market of a single country is affected.

### 2.3 Oil pricing systems in different EEC countries

As can be observed in the following lines there is still not a single model in every EEC Country, although there has been an important convergence towards full freedom in most of them. In the light of the Energy Interior Market, that the EEC Commission is pushing forward and its accompanying measures such as fiscal harmonization, it could be foreseen that perhaps not later than 1995 there will be a uniform EEC system based on the freedom of fixation of prices, and so with final consumer prices similar across the EEC as a whole.

Of course such freedom is not unlimited. Both at national and EEC level, the powers and the surveillance of the Anti Trust Authorities run parallel with that march towards freedom for oil prices. That could be also guaranteed since in many of the EEC Countries, the number of operating companies in the Oil Sector is important, and so competition, in some cases very strong, keep a pressure on prices to keep them low.

Also the EEC Commission has played an important role, through dissemination of information about oil prices. Since as early as 1978, the Energy General Direction of the Commission of European Communities, has been publishing a weekly bulletin, detailing the consumer prices in every one of the EEC Countries (tables 2.3.a. and b.). That has helped to clarify the price comparison between countries increasing the pressures from private and industrial consumers to align the prices along the EEC average. This information refers to the five main products (premium and regular petrol, diesel, heating oil and fuel oil) and the information is compiled through the Energy Ministries in the EEC Countries and sent to the EEC Commission in Brussels. Prices are an average of those prevailing the previous week in every one of the EEC countries and the information is delivered on Tuesdays back to the EEC Member Countries.

The results of such combination of a significant information and enhanced competition have meant an important reduction in the price differences between countries. That could be clearly appreciated in point 2.4.

That trend towards price convergence is to continue in the future, which linked to the fiscal harmonization in progress (VAT and excise tax on oil products), will end in no further than 1995, with consumer prices similar across the EEC.

But it is necessary to go in detail to the situation in every one of the EEC countries.



Table 2.3.a.

Niveaux indicatifs hebdomadaires des prix hors taxes à la consommation  
Weekly indicative Price Levels Taxes and Duties excluded  
Wöchentliche Meldung von vorläufigen Preisen, ohne Steuern und Abgaben

Prix au:  
Prices as at: 22.04.91  
Preisen vom:

In national currencies / En monnaies nationales / In nationaler Währung

TABEAU TABLE 1 TABELLE	Essence super Premium Gasoline Superbenzin 1000 L (1)	EURO-super 95 RON 1000 L (1)	Gasoil moteur Automotive gasoil Dieselkraftstoff 1000 L (1)	Gasoil chauffage Heating gasoil Heizöl Ex. Leicht 1000 L (2)	Fuel Residual HTS Residual F.O. HSC Heizöl Schwer Tonne (3)
Belgique (FB)	10.650	10.720	9.640	6.800	3.041
Danmark (GD)	1.910	1.970	1.795	1.515	.769 x
Deutschland (DM)	481	464	414	348	182 x
Ellas (DR)	36.545	42.377	42.070	42.070	14.372
Espana (PES)	30.071	32.393	28.236	24.643	10.296
France (FF)	1.280	1.400	1.260	1.356	450
Ireland (Irish £)	207,51	213,40	206,95	136,58	72,31
Italia (Lire)	357.320	374.130	311.360	265.210	116.055
Luxembourg (FL)	9.950	10.000	8.470	7.740	3.648
Nederland (Fl)	579	585	482	439	232 x
Portugal (ESC)	37.318	40.056	44.093	-	15.090
U.K. (£)	162,69	166,17	152,85	107,40	59,88

En / in / in US\$

TABEAU TABLE 2 TABELLE	Essence super Premium Gasoline Superbenzin 1000 L (1)	EURO-super 95 RON 1000 L (1)	Gasoil moteur Automotive gasoil Dieselkraftstoff 1000 L (1)	Gasoil chauffage Heating gasoil Heizöl Ex. Leicht 1000 L (2)	Fuel Residual HTS Residual F.O. HSC Heizöl Schwer Tonne (3)
Belgique	294,69	296,62	266,74	190,37	84,14
Danmark	284,52	293,46	267,39	225,68	114,55
Deutschland	273,40	263,74	235,32	197,81	103,45
Ellas	192,02	222,66	221,05	221,05	75,51
Espana	277,53	298,96	260,59	227,43	95,02
France	215,96	249,70	212,59	228,78	75,92
Ireland	315,89	324,86	315,04	207,92	110,08
Italia	275,24	288,19	239,84	204,29	89,40
Luxembourg	275,32	276,70	234,37	214,17	100,94
Nederland	292,20	295,23	243,25	221,55	117,08
Portugal	246,55	264,64	291,31	-	99,70
U.K.	277,06	282,99	260,30	182,90	101,98
C.E.E./E.E.C./E.G. a) Moyenne/Average/ Durchschnitt	260,94	276,60	241,82	209,62	92,36
b) Moyenne tous pro- duits/Average for all products/ Durchschnitt aller Produkte (4)			261,21		

n / in / in ECU

TABEAU TABLE 3 TABELLE	Essence super Premium Gasoline Superbenzin 1000 L (1)	EURO-super 95 RON 1000 L (1)	Gasoil moteur Automotive gasoil Dieselkraftstoff 1000 L (1)	Gasoil chauffage Heating gasoil Heizöl Ex. Leicht 1000 L (2)	Fuel Residual HTS Residual F.O. HSC Heizöl Schwer Tonne (3)
Belgique	250,87	252,51	227,07	162,06	71,63
Danmark	242,21	249,82	227,63	192,12	97,52
Deutschland	232,75	224,52	200,33	168,39	88,07
Ellas	163,46	189,55	188,18	188,18	64,29
Espana	236,25	254,50	221,84	193,61	80,89
France	183,85	212,57	180,97	194,76	64,63
Ireland	268,92	276,55	268,19	177,00	93,71
Italia	234,31	245,33	204,17	173,91	76,10
Luxembourg	234,38	235,55	199,51	182,32	85,93
Nederland	248,75	251,33	207,08	188,60	99,67
Portugal	209,09	225,29	247,99	-	84,87
U.K.	235,86	240,90	221,59	155,70	86,81
C.E.E./E.E.C./E.G. Moyenne/Average/ Durchschnitt (4)	222,14	235,47	205,86	178,45	78,62

Table 2.3.b

- (1) Prix à la pompe / Pump price / Tankstellpreise
- (2) Prix pour livraison de 2.000 à 5.000 litres. Pour l'Irlande livraison s'étendant au secteur industriel.  
Prices for delivery of 2,000 to 5,000 litres. For Ireland this size of delivery occurs mainly in the industrial sector.  
Preis bei Lieferung von 2.000-5.000 liter. Für Irland bezieht sich diese Abgabemenge hauptsächlich auf den Industriesektor.
- (3) Prix pour livraison inférieure à 2.000 tonnes par mois ou inférieure à 24.000 tonnes par an.  
Prix franco consommateurs. Pour l'Irlande livraison de 500 à 1.000 tonnes par mois.  
Prices for offtakes of less than 2,000 tons per month or less than 24,000 tons per year.  
Delivered Consumer Prices. For Ireland deliveries are in the range of 500 to 1,000 tons per month.  
Preis bei Abnahme unter 2.000 t im Monat oder 24.000 t im Jahr. Preise frei Betrieb. Für Irland bei Abnahme von 500-1.000 t im Monat.
- (4) La moyenne en \$/tm résulte d'une pondération des quantités consommées de chaque produit concerné au cours de la période 1989.  
The result in \$/mt of weighting the prices of the products concerned by the quantities consumed during the year 1989.  
Der Durchschnittspreis in \$/t ergibt sich aus der Gewichtung mit den Verbrauchsmengen des jeweiligen Produktes im Jahre 1989.

The bulletin publishes each week the prices communicated by the Member States, as being the most frequently encountered for the specific categories of sale listed above. Comparisons between prices and price trends in different countries require care. They are of limited validity, not only because of fluctuations in exchange rate, but also because of differences in product quality, in marketing practices, in market structure, and in the extent to which the standard categories of sales are representative of total national sales of a given product. A description of the methodology followed is appended to the bulletin at the beginning of each quarter.

Das Bulletin veröffentlicht jede Woche die von den Mitgliedsstaaten gemeldeten Verbraucherpreise und ist somit für eine weiter unten genauer spezifizierte Verbrauchergruppe die am häufigsten durchgeführte Erhebung. Ein Preisvergleich zwischen den Mitgliedsstaaten wie auch die Preisentwicklung müssen aus folgenden Gründen mit einer gewissen Vorsicht vorgenommen werden: Schwankung der Wechselkurse, Unterschiede in den Produkt-spezifikationen und -qualitäten, Verteilungssysteme, besondere Marktstrukturen in den einzelnen Mitgliedsländern, Repräsentanz der vorgegebenen Produktdefinitionen mit den gesamten nationalen Verkäufen eines bestimmten Produktes. Eine detaillierte Beschreibung der verwendeten Methoden ist jeweils im Anhang des Öl-Bulletin enthalten, welches zu Beginn eines jeden Quartals erscheint.

The bulletin reports prices supplied by the Member states as being the most frequently encountered for the specific categories of sale listed above. Comparisons between prices and price trends in different countries require care. They are of limited validity, not only because of fluctuations in exchange rate, but also because of differences in product quality, in marketing practices, in market structure, and in the extent to which the standard categories of sales are representative of total national sales of a given product. A description of the methodology followed is appended to the bulletin at the beginning of each quarter.

Taux de change au:	
Exchange rate at:	22.04.1991
Wechselkurs am:	
1 dollar =	36,1400 FB - 6,7130 CD - 1,7593 DM - 190,32 IR - 108,35 PES - 5,9270 FF - 0,6569 £ IRL - 1.298,20 LIRES - 1,9815 FL - 151,360 ESC - 0,5872 UK£
1 Ecu =	42,4531 FB - 7,88566 CD - 2,06662 DM - 223,566 IR - 127,282 PES - 6,96236 FF - 0,771651 £ IRL - 1.524,98 LIRES - 2,32764 FL - 177,800 ESC - 0,689774 UK£

Coût CAF d'approvisionnement en brut de la Communauté	Prix	Mois FEVRIER 1991
CIF cost of Community crude oil supplies	Price 19,63 \$/bbl	Month FEBRUARY 1991
CIF-Kosten der Rohölversorgung der Gemeinschaft	Preis	Monat FEBRUAR 1991

Tous renseignements concernant l'abonnement au bulletin pétrolier peuvent être obtenus en téléphonant au no. (02)235.18.39.  
All information concerning subscriptions to the Oil Bulletin can be obtained by telephoning (02)235.18.39  
Auskunft über den Bezug des Öl-Bulletin erhalten Sie unter der Telefon-Nr. (02)235.18.39.

The bulletin publishes: chaque semaine les prix hors droits et taxes à la consommation en monnaies nationales, dollars et ecus - le coût CAF mensuel communautaire (données les plus récentes).  
chaque mois les prix de vente aux consommateurs pratiqués au 15 de chaque mois en monnaies nationales dollars et ecus.  
chaque trimestre le coût CAF trimestriel pour chaque Etat membre. (série historique)

The bulletin publishes: each week consumer prices without duties and taxes in national currencies dollars and ecus - the monthly CIF cost for the Community (most recent available data).  
each month the consumer selling prices prevailing on the 15th of each month in national currencies dollars and ecus.  
each quarter the quarterly CIF cost for each Member state (historical series).

Das Bulletin veröffentlicht: wöchentlich die Verbraucherpreise ohne Steuern und Abgaben in nationaler Währung, Dollar und ECU, die monatlichen CIF-Kosten der Gemeinschaft (letzte verfügbare Daten).  
monatlich die Verbraucherpreise, erhoben am 15. jeden Monats, in nationaler Währung, Dollar und ECU.  
Quartalsweise die CIF-Kosten des Quartals für jeden Mitgliedsstaat (Zeitreihen).

### 2.3.1 BELGIUM

Belgium has since 1974 a special system called the "Contrat de Programme", which is really a formal compromise between the Belgium Ministry of Energy and the Belgium Oil Federation. Usually the "Contrat de Programme" has had a duration of three years and the last was signed in August 1990.

A special aspect of this "Contrat de Programme" is that every company, whether refiner or importer, has to sign an individual compromise of acceptance with the Belgium Government. In response, that compromise prevents them from demanding every time they require an individual change of prices. In return they are entitled to guarantee the oil supply of the country in whatever circumstances.

This system establishes an automatic monthly maximum price for the main oil products, which the Belgium Government accepts automatically. These maximum prices are calculated only at the final consumer level for retailing at petrol stations or for distribution of heating oil.

Those maximum prices are calculated through the following steps:

1. **Calculation of the value of a ton of refined products (VRP) :** This is obtained taking into account the prices in the main European international markets, specially Rotterdam.
2. **Calculation of the cost of a ton of refined crude oil (CRP) :** That is based in the real cost of the crude imported in Belgium plus a refining margin, which is revised automatically every six months.
3. **Comparison between the VRP and the CRP:**
  - 3.1 If VRP is lower than the 89% of CRP, that value is increased until reaching that minimum level of 89%.
  - 3.2 If VRP ranges from 89 to 111% of CRP, the consumer prices are based in the international quotations used to calculate the VRP.
  - 3.3 If VRP ranges from 111% and 150% of CRP, this value is reduced until 111% of the CRP.
  - 3.4 If VRP is more than 150% of CRP, a dumping mechanism comes into action, reducing the quotations until eventually a "safe garde clause" comes into action and the whole system is revised.
4. **Calculation of maximum consumer prices for individual products**

The individual maximum prices are obtained through the following formula:

$$P_{MAX} = P_a + SC + DM + ACC + VAT$$

$P_{MAX}$  : Maximum selling price for individual products

$P_a$  : CIF price of the product adjusted following the criteria expressed in point 3.

$SC$  : Cost of compulsory storage (updated on an automatic formula).

**DM** : Distribution margin for oil companies. This covers the distribution expenses plus the refiner/importer margin, and the guaranteed minimum margins for retailers and resellers. These margins are also established in the Contrat de Programme and revised yearly.

**ACC** : Excise tax for each individual product, usually established on a yearly basis in the Budget of the State.

**VAT** : Value Added Tax. Percentage applied over the addition of all the previous elements.

These prices are calculated monthly by the Belgium Oil Federation and transmitted to the Ministry of Economic Affairs for publication in the Official Gazette and the daily press. Subsequently, every company, refiner or importer, make publicity of their own maximum prices through a "Price List". All the individual "Price List" of the different companies are identical.

These maximum prices are a reference for the individual marketing strategies of the companies. Usually rebates are established, based on volumes or exact localization of the delivery. Not a single price exists in the whole of Belgium and the price of petrol and diesel in the retail stations could be different in nearby stations.

### 2.3.2 DENMARK

Price control was established in 1985. Since then the oil companies use to change their price lists once/twice a month depending on the changes in the international quotations. The differences in the "Price List" for each company are usually not very significant. Also, there is a wide practice of offering rebates or sometimes surcharges, depending on volumes or supply conditions. The Monopolies Control Authority has a strict control over the practice of companies in relation to oil prices.

### 2.3.3 FRANCE

France used to be a country with an extremely regulated Oil Sector, based on an old 1928 Law that established a special Oil Monopoly, which was not almost fully abolished until 1976. From that date, the movement towards price freedom for oil price started, and in 1978, oil prices for heavy fuel-oil were liberalized.

In 1982, fix prices for petrol and diesel were changed to a maximum price system, based on the cost of production in French refineries. That system was brought to the European Court of Justice (Rule Leclercq) and one day before the European Court ruled against the French Government, those maximum prices were changed into free prices. Also that freedom was extended to distributors and retailers margins, which were previously also fixed. The freedom process ended in 1986, when heating gas-oil prices were also liberalized.

A special feature of the French System, also later copied in Spain is the Authorization System for operating in the Oil Sector in France. This System established an administrative authorization for refiners which were given licence for operation for 10

years and a similar authorization for importers and distributors for 5 years (until 1985 for 3 years).

This administrative system, was based on the idea of Security of Supply. Some minimum requirements were established regarding financial and technical capabilities. All the companies operating in France, publish their own "Price Lists" which usually gives different prices for the several regions of the country. These reference prices are subject to the usual rebates and discounts.

The level of competition in petrol and diesel in France is the highest in the EEC, with large surfaces (hiper and supermarkets) offering sometimes prices 15% off the normal prices in other places. Also those prices are generally higher in highways than in normal roads.

#### 2.3.4 GERMANY

Germany has been ever since, the champion of oil prices in the EEC. Never a Governmental System for oil prices has existed, nor the companies are even allowed to make a big scale publication of their "Price List", which are to be used mainly as reference for the sales force of the different companies.

Nevertheless, prices for petrol stations do not differ widely although it is said that Germany has a stronger price competition for medium and large industrial consumers, with important differences based on volumes, places and supplies conditions.

There are sensible price differences between the different "Lander" of the country, depending on their respective distribution costs.

