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GAS PRICES

1978-1984

DE EUROPÆISKE FÆLLESSKABERS STATISTISKE KONTOR

STATISTISCHES AMT DER EUROPÄISCHEN GEMEINSCHAFTEN

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CONTENTS

SYMBOLS AND ABBREVIATIONS

-/	Nil
0	Data less than half the unit used
.	No data available
%	percentage
1975 = 100	Reference year
*	Natural gas
+	Gasworks gas
m^3	cubic metre
kWh	kilowatthour
GWh	gigawatthour (10^6 kWh)
MJ	megajoule
GJ	gigajoule (10^3 MJ)
n	number
GCV	gross calorific value
DM	Deutschmark
FF	French franc
LIT	Italian lira
HFL	Duch guilder
BFR	Belgian franc
LFR	Luxembourg franc
UKL	Pound sterling
IRL	Irish pound
DKR	Danish crown
PPS	Purchasing power standard
ECU	European currency unit
EUR 9	Total of the member countries of the European Communities excluding Greece
Eurostat	Statistical Office of the European Communities

1. INTRODUCTION

As part of its work to record and analyse energy prices, the Statistical Office of the European Communities presents a new official publication on gas prices covering the period 1978 to 1984, following on from and supplementing previous editions in the series.

Its aims are many:

(i) to record and analyse prices paid by consumers, permitting both retrospective and international comparisons;

(ii) to describe the tariff systems in order to arrive at the factors determining prices and to allow readers to calculate variants to the prices indicated;

(iii) to review taxes on gas sales.

For the sake of continuity and uniformity the definitions and methods are the same as those used in previous studies.

This publication is available in four languages: English - French - German - Italian.

The survey on which this study is based was conducted by the Statistical Office of the European Communities, and would not have been possible without the cooperation of the gas companies and Cologne University's Energy Institute, to whom we express our sincere thanks.

1. SCOPE AND LOCATIONS

The present study aims to show the actual price of gas paid by the consumer in the member countries of the European Economic Community.

Two types of gas are concerned:

(i) Natural gas (methane);

(ii) Gasworks gas.

Contrary to natural gas, which is a primary energy source extracted from naturally occurring gasfields, gasworks gas is a derived energy source manufactured from coal, petroleum products or from cracked, reformed or mixed natural gas.
The present study is not concerned with liquified petroleum gas (butane, propane), coke-oven gas, or blast-furnace gas.

Only piped distribution is considered.

The prices were recorded in 27 towns within the Community:

FR Germany : Hamburg, Hannover, Düsseldorf, Frankfurt/Main, Stuttgart, Munich;

France : Lille, Paris, Strasbourg, Marseilles, Lyon, Toulouse;

Italy : Milan, Turin, Genoa, Rome, Naples;

Netherlands : Rotterdam;

Belgium : Antwerp, Brussels, Liège;

Luxembourg : Luxembourg city;

United Kingdom: London, Leeds, Birmingham;

Ireland : Dublin;

Denmark : Copenhagen.

In Greece there is no piped gas network.

Certain towns selected are representative of larger regions. This is indicated in the chapter concerning each country.
Seven years are covered by this stydy: 1978 to 1984.

The prices are recorded at the beginning of each year based on the tariffs, contracts, conditions and rules in force at that time.

It is concerned with the actual price paid by the gas consumer, corresponding to the invoiced delivery price to the consumer at the beginning of each year including any eventual rebates and subsidies. Our consumers are defined as those who purchase gas for their own use and exclude those who offer it for re-sale. We have not considered the bulk price paid by the gas distributors.

2. UNITS OF MEASUREMENT OF ENERGY

Following international resolutions adopted by the General Conference on Weights and Measures, which resulted in the 'International System of Units of Measurement' (SI), a number of Council of Ministers Directives(71/354, 76/770 and 80/181) laid down the rules to be followed with regard specifically to units of measurement of energy.

The use of the caloric and its derivates is now prohibited. Only two units of energy may be used, namely the joule and the kilowatthour. These two units are derived from the same basic definition, since 1 joule equals 1 watt/second. However, a concession was granted to the United Kingdom and Ireland, which may continue to use the therm for a transitional period.

For units of measurement are therefore still found in the current gas tariffs, i.e.:

the joule (Belgium)

the kilowatthour (FR Germany, France)

the m^3 (Italy, Netherlands, Luxembourg, Denmark)

the therm (United Kingdom, Ireland)

(the m^3 is in turn defined by an energy content expressed in joules or in kWh).

