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Item 5 of the provisional agenda

ENERGY AND GAS SITUATION IN THE ECE REGION IN 1999

Highlights

Note by the secretariat

A. Macroeconomic situation 1/

1. The macroeconomic situation in the ECE region in 1999 has been profoundly marked by the continuing strong growth of the United States economy and its widespread impact on the world economy, exchange rates and trade flows. The US economy achieved an average annual growth of 4.7 % with 2.4 % increase in productivity. Such enviable performance was clearly superior to economic growth in the European zone with an average annual GDP growth in 1999 of only 2.4 % with a modest productivity increase of 0.9 %. Such a contrasting growth picture in the two key economic parts of the ECE region was a background for the sharp appreciation of the US dollar and considerable weakening of the Euro. Thus, while the economic conditions in the ECE region were characterized by the worsenin of the unfavourable trends from 1998 in western Europe as well as selected economies in transition, a widespread improvement of the leading economic indicators in the whole region took place in the second part of the year.

1/ Based on the ECE data base and the Economic Survey of Europe, 2000, No.1, New York and Geneva, 2000.

2. Looking at North America as a whole, its rate of the gross domestic product (GDP) growth was 4.1 %, compared with increases of 4.5 % in 1997 and 4.2 % in 1998. The 1999 increase in GDP, as in 1997 and 1998, was the largest annual increase since 1988. As before, the combination of strong gross fixed investments and real household expenditures fuelled by relatively strong stock markets seem to be responsible for the robust economic growth in North America.

3. The economic situation in western Europe was clouded by an increasing number of risks such as depreciation of the Euro, the threat of inflation and very slow structural changes. Although a weak Euro has benefited the exporters, the domestic demand nonetheless remains fragile and depressed in many respects in some sectors. In general, the economic activity was underpinned by export growth and reluctant growth in domestic demand. Thus, it was no surprise that in western Europe, the average annual rate of economic growth slowed down to 2.0 % in 1999 compared with 2.6 % in 1998. As in the past, the four big countries (France, Germany, Italy and the United Kingdom) grew considerably slower than the remaining small European economies where the restructuring pace was somewhat faster and stronger. Finally, the cyclical upturn in western Europe in the second half of 1999 set the stage for somewhat stronger growth in the first months of 2000.

4. In a relatively favourable international development framework, the economic trends in economies in transition were marked in particular by three key trends: the preparations of selected central European countries for accession to the European Union, sharp increases in the key commodity prices and an increasing access of those countries to the world capital and money markets. In 1999 the economic growth in central and eastern Europe showed the strongest performance in the last ten years: 2.25% on average. However, the average figure for 1999 masks an unusual degree of volatility during the year as well as considerable differences between individual countries. In the countries of the Commonwealth of Independent States (CIS), GDP was estimated to have increased by 2.9 % in 1999 mainly because of raising demand and better prices for some major commodities. Except for the Republic of Moldova and Ukraine, all the CIS countries exhibited positive growth rates. In the Baltic States, there was a further deterioration in economic performance in 1999 with estimated GDP down by 1.7 % compared with an increase of 4.5 % in 1998. This diverse picture indicates that it would be advisable to follow the economic trends in smaller groupings of the economies in transition rather than treat them as a homogenous economic area.

B. Energy situation

5. The turbulent developments in the world oil markets and a turn-around in the natural gas and electricity prices in the USA might be considered as the major factors on the energy scene in 1999.

6. A strong and coordinated action of OPEC countries and selected independent crude oil producers removed almost 5 million barrels per day of crude oil from the market, pushing prices to heights unseen since the Gulf War era. A rare demonstration of the unity of the OPEC countries in 1999/2000 sent waves of concern through the market and left consumers wondering what

would happen next. A combination of high crude oil prices and the acceleration of the rate of economic growth in the region resulted in very low crude oil stocks and occasional shortages of oil derivatives across the region.

7. Trends in the natural gas and electricity markets in the United States of America in 1999/2000 produced sharply higher electricity and natural gas prices. In some regions, such as California, the electricity prices were pushed up as high as \$7,000/kWh, while natural gas prices in the North East in some instances were higher than \$5/mmBtu. It was a rude awakening for many market agents who believed that the liberalization of the energy markets would itself guarantee low prices. Thus a number of old issues on the merits and conditions of energy market liberalization were reopened with no final view emerging. At the same time, curiously, electricity prices in selected markets in Europe, Germany in particular, were driven by the opening up of the market to the lowest levels ever with prices reaching sometimes \$0.04-0.05/kWh. Widespread excess capacity emerged that left many major suppliers perplexed as to how to use their power supply pool. Among the first victims of such developments were a number of gas-fired power plants that were closed down until further notice.

8. With sharply higher energy prices all over the region and in the framework of the weakening of the growth of GDP in the ECE region almost as a whole in the first part of 1999, gross energy consumption increased slightly from 5051 Mtoe in 1998 to 5141 Mtoe in 1999 or 1.8 %. For the first time in several years, the consumption of all fuels increased: natural gas (1.8 %), coal (1.7 %), crude oil (1.2 %) and hydro/nuclear (3.6 %). In North America, gross energy consumption moved upwards 2.8 % in 1999 while in western Europe it grew only 1.7 % when compared with 1998. In central and eastern Europe and in the CIS, taken together, energy consumption remained unchanged.