#### 2.3.5 GREECE

Greece is also another of the EEC Countries with a controlled system for oil products, although it is necessary to point out that the whole system is under close scrutiny by the Commission of the EC in order to guarantee it's compatibility with EEC rules. Very recently, the 13th December 1990, the European Court of Justice made a Decision regarding the whole of the Greek Oil Monopoly. In respect with the oil prices system, the main elements under scrutiny, namely the storage costs and the so called "moderation factor" or "market trend" that will be analyzed later, were not included in the Decision, based on some infringements of the legal procedure but are probably to be submitted again to the Court in a next revision of the Case. The actual system derives from a Greek Law dating from January 1989. This new system establishes both a fortnightly maximum price and a minimum price.

The maximum price is defined in the following

$$P_{MAX} = IQ + TC + MC + SC + MT$$

IQ : International quotations (9/10 x FOB Italy Quotations + 1/10 FOB Rotterdam Quotations)

TC : Transportation costs : Based on the transportation costs between Geneva and Pireaus in Greece.

**MC** : Miscellaneous costs: comprising the insurances plus the operating and transport losses and the interior transport costs to the refineries. This is calculated at 0.3 % of the sum of the IQ and TC.

**SC** : Storage costs: Based in the condition prevailing in Greece. This costs are calculated based on the sum of the previous factors for each product multiplied by 90 days of compulsory storage and at the interest rate of LIBOR.

**MT** : Moderation Factor or Market Trend. This is the key element of the process. This is a factor ranging from + 20% of the international quotations. This factor is **determined by the Greek authorities**. In a discretionary manner, depending on the conditions prevailing at a given moment in the world oil markets and the real cost of supply to Greece.

All these elements are converted into Greek Drachmas, depending on the course of the dollar with 15 days of delay.

The maximum price so determined is an ex-refinery price. That is, the price at which refiners/importers could sell the products to the distributors which in turn have an average distribution cost. Adding the excise tax and VAT, resulting the maximum prices at consumer level.

Nevertheless this maximum price at ex-refinery level has to be compared with a minimum price. This **minimum price** is calculated in a similar way taking into account the quotation FOB ITALY plus transportation costs and the storage costs defined before.

If, minimum prices were actually higher than maximum prices for five consecutive days, the maximum price is increased until it reaches the minimum prices (or in other words the "Market Trend" factor is revised upwards)

This rather peculiar behavior has a meaningful explanation. The Greek System was apparently designed, according to the Commission complaints, in such a way as to protect the refineries in Greece, which were of public propriety, using maximum prices that were so low that made imports unprofitable (see the Van Tiggele Rule) and therefore this automatic correction procedure.

The last special feature of the Greek System is the existence of a compensatory mechanism for distribution costs. Based on the high number of islands in Greece and their low level of density this system provides for the small islands not to pay exorbitant costs for their supply in relation to the Athens area, where most of Greece population concentrates, so this hiperequation system surcharges the high density, low distribution costs areas and covers partially the extracost of the small islands.

### 2.3.6 IRELAND

Until 1982, prices in Ireland were made with reference to those prevailing in the United Kingdom, requiring a prior notification to and approval by the Irish Authorities. This notification had to be made two months before the actual change in prices, estimated gap of time for the operative stocks at older prices to be replaced.

In that same year, the Irish Government bought the only refinery existing in the country, due to the intention of the former owners (SHELL, BP, TEXACO, and ESSO)

to close it down. To protect the activity of the refinery in the future a law published by the Irish Government compelled all the importers/distributors in Ireland to buy 35% of their estimated interior sales, to the above national refinery at prices higher than those prevailing in the international markets. Also a maximum price system was established that took into account the extra costs of those companies that had to rely compulsory in supplies from the Irish refinery.

That peculiar system was brought before the EEC Court of Justice by the European Commission (Rule Campus Oil). Surprisingly the Court decided that the procedure was correct since it served to guarantee a strategic issue (strategical supply — art. 36 of EEC Treaty) even if that was against the Free Movement of Goods (article 30) because imports were limited.

Finally, in 1986, the system was temporarily abolished and the full freedom for oil prices took place. Nevertheless, the Irish Government has the right to reimpose again maximum prices, which was done in the summer of 1987.

From that date, a monthly revision was established for petrol and diesel, taking into account the following elements:

1. The average quotation for each product in the CIF NWE market.
2. The production costs of the Whitegate refinery.
3. Distribution margins, which are updated every six months.
4. For the retail prices a similar retailing margin is added to the "Final Distributor Price".

As usual in other countries there are individual "Price Lists", which are of indicative nature for each company, and usually are updated on a monthly basis. Due to the obligation of supplies (35%) from the Irish National Co. refinery, consumer prices (excluding tax) are generally higher in Ireland than in other EEC Countries.

### 2.3.7 ITALY

Italy is also a special case in the EEC. Its price regime is a mixture of freedom for the majority of oil products and a controlled system for petrol and diesel.

The march towards freedom started in the seventies, with the liberalization of fuel oil prices in 1972, and finally in 1982 a maximum price system was established for petrol and diesel prices.

This maximum price is based upon the weekly calculation of the average consumer price in the previous week in five of the main EEC countries (France, Germany, United Kingdom, Belgium and the Netherlands). This prices are increased by the excise tax (which is changed monthly in Italy) and the VAT, to arrive to a final consumer price.

From 1985 the previous publication of those price changes in the Italian Official Gazette became obligatory.

Last, there are also distribution and retailing margins which have been frozen since 1982, resulting in an important loss to those activities which has to be covered by other means.

### 2.3.8 LUXEMBOURG

Petrol and diesel have maximum prices that are determined by the Government taking into account those prevailing in Belgium plus a transportation cost between Belgium and Luxembourg. Nevertheless, prices used to be more stable than in Belgium without regional price differences. Fuel-oil and other products prices are free.

### 2.3.9 THE NETHERLANDS

Between 1972 and 1982 a maximum price system, similar to that of Belgium existed in The Netherlands.

Because of the difficulties that resulted in the management and control of that system and its lack of flexibility to adapt to the changes in the international markets, the system was abolished in 1982 and was converted into a free pricing system.

From that date, every company operating in the Dutch market, publishes regularly its "Price List", which is based on the nearby "FOB BARGES" Rotterdam Market quotations.

These "Price Lists" are normally published weekly and are similar between the different companies representing maximum prices, subject to the normal commercial conditions.

Notwithstanding the small size of the country, there are usually two or three price zones for the main oil products.

After the starting of the Gulf crisis an investigation has been made over the pricing policies of the companies, without any irregular practice being found.

### 2.3.10 PORTUGAL

The pricing system in Portugal is also a special one. It has some elements of the Belgium "Control de Programme" and also some from the old Spanish pricing formula.

The basic rule is a maximum monthly price for each of the main products, at consumer level. This maximum price is formed by the following elements.

1. **Domestic costs (DC):** This is formed by the addition of the CAF costs of the crude oil imported into Portugal, plus the refining margin and the annual distribution costs and compulsory storage.
2. **International Average (IA):** This is the weighed average of the consumer ex-tax prices for the main products in five EEC representative countries (Belgium, Denmark, France, Germany and Spain). They are taken with approximately 30 days delay.
3. **Comparison between DC and IA :** If the international average is higher than the domestic costs, those are prevailing and the ex-tax consumer prices are fixed at the International Average. If the opposite, then the DC are taken into consideration but are to be corrected progressively, so in 1993, the International Average, whatever their level will prevail over the Domestic Costs.



4. **Normal taxation:** the normal taxation is formed by the Excise Tax on oil products and the VAT;
5. **ISP:** This is a counter cyclical tax called "Special Product Tax", defined as the difference between the maximum prices fixed freely by the Portuguese Government and the sum of the previous elements.

This maximum prices have apparently been fixed and equal in the whole of Portugal, although there are more than ten different companies operating in the country. This is a result of the leadership of the Public Refining Company PETROGAL.

This system has also been under close scrutiny by the EEC Commission although, it is said that a compromise has been reached calling for a gradual and timely convergence of the system to EEC parameters and also the integration of the ISP in the normal excise tax.

### 2.3.11 SPAIN

#### The OLD FORMULA

Spain had until 1989 a "cost formula" to determine ex-refinery prices. These prices were determined in the following manner :

1. **Determination of the cost of a refined ton of products :**  $C_m$

$$C_m = 1,01 (C + T + M)$$

$C_m$  : The standard cost of different crude oils supplied to the Spanish market.

$T$  : the transportation costs that took into account the share of international and Spanish fleet (at that moment subsidized through higher freights) and a refining margin reflecting all the expenses (including insurances and compulsory stocks) necessary to convert the crude oil into products.

2. **International quotation for each product:**  $C_i$

Formed by the average price for each main product in the international markets (initially Mexican Gulf and the Persian Gulf and later Rotterdam and Italy).

3. **International cost of supply:**  $C_m$

Formed by the average price that results in multiplying the individual price for each product by the relative weight of the demand of this product in relation to the total demand.

4. Individual price for each product:  $P_i$

This is the result of the following formula

$$P_i = C_i + (P_m - C_m)$$

This individual price was initially estimated on a quarterly basis, later reduced to a monthly basis and was the same to all the refineries irrespective of their location to the market.

Also this formula was established automatically to the main products (those with international quotations). For other products (LPG, naphtha) a relation was established taking into account some of prices of the main products.

5. Distribution and retailing costs : DC

Because of the Oil Monopoly existing in Spain, all the distribution and retailing of these products had to be made through the monopoly Company CAMPSA. So it was the Government who determined those distribution and retailing costs on a yearly basis.

6. Normal taxation

This was formed by the excise tax on oil products, and after 1986, by the VAT.

7. Renta de Petroleos (RP)

That was the equivalent of the ISP described in the case of Portugal. That was a variable tax that made for the differences between a fix final consumer price and the quarterly or, later, monthly ex-refinery price.

8. Final consumer price (PVP)

$$PVP = P_i + DC + EXCISE + VAT + RP$$

Yearly basis

Monthly variation

Fix prices, equal in the whole of Spain

No rebates for commercial reasons

Changes were infrequent and determined by the Spanish Government.

The "NEW FORMULA"

According to the negotiations between the EEC Commission and the Spanish Authorities to adapt the Oil Monopoly, fuel-oil prices were liberalized in 1989 and subsequently motor gasoline and diesel and heating gas-oil prices were also established as maximum prices, in June 1990 according to an automatic formula. This procedure is described

in the following lines.

Maximum Prices for motor gasoline, automotive diesel and heating gas-oil

$$P_{MAX} = C_i + (P_{Ei} - C_i') + M + \text{EXCISE TAX} + \text{VAT}$$

**P<sub>MAX</sub>** : Maximum price for each product which is changed every fortnight.

**C<sub>i</sub>** : International Quotations. based on the Rotterdam FOB Barges and the Italy market. with a three weeks delay.

**P<sub>Ei</sub>** : International Average European Prices. Average of the last eight weeks corresponding to the selling prices taxes excluded in the following six countries (Belgium. France. Germany. Italy. Netherlands. and the United Kingdom).

**C<sub>i</sub>'** : International Quotations. Average of the last eight weeks in the international quotations for the same products.

**M** : Adaptation Margin. Discretionary margin established by the Spanish Government to compensate for the special characteristics of the Spanish market in relation to the EEC. This margin was fixed in 2 Ptas/ liter.

**Excise Tax and VAT** : Those fixed yearly in the General Budget of the Kingdom of Spain for 1991.

For the time being the margin of the retailers (included in the maximum prices) are determined by the Spanish Government.

Maximum prices for industrial fuel-oil

$$P_{MAX} = C_i + M + \text{Excise Tax} + \text{VAT}$$

**P<sub>MAX</sub>** : Maximum price for each fuel-oil (three qualities existing in Spain). These prices are fixed on a monthly basis.

**C<sub>i</sub>** : International Quotations. Average of the quotation in the Rotterdam FOB Barges and FOB Cargoes Italy with an average delay of one month.

**M** : Adaptation margin. Fixed in 3.000 Ptas/Ton for the low sulphur fuel-oil and 2.200 Ptas/Ton for the heavier fuel-oil.

**Excise Tax and VAT** : Fixed on a yearly basis.

Due to the special circumstances of the Spanish market, those maximum prices are applied all across the country. This is a result of the partial liberalization insofar of the Spanish market, where CAMPSA still controls the vast majority of the retail outlets and the distribution of other products. Also the CAMPSA prices have been used by the Spanish Government as a means to curb down inflation. This situation has to change gradually in 1991 and specially after 1992, with the increase in competition from national and foreign companies. The prospects for the post-1992 are to change the actual system into a full freedom one with a strong competition between companies and important price differences based on the regional localization of demand, the location of the petrol station or the nature and volumes demanded by the final consumers.

### 2.3.12 UNITED KINGDOM

For many years there has been absolute freedom to fix oil prices in the United Kingdom, by the different companies operating in the country. The usual system is that of "Price Lists" by individual companies at distributors level. In contrast with other countries the "Price Lists" between different companies reflected sensible differences. This situation was compensated in the practice by important rebates/surcharges depending on the specific characteristics of the final consumer.

Although, historically it was said that the market in the United Kingdom was subject to a strong level of competition, during the months that followed the Gulf crisis, in August 1990, the Antitrust Commission of the United Kingdom started an information procedure based on rumours of illegal practices, without finding any evidence.

## 2.4 A numerical comparison of EEC prices

Figures 2.4.a. to 2.4.e. give an updated comparison of EEC national consumer prices in May 1991. They are followed for historical analysis by tables 2.4.f. to h. giving the evaluation of prices excluding taxations for three main products.

This information is based on the weekly bulletin published by the Energy General Directorate of the EEC Commission. The main remarks that can be made could be summarized as follows :

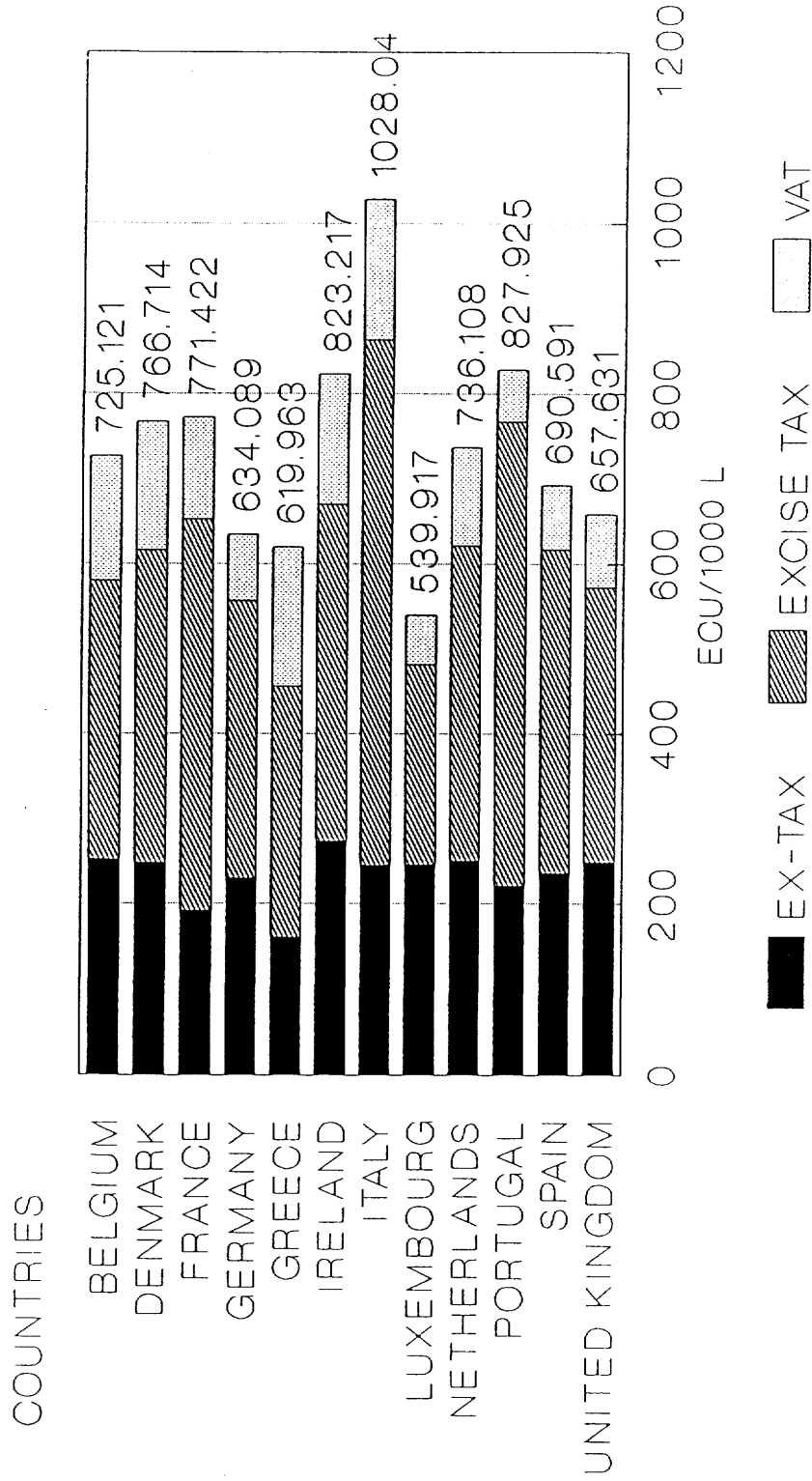
1. There are still large differences between Consumer Prices without taxes in the main EEC countries, without those global differences dampening since 1985.
2. Nevertheless, a more deep analysis can demonstrate a certain convergence in the majority of countries, with the global differences being the result of a statistical astray observation (a country with unusually low/high price).
3. Of the main EEC countries, France is the one with the lower prices for automotive fuels. This is due to the cut-throat competition used by the hiper and supermarkets on those products.
4. On the other hand, countries with a large share of natural gas in their energy balances (Netherlands, Germany) have consistently a high price for their fuel-oil. (That is also the result of a lower than average content of sulphur in those fuels).