With a view to a standardization and simplification, the joule (or its decimal multiples) was chosen by Eurostat as the common unit of measurement.

The decimal multiples of the joule are as follows:

kilojoule (kJ) = 1 000 joules

megajoule (MJ) = 1 000 000 joules

gigajoule (GJ) = 1 000 000 000 joules

terajoule (TJ) = 1 000 000 000 000 joules.

In the present study, gas prices are expressed in terms of monetary units per gigajoule.

The table below can be used for conversion from one unit of measurement to another:

	GJ	GWh	therm
1 gigajoule	1	0.0002777	9.4781
1 gigawatt hour	3 600	1	34 120
1 therm	0.1055	0.0000293	1

In addition, as a guide, one gigajoule of gas may be said to be approximately equivalent to 35 kg of saleable coal and 25 kg of light fuel oil or heating oil.

Finally, the unit of energy used in this study is measured on the basis of the gross calorific value (GCV), as is the practice in the gas industry and gas tariffs, i.e. the latent energy necessary for the evaporation of the water produced during the combustion of the gas, is taken into account. This method of measurement departs from that used in energy statistics and for other sources of energy, where the net calorific value (NCV), which is closer to the energy that can actually be used by the consumer, is always used.

For gas the difference between gross and net calorific value is around 10%. The gas price shown in this study in GJ (GCV) can thus be converted into GJ (NCV) by applying a factor of 1.1.

However certain recent condensation gas heaters permit a better use of the gross calorific value by re-using some of the latent energy of evaporation.

3. STANDARD CONSUMERS

The survey is based on the system of standard consumers, i.e. the prices are recorded for certain levels of gas consumption and under certain conditions of supply, chosen as being representative of the population of gas consumers. These standard levels of consumption remain fixed from one year to the next and for all the countries, this being one of the primary conditions for spatial and temporal comparability of prices.

A standard consumer corresponds in fact to a meter to which a tariff or contract is applied. Where a consumer has two separate meters corresponding to two different tariffs, for example one for space heating, the other for professional use one does not calculate an average but considers that there are two separate standard consumers.

Two families of standard consumers are taken: domestic uses and industrial uses.
The domestic consumers cover small users (households, commercial, crafts, offices etc.). The standard consumers are characterized principally by the annual volume of consumption.

Five domestic standard consumers coded D_1 to D_4 have been taken:

	Annual consumption	Equipment
D_1[1]	8.37 GJ (i.e. 2 326 kWh)	cooking and water heating
D_2[1]	16.74 GJ (i.e. 4 652 kWh)	
D_3	83.7 GJ (i.e. 23 260 kWh)	cooking, water heating and central heating
D_{3b}	125.6 GJ (i.e. 34 890 kWh)	
D_4	1 047 GJ (i.e. 290 750 kWh)	block central heating for at least 10 dwellings

[1] For the United Kingdom there is an additional standard consumer, i.e. 33.49 GJ (9 300 kWh or 8 Gcal).

Industrial uses cover medium and large users (industries, large commercial or administrative buildings, etc.).

For industrial uses, apart from the annual quantity consumed, the regularity with which the user takes gas from the network is also considered. This involves the concept of modulation (or load factor).

The daily load factor is the number of days which would be required to take the entire annual consumption at the maximum daily offtake rate.

The hourly load factor is the number of hours which would be required to take the entire annual consumption at the maximum hourly offtake rate.

These terms therefore determine the peaks or offtake ceilings reached by the consumer in the course of one day or one hour over the year.

The general formula is:

daily load factor $\quad nj = \frac{Qa}{Qj\ max}$

hourly load factor $\quad nh = \frac{Qa}{Qh\ max}$

where Qa = annual volume consumed,
Qj max = maximum daily offtake,
Qh max = maximum hourly offtake.

For example, in the case of a user who consumes 41 860 GJ a year, a load factor of 200 days means that the maximum daily offtake is 209 GJ (41 860 divided by 200), and a load factor of 1 600 hours means that the maximum hourly offtake is 26 GJ (41 860 divided by 1 600).

Taking account of these characteristics, seven standard industrial consumers, coded I_1 to I_5, have been chosen:

	Annual consumption	Equipment
I_1	418.60 GJ or 116 300 kWh	no load factor laid down[1]
I_2	4 186 GJ or 1 163 000 kWh	200 days
I_{3-1}	41 860 GJ or 11.63 GWh	200 days 1 600 h
I_{3-2}	41 860 GJ or 11.63 GWh	250 days 4 000 h
I_{4-1}	418 600 GJ or 116.3 GWh	250 days 4 000 h
I_{4-2}	418 600 GJ or 116.3 GWh	330 days 8 000 h
I_5	4 186 000 GJ or 1 163 GWh	330 day 8 000 h

[1] If necessary $\leq$ 200 days $\geq$ 115 days.