C. Gas situation

9. Natural gas consumption in the ECE region was heavily influenced by the developments in the world oil and electricity markets as well as regulatory trends both in the USA and Europe. For the first time in many years, the natural gas price in the USA began again to track the crude oil price. It put in doubt often repeated claims that natural gas prices are definitely uncoupled from the crude oil prices and that the gas market is a market per se. In addition, the tight pipeline capacity and continued progress in the expansion of the gas-fired power plant capacity in many parts of the USA further contributed to the natural gas price increases. It appears that after a prolonged period of sufficient pipeline capacity, the US natural gas pipeline industry might face possible bottlenecks in the future. Certainly, a number of market analysts consider that the low-risk, low-return pipeline regulatory regime has been responsible for such developments.

10. At the same time, the natural gas markets in Europe were in a broad liberalization drive. With the European Union natural gas market to be formally opened on 1 August 2000, many EU countries moved to pass the necessary legislation and to set a workable framework for the efficient operation of the markets. While the liberalization and deregulation process has advanced considerably, the differences between countries are still huge. It poses the question of the inter-operability of the individual EU natural gas markets to which an answer has not yet been

given. An important push to the creation of the EU-wide natural gas market was given by the increasing trade volume between the UK gas market and the Continent through Interconnector. While significant quantities were moved in both directions, most of the time the Interconnector capacity was fully booked in the direction of the continental Europe, resulting in a convergence of natural gas prices on both sides of the Channel.

11. The natural gas industry in economies in transition followed to some extent the trends in EU markets. Selected attempts were made in almost all countries to deepen further privatization and liberalization of the industry and where applicable the degree of the presence of foreign investment. In particular, the natural gas regulatory developments in the Russian Federation are being watched with considerable attention for several reasons. It is quite likely that the regulatory authorities might order Gazprom to open a proportion of its transport pipeline capacity to other domestic producers (15 % was the most frequently cited figure). In addition, faced with a programme of reduced natural gas investments upstream it appears that Gazprom might begin importing natural gas from Turkmenistan in the year 2000.

12. Several major projects announced or under construction in 1999 might be among the most important developments. First of all, the ENI-Gazprom-Botas Blue Stream pipeline across the Black Sea with a total capacity of 16 billion cubic metres/year opens the direct link between Gazprom and the promising natural gas market of Turkey. Second, the forthcoming arrival of the first quantities of Iranian gas to Turkey opens up the possibility of the much sought after diversification of sources of supply for Europe as a whole. Finally, the emergence of the Zeebrugge natural gas hub in 1999 with the incoming 40 billion cubic metres of natural gas annually created the first true short-term and spot natural gas market in Europe.

13. In the above framework and given the equal increases in total energy consumption and natural gas demand in the ECE region, the natural gas share in the structure of the energy consumption in the ECE region remained unchanged at 29.2 %. The energy consumption structure changed only slightly in 1999, compared with 1998, to the benefit of hydro/nuclear energy (0.2 percentage points) and to the detriment of liquid fuels (0.2 percentage points). The share of solid fuels remained unchanged. Crude oil is still the dominant energy fuel in the region, capturing 37.0 % of the total energy market, followed by natural gas (29.2 %) and coal (21.3 %).

14. Natural gas reserves in the world stood at 146.43 trillion cubic metres at the end of 1999, showing no increase compared to 1998. Proven reserves in the ECE region reached 68.24 trillion cubic metres or 46.6 % of the world's total. In the same year, the reserve-to-production ratio for the world was 61.9, with significant differences for some major groups of countries constituting the ECE region: North America 11.4 (United States 8.8), Europe as a whole 17.6, and the former Soviet Union 81.8.

15. After a small increase of 1.3 % in 1998, natural gas consumption in the world increased 2.4 % reaching 2.292.6 billion cubic metres in 1999, up from 2239.6 bcm in 1998. At the same time, the ECE region consumed 1.665 billion cubic metres of natural gas which is an increase of 1.8 % when compared to 1998. The region continued to reduce its share in the world natural gas consumption from 75.4 % in 1996, 73.6 % in 1997, 73.1 in 1998 to 72.8 % in 1999, despite the

increases in consumption in both western and eastern Europe last year. On the other hand, gas consumption in North America was essentially flat when compared with 1998, with an increase of only 0.8 %. After the second recorded increase in gas consumption in the last 8 years or so, in 1996, the CIS countries increased consumption again in 1999. In total, gas consumption in the CIS increased from 529 to 536 billion cubic metres in 1999.

16. Natural gas production in the ECE region was 1.2 % higher in 1999 than in 1998 (approximately 1.644 billion cubic metres), and was below the region's consumption by 1.3 percentage points. North America again recorded 0 growth in production. At the same time, gas production in countries of the former Soviet Union increased modestly by 1.8 % when compared with 1998.