5. The relatively small differences between countries become fully apparent, when taxation is included.

Then the differences become formidable and the obstacles to a EEC fiscal harmonization, which will be analyzed later, appear in all its importance.

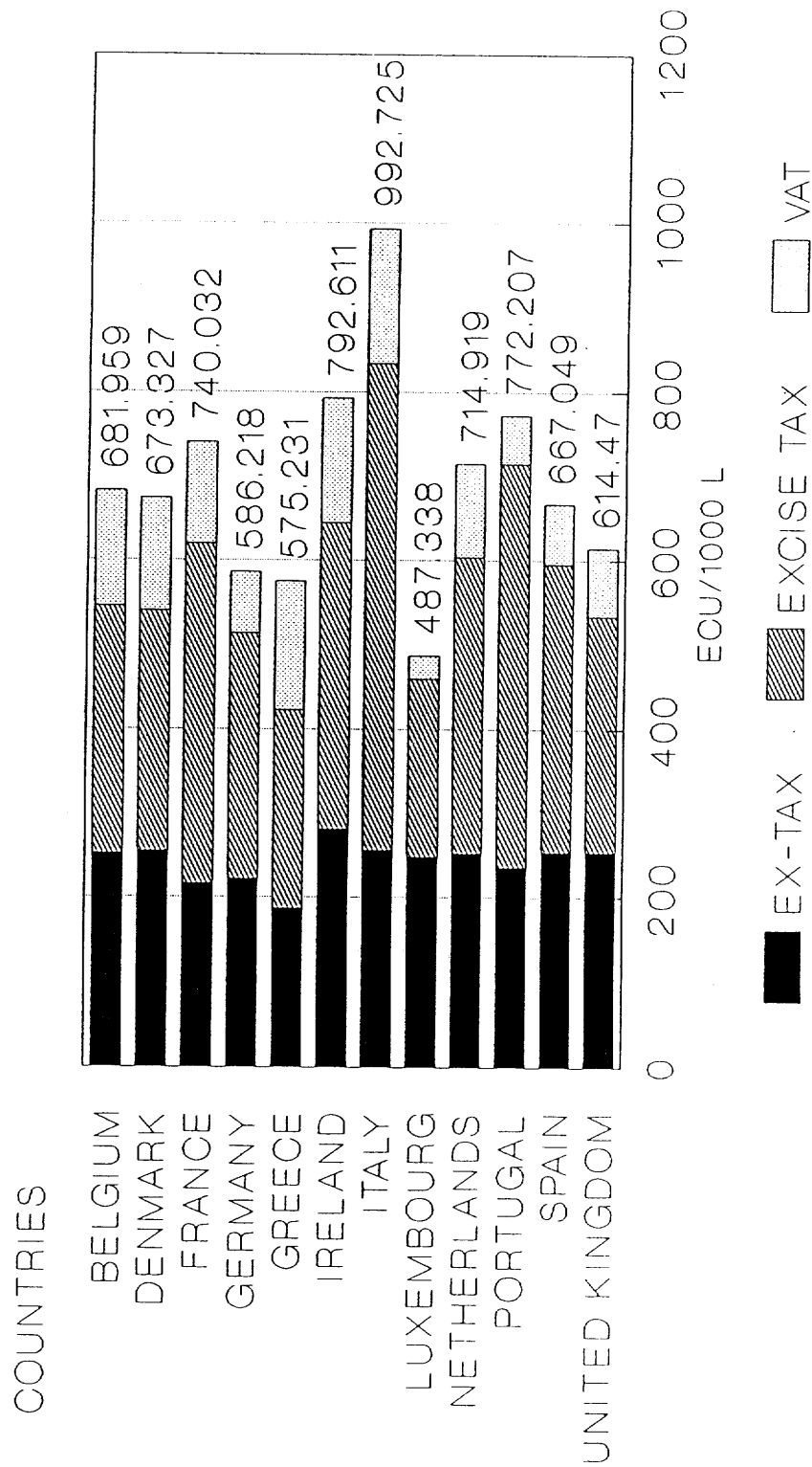
# FIGURE 2.4.a

## COMPARISON OF LEADED PETROL PRICES IN EEC COUNTRIES



Source : EEC Price Bulletin  
27.5.1991

# FIGURE 2.4.b COMPARISON OF UNLEADED PETROL PRICES IN EEC COUNTRIES



Source : EEC Price Bulletin  
27.5.1991

Recently in December 1990, following the Irak-Kuwait crisis, the EEC Commission put forward two new ambitious proposals that are now under consideration by the Council of Ministers.

The first and more ambitious proposal, concerned the obligation for each Member State to create a National Stockholding Board responsible for keeping 60 days (or 2/3) of the stock obligations. An important feature is the possibility of several Members States, to create a Common Stockholding Board.

Also this Directive proposal, establishes the financing of such entity through refiners and importers, in direct relation to the quantities supplied to the national market.

Also the proposal establishes the stocks as being formed, at least in 70% by final products in the case of gasolines, kerosenes and gas-oils, and 50% in the case of fuel-oils. The remaining quantities, up to 100%, could be constituted by crude oil or intermediate feedstock.

The second Directive proposal refers to the empowerment of the EEC Commission to establish an EEC anti-crisis plan in the eventuality of a serious supply disruption. This second proposal, which had apparently founded resistance on the part of several Member States have been also included in the general revision of the EEC Treaties now underway.

### 4.3 National legislations

#### 4.3.1 General framework

EEC Countries can be classified in two groups depending or not of the existence of a National Stockholding System. Namely the situation is the following:

1. **With a National System** : Germany, Denmark, France, The Netherlands.
2. **Without such a system**: The remaining eight countries.

Notwithstanding, the twelve countries have national stocks legislations according to the EEC Directives. For that reason we shall concentrate in outlining the main features of the countries with a centralized national system, since that is probably to be the common feature of the EEC as a whole in not a far future.

#### 4.3.2 GERMANY

The information refers to the former West Germany. No information could be found regarding the situation in the Eastern Landers.

Germany has total stocks of 125 days. These are splitted between the German Government, with strategic stocks for 30 days, the Collective storage system, ERDO-ELBEVORRATUNGSGESETZ (E.B.V.) 80 days and 15 days by the refineries.

The main features of the E.B.V. are :

1. This is a Public Company guaranteed by the German State. Its associate members are the refineries and the importing companies established in Germany.
2. Its main activities are :



- Acquisition of products for stock or the stockholding facilities (tanks and equipment) for keeping the products.
- Establishment of final agreements with its shareholders or other companies to keep stocks, on behalf of EBV, in their own facilities.

3. Financing of its activities

- Ordinary annual expenses are covered by the members in relation to their activities.
- For the first constitution of stocks, external financing was required, acting the product as collateral of the loans.

#### 4.3.3 DENMARK

In Denmark exists also the "DANSKE OLIEBEREDSKABRLAGER" (FDO) charged of collectively managing the stocks. Association to the FDO is voluntary for any company liable to holding stocks under Danish Law.

The company members of FDO could transfer some of their stock obligation (usually 2/3 of their requirements) but have also to keep some of them under their own responsibility. Apparently total stocks are for 125 days (90 days for FDO and 35 days for the refineries and importers). The main features of FDO are :

1. The company has a private nature, although it has the guarantee of the Danish State. Nonetheless the refiners/importers are free to join the FDO.
2. The activities are the usual in that type of organization: holding the physical stocks and construction/leasing of the storage capacities.
3. The financing of the COVA is covered through a parafiscal levy complementary of the excise tax on oil products.

#### 4.3.4 FRANCE

France has the most recent (1988) and so perhaps also, the most complete system of collective storage system.

The system is organized through the company named SAGESS (SOCIETE ANONYME DE GESTION DES STOCKS DE SECURITE). The main features of SAGESS are :

1. Private company whose shareholders are the oil operators described below in relation to their selling volumes.
2. All companies holders of a special distribution authorization or A 5 ( see chapter 1.3.) are obliged to participate in SAGESS. New companies are entitled to become shareholders through a cession of participation from former participants.
3. SAGESS is entitled to maintain until 50% of the stock obligation of its associated companies.

## 5 EEC environmental & product quality regulations

### 5.1 Introduction

There are two main incidence sources of the environment for the EEC refining industry. They stem from the growing awareness of oil product qualities on human health and the environment, and the potential negative side effects of the refining and petrochemical industries over these same aspects.

Environmental regulations have, by nature, to be specific. That is to be adapted to the special situations existing in a determined territorial zone. So in many cases environmental regulations are determined at regional or even local levels.

But also, environmental regulations are a production cost item and so, different regulations could be used, direct or indirectly, as a means to hamper trade, to enhance national competitiveness, or in other words, to fragment the interior market.

For that reason, the EEC has since many years established a process of flexible harmonization regarding environmental regulations. This flexible approach means that EEC regulations are conceived as minimum standards (defined to avoid unfair competition) compatible with higher national or regional requirements, provided those are founded on solid grounds (a real and justifiable need) and do not interfere with the EEC interior market.

The EEC environmental policy was ratified by the European Single Act of 1986 that amended the EEC original Treaty. There, in the new article 130R, the foundations of such policy were established, based on the following principles:

1. The EEC will have its own environmental policy, based on a preventive action, correction at the source and a high level of protection.
2. Responsibility of the polluter or "Polluter pay" principle.
3. Environmental policy to be closely intertwined with other EEC policies.
4. Subsidiarity principle: EEC action will be deemed to be necessary whenever the objectives pursued could be better achieved at EEC level than at national or local levels.

Based on these principles, the list of Regulations, Directives, Decisions or Recommendations issued at EEC level is impressive<sup>12</sup> For the purpose of the study we shall concentrate only in those of special interest to the Oil Sector. Also for clarity purposes the above Acts will be classified in four sub chapters: General, Air, Water, and Control of Substances and Waste.

<sup>12</sup>The difference between the different juridical EEC Acts should be noted. So a Recommendation has a general "erga omnes" nature but is not binding in the least. On the contrary a Decision is limited, so its scope - one or several Member States, a company or an individual ut it is obligatory. A Directive (the more it scope, but only defines the final objectives, leaving the choice of means of its implementation to National Legislation. Last a Regulation is general in its scope, and is obligatory in all its elements from the very moment of its publication in the EEC Official Journal.

In all these subchapters, a brief summary will be given of the main Acts of interest to the Oil Sector classified by chronological order.

Finally in the last part of the chapter we shall concentrate on the product qualities at EEC and national levels and also give some hints about the CEN Standardization workings.

## 5.2 Environment : general regulations

### 5.2.1 Council Recommendation EEC 75/436 — establishing the "Polluter pays" principle.

This Recommendation describes the application of the "polluter pays" principle, which states that: *"natural or legal persons governed by public or private law who are responsible for pollution must pay the costs of such measures as are necessary to eliminate that pollution or to reduce it, so as to comply with the standards or equivalent measures laid down by the public authorities"*

Although of its "non enforceable" nature, this Recommendation has framed the EEC environmental policy from that time, and has been embodied in all EEC legislation in this field.

The Recommendation defines different types of standards, the purpose and procedure for the imposition of charges, justified exceptions to the principle, and certain types of publicly funded financing that were considered to be not in violation of the EEC by-laws regarding public aids, (since then even those based on environmental grounds, are closely scrutinized and in many cases forbidden).

It pointed out that the member states, in applying the principle, should not make any distinction between pollution affecting their own or other countries, as imposed by international agreements.

### 5.2.2 Council Recommendation 79/3/EEC: Pollution control cost evaluation.

The Recommendation offers a brief scheme containing principles, definitions and methods according to which the member states should evaluate the cost of pollution control measures in industry and communicate the results of such studies to the European Commission. Its purpose is the harmonization of the information gathered in the member states and the development of an overview of these costs throughout the Community. It was later linked to the CORINE PROGRAM (see point 5.2.4.)

### 5.2.3 Council Directive 85/337/EEC: Environmental impact assessment

This is a basic Directive that enshrined the "preventive approach" to environmental protection by requiring that before consent is given by any Authority (either National, Regional or local), certain new projects likely to have significant effects on the environment, because of their nature, size or location, are to be subjected to an assessment of its potential environmental impacts.

Projects that are considered to have significant effects on the environment, and are always subject to the environmental impact assessment requirement, were listed in Annex I. Projects which may have significant effects on the environment are listed in Annex II and are to be made subject to the requirement when the member states consider that also necessary. So in Annex I are included crude oil refineries, large thermal power stations, chemical installations, trading ports and waste disposal installations for the incineration or treatment of dangerous wastes. In Annex II for its part there is an extensive list of activities, of interest for the Oil Sector are the production and extraction of hydrocarbons, the storage of fossil fuels and infrastructure projects of a certain importance.

The developer is to supply the competent authority with detailed information concerning the project: measures to avoid, reduce or remedy significant adverse effects and any data necessary to identify and assess the main environmental effects.

Exemptions may be granted in exceptional cases under strict controls and also projects in relation with national defense were exempted.

If a project is likely to have significant effects on another member state, it was necessary for the affected state to receive extensive information on the project. This information is to serve as a basis for any consultations between them.

This Directive is subject to periodical revisions of its implementation and its problems/consequences, through formal Communications of the EEC Commission to the Council of Ministers.

#### 5.2.4 Council Decision 85/338/EEC — CORINE

The Decision set up a 4-year pilot program, to collect information on the state of the environment in the Community in certain specific fields, such as atmospheric pollution and the resources and characteristics of the Mediterranean Region. It was also based on an former Council Decision of 1976, that established an Inventory of Sources of information in this field.

It also has initially the purpose of facilitating the assessment of the impact of environmental measures by improving the comparability of data and providing a methodological framework for gathering and processing information about the environment in the Community. The results helped to make the necessary changes in a new 1990 Decision in this field extending the time horizon of this program.

The Decision set up a procedure for maintaining an inventory of sources of information on the environment in the Community on the basis of a questionnaire. Its purpose is more adequately fulfilled by the new CORINE program.

### 5.3 Environment: atmospheric emissions

#### 5.3.1 Council Directive 70/220/EEC : Motor vehicle pollution

This crucial Directive, which has been amended and updated nine times, lays down technical standards for emissions of carbon monoxide (CO) and volatile hydrocarbons from (VOC) vehicles with petrol engines, except tractors and public works vehicles.

Limits for nitrogen oxides (NO<sub>x</sub>) were added in 1977. It affected significantly not only the oil but also the car industry.

The emission limits set by the last amendments of the Directive 88/76/CEE and 89/491/CEE were the following (test conditions):

Engine size	CO gr	HC+NO <sub>x</sub> gr	NO <sub>x</sub> gr	Particulates gr
C > 2000 cm <sup>3</sup>	25	6.5	3.5	1.1
1400 < C < 2000	30	8	—	
C < 1400 cm <sup>3</sup>	19	5	—	

### 5.3.2 Council Directives 72/306/CEE AND 88/77/EEC : Vehicle pollution on diesel vehicles

The initial Directive was amended once and later extended by Directive 88/77. It established also the limits for emissions of pollutant gases and particulates from diesel engines. The last revision published only a few weeks ago and not yet approved by the Council of Ministers, will impose the actual U.S. limits in 1996, and so demand a sulphur content in automotive gasoil of 0.05%. (see point 5.3.3.) The actual limits are the following:

Engine size	CO gr	HC+NO <sub>x</sub> gr	NO <sub>x</sub> gr
C > 2000 cm <sup>3</sup>	30	8.1	4.4
1400 < C < 2000	36	10.0	—
C < 1400 cm <sup>3</sup>	54	19	7.5

### 5.3.3 Council directive 75/716/EEC : Sulphur in gas oil

The Directive, limits the concentration of sulphur in light oils used for household heating and cooking, and for diesel-engine motor vehicles, with the purposes of protecting the environment and ensuring the fair trade of these products in the whole of the EEC. It was replaced in 1987 by a new text, set out in Directive 87/219/EEC, which in time is to be replaced by a new Directive recently proposed by the EEC Commission.

The actual limit is 0.3% Sulphur content but member states could establish a 0.2% S under justified circumstances.

The new Directive proposal (issued in May 1.991) establishes the following limits for the sulphur contents in gas-oils:

TYPE	DATE		
	1.10.91	1.10.96	1.10.99
Automotive	0.2%	0.05%	
Heating	0.2%		0.1%

In line with article 4 of the Directive (a general provision established in many other Directives), member states could not prohibit or restrict the marketing of such gasoils, on the grounds of sulphur content, provided they comply with the requirements of the Directive.

#### 5.3.4 Council Directive 80/779/EEC sulphur dioxide and suspended particulates.

The Directive fixes limit values (Annex I) and guide values (Annex II) for sulphur dioxide and suspended particulates in the atmosphere and conditions for their application. (Immission values). It has been amended thrice, the last time in 1989 (D 89/42/EEC).