The other characteristics which could play a part in establishing the price will be determined on a case-by-case basis, always adopting the solution which is most frequent in practice, these characteristics are mentioned where applicable.

It can be seen that certain standard consumers have the same load factor for different volumes of consumption or, conversely, different load factors for the same volume of consumption; the reason for this is to enable the effect of these conditions of supply on the level of prices to be observed. The higher the load factor (in days or hours) the more regular the offtake of gas, thus in some cases, enabling the consumer to obtain favourable prices.

Moreover, the load factor gives some idea of the use made by installations consuming gas. Thus, a very high load factor, e.g. of 8 000 hours, is obviously equivalent to an installation functioning practically non-stop, day and night, throughout the 8 760 hours in the year.

All the prices recorded in this study for standard industrial consumers normally relate to non-interruptible supplies, i.e. the seller of gas must supply the quantities demanded by the consumer (whose peaks are determined by the modulation laid down for standard consumers). In some cases there are interruptible contracts, under which the seller of gas can reduce the quantities supplied to the consumer at certain peak times when the network is overloaded. In return for this reduction of supply, the consumer pays a reduced price. Such cases are mentioned where they represent a sizeable part of deliveries.

It should be noted finally that the standard industrial consumers referred to in this study include neither power stations nor industries using gas for non-energy purposes, e.g. the chemical industry.

4. DEFINITION OF THE PRICE LEVELS RECORDED

All prices are shown per unit of gas sold, that is per gigajoule (GCV). The results represent the unit price at the beginning of each year and take account of the relevant tariff, parameter, index, etc. applicable as from the 1 January. In the case of tariffs or contracts with short therm indices (month, quarter) it is the index which is in force during January which is applied. The prices include meter rental, the standing charge and the commodity rate. They do not include the initial installation charge to the consumer.

If there are several possible tariffs, it is the tariff which is most advantageous to the consumer that is taken into account, after the elimination of the tariffs which are not used in practice or which apply only to a marginal or negligible number of users.

When there are only quasi-tariffs, special contracts, or freely negotiated prices, the most commonly found price (most representative) for the given supply conditions has been recorded.

In the case of freely negotiated prices or contracts, the returns rèlate respectively to the bills paid during the month of January or to the prices resulting from the contracts in force during that month. Such cases are mentioned and explained in the body of our study.

There price levels are shown :

(i) the price net of tax;

(ii) the price excluding VAT but including all other taxes;

(iii) the selling price (inclusive of all taxes).

The price excluding tax is obtained directly from the tariffs or contracts.

The price excluding VAT includes, where payable, other specific taxes which is interesting in cases where VAT is deductible.

The price inclusive of all taxes corresponds to the sum paid by the consumer.

'Taxes' is used here to mean fiscal and parafiscal levies applying directly to gas at the stage of sale to the consumer. These taxes may be levied at the national, regional, local or municipal level, etc. by the State, regional or local administrations, professional associations, etc. Anti-pollution charges levied on gas sales are therefore included.

On the other hand, the taxes levied before the sale of the gas, such as taxes on companies, profits, wages etc., which are obviously part of the production or distribution costs, are not calculated separately. They remain an integral part of the price excluding tax.

The results for each country are shown in national currencies at current prices, i.e. at face value.

For the purposes of international comparison, it was necessary to use a representative common monetary unit which would create a minimum of distortion in both space and time. Accordingly, the present study uses the purchasing power standard (PPS). The comparative tables are also shown in European currency units (ECU).

These unit of value are explained in the following chapter.

To enable comparisons between countries, prices expressed in national currencies need to be converted to a common unit. In this study two common units are used: the European currency unit (ECU) and the Purchasing Power Standard (PPS).

1. THE EUROPEAN CURRENCY UNIT (ECU)

The ECU is based on a 'basket' of the currencies of nine of the Member States of the Community, converted at market exchange rates. It is defined as the sum of the following fixed amounts:

DM 0.828	UKL 0.0885	FF 1.15	LIT 109
HFL 0.286	BFR 3.66	LFR 0.14	DKR 0.217	IRL 0.00759.

The conversion rates for ECU are given in a table in the annex.

The ECU reflects fluctuations in exchange rates and is well adapted to measure the prices and the values of international flows of goods and services.