17. In contrast to the developments in 1998 when the total worldwide trade of natural gas increased modestly by 3.6 %, in 1999 it jumped by 6.1 % reaching 484.7 billion cubic metres, which is approximately 21.1 % of the world's consumption. Trade of LNG reached 25.6 % of the world total gas trade in 1999, compared with 25.3 % in 1998, while the share of pipeline trade decreased from 74.7 % to 74.4 %. The world biggest importers continued to be the USA (100.83 bcm), Germany (73.2 bcm) and Japan (69.3 bcm) while CIS (128.7 bcm), Canada (94.7 bcm), Norway (45.5) and the Netherlands (35.0 bcm) were the leading exporters.

18. Bearing in mind the complex economic and energy market developments that took place in Europe in 1999, it has been estimated that on average in the last year natural gas prices decreased considerably in Europe, despite the sharp increase in crude oil prices and the economic recovery in the second part of the year. This is perfectly understandable given the pricing time-lag between changes in crude oil prices and natural gas prices in Europe of approximately six and in some cases nine months, as well as the price smoothing factors embedded in most natural gas contracts. The European cif price decreased from \$2.27 per mmBtu in 1998 to an average of \$1.73 per mmBtu in 1999, representing a decrease of about 24 %. In addition, natural gas prices in the United Kingdom fell, but relatively modestly - 15 % to \$1.64 per mmBtu. As mentioned before, for many reasons North American gas prices moved upward. For example, Henry Hub prices in the USA increased almost 10 % in 1999 to \$2.27 per mmBtu.

19. In conclusion, the natural gas trends in the ECE region in 1999/2000 were turbulent, with an increasing uncertainty for all market players involved. For the North American market, several key issues will be monitored by the players: the medium-term adequacy of the domestic production, availability of pipeline capacity across the country, regulatory environment as well as the crude oil market trends. On the European side, however, the progress in implementation of the EU Gas Directive coupled with increasing security of supply will certainly be the focus of attention.

ANNEX

FIGURES AND TABLES

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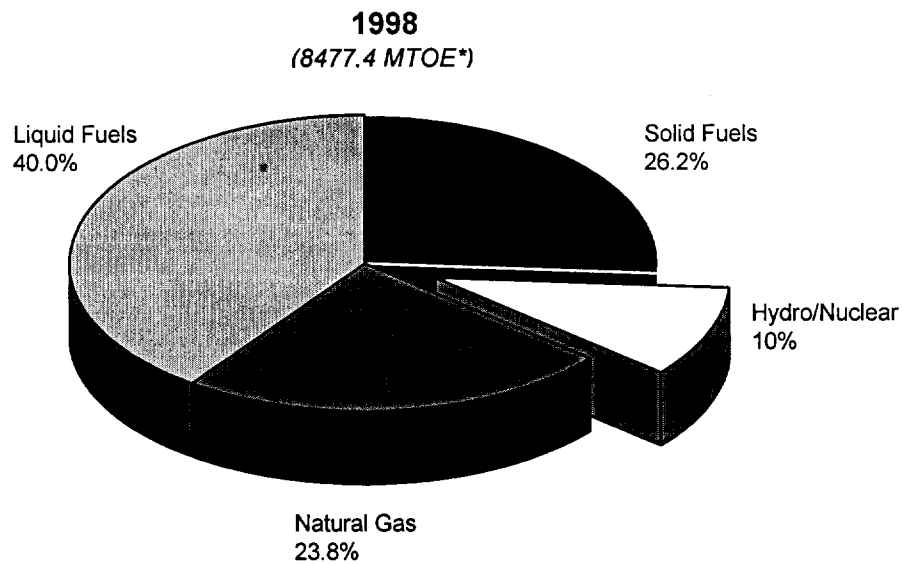
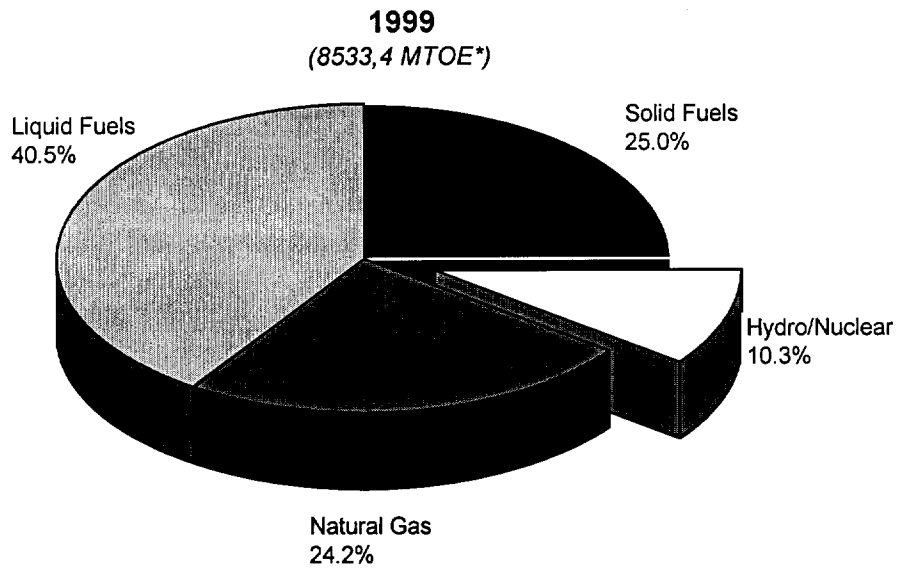
DEFINITIONS AND EXPLANATIONS

The definitions and explanatory notes to the tables are described in the sources publications.