Member states must establish monitoring stations and supply data regularly to the Commission. Once a year member states must inform the Commission of instances where limit values have been exceeded, the reasons and the measures that have been taken to avoid its repetition. A member state must consult its neighbors and the Commission, before setting a limit value in a border region. The Commission must publish an annual report based on the data submitted by the member states. The last was made public in May 1991. Limit values for SO<sub>2</sub> inmissions are taken in table 5.3.4.a.

#### 5.3.5 Council directive 84/360/EEC - Air Emissions from industrial plants

This is a framework directive which requires the member states to ensure that the types of industrial plants listed in Annex I, in which refineries are chemical plants are included, receive authorization before starting operation or after a substantial alteration of its installation. An authorization only may be issued when the competent authority is satisfied that all appropriate measures against air pollution have been taken, including the application of the best available technology, so long as the costs are not excessive; the plant will not cause significant air pollution; none of the applicable emission limit values is exceeded and all applicable air quality limit values are taken into account.

In this respect it is worth to mention that a BATNEC Study (Best Available Technology Entailing Excessive Costs), for the refining industry conducted by the EEC Commission, is next to be finalized. It will provide excellent information about the future of the European refining industry in relation to technology and costs.

TABLE 5.3.4.a

SO<sub>2</sub> INMISSION LIMIT VALUES

Limit values for sulphur dioxide expressed in  $\mu\text{g}/\text{m}^3$ , and associated values for suspended particulates (measured by the gravimetric method) expressed in  $\mu\text{g}/\text{m}^3$

Reference period	Limit values for sulphur dioxide	Associated value for suspended particulates
Year	80 (median of daily mean values taken throughout the year)	> 150 (median of daily mean values taken throughout the year)
	120 (median of daily mean values taken throughout the year)	$\leq$ 150 (median of daily mean values taken throughout the year)
Winter 1. 10. - 31. 3.	130 (median of daily mean values taken throughout the winter)	> 200 (median of daily mean values taken throughout the winter)
	180 (median of daily mean values taken throughout the winter)	$\leq$ 200 (median of daily mean values taken throughout the winter)
Year (made up of units of measuring periods of 24 hours)	250 (*) (98th percentile of all daily mean values taken throughout the year)	> 350 (98th percentile of all daily mean values taken throughout the year)
	350 (*) (98th percentile of all daily mean values taken throughout the year)	$\leq$ 350 (98th percentile of all daily mean values taken throughout the year)

(\*) Member States must take all appropriate steps to ensure that this value is not exceeded for more than three consecutive days. Moreover, Member States must endeavour to prevent and to reduce any such instances in which this value has been exceeded.

### 5.3.6 Council Directive 85/203/EEC - Nitrogen dioxide in air

Similar to Directive 80/779 this Directive lays down limit values to protect human health (Annex I) and guide values to improve protection of human health and to protect the environment (Annex II) for nitrogen dioxide in air. It does not apply to occupational exposure or the situation inside buildings.

The limit value from 1 July 1987 is 200 microgrammes per cubic meter. The member states must inform the Commission of areas where this value is exceeded and draw up plans to meet the limit value "as rapidly as possible" by 1 January 1994 at the latest.

The member countries may set lower limit values in zones where there is a foreseeable increase in NO<sub>x</sub> from urban or industrial development. Lower guide values may be set in areas that are considered to need special environmental protection.

As the Directive 80/779/EEC for SO<sub>2</sub>, this Directive regulates the immission levels for NO<sub>x</sub>. Later it was complemented by a 1988 Directive reducing the SO<sub>2</sub> and NO<sub>x</sub> emissions from large combustion plants (including refineries).

### 5.3.7 Council Directive 85/210/EEC - Lead in petrol

This Directive required the member states to reduce the permitted lead content to 0.15 g Pb/l (set in a former 1978 Directive at 0.4 g/l) and also to ensure the availability and balanced distribution of unleaded petrol (having a content below 0.013 g Pb/l) starting from 1 October 1989. (now it is fully implemented).

This Directive is linked to Directive 82/884 that established a maximal lead concentration of 2 micrograms per cubic meter. (immission volumes).

Member states may prohibit the marketing of leaded petrol having MON (Motor Octane Number) lower than 85 and a RON (Research Octane Number) lower than 95. for reasons of health and environment protection and also have to promote the availability and balanced distribution of unleaded petrol within their territory, which has been the case, specially after the introduction of tax benefits for unleaded petrol.

The Directive also establishes that benzene content of both leaded and unleaded petrol may not exceed 5.0% as of 1 October 1989. There is a strong possibility that this limit is to be reduced to 3% in a very near future.

### 5.3.8 Council Directive 88/609/CEE -- Atmospheric emissions of large combustion plants.

This is an important Directive issued in 1988 after several years of intense discussion. Its objectives are to substantially reduce the emissions of SO<sub>2</sub> and NO<sub>x</sub> from large combustion plants (defined as those larger than 50 Mw of thermal power).

A distinction was established in the Directive between existing (those in operation or with license approval on 1st July 1987) and the new plants.

As for existing, a national inventory of emissions was made for each EEC country in 1980. From that date and taking into account the national specific situations, a national reduction target was established for 1993, 1998 and 2003 (they can be seen in table 5.3.8.a.).



SO<sub>2</sub> AND NO<sub>x</sub> NATIONAL REDUCTION TARGETSCEILINGS AND REDUCTION TARGETS FOR EMISSIONS OF SO<sub>2</sub> FROM EXISTING PLANTS (\*) (†)

Member State	0	1			2			3		
	SO <sub>2</sub> emissions by large combustion plants 1980 (ktonnes)	Emission ceiling (ktonnes/year)			% reduction over 1980 emissions			% reduction over adjusted 1980 emissions		
		Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3	Phase 1	Phase 2	Phase 3
		1991	1998	2001	1991	1998	2001	1991	1998	2001
Belgium	530	318	212	159	- 40	- 60	- 70	- 40	- 60	- 70
Denmark	323	213	141	106	- 34	- 56	- 67	- 40	- 60	- 70
Germany	2 225	1 335	890	668	- 40	- 60	- 70	- 40	- 60	- 70
Greece	303	320	320	320	+ 6	+ 6	+ 6	- 45	- 45	- 45
Spain	2 290	2 290	1 730	1 440	0	- 24	- 37	- 21	- 40	- 50
France	1 910	1 146	764	573	- 40	- 60	- 70	- 40	- 60	- 70
Ireland	99	124	124	124	+ 25	+ 25	+ 25	- 29	- 29	- 29
Italy	2 450	1 800	1 500	900	- 27	- 39	- 63	- 40	- 50	- 70
Luxembourg	3	1,8	1,5	1,5	- 40	- 50	- 60	- 40	- 50	- 50
Netherlands	299	180	120	90	- 40	- 60	- 70	- 40	- 60	- 70
Portugal	115	232	270	206	+ 102	+ 135	+ 79	- 25	- 13	- 34
United Kingdom	3 883	3 106	2 330	1 553	- 20	- 40	- 60	- 20	- 40	- 60

(\*) Additional emissions may arise from capacity authorized on or after 1 July 1987.

(†) Emissions coming from combustion plants authorized before 1 July 1987 but not yet in operation before that date and which have not been taken into account in establishing the emission ceilings fixed by this Annex shall either comply with the requirements established by this Directive for new plants or be accounted for in the overall emissions from existing plants that must not exceed the ceilings fixed in this Annex.

## ANNEX II

CEILINGS AND REDUCTION TARGETS FOR EMISSIONS OF NO<sub>x</sub> FROM EXISTING PLANTS (\*) (†)

Member State	0	1		2		3		4		5		6	
	NO <sub>x</sub> emissions as NO <sub>x</sub> by large combustion plants 1980 (ktonnes)	NO <sub>x</sub> emission ceilings (ktonnes/year)		% reduction over 1980 emissions		% reduction over adjusted 1980 emissions							
		Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2	Phase 1	Phase 2
		1991 (%)	1998	1991 (%)	1998	1991 (%)	1998	1991 (%)	1998	1991 (%)	1998	1991 (%)	1998
Belgium	110	88	66	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
Denmark	124	121	81	- 3	- 35	- 10	- 40	- 10	- 40	- 10	- 40	- 10	- 40
Germany	870	696	522	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
Greece	36	70	70	+ 94	+ 94	0	0	0	0	0	0	0	0
Spain	366	368	277	+ 1	- 24	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
France	400	320	240	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
Ireland	28	50	50	+ 79	+ 79	0	0	0	0	0	0	0	0
Italy	580	570	428	- 2	- 26	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
Luxembourg	3	2,4	1,8	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
Netherlands	122	98	73	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40	- 20	- 40
Portugal	23	39	64	+ 157	+ 178	- 8	0	- 8	0	- 8	0	- 8	0
United Kingdom	1 016	864	711	- 15	- 30	- 15	- 30	- 15	- 30	- 15	- 30	- 15	- 30

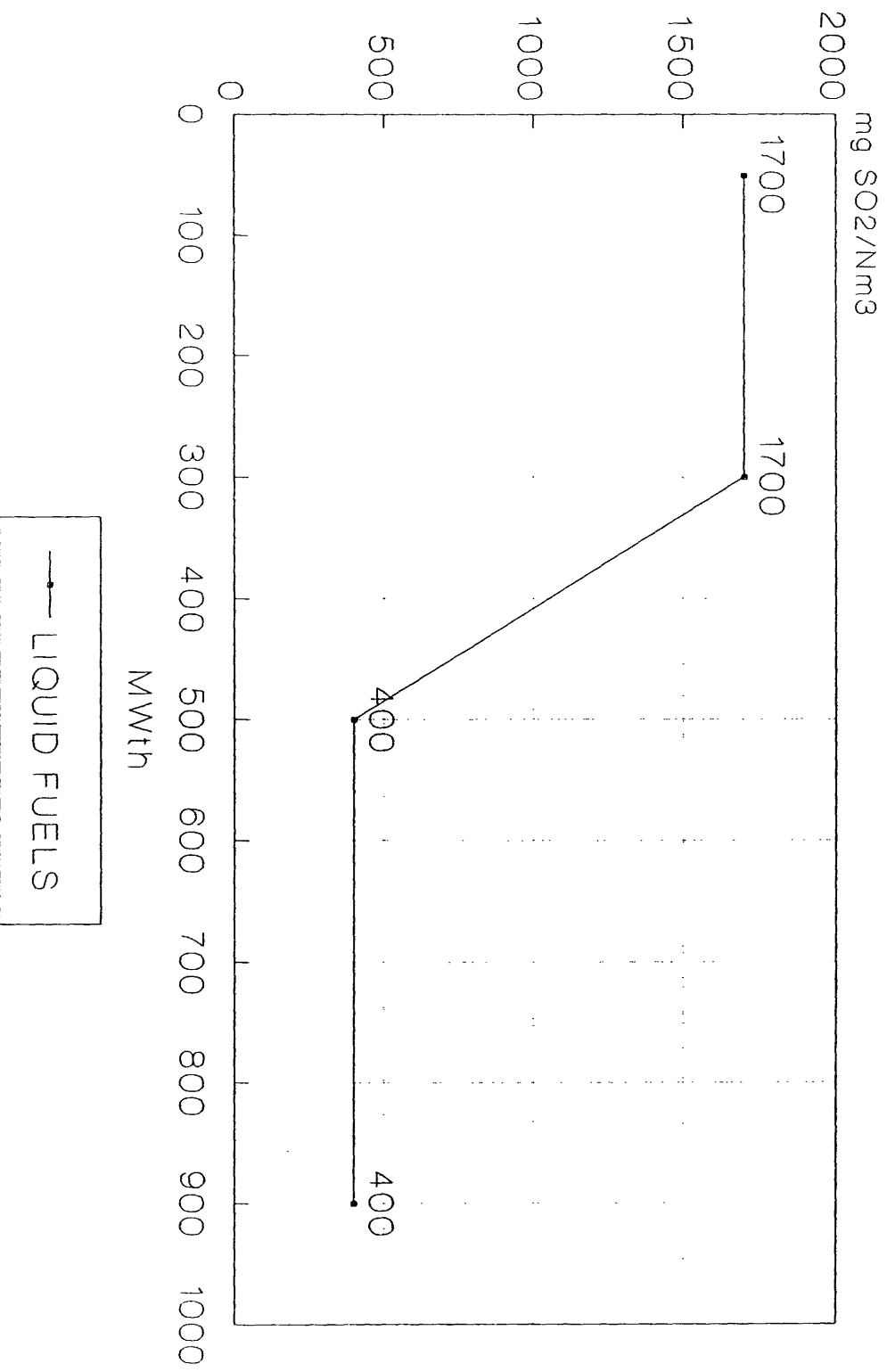
(\*) Additional emissions may arise from capacity authorized on or after 1 July 1987.

(†) Emissions coming from combustion plants authorized before 1 July 1987 but not yet in operation before that date and which have not been taken into account in establishing the emission ceilings fixed by this Annex shall either comply with the requirements established by this Directive for new plants or be accounted for in the overall emissions from existing plants that must not exceed the ceilings fixed in this Annex.

(‡) Member States may for technical reasons delay for up to two years the phase 1 date for reduction in NO<sub>x</sub> emissions by notifying the Commission within one month of the adoption of this Directive.

TABLE 5.3.8.b

EMISSION LIMIT VALUES FOR NEW PLANTS



In reference to new plants, different emissions limits were set regarding the type of fuel to be utilized and the plant size. In figure 5.3.8.b. are represented, the SO<sub>2</sub> emission limits for liquid fuels which are the reference case for a refinery.

The Directive also established the obligation for every EEC Country to present a detailed plan of emissions reduction, including in any case thermal power stations and the refineries. Also from 1.990 they shall inform the EEC Commission about the annual emissions from the above large combustion plants.

## 5.4 Environment : water emissions

### 5.4.1 Council Directive 76/464/EEC - Discharges of dangerous substances

This is again a framework directive which provides for the elimination or reduction of pollution of inland, coastal and territorial waters by particularly dangerous substances whose limits are to be established through subsequent directives. It is also intended to ensure a common approach in the implementation of international conventions in this field.

Member states were to take appropriate steps to eliminate pollution by substances listed on Annex I of the Directive and to reduce pollution by substances listed on Annex II.

Annex I contains substances selected on the basis of their toxicity, persistence and bioaccumulation, e.g. organohalogen and organophosphorus compound, carcinogenic substances, and mercury and cadmium compounds and member states must establish a prior authorization system, based on emission standards, for the discharge of them, under the limit values established by the Council. **Persistent mineral oils and hydrocarbons of petroleum origin are also included.**

For Annex II substances, member states must establish pollution reduction programs with deadlines for implementation, and including a prior authorization requirement and compliance with emission standards for all discharges. The emission standards must be based on quality objectives which must respect existing Community directives.

Further to this Directive, four implementation Directives have been issued in relation to products included in Annex I. Namely the 82/176/CEE (mercury), 83/513/CEE (cadmium), 84/491/CEE (hexachlorocyclohexane) and 86/280/CEE that was actually a general updating of the original Directive.

### 5.4.2 Council Decision 75/437/EEC - International Convention on marine pollution from land-based sources

This Convention, known as the "Paris Convention", aims at preventing pollution of the Atlantic from land-based sources.

The contracting parties accept to take "all possible steps to prevent pollution of the sea" from human activities. The Convention provides three categories of substances in Annex A:

- **Type I substances**, including persistent chemical families or materials, which

The contracting parties agree to develop contingency emergency plans and means for combating pollution, and to cooperate in the regular monitoring of the Mediterranean and the salvage of harmful substances in case of grave and imminent danger from massive quantities of oil or other harmful substances resulting from accidents or the accumulation of small discharges. This procedure has worked during the recent accident of Genoa.

### 3. Council Decision 83/101/EEC pollution from land - based sources

The Decision approves the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources, and it is similar to the Paris Convention (including oil and hydrocarbons).

The groups of substances listed in Annex I must be eliminated; the groups of substances listed in Annex II must be strictly limited. The parties accept to collaborate in the development of standards for pipelines, effluent treatment, the use of sea water, the control and replacement of dangerous products, and requirements for the control of substances listed in the Annexes.

#### 5.4.5 COUNCIL DECISION 86/85/EEC — Information system on oil pollution at sea

The Decision sets up an information system under the direction of the EEC Commission covering four areas of activity :

1. an inventory of resources for combating marine oil pollution.
2. a list of national and joint action plans for combating marine oil pollution.
3. a compendium of hydrocarbon properties and their behavior and of methods of treatment.
4. an inventory of resources for combating other harmful substances spilled at sea .

This information is to be collected and updated every year by the EEC Commission and then disseminated to the member states.

## 5.5 Environment : control of substances & waste

### 5.5.1 Council Directive 67/548/EEC — Testing of chemicals

This Directive has been amended 21 times since its adoption. The purpose of the Directive was to harmonize the laws of the Member States on the testing, classification, packaging, and labelling of chemicals that are dangerous to people or the environment. In 1979, the "6th Amendment" to the Directive (Council Directive 79/831/EEC) introduced a pre-market testing and notification system for new chemicals marketed on the Community market.

The Directive distinguished between "new" and "existing" chemicals. Existing chemicals were those which were placed on the Community market before 18 September

1981 and are listed in the European Inventory of Existing Commercial Chemical Substances (EINECS) which is permanently updated.