Data expressed in ECU, therefore permits the comparison of the price of goods and services between two countries after changing money at a bank. This differs from the PPS viewpoint which is one of a consumer who buys goods and services in his own country with the national currency.

The ECU also has the inconvenience that its definition changes when a new currency is introduced and that it is not coherent with the gross domestic product price index, which makes it difficult to deflate.

2. THE PURCHASING POWER STANDARD (PPS)

The PPS is a reference unit for which the ratios between the different national currencies are proportional to the purchasing power parities (PPP) between these currencies.

The PPP, which are calculated for all the uses of the GDP, reflect the ratios between price levels in the different countries; they indicate the amount of a national currency required to buy in each country the same basket of goods and services which are included in the uses of the GDP. In this present publication only the PPP at GDP level are used.

In the level of the PPS has been arbitrarily fixed so that in 1975 the GDP of EUR 10 expressed in PPS coincides with the same GDP in ECU.

It should be noted that the level at which the PPS is fixes does not influence the comparison between countries. When prices are converted to PPS using the GDP parity the following conclusion is possible: if one gigajoule of energy costs 10 PPS in country A and 5 PPS in country B, this means that after eliminating the differences between the general level of prices in the two countries, this gigajoule of energy is twice as expensive in country A than in country B.

This conclusion is independent of market exchange rates and therefore, is not influenced by fluctuations in the same, brought about by movements of capital, speculation, political decisions, etc.

The conversion rates for the years covered by this study are given in a table in the annex.

3. PRICES IN 'CONSTANT' PPS

When current prices for a given year are converted to PPS with the help of the current PPP for the same year, comparisons between countries have the significance mentioned above (point 2); however, the comparison in time which one can derive for each country has little interest.

Firstly, it should be noted that the current parities for each year between each currency and the PPS are the result of an extrapolation obtained by multiplying the parities for the base year by the GDP price index for each country and dividing them by the Community GDP index.

The latter being incorporated in the extrapolated parity for each country, it may be eliminated without affecting the result of the comparison between countries.

By eliminating the community index, the application of the extrapolated parities means that for each country the prices for each year are divided by the GDP price index of the country (i.e.; the prices are deflated) and are converted to PPS using the parity for the base year.

Therefore the comparison between countries is not affected by eliminating the Community GDP index, and comparisons in time have taken on a new and interesting significance.

In effect, when the price of a product in a given year, deflated by the GDP price index for the same country and converted to PPS using the parity for the base year, is divided by the price in the base year also converted to PPS using the same parity, a relative price index is obtained, i.e. the ratio between the index of the price concerned and that of the GDP.

For this reason it is preferable to present a table of deflated prices using the GDP price index and converted to PPS using the PPP of the base year. From this table compar-

isons may be made between countries, giving the same results as would be obtained using current prices and current PPP; at the same time this table may be used for comparisons in time at national level (corresponding to relative indices).

4. PRICE SERIES

On the basis of the preceding descriptions, the results of this survey of Community prices are given in three forms:

(i) a series at current prices in the national currency for each country;

(ii) a series in current ECU using the average conversion rates for January of the year concerned;

(iii) a series in 'constant' PPS (base year 1975) which allows comparisons in time and space to be made.

IV. TAXATION

In the nine countries covered by this study the sales of gas rate subject to a general indirect tax i.e. value-added tax. Furthermore in three countries specific taxes are levied and sales. The prices including all taxes shown in this study include all these taxes. In the tables in the annex amount of the specific taxes can be calculated from the difference between the tax exclusive and VAT exclusive prices while the difference between the total tax inclusive price and VAT exclusive price gives the amount of value-added tax in national currencies per gigajoule.

1. VALUE-ADDED TAX

During the period studied VAT was levied in each of the countries on the price excluding VAT but including the specific taxes which are included in the basis of assessment. VAT is always a proportional tax unlike the specific taxes.

Below, in table form we give the rates of VAT found during the period studied.

Value-added tax (VAT) rates on gas sales

% of price before VAT

January	1978	1979	1980	1981	1982	1983	1984
FR Germany	12	12	13	12	13	13	14
France	17.6	17.6	17.6	17.6	17.6	18.6	18.6
Italy (domestic)	6	6	6	8	8	8	8
Italy (non-dom.)	14	14	14	15	15	18	18
Netherlands	4	18	18	18	18	18	19
Belgium	6	6	6	16	17	17	17
Luxembourg	5	5	5	5	5	5	6
United Kingdom	0	0	0	0	0	0	0
Ireland	0	0	0	0	0	0	5
Denmark	18	20,25	20,25	22	22	22	22

VAT is deductible for industrial and commercial consumers registered for the purpose of the tax.