Sources: The secretariat relied primarily on non-ECE sources of information for the preparation of the above tables, so as to provide a global framework on a regional basis for comparable data on long-term trends and recent developments.

Data were extracted from the BP Amoco Statistical Review of the World Energy: 1999 and 2000.

Figure 1
World Primary Energy Consumption in



* Millions tons of oil equivalent

Source: BP Amoco Statistical Review of World Energy, 1999 and 2000.

Figure 2
Primary Energy Consumption in the ECE region in

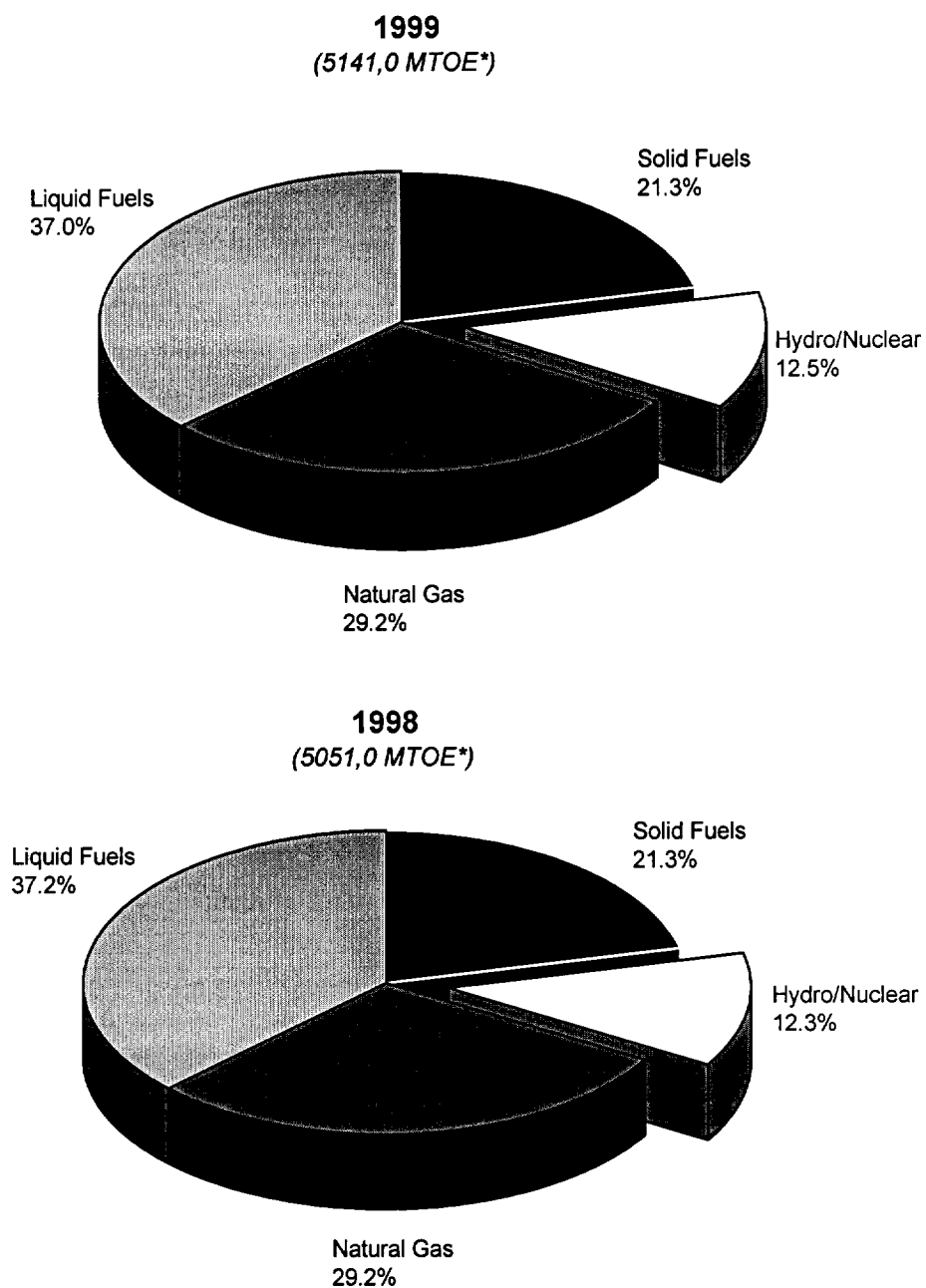


Table 1

WORLD PRIMARY ENERGY CONSUMPTION BY REGIONS
(million tons of oil equivalent)