Every producer or importer who markets a new chemical substance on the market for the first time in the European Community after September 1981, had to submit an extensive notification dossier about the product to a national competent authority at least 45 days in advance.

Substances which are already subject to Community controls, such as pharmaceuticals, narcotics, and radioactive substances, are excluded from the scope of the Directive.

The Directive listed 14 categories for the classification of dangerous substances according to their physiochemical or toxicological properties. The Directive also contains basic requirements for the packaging of dangerous substances.

### 5.5.2 Council Directive 75/439/CEE — Waste oils

The Directive is designed to prevent the uncontrolled disposal of waste oils and also to avoid that different financial arrangements adopted to promote safe disposal and recycling do create barriers to the interior market.

Member states must ensure the safe collection and disposal of waste oil, and that they are "as far as possible" recycled. "Waste oils" include lubricating oils but not industrial wastes from oil refineries.

The Directive prohibits the discharge of waste oils to water and drainage systems, to the soil or any processing of waste oils causing air pollution exceeding the level prescribed by existing regulations.

Companies liable to dispose waste oil or those collecting or recycling waste oils have to get prior permission from the National Authorities, who will keep a strict control over them.

Every 3 years the member states have to submit a report to the Commission. The Commission has to report to the Council in 1992 on the measures taken by the member states concerning the operation of regeneration and combustion plants specially in relation with the emissions of heavy metals, chlorine and fluorine.

### 5.5.3 Council Directive 75/442/EEC — Industrial waste

The Directive bounds the member states to take the necessary measures to ensure that waste is disposed of without endangering human health or harming the environment. This Directive does not apply to radioactive wastes, mining waste, some agricultural wastes, waste waters and gaseous effluents.

Five general obligations are established for member states :

1. Designate national competent authorities to be responsible for waste management under the scope of the Directive.
2. See that the competent authorities establish waste disposal plans.
3. Subject installations which treat, store or dispose of wastes on behalf of third parties to a prior authorization requirement.

1. Apply the "polluter pays principle" in relation to the origin of the waste.
5. Encourage recycling, and submit situation reports to the Commission every three years.

The plans to be drawn up by the competent authorities, have to cover the type and quantity of wastes to be disposed and define suitable disposal sites (in relation to the specific waste). Also the circulation and disposal of the waste is to be periodically checked.

Under the "polluter pays principle", the cost of disposing of the waste must be borne by the originator of the waste or by the holder who has the waste disposed on behalf of the originator.

This Directive was later complemented by Directive 78/319/EEC which defines those companies or individuals that produce, hold and/or dispose of these wastes, must keep records and make them available to the competent authority on request. Also a specific form must accompany any shipment of these wastes. The form must give the name and address of the producer, previous holder, and final disposer of the wastes in order to maintain an effective control.

Another extension of this Directive is the 84/361/EEC regulating transfrontier shipment of these toxic and dangerous wastes in a similar way as to transport inside a member country.

#### 5.5.4 Council Directive 82/501/EEC — Major Industrial accidents & emergency response

This is the well known "Seveso Directive", that established a procedure whereby industrial plant operators, local and national authorities and the European Commission cooperate in identifying and controlling the risks of major accidents from industrial installations. A major accident is defined as *"an occurrence such as a major emission, fire or explosion resulting from uncontrolled developments in the course of an industrial activity, leading to a serious danger to man, immediate or delayed, inside or outside the establishment, and/or to the environment, involving one or more dangerous substances"*.

The Directive is divided into 2 parts. Under the first part, for general hazards, the manufacturer must be able to prove to the national competent authority at any time that it has identified existing major-accident hazards, adopted the necessary safety measures, and provided the management and workers on the site with information, training and equipment in order to ensure their safety.

Under the second part certain industrial activities are subject to a notification procedure if one of the 180 chemicals designated in Annex III are or may be present in the designated quantities, or if the chemicals listed in Annex II are stored above certain quantities.

The notification is to be submitted by the manufacturer to the competent authority. It must contain detailed information about the nature of the substance, the industrial plant characteristics and possible major accident situations, including emergency plans.

In the case of an accident, the company must immediately inform the competent authority about all aspects of it and the emergency responses measures taken. The member state must immediately inform the Commission and prepare a complete report on the causes of the accident, emergency procedures, the nature and extent of the damage and medium and long-term measures to alleviate the damage.

A very sensitive issue is that citizens potentially affected by a major accident, and also those living in neighboring member states, must be informed and their governments have to be consulted about emergency planning measures.

## 5.6 Products specifications

### 5.6.1 General remarks

In this chapter we shall concentrate on the specifications for petrol and diesel in the EEC, with some minor references for heating gas-oil. As for fuel-oil, national specifications are so different that no great value could be obtained from that analysis.

Last, in the final points, we shall make some references about the future oil products specifications that, although not enforced by law, might be a reality in a near future.

### 5.6.2 Gasoline specifications

The tables 5.6.2.a. and b. picture the gasoline specifications in the main West European Countries.

As it can be appreciated, the main differences stem from the Motor Octane Number (MON) figure and specially the Vapour Pressure. It is also important to notice that in many countries there exists a summer and winter specification.

As for the EEC specifications the Unleaded Eurograde 95 ON was published in 1985. Following that date the EEC gave a mandate to the CEN (European Center for Normalization) to produce a European Standard. The CEN has proposed a draft specification for unleaded petrol (European Norm 228) which is going to be examined and approved in May 1991. This CEN 228 norm can be seen in table 5.6.2.c.

It is also necessary to point out that in some EEC countries, notably Germany and France, there exists a variety of 98 RON unleaded petrol with a significative market share.

### 5.6.3 Automotive diesel

The same considerations made for gasoline could be made for automotive diesel. The diesel specifications in the main West European Countries can be seen in Table 5.6.3.a..

As for the sulphur content the EEC approach was analyzed in point 5.3.3..

Again there is a CEN norm, which is pending approbation in May 1991, and which is pictured in Table 5.6.3.b..

TABLE 5.6.2.a

European National Specifications Leaded motor gasoline

Marketing area	OCTANE			VLI(a)	DISTILLATION				
	RON	MON	RVP (bar)		X at 70°C	X at 100°C	X at 150°C	FBP, °C	Residue X vol
Austria	P 98.0 min	P 87.0 min	S 0.45-0.70 U 0.60-0.90	-	S 15-42 U 20-47	S 40-65 U 42-70	85 min	215 max	2.0 max
Belgium	P 97.5 min		0.45-0.95		15-45	40-70	90 min	215 max	2.0 max
Denmark	P 98.0 min	P 88.0 min	S 0.45-0.80 I 0.58-0.90 U 0.70-0.95	700-1100 800-1200 900-1300	15 min 20 min 25 min	44-60 45-70 45-72	90 min	210 max	2.0 max
Finland	P 98.6 min R 91.6 min	P 87.0 min R 83.0 min	S 0.5-0.8 I 0.7-0.9 U 0.8-1.0	-	15 min 20 min 25 min	45-65 50-70 50-70	90 min 90 min 90 min	210 max	2.0 max
France	P 97.0-99.0 R 89.0-92.0	P 86.0 min	S 0.45-0.79 I 0.50-0.86 U 0.55-0.99	≤900 ≤1000 ≤1150	10-47	40-70	85 min	215 max	2.0 max
Germany	P 98.0 min	P 88.0 min	S 0.45-0.70 U 0.60-0.90		S 15-40 U 20-45	S 42-65 U 45-70	90 min	215 max	2.0 max
Greece	P 96.0 min R 90.0 min	P 85.0 min	S max 0.65 U max 0.80		10 min	30 - 65	85 min	215 max	2.0 max
Italy	P 97.0 min R 84.0 min	P 87.0 min	P/R S: 0.40-0.735 U: 0.50-0.833		10 min S: 10-45 U: 10-48	30-70	85 min	220 max	2.0 max
Norway (b)	P 98.0 min								
Portugal	P 98.0 min R 90.0 min	(b) (b)	S max-0.70 I max-0.83 U 0.60-0.98	<910 <1040 <1190	10-45	35-70	80 min	210 max	2.0 max
Spain	P 97.0 min R 92.0 min	P 87.0 min R 82.0 min	S 0.47-0.63 U 0.54-0.77		10-45	30-70	80 min	210 max	2.0 max
Sweden	P 98.0 min	P 87.0 min	S 0.45-0.90 U 0.70-1.05	<1100 <1300	S 15 min U 20 min	S 44-68 U 45-72	90 min	215 max	2.0 max
Switzerland	P 98.0 min	P 88.0 min	S 0.45-0.70 U 0.60-0.90	< 990 <1230	S 15-42 U 20-47	S min 40 U min 42	85 min	215 max	
United Kingdom and Ireland			(c)	(c)					
4 star	97.0 min	86.0 min	S 0.93 max	<1140	10-45	36-70	90 min	220 max	2.0 max
3 star	93.0 min	82.0 min	I 1.03 max	<1240					
2 star	90.0 min	80.0 min	U 0.6-1.15	<1340					

VLI is calculated as  $RVP (kPa) \times 10 + (X \text{ at } 70^\circ C) \times 7$ 

To be announced

Recommended seasonal volatility characteristics values

Source : CONCAWE





TABLE 5.6.2.a (Cont.)

## European National Specifications Leaded motor gasoline

Marketing	Stability				Density at 15 °C kg/l	Reference
	Oxidation stability min	Existent gum mg/100 ml	Copper corrosion 3h 50 °C	Sulphur X mass		
Austria	-	5 max	1 max 3h 50 °C	0.10 max	Report	Ö-Norm C 1103 1.2.89
Belgium	-	5 max	1 max 3h 50 °C	0.10 max	P 0.720-0.770	NBN T52-705 1990
Denmark	360	4 max	1 max 3h 50 °C	0.10 max	P 0.73-0.77	Danish Petroleum Institute 01/10/90
Finland	500 min	5 max	4 max	0.1 max	-	Agreement
France	-	10 max	1b max	P 0.15 max R 0.20 max	P 0.72-0.77 R 0.70-0.75	P-CSR 04 bis-c R-CSR 03-1 Jan. 1990
Germany	-	5 max 50 A3	1 max	0.10 max	P 0.730-0.780	DIN 51600 Jan. '88
Greece	-	-	-	-	-	-
Italy	-	8 max	1 max	0.20 max	P 0.725-0.770 R 0.710-0.755	MC 620-01 Nov. '89 (Reg.) MC 623-01 Nov. '89 (Prem.)
Norway	-	-	-	-	-	-
Portugal	(c)	5	1b max	0.10 max	P 0.720-0.770 R 0.710-0.760	Ministério da Economia Portaria 125/89
Spain	240 min	5 max	1b max	0.13 max	P 0.720-0.780 R 0.710-0.760	Real Decreto 1485/1987
Sweden	-	5 max 50 A3	1 max	0.10 max	P 0.730-0.770	SS 155421 April '86
Switzerland	240 min	5 max	1 max	0.10 max	-	SN 181161/1 Jan. '86
UK and Ireland	240 min	5 max	1 max	0.20 max	-	BS 4040 1988 (Amended 29/6/90)

Source : CONCAWE

TABLE 5.6.2.b

European National specifications for unleaded motor gasoline

Marketing area	OCTANE		DISTILLATION										Sulphur g mass	Density kg/l	Reference
	RON min	MON min	VLI (b)	I at 70 C	I at 100 C	I at 180 C	FBP °C	Residue I vol	Density kg/l	Sulphur I mass	Reference				
Austria	P 95.0	85.0	S 0.45-0.70	15-42	40-65	85 min	215 max	2 max	0.735-0.78	0.1 max	O-Norm				
	R 91.0	82.5	W 0.60-0.90	20-47	42-70	EN 228 1.2.89			0.72-0.77		EN 228 1.2.89				
Belgium	P 98.0	88.0	0.45-0.95	15-45	35-70	90 min	215 max	2 max	0.730-0.780	0.1 max	MON T52-705				
	P 95.0	85.0			40-70				0.725-0.775		1990				
Denmark	P 98.0	88.0	S 0.45-0.80	15 min	44-68	90 min	210 max	2 max	0.730-0.780	0.1 max	Danish Pet.				
	P 95.0	85.0	I 0.58-0.80	20 min	45-70				0.730-0.770		Institute				
France	P 95.0	85.0	W 0.70-0.85	25 min	45-72				0.710-0.750		01/10/90				
	P 95.0	85.0	S 0.45-0.78	10-17	40-70	85 min	215 max	2 max	0.73-0.78	0.1 max	CSR 04 bis-0				
Germany	P 95.0	85.0	I 0.50-0.85								Jan '90				
	R 91.0	82.5	W 0.55-0.88												
Finland	P 95.0	85.0	S 0.5 - 0.8	15 min	45-65	90 min	210 max	2 max	0.72-0.77	0.1 max	State Refinery				
	P 95.0	85.0	W 0.8-0.95	25 min	50-70	90 min					Industry				
Italy	P 95.0	85.0	S 0.45-0.70	15-42	40-65	85 min	215 max	2 max	0.735-0.785	0.1 max	DIN 51607				
	R 91.0	82.5	W 0.60-0.90	20-47	42-70				0.72-0.77		Aug '89				
Italy	P 95.0	85.0	S 0.40-0.755	10-45	30-70	85 min	220 max	2 max	0.775	0.1 max	MC				
	R 91.0	82.5	W 0.50-0.833	10-48							623-02 Nov 89				

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TABLE 5.6.2.c

Draft Update CEN Unleaded Gasoline Specification (EN228)

			Premium	Regular	Test Method
			(1)		
RON		min	95.0	*	ISO 5164
MON		min	85.0	*	ISO 5163
Lead	g/l	max	0.013	0.013	ASTM D3237
Benzene	%v	max	5.0	5.0	ASTM D2267
Sulphur	%m	max	0.10(2)	*	EN 41
Gum	mg/100 ml	max	5	5	EN 5
Copper Corr.		max	1	1	ISO 2160
Appearance			clear and bright visual		
Oxidation Stability	minutes	min	360		
Density	kg/m <sup>3</sup>		725-780		
Oxygenates			as per directive 85/536/EEC		
Water tolerance			to be defined		
Volatility		Class			
			1	2	3
			4	5	
RVP hPa	350-700	450-800	550-900	600-950	700-1050
E70 %v	10-45	10-45	15-47	15-47	20-50
VLI max					
(RVP +7E70)	900	1000	1100	1200	1300
E100 %v	38-65	38-65	43-70	43-70	43-70
E180 %v min	85	85	85	85	85
FBP °C max	215	215	215	215	215

Notes:

- (1) Properties marked \* must be specified in National Standard
- (2) Sulphur reduced to 0.05% from 1995

Source : CONCAWE

TABLE 5.6.3.a (Cont.)

European National Specifications for automotive diesel fuel

Ireland	IS 251 (1981)	50	50	0(-) (1)	-	-12(-) (1)	0.825 min	61	-	min 2	50% at 290°C max 90% at 357°C max FBP: max 380°C	1. Alternative is 7°C max CP
Italy	NC 630 01 Nov. 1985	47	48	-	-6	-10	0.805- 0.865	55	-	2.0-5.35 at 37.8°C	2% max at 150°C 65% max at 250°C 85% min at 350°C	
Netherlands	No national standard	-	-	-	-	-	-	55	-	-	65% max at 250°C 85% at 350°C max	Industry and EC Customs standards
Norway	No national standard	-	47 min	(0)	-	-11	0.820 min	60 (1)	-	-	50% at 290°C max 90% at 355°C max	1. Government regulation
Portugal	Portaria 124/89	-	45	-	-	-8(0)	0.815- 0.865	58	-	1.8.5.5	65% max at 250°C 85% min at 350°C	
Spain	Royal Decree 1485/1987	50 (1)	45	-1(+4)	-	-8(0)	0.825-55 0.860	-	-	max 4.3(W) max 5.2(S)	65% at 250°C min 85% at 350°C max FBP 380°C max	With additive
Sweden	SIS 155432 (1981)	45	-	-10(0)	-	-20(-6)	0.800-40 0.860	-	-	1.5-4.0	10% at 230°C max 90% at 360°C max	A range of winter grades is available
Switzerland		48 (1)	48 (1)	-6(-6) (2)	-15(-8)	-15(-8) (2)	0.815-55 0.845	-	2.5-8.0	-	90% at 360°C max	1. Alternative standards
Alternative standards												summer standard suitable only down to -8°C
BS 2869 A1 (1988)		48	46	-	-	-15(-4)	835-865	56	-	2.5-5.0	both grades: 85% min at 350°C 50% min at 310°C	1. Alternative standards Class A2 - off highway use
BS 2869 A2 (1988)		45(1)	45(1)	-	-	-	0.835-0.865	-	-	1.5-5.5		



Source : CONCAWE

TABLE 5.6.3.b

Draft CEN Diesel Fuel Specification

Properties applying to all grades		
Flash Point PMCC °C	min	55
Ash %m	max	0.01
Water (KF) mg/kg	max	200
Particulates (IP PM-BH) g/m <sup>3</sup>	max	20
Copper Corrosion 3h at 50°C	max	1
Oxidation Stability g/m <sup>3</sup>	max	25
Sulphur %m	max	Note (1)
Carbon Residue (10%b) %m	max	0.30
Temperature Climate Grades (Grades 1 to 6)		
CFPP	max	Note (1)
Density at 15°C kg/m <sup>3</sup>		820-860
Viscosity at 40°C mm <sup>2</sup> /s		2.00-4.00
Cetane Number	min	49
Calculated Cetane Index	min	46
Distillation °C		
10%v rec at		report
50%v rec at		report
65%v rec at	min	250
85%v rec at	max	350
95%v rec at	max	370
Arctic Grades (Grades 7 to 10)		
Grade		7      8      9
CFPP	max	-26    -32    -38
Cloud Point °C	max	-16    -22    -28
Density at 15°C kg/m <sup>3</sup>	min	800    800    800
	max	845    845    840
Viscosity at 40°C mm <sup>2</sup> /s	min	1.50   1.50   1.40
	max	----- 4.00 -----
Cetane Number	min	47      46      45
Calculated Cetane Index	min	46      46      43
Distillation °C		
10%v rec at	max	----- 180 -----
50%v rec at		----- report -----
95%v rec at	max	----- 340 -----

#### 5.6.4 The future of oil products specifications

The qualities of oil products in the whole of Europe are moving very quickly. Some products specifications that could be considered as irrealizable only a few years ago,

are now a reality or are to be enforced in a near future.

At EEC level, there has been a comprehensive proposition regarding the sulphur content of oil products, known as "The French Memorandum" which was presented only one year ago and which is now in some aspects behind the actual EEC proposals.

For that reason, it is interesting to define a potential scenario for the year 2.000 at EEC level. The objective is not so much to forecast the future of oil products specifications, but to give a clear picture of the technical challenges ahead for the Polish refining industry, if it is to integrate in world and EEC trade for those products and to prepare for an eventual integration into the EEC.

This scenario is defined in Table 5.6.4.a. and gives a clear idea of the importance of investments and technical requirements necessary to accomplish such a "Green revolution". This is an important issue, necessary to consider before defining the potential options for the future of the Oil Sector in Poland.

## 6 External trade regulations

### 6.1 Common customs tariff

For most products and also for oil products derivatives, the EEC has an external Common Customs Tariff but no customs levies are charged for oil products traded inside the EEC.

That implies, that whenever a product of an external to EEC origin arrives to community territory and passes the customs procedures it is considered to be in "free practice". That "free practice" implies that this product is considered as being EEC like and so entitled to free transit inside the EEC.

An important feature was the Commission's Regulation EEC/1775/77 which established that oil products imported in order to have a definite treatment in a refinery or chemical plant, were to be exempted to pay any duty.

The Common External Tariff applied by the EEC in relation with oil products are the included in table 6.1.a.

For conventional rate of duties, it has to be understood, those to be applied to countries under GATT. Autonomous duties on the other hand are those applied to countries outside GATT.

### 6.2 Origin of goods concept

Not until February 1991 there has been a common definition of "goods origin" at EEC level. In that date an old regulation that allowed France to have a special status was abolished and the old General Regulation of 1968 (Council Regulation 802/68/CEE) that defined a common approach to the concept of origin of goods was also fully extensible to oil products.

The basic elements of this "origins of goods concepts" are:

#### "Article 4

1. Goods wholly obtained or produced in one country shall be considered as originating in that country.
2. The expression "goods wholly obtained or produced in one country means" means:
  - a) mineral products extracted within its territory.
  - ...
  - i) waste and scrap products derived from manufacturing operations and used articles, if they were collected therein and are only fit for the recovery of raw materials."

Table 6.1.a.

Description

Rate of duty

CN code	Description	Rate of duty		Supplementary unit
		autonomous (%)	conventional (%)	
1	2	3	4	5
	— — Fuel oils:			
2710 00 71	— — — For undergoing a specific process <sup>(1)</sup> . . . . .	10 <sup>(1)</sup>	5	—
2710 00 75	— — — For undergoing chemical transformation by a process other than those specified in respect of subheading 2710 00 71 <sup>(1)</sup> . . . . .	10 <sup>(1)</sup> <sup>(1)</sup>	5 <sup>(1)</sup>	—
2710 00 79	— — — For other purposes . . . . .	10 <sup>(1)</sup>	5	—
	— — Lubricating oils; other oils:			
2710 00 91	— — — For undergoing a specific process <sup>(1)</sup> . . . . .	12 <sup>(1)</sup>	6	—
2710 00 93	— — — For undergoing chemical transformation by a process other than those specified in respect of subheading 2710 00 91 <sup>(1)</sup> . . . . .	12 <sup>(1)</sup> <sup>(1)</sup>	6 <sup>(1)</sup>	—
2710 00 95	— — — To be mixed in accordance with the terms of additional note 6 (CN) to this chapter <sup>(1)</sup> . . . . .	12 <sup>(1)</sup>	6	—
2710 00 99	— — — For other purposes . . . . .	12 <sup>(1)</sup>	6	—
2711	Petroleum gases and other gaseous hydrocarbons:			
	— Liquefied:			
2711 11 00	— — Natural gas . . . . .	3,5 <sup>(2)</sup>	1,5	—
2711 12	— — Propane:			
	— — — Propane of a purity not less than 99 %:			
2711 12 11	— — — — For use as a power or heating fuel . . . . .	25	16	—
2711 12 19	— — — — For other purposes <sup>(1)</sup> . . . . .	Free	Free	—
	— — — Other:			
2711 12 91	— — — — For undergoing a specific process <sup>(1)</sup> . . . . .	3,5 <sup>(1)</sup>	1,5	—
2711 12 93	— — — — For undergoing chemical transformation by a process other than those specified in respect of subheading 2711 12 91 <sup>(1)</sup> . . . . .	3,5 <sup>(1)</sup> <sup>(3)</sup>	1,5 <sup>(3)</sup>	—
2711 12 99	— — — — For other purposes . . . . .	3,5	1,5	—
2711 13	— — Butanes:			
2711 13 10	— — — For undergoing a specific process <sup>(1)</sup> . . . . .	3,5 <sup>(1)</sup>	1,5	—
2711 13 30	— — — For undergoing chemical transformation by a process other than those specified in respect of subheading 2711 13 10 <sup>(1)</sup> . . . . .	3,5 <sup>(1)</sup> <sup>(3)</sup>	1,5 <sup>(3)</sup>	—
2711 13 90	— — — For other purposes . . . . .	3,5	1,5	—
2711 14 00	— — Ethylene, propylene, butylene and butadiene . . . . .	3,5 <sup>(2)</sup>	1,5	—
2711 19 00	— — Other . . . . .	3,5 <sup>(2)</sup>	1,5	—
	— In gaseous state:			
2711 21 00	— — Natural gas . . . . .	3,5 <sup>(2)</sup>	1,5	—
2711 29 00	— — Other . . . . .	3,5 <sup>(2)</sup>	1,5	—

<sup>(1)</sup> Entry under this subheading is subject to conditions laid down in the relevant Community provisions

<sup>(2)</sup> Total suspension for an indefinite period.

<sup>(3)</sup> See additional note 5 (CN)

<sup>(4)</sup> Duty rate reduced to 3,5 % (suspension) for an indefinite period.

<sup>(5)</sup> Duty rate reduced to 4 % (suspension) for an indefinite period.

<sup>(6)</sup> Duty rate reduced to 7 % (suspension) for an indefinite period.



CN code	Description	Rate of duty		Supplementary unit
		autonomous (%)	conventional (%)	
1	2	3	4	5
2712	Petroleum jelly; paraffin wax, microcrystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, and similar products obtained by synthesis or by other processes, whether or not coloured :			
2712 10	– Petroleum jelly :			
2712 10 10	– – Crude .....	2,5 <sup>(1)</sup> <sup>(2)</sup>	1,8 <sup>(1)</sup>	—
2712 10 90	– – Other .....	10	4,9	—
2712 20 00	– Paraffin wax containing by weight less than 0,75 % of oil .....	10	4,4	—
2712 90	– Other :			
	– – Ozokerite, lignite wax or peat wax (natural products) :			
2712 90 11	– – – Crude .....	3	1,5	—
2712 90 19	– – – Other .....	10	3,8	—
	– – Other :			
	– – – Crude :			
2712 90 31	– – – – For undergoing a specific process <sup>(3)</sup> .....	2,5 <sup>(2)</sup>	1,8	—
2712 90 33	– – – – For undergoing chemical transformation by a process other than those specified in respect of subheading 2712 90 31 <sup>(3)</sup> .....	2,5 <sup>(1)</sup> <sup>(2)</sup>	1,8 <sup>(1)</sup>	—
2712 90 39	– – – – For other purposes .....	2,5	1,8	—
2712 90 90	– – – Other .....	10	4,4	—
2713	Petroleum coke, petroleum bitumen and other residues of petroleum oils or of oils obtained from bituminous minerals :			
	– Petroleum coke :			
11 00	– – Not calcined .....	Free	Free	—
2713 12 00	– – Calcined .....	Free	Free	—
2713 20 00	– Petroleum bitumen .....	Free	Free	—
2713 90	– Other residues of petroleum oils or of oils obtained from bituminous minerals :			
2713 90 10	– – For the manufacture of the products of heading No 2803 <sup>(3)</sup> .....	Free	1,8	—
2713 90 90	– – Other .....	4	1,8	—
2714	Bitumen and asphalt, natural; bituminous or oil shale and tar sands; asphaltites and asphaltic rocks :			
2714 10 00	– Bituminous or oil shale and tar sands .....	Free	Free	—
2714 90 00	– Other .....	Free	Free	—
2715 00 00	Bituminous mixtures based on natural asphalt, on natural bitumen, on petroleum bitumen, on mineral tar or on mineral tar pitch (for example, bituminous mastics, cut-backs) .....	0,9	<sup>(4)</sup>	—
2716 00 00	Electrical energy .....	Free	Free	1 000 kWh

<sup>(1)</sup> See additional note 5 (CN)

<sup>(2)</sup> Total suspension for an indefinite period.

<sup>(3)</sup> Entry under this subheading is subject to conditions laid down in the relevant Community provisions

<sup>(4)</sup> See Annex.

CN code	Description	Rate of duty		Supplementary unit
		autonomous (%)	conventional (%)	
1	2	3	4	5
2709 00 90	— Other .....	Free	Free	—
2710 00	<b>Petroleum oils and oils obtained from bituminous minerals, other than crude; preparations not elsewhere specified or included, containing by weight 70 % or more of petroleum oils or of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations :</b>			
	— Light oils :			
2710 00 11	— — For undergoing a specific process (1) .....	14 (2)	7	—
2710 00 15	— — For undergoing chemical transformation by a process other than those specified in respect of subheading 2710 00 11 (1) .....	14 (2) (3)	7 (3)	—
	— — For other purposes :			
	— — — Special spirits :			
2710 00 21	— — — — White spirit .....	14 (4)	7	—
2710 00 25	— — — — Other .....	14 (4)	7	—
	— — — — Other :			
	— — — — — Motor spirit :			
2710 00 31	— — — — — Aviation spirit .....	14 (4)	7	—
	— — — — — Other, with a lead content :			
2710 00 33	— — — — — Not exceeding 0,013 g per litre .....	14 (4)	7	—
2710 00 35	— — — — — Exceeding 0,013 g per litre .....	14 (4)	7	—
2710 00 37	— — — — — Spirit type jet fuel .....	14 (4)	7	—
2710 00 39	— — — — — Other light oils .....	14 (4)	7	—
	— Medium oils :			
2710 00 41	— — For undergoing a specific process (1) .....	14 (2)	7	—
2710 00 45	— — For undergoing chemical transformation by a process other than those specified in respect of subheading 2710 00 41 (1) .....	14 (2) (3)	7 (3)	—
	— — For other purposes :			
	— — — Kerosene :			
2710 00 51	— — — — Jet fuel .....	14 (4)	7	—
2710 00 55	— — — — Other .....	14 (4)	7	—
2710 00 59	— — — — Other .....	14 (4)	7	—
	— Heavy oils :			
	— — Gas oils :			
2710 00 61	— — — For undergoing a specific process (1) .....	10 (2)	5	—
2710 00 65	— — — For undergoing chemical transformation by a process other than those specified in respect of subheading 2710 00 61 (1) .....	10 (2) (3)	5 (3)	—
2710 00 69	— — — For other purposes .....	10 (3)	5	—

(1) Entry under this subheading is subject to conditions laid down in the relevant Community provisions.

(2) Total suspension for an indefinite period.

(3) See additional note 5 (CN).

(4) Duty rate reduced to 6 % (suspension) for an indefinite period.

(5) Duty rate reduced to 3,5 % (suspension) for an indefinite period.

## "Article 5

A product in the production of which two or more countries were concerned shall be regarded as originating in the country in which the last substantial process or operation that is economically justifiable was performed having been carried out in an undertaking equipped for the purpose, and resulting in the manufacture of a new product or representing an important stage of manufacture."

That implies that for crude oil the origin is to be considered the country where it was extracted from the ground. As for oil products it is the country where the crude oil was refined and converted into oil products and eventually where raw oil products were converted into other products subject to another customs statistical position ("headings").

### 6.3 Preferential treatments

The Commission has established since its creation in 1957, a very open commercial policy towards third countries. This Common Commercial Policy has been based on three different instruments:

- Bilateral Commercial Agreements
- Global Commercial Agreements
- Generalized Preference System

The first item, refers to bilateral commercial and (in most cases) cooperation agreements, signed with many countries notably the OCDE non European countries, but also Mediterranean countries and even the former COMECON countries.

In general those agreements demand reciprocal concessions, but with respect to less developed countries the concessions made on the EEC side are usually far greater than those given by the non EEC countries.

The global Commercial Agreements are basically the EEC EFTA agreement and the Lome Convention. Whereas the first is based on reciprocal concessions, the second, which is an important economic agreement (signed with the so-called ACP Countries, many former colonies of EEC countries), are also very favorable for the exports originated in those ACP countries.

The third, the Generalized Preference System or GPS, is different from other types of agreement. It is annual, whereas the others are of a lengthier duration, and specially they are a unilateral concession from EEC side without asking for any reciprocal commitment.

Last, it is necessary to mention that the EEC is studying the establishment of a Free Exchange Zone with the countries of the Gulf Cooperation Council (Saudi Arabia, Kuwait, Qatar and UAE). That new agreement will consolidate the facilities now given under the GPS, and although some temporary limits are to be established for some "sensible" petrochemical products, no restrictions are envisaged for oil products.

As for exports, freedom is the general rule, although in potential crisis situation

restriction could be imposed in relation exclusively for exports to countries outside the EEC.

So the picture for oil products trade into the EEC could be summarized as follows:

1. There is a Common External Tariff with low rates, but that is only applicable to a minority of origins.
2. In some cases a "butoir" system is established (an annual import-free quantity per country that if surpassed applies for the normal tariff).
3. Intermediate oil products for further processing in EEC refineries are not to pay any import fee.
4. Almost 90% of all oil products imported into the EEC during the last three years have not paid any customs levies.
5. Notwithstanding their origins, when an external product enters the EEC territory is immediately taken as a EEC product and so considered in "free practice".
6. There is not any limitation for exporting oil products to other EEC countries, although some restrictions could be nationally imposed to exports towards third countries.

#### **6.4 EEC-Poland commercial cooperation agreement**

This is a bilateral agreement signed in November of 1989 with a first stage of implementation of five years. Its main features are :

1. Mutual engagement upon GATT clause of Most Favored Nation.
2. Covering all products except steel and coal products and textiles and agricultural products.
3. A broad economic cooperation program covering many sectors including energy is also established.

## CHAPTER III

# SCENARIOS FOR THE FUTURE OF OIL IN POLAND

# 1 Introduction

This third part of the study is devoted to the analysis of the advantages & drawbacks of the three scenarios defined for the future of the Oil Sector in Poland:

1. Control Scenario
2. Free market Scenario
3. Gradual Liberalization Scenario

As it was pointed out in the introductory remarks of this study, this last option has been considered by the Polish Authorities as their chosen option for the future, and so we will concentrate in its main features.

The other two options are to be described briefly in order to fulfil the initial terms of the contract, and also to pinpoint the soundness of the chosen scenario.

## 2 Control scenario

### 2.1 Definition of the scenario

Poland is undergoing an important number of political & economical changes, from an authority and socialist country to a market oriented democracy.

New general laws and regulations have been issued to liberalize the economy and to adapt its structures to those prevailing in EEC countries.

Though, the oil sector, due to its strategical implications, recommends a strong control by the State in order to guarantee its contribution to the Polish economy.

This scenario will mean then to maintain the old system of centralized decisions and the actual companies structure as they were in the past, that implies:

1. **CIECH PETROLIMPEX** will continue to be responsible for the external trade activities until 1992.
2. **MZRIP PŁOCK & GZR GDAŃSK** will continue as refining companies supplying oil products to CPN.
3. **CPN** will continue as a monopoly for the distribution and retailing of oil products.
4. Imports of oil products have to be made only by **CIECH** on behalf of **CPN**.

But also some necessary adjustments have to be introduced, notably:

1. A clear distinction of competences between the Ministry of Industry and other involved Government Agencies.
2. An Annual Oil Plan has to be defined by the Ministries involved. This plan has to fix the level of activity for all the refineries and the selling prices to CPN, as well as the distribution and retailing margins of CPN.
3. A new equilibrium has to be defined between CPN Central Office and its 17 Regional Directorates. CPN Central Office has to concentrate all activities regarding oil supplies as well as the investment decisions. The regions have to keep a great operational flexibility but have to operate as "cost centers". Notwithstanding their opinion has to be heard before any investment decision, regarding distribution or retailing facilities, in their geographical zones.