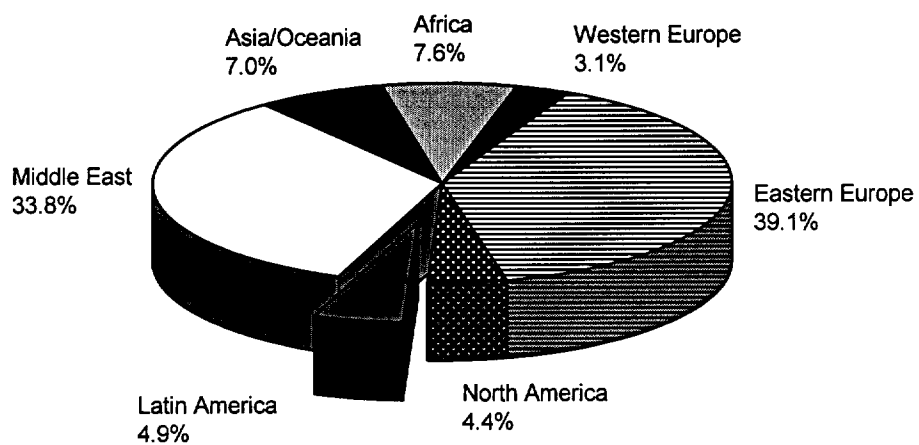
	NATURAL GAS				LIQUID FUELS				SOLID FUELS				HYDRO/NUCLEAR				TOTAL PRIMARY ENERGY CONSUMPTION				NATURAL GAS SHARE IN %			
	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999
Western Europe	318.1	314.8	334.4	343.8	683.6	678.3	678.1	684.8	258.2	235.8	234.3	239.7	270.4	272.0	271.3	275.6	1 530.3	1 500.9	1 518.1	1 543.9	20.8	21.0	22.0	22.3
Eastern Europe	531.9	504.0	526.2	538.4	253.0	267.2	265.9	252.4	302.8	307.3	282.7	279.6	89.6	93.5	91.6	94.0	1 177.3	1 172.0	1 166.4	1 164.4	45.2	43.0	45.1	46.2
North America	635.6	636.7	614.5	619.6	912.5	928.6	935.6	965.8	539.1	554.4	559.6	575.2	266.3	251.8	256.8	272.1	2 353.5	2 371.5	2 366.5	2 432.7	27.0	26.8	26.0	25.5
ECE REGION	1 485.6	1 455.5	1 475.1	1 501.8	1 849.1	1 874.1	1 878.8	1 903.0	1 100.1	1 097.5	1 075.6	1 064.5	826.3	817.3	819.7	841.7	5 061.1	5 044.4	5 051.0	5 141.0	29.4	28.9	29.2	29.2
Mexico & Latin America	103.6	107.4	109.9	115.7	277.5	291.9	298.6	300.1	23.5	25.1	24.6	26.5	48.4	51.9	52.6	53.5	453.0	476.3	485.7	495.8	22.9	22.5	22.6	23.3
MIDDLE EAST	128.3	142.8	154.6	157.8	190.5	201.7	204.2	215.0	6.3	7.0	6.8	6.7	1.1	1.2	1.0	0.8	326.2	352.7	366.6	380.3	39.3	40.5	42.2	41.5
AFRICA	43.1	45.8	43.8	46.9	110.3	111.6	112.0	115.6	89.7	91.6	95.9	89.3	9.4	9.8	10.3	9.5	252.5	258.8	262.0	261.3	17.1	17.7	16.7	17.9
ASIA & AUSTRALASIA	211.0	225.8	233.0	241.7	865.4	916.2	894.6	928.7	1 037.4	1 071.5	1 015.5	912.5	154.2	163.1	169.4	172.1	2 288.0	2 376.6	2 312.5	2 255.0	9.2	9.5	10.1	10.7
WORLD	1 971.6	1 977.3	2 016.4	2 063.9	3 312.8	3 395.5	3 389.0	3 462.4	2 257.0	2 292.7	2 219.4	2 129.5	839.4	843.3	853.0	877.6	8 380.8	8 508.8	8 477.8	8 533.4	23.5	23.2	23.8	24.2

Source: BP Amoco Statistical Review of World Energy 2000

Note: PRIMARY ENERGY : commercially traded fuels only, excluding such fuels as wood, peat and animal waste.

Figure 3
World Proved Natural Gas Reserves

1 January 2000



Total ECE Region 46,6 %

Table 2
**WORLD NATURAL GAS PROVED RESERVES, MARKETED
PRODUCTION AND CONSUMPTION**
(billion cubic metres)