### 2.2 Advantages of the control scenario

1. It is the easiest solution. The changes are to be kept at a minimum and also all the parties will accept it readily.
2. It can be done quickly. Since the changes are minimum and easy, it can be done in a short time.
3. It will not imply a lot of legislative work. Most of the proposed changes can take the form of Ministerial Decrees.

### 2.3 Disadvantages of the control scenario

1. The system will only work under absolute closure from foreign competition, specially oil products imports outside CPN. That isolation will have to be continued forever.
2. It will not give any interest to enhance efficiency, since there will be not international, nor domestic competition. So the inefficiencies and higher costs of the actual system, will have to be passed on to the consumer (higher prices) and to the Polish State (lesser fiscal revenues).
3. It will only delay some years, the necessity to adopt structural measures which only could be agravated by the passing of time, without any action been taken during this period.



### 3 Free market scenario

#### 3.1 Definition of the scenario

This scenario will imply that not later than 1993, Poland must have fully liberalized its oil sector, including the privatization of the actual state owned companies.

The speed of achievement of the liberalization, will require a quick and substantial amount of legislation to be drafted by the Government and approved by the Parliament.

The main features of the system will be the following :

1. Polish based companies, multinational oil companies and private importers will operate under the same legal conditions.
2. That will not bar, eventually , the establishment of some minimum requirements to become operators/distributors of oil products.
3. No restrictions are to be placed regarding the origin of crude or oil products, except those deriving from quality specifications or national security reasons.
4. No restrictions are to be imposed in a normal situation, regarding the export of products.
5. Any refinery/operator in Poland will be able to choose their customers and to develop their marketing campaigns. No restriction, other than those coming from existing legislation, will be imposed in relation to the opening of new petrol stations or the construction of storages/distribution facilities.
6. Storage and distribution facilities of CPN are to be open to Third Party Acces under normal commercial conditions.
7. A new taxation system for oil products will be established. That includes a special excise tax on domestic products. A special compensatory tax (similar to the quantity paid by the domestic producers) is charged on imported products.
8. Additionally, the existing customs tariff is to be applied. There will be a zero rate for semifinished products to be utilized as raw materials for the oil/chemical industry.
9. Prices will be totally free. That means:
  - (a) No Government interventions whatsoever to fix or dictate prices.
  - (b) Final consumer prices might be different in every region of Poland or in every petrol station.
  - (c) The person/company that will fix the prices, will be in every moment the owner of the product alongside the petroleum chain.
  - (d) Intermediate transfer prices have to be negotiated directly by the different companies involved, following normal free market practices.

- (c) There will not be any established margins for retailers of petrol stations or wholesalers.
10. Competition law will ensure fair relations and practices between those partners. Of particular importance will be the prohibition of collusive practices ( two or more companies establishing agreements regarding prices or market shares) or preventing the unfair use of a dominant position.
  11. There will be no, or minimal, limitations regarding the investments, national or foreign, in refineries, distribution or petrol stations. Also, there will exist no, or really minor, limitations for reexport or profits.

### **3.2 Advantages of the free market scenario**

1. It is in line with the general trend in the Polish economy and the public attitude. That will imply, that it will receive an immediate backing from the media and the public.
2. It will lead to a well proven and long term successful scenario, such as the common experience of many EEC countries demonstrates.
3. Last, it could be completely made during the course of 1991-92 and so be totally enforced in 1993.

### **3.3 Disadvantages of the free market scenario**

The only disadvantage that could be said of this scenario, is that the Polish Oil Sector is not prepared for international competition, and so this scenario, although well founded, will mean the disparition of a substantial part of the Polish Oil Sector, with important negative side effects on other sectors such as the chemical industry.

## 4 Gradual liberalization scenario

### 4.1 Definition of the scenario

This scenario has to be understood as its definition stands for. A gradual, comprehensive process leading to the full market scenario, but giving some time to the Polish Oil Sector to modernize and adapt its structures in order to stand to international competition.

This scenario has five main characteristics that need to be defined in detail : globality, stabilization, timing, cooperation and inevitability.

The global concept is perhaps the most important. This scenario could be compared with a huge, but also delicate, meccano formed by individual pieces that fit together and which have to be placed in a predetermined order.

In this respect individual actions are of limited or even negative value, if taken in isolation. They have to be considered inside the global framework, and even if some of them could be considered as contrary to the final target — the free market — they must be thought of in terms of temporary scaffolds that hide the view of the construction but which are absolutely necessary to fulfil the ultimate goals.

**Stabilization** represents the need to establish a provisional stable framework, which is to serve as a launching platform for the necessary in-depth reforms. With the actual, non-regulated and unforeseeable situation, it is impossible that the Polish companies could start to work towards the future, nor that the foreign capital could invest in the Polish Oil Sector. It is necessary to point out, that capital investments are totally dependent on a stable socioeconomical scenario and a fair expectation of profits. So this temporary stabilization process appears as an unavoidable step.

The global concept leads to the third characteristic which is **timing**. Time is limited and the width and importance of the tasks to accomplish are enormous. So it is necessary to speed up the process as much as possible and, it is specially necessary not to delay, however unpopular they can be, any individual step or measure. Because of the globality of the project it could only lead to delays in the whole project. For that reason it has been considered advisable to include in the timing scenario, not only starting and final dates, but also a reference follow-up date for enforcement of the activities. Of course in such a complex project, exactitude has to be discarded. So, some minor temporal adjustments will be necessary, as long as they are limited in number and do not jeopardize the final targets.

**Cooperation** calls for an active participation of all the actors involved in the Oil Sector in Poland. From the Polish Authorities to the companies senior management and the Trade Unions, not forgetting the long term interests of the Polish consumers that need to be preserved. This scenario will result in a long, hard, and even painful process in which no one but the Polish people will benefit in the long term. That will require to put individual or corporative short term benefits aside and to look for some solid grounds for everyone in the future. It will require a lot of day to day bravery and a strong positive attitude and cooperation from all those involved. We do realize that this point constitutes the weakest element of the whole process and so a clear commitment and a strong leadership are necessary.

Because, and that is the last characteristic, the whole process is inevitable Poland could not survive in isolation and although it is possible to maintain for sometime a closed oil sector, that will only result in higher costs for the consumer in the short term and a potential disparition of the Sector the day in which a minimum opening of the system becomes necessary.

This inevitability will be the final justification and "leit motiv" of the whole process. If adequately managed, this concept will guarantee the cooperation of all parties involved, will assure the globality of the process and the punctuality of the individual actions to be taken.

## 4.2 Objectives of the gradual liberalization scenario

### 1. FINAL OBJECTIVE

To establish in 1996 a free market for oil products in Poland.

### 2. INSTRUMENTAL OBJECTIVES

- 2.1. To safeguard as much as possible, the existing Polish oil companies, the facilities now in operation and the workforce of the Sector.
- 2.2. To establish a model based in free enterprise and market — similar to those prevailing in EEC countries.
- 2.3. To enhance the productivity of the industry to international levels and to bridge the technological gap now existing.
- 2.4. To enhance consumer's interests in relation to prices, service or products quality.
- 2.5. To guarantee a stable revenue influx to the Polish State based on reliable oil taxation system.
- 2.6. To guarantee the strategic nature of the industry, through a certain supervision by the Polish Authorities.

## 4.3 Main elements of the scenario

In table 4.3.a. are represented the main elements of this Gradual Liberalization Scenario and its timing for implementation.

They have been given also marks which point out, not only the importance of the respective element, but also the difficulties and challenges of each one of those.

This table has to be considered as the "Sacred Reference Table" of the whole process and the success or failure of the whole project might be placed upon the fulfilment of every one of the individual elements.

TABLE 4.3.a  
GRADUAL LIBERALIZATION SCENARIO : THE STEPS

<u>ACTION</u>	<u>IMPORT.</u>	<u>START</u>	<u>ENFORCED</u>	<u>END</u>
1 VERTICAL INTEGRATION	***	1991	1993	
2 PRICE CONTROL SYSTEM	**	1991		1996
2.1 COST FORMULA	**	1991	1992	1995
2.2 MAX.PRICES	**	1994	1995	1996
3 NEW TAXATION REGIME	**	1991	1993	
4 CONTROL OF IMPORTS	**	1991	1992	1995
5 COMPULSORY STOCKS	*	1992	1993	
6 PRODUCT & ENVIRONMENT REGULATIONS	*	1992	1994	
7 FREE MARKET	***	1991	1996	

Last, before going into the details for each element, it is necessary to make some reflexions about the proposed timetable.

The time planned is, no doubt, very short and limited. But, it has been, carefully weighed, based in the following reasons:

1. A longer period might transmit the idea of postponing some urgent and necessary actions.
2. This is a "Heaven time" in which Polish oil companies will be protected from international competition in order to enhance its efficiency and modernize its facilities. A further extension of this period will result in unnecessary charges for the Polish economy and the consumers.

So, we firmly think this scenario to be well founded and balanced and potentially achievable, although not exempt of important difficulties and painful and courageous decisions. Now we will analyze one by one the main elements of the process.

## 4.4 Vertical integration

### 4.4.1 Definition of the task

The vertical integration process is without any doubt the most complex and difficult element but it is also the key to the whole picture.

Vertical integration, as could be seen in the EEC Chapter is the standard organization in the whole of Europe. We can say that without this vertical integration, the chances of survival of the individual companies are to be very limited.

Also, this is an urgent element that needs to be started as soon as possible in order to be fully completed by the beginning of 1993.

The whole philosophy behind this process, is that the **two main refineries**, which are by far the most important in terms of investment and workforce of the whole Oil Sector, have very limited possibilities of survival unless they have a direct access to the final consumer.

On the other hand CPN, which is a key element in the puzzle, has some monopolistic connotations that need to be corrected, as well as its internal organization modified in the sense of a more centralized management.

This leads into the two different activities now performed by CPN. The gross distribution of products and the retailing of an important share of the final market.

Other important actors have to be fitted also in the picture. In the case of **CIECH-PETROLIMPEX** their reputation as experienced foreign trade companies is of paramount importance. For their part the **PERN** pipeline company, the **Port Północny** and the **Rail Tank Company, DEC**<sup>13</sup>, must be an important part of the huge distribution company to be created.

Last, it is necessary to mention the five **Southern refineries**. Although their shape in the picture is a bit blurred, they are important as a source of prepared workforce and technical expertise, and some provisional measures have to be taken to care for

<sup>13</sup>DEC being at present a part of CPN

TABLE 4.4.2.b  
VERTICAL INTEGRATION OPTION I : MAIN ELEMENTS

1. CIECH : ONLY SUPPLIER UNTIL 93. TRADING COMPANY LATER
2. DISTRIBUTION COMPANY
  - 2.1 FORMED BY THE DISTRIBUTION ASSETS OF CPN, PLUS PERN, DEC AND PORT POLNOCNY
  - 2.2 SHAREHOLDERS AT 50/50 % , MZRI PLOCK AND GZR GDANSK
  - 2.3 COMPULSORY DISTRIBUTION UNTIL 1995. FREEDOM LATER
  - 2.4 OPERATING ON A COST TRANSPARENT, NON-DISCRIMINAT. BASIS
  - 2.5 IN 1996 OPEN TO ALL OPERATORS, UNDER SAME CONDITIONS
3. REFINERIES & THE RETAILING
  - 3.1 RETAIL STATIONS ALLOCATED TO THE MAIN REFINERIES ACCORDING TO THEIR REAL ( OR PLANNED ) CAPACITY
  - 3.2 MZRI P TO KEEP THE CPN BRAND NAME ( AT A PRICE )
  - 3.3 10 % OF THE NETWORK RESERVED FOR FOREIGN COMPANIES
  - 3.4 ONLY MZRI P & GZR TO OPEN NEW STATIONS UNTIL 1995
  - 3.5 SOUTH REFINERIES TO BE GIVEN SPECIAL STATUS UNTIL 1995
4. ROLE OF THE POLISH AUTHORITIES : UNTIL 1995
  - 4.1 FIX PRICES & MARGINS AT ALL LEVELS
  - 4.2 DETERMINE PHYSICAL PARAMETERS AND MARKET SHARES

2. To create the new infrastructures necessary to accomplish the future increase in regional demands (such as pipelines or new regional storage capacities).
3. To restructure and modernize the distribution system enhancing the efficiency of the whole process.

The shareholders of this company are to be the MZRIP and GZR each with 50% of the capital. As a subalternative there is the possibility of the Polish State to take a minority 25% stake, because of the strategic nature of the company and in order to monitor its fair operation.

The reason of this 50/50 shareholding system, irrespective of the refinery sizes, is that in other case there will be suspicions of unfair commercial practices or profit distribution.

In the eventuality of a new refinery being constructed in the Country, and this refinery would not belong neither to MZRIP nor to GZR, a special provision should be made, regarding an equitable access of the new company to the CPN Distribution Company, with the same shareholding participation as the two other companies.

The new Distribution Company is to operate on a Tariff Basis, based on cost parameters approved by the Board, and with absolutely transparent rules. After 1996, when full free market is enforced, this company is to operate under the same conditions for all recognized oil operators in Poland, without having the right of refusal based on commercial conditions.

**It is important to stress that the product will be owned by the refining companies until the moment it is sold either to the retail station or to the final consumer.**

Between 1991 and the end of 1994, all oil products will have to be channeled obligatorily through the Distribution Company. In 1995, when maximum prices are enforced and the market partially open, this obligation could be eliminated.

As for the Southern Refineries they will be given mandatory accession rights until 1995, at predetermined prices to the distribution/retailing system.

As it was pointed out, the retailing has to be mainly splitted between MZRIP & GZR. Nonetheless some comments are necessary.

1. The sharing will cover 90% of the retail network now supplied by CPN.
2. 10% of the network will be reserved for sound foreign oil companies, with no refining interests in Poland, but which have a commitment to the future of this country. This 10% competition, first in service and later in prices.
3. The 90% sharing between MZRIP & GZR will be attributed according to the real capacity of both refineries. In the case of a final commitment to increase GZR capacity, this will be taken into account in the process of opening of new petrol stations.
4. The individual attribution of retail stations between MZRIP & GZR will be negotiated directly by these companies, under supervision of the Polish Authorities. In the process MZRIP will be assigned the "CPN brand name" in exchange of a certain number of retail stations to be defined.



5. Until 1.1.1995 the only companies authorized to open new petrol stations will be MZRIP & GZR, according to their normal share. Also the balance 10% share of "foreign companies" should be discretionary awarded by the Polish Authorities.
6. That will be also the case, if a new refinery is later approved.
7. Actual independently owned retail stations, inside or outside CPN supply network, will be given the possibility to negotiate individual agreements (with a ten year maximum duration) with any of the above companies, which in return will have to guarantee supplies.
8. The extensive network of distributors — namely cooperatives and local resellers now in operation — are to be given the same treatment as the independent retail stations.
9. After 1.1.1995, there will be freedom to construct new petrol stations. At the same time that fix prices will be changed into maximum prices, the obligation to distribute through CPN Distribution Company will disappear and oil imports will be authorized.
10. As for other products such as LPG, Jet Kerosene, heating gas-oil or fuel-oil, the central idea is to establish a similar sharing idea as the one established for petrol stations. So the commercial assets of CPN involved in those activities could be splitted accordingly between these two companies.
11. Although, a common feature in other countries, it is necessary to stress that the localization of retail stations/distribution facilities, must not be limited to the regional zone of influence of the refineries, being product exchanges a very common practice in other EEC countries.

Last, in this process of vertical integration, it is necessary to point out the role of the Polish Authorities. This is to be :

1. Until 1995, to create an Annual Oil Plan, defining the supply conditions for each refinery (including South refineries) and an acquisition and operational program for CPN Distribution Company.
2. Monitoring the development of the Oil Sector, specially regarding the construction of new retail stations.
3. Authorizing the refineries to import intermediate or final products (MZRIP & GZR will be the only ones authorized) if production fails behind schedule and no other national production can be fitted in.
4. Fixing prices & margins for the refiners, the CPN Distribution Company and the retailers.
5. For all these reasons it is advisable to create a special Task Force formed by representatives of the Government the Industry and the Trade Unions, to create such a Plan and to care for its implementation.

FIGURE 4.4.2.a  
VERTICAL INTEGRATION : OPTION I

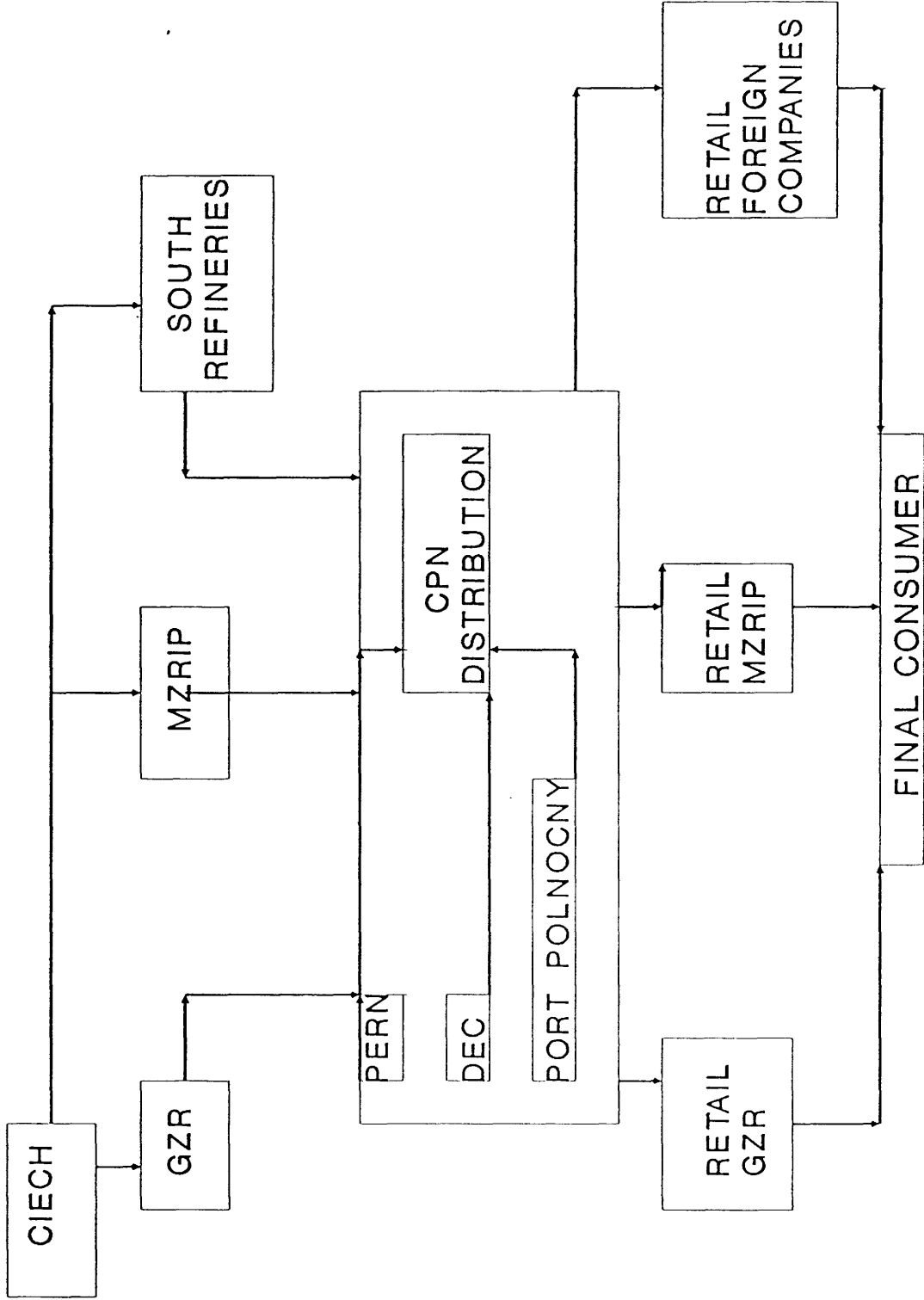


TABLE 4.4.3.a  
VERTICAL INTEGRATION OPTION II : MAIN ELEMENTS

1. CIECH : ONLY SUPPLIER UNTIL 93. TRADING COMPANY LATER
2. DISTRIBUTION COMPANY
  - 2.1 FORMED BY THE DISTRIBUTION ASSETS OF CPN, PLUS PERN, DEC AND PORT POLNOGNY
  - 2.2 *THE ONLY SHAREHOLDER WILL BE MZRIP PLOCK*
  - 2.3 *GZR WILL BE FREE TO UTILIZE OR NOT, THE DISTR. NETWORK*
  - 2.4 *OPERATING ON A COST TRANSPARENT, NON-DISCRIMINAT. BASIS*
  - 2.5 IN 1996 OPEN TO ALL OPERATORS, UNDER SAME CONDITIONS
3. REFINERIES & THE RETAILING
  - 3.1 RETAIL STATIONS ALLOCATED TO THE MAIN REFINERIES ACCORDING TO THEIR REAL ( OR PLANNED ) CAPACITY
  - 3.2 MZRIP TO KEEP THE CPN BRAND NAME ( AT A PRICE )
  - 3.3 10 % OF THE NETWORK RESERVED FOR FOREIGN COMPANIES
  - 3.4 ONLY MZRIP & GZR TO OPEN NEW STATIONS UNTIL 1995
  - 3.5 SOUTH REFINERIES TO BE GIVEN SPECIAL STATUS UNTIL 1995
4. ROLE OF THE POLISH AUTHORITIES : UNTIL 1995
  - 4.1 FIX PRICES & MARGINS AT ALL LEVELS
  - 4.2 DETERMINE PHYSICAL PARAMETERS AND MARKET SHARES

A Summary of the main elements of this First Option on Vertical Integration can be seen in Table 4.4.2.b..

#### 4.4.3 Vertical integration : option II

This option II, although keeping the structural elements of Option I, introduces some minor but important changes, they are:

1. The CPN Distribution Company will merge totally with the MZRIP, although for antitrust reasons this merging of interests must result in each company having independent fiscal and accounting procedures.
2. CPN Distribution Company will have to further its transparency of costs, profits and operational procedures to avoid charges on unfair competition practices.
3. Also, it will charge all the supplying companies (MZRIP, GZR and the Southern Refineries) under equivalent, non-discriminatory commercial conditions.
4. GZR and the Southern Refineries are **entitled but not obliged** to distribute through CPN Distribution Company, being able to create alternative ways of distribution for a part of their production.
5. The rest of the elements remain unchanged.

Again, a summary of this option can be seen in Table 4.4.3.a..

#### 4.4.4 Pricing system

The proposed pricing system has **three main objectives** :

1. To guarantee a stable income and possibly profit for the refineries in the short term.
2. To compensate for the higher domestic production costs in Poland in that period.
3. To foster a growing efficiency and competition

For these reasons, between 1992 and the beginning of 1995, a standard cost formula is **individually established** for each refinery (specially MZRIP & GZR).

This standard cost formula will be based on the standard cost of crude oil supplies plus a refining margin that took into account the specific situation of each refinery. This initial formula will be applied during 1992-93.

For the year 1994 the specific tailor-made cost formula, will be changed into a **national cost formula** with margins equal for all the refineries. This national cost formula will include again the standard national cost of supply (refineries will be free at that moment to buy their own slate of crude) plus a standard refining margin, that will take into account not only the domestic production costs but also EEC average refining costs.

The objective it is to oblige the refineries to prepare step by step to open competition. During all this period 1991 to December 1994, consumer prices are fixed by the Government and established for the whole of the Polish Territory. This move, although a step backwards from the actual maximum price system, we think to be necessary in order to clarify the situation of CPN Distribution Company and to stabilize the markets.

In January 1995, although this standard national price is still working, the refineries will be allowed to make reductions on the consumer prices, either directly or through the retail stations. Also the independent owners, will be given permission to reduce prices on behalf on their own retail margins. So the former price system will continue but only as a maximum price.

Last in 1996, on occasion of the opening of the market for imports, the maximum price system will be transformed into a free pricing system. This gradual process of price liberalization will give some time for the necessary changes and for the establishment of a gradual but progressive competition. Nevertheless, the details of such a system should have to be determined in detail in further studies.

#### 4.4.5 Oil taxation

The recommendations that could be made in this study have to be by nature limited since this is a key element of the Polish Economy Reform that goes beyond the scope of this study.

Nevertheless the analysis of the Polish Oil Sector points out the necessity to correct some specific elements in relation with taxation. They are :

1. The actual taxation for State owned companies is very complex.
2. There is not a clear well defined excise tax on oil products similar to the rest of Europe.
3. Apparently, imported products are charged less than the domestic products.
4. Also, the proposal to have fix consumer prices will require some sort of "anticiclical tax element".

So our suggestions will be :

1. To clarify as much as possible the taxation regime for oil companies (That will be a necessity to attract foreign investments).
2. To study the introduction of an oil excise tax alongside the normal practice in other EEC countries.
3. To establish an "anticiclical special tax" to be defined and monitored by the Department of the Government responsible for defining prices and margins for the oil companies. Since it is difficult to have such a tax before 1993, it will be necessary to look for a provisional formula for 1992.

4. To determine an equivalent compensatory tax for imported products additional to the custom duties to be charged upon the arrival on the frontier.
5. To establish a "suspensory system" for collecting the "excise tax" in which the tax obligation, whilst originated during the production, will be levied upon the deliverance to the final consumer. That will require to strengthen the fiscal monitoring of the oil flows to prevent tax frauds. That system will also imply that oil products bound for exports will not be unduly charged.

#### 4.4.6 Import control

Again this is an important feature of the proposed system. Because of price differences between domestic and international products during 1991-95, imports have to be kept at a minimum and considered as a complementary to domestic production. Last , MZRIP & GZR will be the only companies authorized to make directly or through CIECH the imports.

The limited opening of imports in 1995 will be during that year, a testimonial attitude. In that year independent operators will have to get the special status that will be defined later, and the number of independent retail stations/resellers will be small. Though, that move will give a clear indication of what lies ahead and for oil companies and consumers.

Because of the notorious experience of 1990/91, it is highly advisable that the potential Operators/Importers have to fulfil a minimum set of requirements such as financial and technical expertise before been given an Official Status. That will bar speculators from entering and distorting the market, whilst giving room for sound individuals and companies interested in making business in the long term .

That Operator Status, similar to the well known French System will be based upon a Register to be created in the Industry Ministry and a certain set of objectives, non discriminatory but also strict conditions. It is advisable that the first authorization is to be given for three years with further extensions to five years.

Some specific considerations have to be made regarding the chemical industry. This is a basic consumer of oil products as raw materials, and so will be highly dependent on oil products prices, controlled during 1991-94 whilst their markets will be potentially open to foreign competition. As in the case of the Southern Refineries a special strategy that goes beyond this study has to be made regarding its specific situation. A potential but partial solution, in relation to oil product imports is to give them a limited quota system to import part of the raw materials they need, beyond the scope of the supplies of the Polish refineries.

Another important feature of the External Trade issue is the control of imports in quality and quantity. It is necessary to strengthen both the control at the frontiers as during the distribution/retailing in order to avoid unfair practices.

This is specially true regarding the quality of the imported products. Standard quality certificates, by recognized international surveyors combined with spot checks during distribution/retailing appear as an absolute necessity.

As for exports they will be absolutely free unless the Polish Authorities decide otherwise, for national security reasons, such as to avoid an insufficient coverage of

domestic needs.

#### 4.4.7 Compulsory stocks

This is an accessory item in relation to the reorganization of the Polish Oil Sector, but important in relation to the strategic security of supplies and linked with the control of imports issue.

The special supply agreements of Poland made that oil stocks (in the form of crude oil or products) were very low in this country. So a gradual scenario must be implemented to create a similar system to those existing in the rest of Europe.

The final target will be to have 90 days stocks in 1996. So the proposed calendar will be necessary:

Days of stock			
Year	Refineries	CPN	Total
1992	45	15	60
1993	50	20	70
1994	55	25	80
1995	55	25	80
1996	60	30	90

As for importers, they will be obliged after 1995 to have as permanent, **non-operative stocks**, the same number of days of stock for their planned consumption (this point has to be further analyzed whilst elaborating their Statute) equivalent to the sum of refineries plus CPN figures. These quantities have to be in the form of final products (based on commercial specifications). As for the storage capacity they will be free to have their own tanks or to reach an agreement with CPN or the refineries for using its installations.

We prefer at this stage not to make any suggestion about the possibility of having a centralized system, although this possibility will have to be analyzed in 1996, after the system is consolidated.

Last, in relation to the number of days of forward consumption some further remarks are necessary:

1. The low figure for 1992, reflects the physical impossibility to have storage capacity available in that year.
2. The gradual process and the 1995 pause, are consistent with the huge capital demands of such scheme, and the fact that in 1995 there will be an increase in domestic competition.
3. The refineries utilize some of the stocks as operational stocks and so their share has to be greater than that of CPN. Some special provisions should be made for the South Refineries.

4. Big consumers of oil products, such as power stations and the chemical industry could be asked additionally to have also 15 days of their normal oil products requirements.
5. For the refineries, the normal share will be 40% of crude oil and 60% of intermediate/final products.
6. The final products to be considered are:
  - Automotive petrol
  - Gas-oil (diesel & heating)
  - Fuel-oil
7. Some specific lower figures could also be established, regarding other oil products such as LPG, naphtha and Jet-Kerosene.
8. The cost of such compulsory stock for CPN & the refineries will be included in their margins.

#### 4.4.8 Product & environment regulations

Again this is an auxiliary element of the process of reorganization of the Polish Oil Sector but important in relation to the process of upgrading of the Polish Refineries.

As could be seen in the EEC Chapter, the speed of change of oil products specifications towards environmentally friendly levels is impressive.

Environmental constraints are lesser in Poland than in the average EEC countries, and that linked with the necessary time to upgrade the refineries it is important for defining the future oil products qualities. On the other hand, it is not possible to forget the specific demands of the consumer, notably in the case of cars and trucks, looking for product qualities not produced in Poland. (unleaded petrol, very low sulphur diesel)

So some conclusions are again necessary:

1. It is highly convenient to elaborate a long term schedule for the improvement of oil products qualities.
2. That schedule will be inestimable for the refineries to define their upgrading efforts.
3. Do consider that this upgrading time could take 2-3 years, and so plan the specifications according to that reality.
4. In the case of some specific products that need to be imported ( unleaded petrol, low sulphur diesel or fuel-oil) those imports will have to be made through MZRIp & GZR until 1995.
5. Exports of oil products from Polish refineries will be very limited in the medium term, by its inability to fulfil EEC' standard qualities.



6. A strict legislation regarding oil products quality will not be useful, unless a system of control is established. That is necessary both for domestic production and for imports.
7. Tax instruments, such as lower excise taxes, could be used as a way to promote the use of environmentally friendly oil products.

Also, environmental regulations could be needed to rationalize the actual distribution and retailing network, formed by several thousands of local resellers, operating apparently under very unsatisfactory security and environmental conditions. The gradual application of stricter standards will be in the general line of rationalization of the whole sector and will prevent the consolidation of a marginal sector, operating at very low standards of quality and security, that could serve also as a way to detour the formal structures.

#### 4.4.9 Managerial education and public support

Even not specifically included in the Gradual Liberalization Scenario there is an important need in relation to management education & training. The free market final option means not only to change structures and legislation but also people as they are the key element of the process.

So the need for some management formation plan in the oil sector and eventually the creation of a Polish Petroleum Institute. This Institute will serve not only to prepare and train the high/and medium management in the sector, but also to serve as a catalyst to the reform process and a reference point to the media and the public.

Because it is not possible to ignore the political marketing of such reform. This important and difficult task will require that not only the oil sector or the Ministries involved, but the whole of the Polish Governemet, the Parliament and the Public will understand the whole process and rally behind the necessary actions to be taken. Without such support, or at least understanding, the whole process will not have any change of succes.

#### 4.4.10 Summary : the free market

As it was told before, this scenario could be compared with a big meccano whose pieces need to be fitted in a delicate and well timed manner.

For that reason in Table 4.4.10.a, we will try to summarize a matrix defining for every year the actions to be taken and making of such an extensive list of individual actions a well defined scenario.

This table constitutes the best, and perhaps the only possible, summary of the whole study although it is still necessary to point out that this study is only a useful and necessary step, but without the political determination to perform the difficult changes ahead, the usefulness of such exercise will be nothing.

TABLE 4.10.a  
SUMMARY OF ACTIONS : GRADUAL LIBERALIZATION

<u>YEAR</u>	<u>VERTICAL INTEGRATION</u>	<u>DISTRIBUTION</u>	<u>RETAILING</u>	<u>PRICING</u>	<u>TAXATION</u>	<u>STOCKS &amp; IMPORTS</u>
1991						
		IN - DEPTH ANALYSIS & STUDIES FORMULATION OF PRECISE STRATEGIES				
1992	CPN MERGE WITH PERH, DEC, PORT POL.	RETAIL STATIONS ARE SHARED	TAILOR-MADE COST FORMULA & MARGINS	PROVISIONAL TAXATION	MZRIIP & GZR ONLY IMPORTERS CIECH TO PERFORM ALL THE TRADE 60 DAYS STOCKS	
	MZRIIP & GZR 50/50 % IN CPN	CPN BRAND NAME TO MZRIIP		EQUIVALENT TAXATION FOR IMPORTS		
	COMPULSORY DISTRIB THROUGH CPN	CONTRACTS MADE WITH INDEPENDENTS				
1993						
		MZRIIP & GZR NEW PETROL STATIONS		TWO TAXES : - EXCISE TAX - ANTICICLICAL TAX	CIECH BECOMES A FREE TRADER 70 DAYS STOCKS	
1994			NATIONAL COST FORMULAS & MARGINS			90 DAYS STOCKS
1995	FREE DISTRIBUTION	TOTAL FREEDOM FOR NEW STATIONS	MAXIMUM PRICES		FREE IMPORTS - SUBJECT TO IMPORTERS STATUTE - STRICT QUALITY CONTROL IMPORTERS TO HAVE STRATEGIC STOCKS	90 DAYS STOCKS
1996			FREE PRICES	ANTICICL. TAX DISAPPEARS		