	PROVED RESERVES		MARKETED PRODUCTION		CONSUMPTION	
	1999	2000	1998	1999	1998	1999
WESTERN EUROPE	4 573	4 523	254	263	374	385
Austria	22	22	1	1	8	8
Belgium	0	0	0	0	14	15
Denmark	110	100	8	8	5	5
Finland	0	0	0	0	4	4
France	19	19	3	3	38	38
Germany	350	340	17	18	80	80
Greece	8	8	0	0	0	2
Ireland	11	11	2	2	3	3
Italy	230	230	19	18	57	62
Luxembourg	0	0	0	0	0	0
Netherlands	1 790	1 770	64	60	39	38
Norway	1 170	1 170	48	51	4	4
Spain	17	17	1	1	13	15
Sweden	0	0	0	0	1	1
Switzerland	0	0	0	0	3	3
United Kingdom	770	760	90	100	89	92
Ex-Yugoslavia	67	67	2	2	6	5
Turkey	9	9	0	0	10	12
EASTERN EUROPE	57 344	57 324	666	677	584	591
Albania	2	2	0	0	0	0
Bulgaria	4	4	0	0	3	3
Ex-Czechoslovakia	19	19	0	0	13	13
Ex-USSR	56 710	56 700	644	656	529	536
Hungary	90	80	3	3	11	11
Poland	149	149	4	4	10	10
Romania	370	370	14	14	18	18
NORTH AMERICA	6 550	6 460	704	703	682	689
Canada	1 810	1 810	160	162	70	72
USA	4 740	4 650	544	541	612	617
ECE REGION	68 467	68 307	1 624	1 644	1 640	1 665
LATIN AMERICA	8 010	7 160	122	133	122	129
MIDDLE EAST	49 530	49 520	181	187	172	175
AFRICA	10 220	11 160	101	114	49	52
ASIA/OCEANIA	10 170	10 280	246	255	259	268
WORLD	146 397	146 427	2 274	2 332	2 242	2 289

Source: See Table 1

Note: PROVED RESERVES: 01.01.99 : 1999; 01.01.009 : 2000

TABLE 2 (a)

WORLD NATURAL GAS PROVED RESERVES,
MARKETED PRODUCTION AND CONSUMPTION

(percentage share of world total)

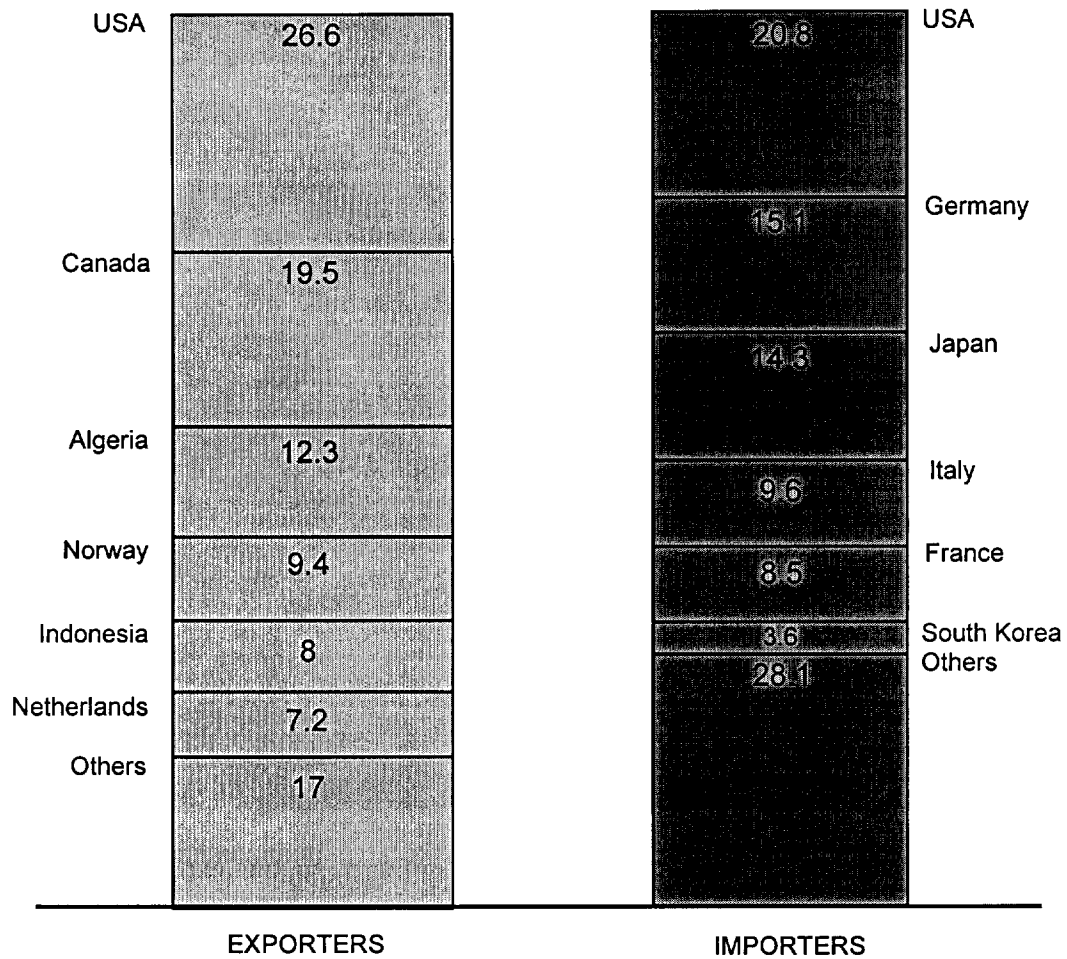
	PROVED RESERVES		MARKETED PRODUCTION		CONSUMPTION	
	01.01.99	01.01.00	01.01.98	01.01.99	01.01.98	01.01.99
WESTERN EUROPE	3.1	3.1	11.2	11.3	16.7	16.8
EASTERN EUROPE	39.2	39.1	29.3	29.1	26.1	25.8
NORTH AMERICA	4.5	4.4	31.0	30.1	30.4	30.1
ECE REGION	44.8	46.6	71.4	70.5	73.1	72.7
LATIN AMERICA	5.5	4.9	5.3	5.7	5.4	5.6
MIDDLE EAST	33.8	33.8	8.0	8.0	7.7	7.7
AFRICA	7.0	7.6	4.5	4.9	2.2	2.3
ASIA / OCEANIA	6.9	7.0	10.8	10.9	11.6	11.7
WORLD	100.0	100.0	100.0	100.0	100.0	100.0

Source: See Table 1

Note: PROVED RESERVES: 01.01.99 : 1999; 01.01009 : 2000

Figure 4
World Natural Gas Trade in 1999
(Percentages)

484,71 x 10⁹ m³
Pipeline: 74.4%
LNG: 25.6%



Source: See Table 1.

Table 3

WORLD NATURAL GAS TRADE IN 1998/1999 BY REGIONS
(billion cubic metres)

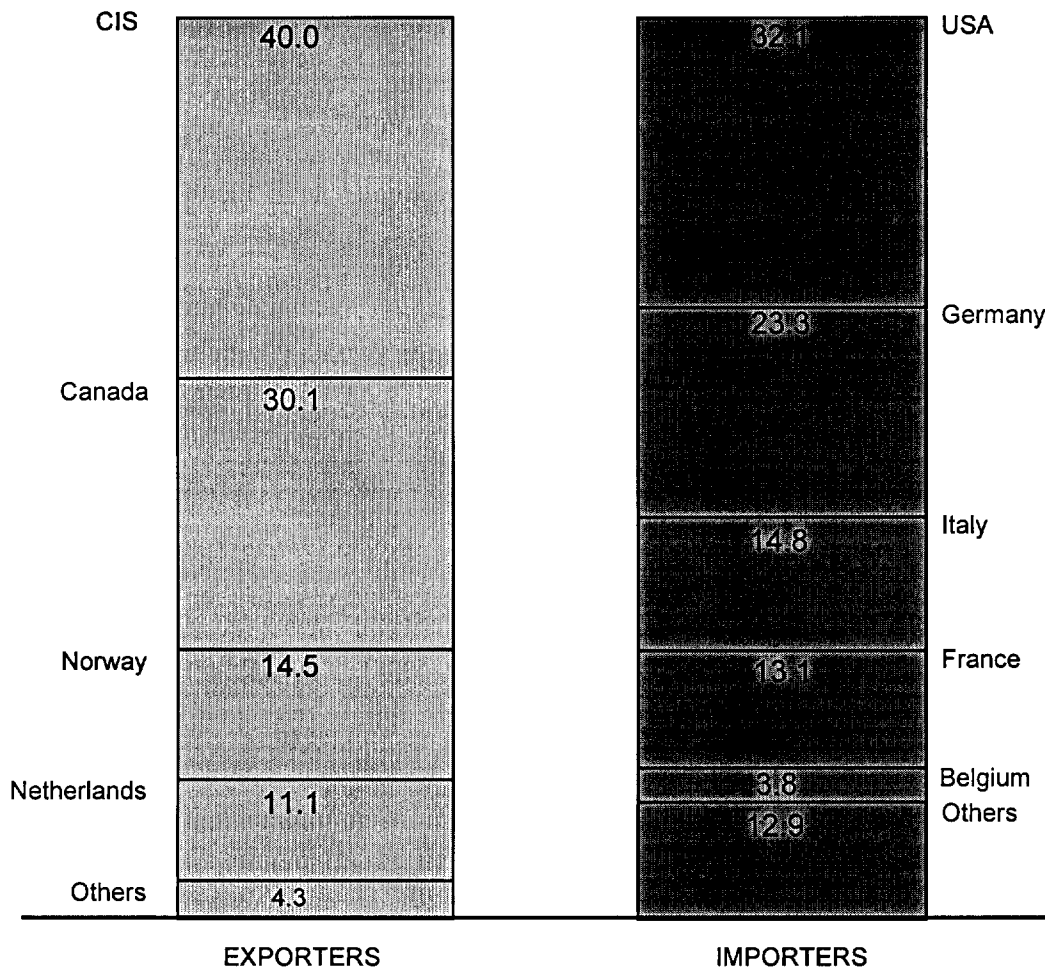
Exporters :	WESTERN EUROPE		EASTERN EUROPE		NORTH AMERICA		ECE REGION		LATIN AMERICA		MIDDLE EAST		ASIA / OCEANIA		AFRICA		TOTAL		
	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	1998	1999	
Importers :																			
WESTERN EUROPE	85.60	90.00	78.20	86.26	0.00	0.00	163.80	176.26	0.00	0.00	1.90	1.47	0.00	0.00	50.10	57.50	215.80	235.23	
EASTERN EUROPE	1.80	3.00	42.10	39.28	0.00	0.00	43.90	42.28	0.00	0.75	0.00	0.00	0.00	0.00	0.40	0.46	44.30	43.49	
NORTH AMERICA	0.00	0.00	0.00	0.00	90.00	95.58	90.00	95.58	0.50	2.86	0.10	0.68	0.20	0.39	2.00	2.20	92.80	101.71	
ECE REGION	87.40	93.00	120.30	125.54	90.00	95.58	297.70	314.12	0.50	3.61	2.00	2.15	0.20	0.39	52.50	60.16	352.90	380.43	
LATIN AMERICA	0.00	0.00	0.00	0.00	0.00	1.81	0.00	1.81	3.60	4.17	0.00	0.00	0.00	0.00	0.00	0.00	3.60	5.98	
ASIA / OCEANIA	0.00	0.00	1.80	0.00	1.80	1.65	3.60	1.65	0.00	0.00	10.00	13.05	74.80	78.95	0.00	0.00	88.40	93.65	
MIDDLE EAST	0.00	0.00	0.00	3.20	0.00	0.00	0.00	3.20	0.00	0.00	11.00	0.45	0.00	0.00	0.00	0.00	11.00	3.65	
AFRICA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	1.00	0.80	1.00	
TOTAL	87.40	93.00	122.10	128.74	91.80	99.04	301.30	320.78	4.10	7.78	23.00	15.65	75.00	79.34	53.30	61.16	456.70	484.71	

Source : BP Amoco-1999 and 2000 Surveys

NATURAL GAS TRADE: Estimated International gas trade by pipeline and LNG tanker.

Figure 4a
Gas Trade in 1999
ECE Region
(Percentages)

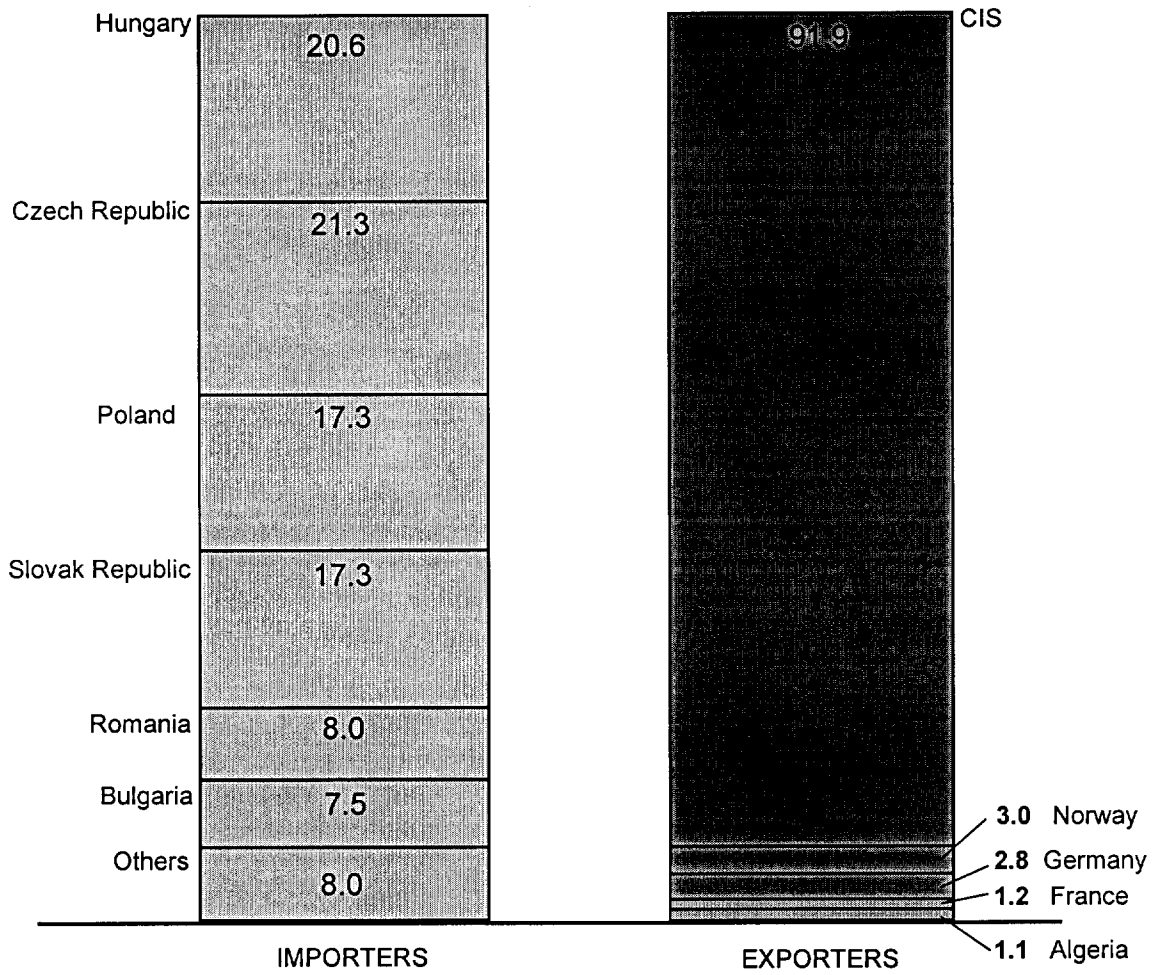
314.12 10⁹ m³



Source: See Table 1.

Figure 4b
Gas Trade in 1999
Economies in transition
(Percentages)

$42.74 \cdot 10^9 \text{ m}^3$



Source: See Table 1.