(a) Italy

Since February 1977 sales of natural gas for domestic uses have been subject to a consumption tax (imposta di consumo) the rates of which were as follows:

until August 1979 : LIT 30.00 per m^3

September 1979-February 1980: LIT 36.50 per m^3

from March 1980 : LIT 30.00 per m^3.

For natural gas sold intact LIT 30 m^3 is approximately LIT 788 per GJ (GCV).

This tax is also applied to manufactured gas in proportion to the percentage of natural gas used in its manufacture. Therefore the rate will vary depending on the composition of the gas. For greater detail see the chapter 'Italy', paragraph b.

Since November 1980 (Law No 784) domestic consumers in the south of Italy (Cassa per il Mezzogiorno zone) are exempt from this consumption tax.

This tax is included in the basis of assessment to VAT.

(b) Netherlands

A special environment levy is applied to gas sales of less than 170 000 m^3/year, the rates of which were as follows:

	cents/m^3	cents GJ
1978-81	0.03	0.85
1982	0.05	1.42
1983-84	0.054	1.53

This levy is included in the basis of assessment to VAT. The basis of this levy is dealt with in greater detail in the chapter concerning the Netherlands.

(c) Denmark

Between the 1 August 1979 and the 31 December 1983 a special consumption tax was levied on piped gas with a calorific value (GCV) of less than 23 MJ per m^3 as is generally the case with gasworks gas. Two rates were applied.

	Øre m^3	DKR/GJ
1.08.1979-29.06.1980	20	11.94
30.6.1980-31.12.1983	16	9.56

This tax is included in the basis of assessment to VAT and is deductible when VAT is deductible, that is to say it is only levied once, in the case of resale.

V. GAS PRICES IN THE VARIOUS CONTRIES

1. FR GERMANY

2. FRANCE

3. ITALY

4. NETHERLANDS

5. BELGIUM

6. G.D. OF LUXEMBOURG

7. UNITED KINGDOM

8. IRELAND

9. DENMARK

(a) Situation in the gas industry

Several hundred gas undertakings operate in the FR Germany and may be classified into three categories:

	number
(i) producers of natural gas	6
(ii) gas transporters (Ferngasgesellschaften)	9
(iii) gas distributors	498

The producers and transporters sell gas to certain large consumers and also supply the distributors.

The latter are therefore mainly retailers, although some of them also produce manufactured gas.

In 1982 sales (natural and manufactured) were as follows:

%

Sellers	Buyers					
	Industry and power stations	Households	Commerce and handicrafts	Government depts	Heating stations and others	Total
Natural gas producers	6.3	-	-	-	0	6.4
Gas transporters	25.3	-	0	0	0	25.4
Distributors	27.3	26	5.5	5	4.5	68.2
Total	58.9[1]	26	5.5	5	4.6	100

[1] Including 11.6% power stations.

Interruptible supplies account for 9% of total deliveries and represent 33 000 consumers mainly supplied by the distribution companies.

At the end of 1982 the number of gas consumers was as below:

	Number of customers 1 000 n	Standard consumers
Households	7 500	
tariffs	(4 400)	D_1 D_2
of which special contacts	(3 100)	D_3 D_4
Commerce, small industries	309	I_1 I_2
Government depts	38	
Industry	19	I_3 I_4 I_5
Others	5	-

In addition, 684 000 households were heated by heating stations run on gas.

The majority of customers receive gas via the distributors. The producers and transporters supply only a small number of large consumers directly: power stations and industrial companies (around 1 500 consumers).

Natural gas dominates the market with manufactured gas only representing 2.5% of the needs. It is for this reason that the prices given in this study refer to natural gas.

The sources of natural gas are diverse as can be seen from the following:

%

	1978	1979	1980	1981	1982	1983
Domestic production	37	34	30.5	33	31	32.5
Imports from the Netherlands	37	38	37	32	33	33
Imports from the USSR	15	16	17	20	20	20
Imports from Norway	11	12	15.5	15	16	14.5
	100	100	100	100	100	100

(b) Taxes

Gas sales are subject to value-added tax (VAT) the rates of which were as follows:

12% 1.1.1978 to 30.6.1979;

13% 1.7.1979 to 30.6.1983;

14% since 1.7.1983.

These rates are applied to the price excluding VAT. VAT is deductible for industrial and commercial users.

(c) Household prices - tariffs

In accordance with German law (Bundestarifordnung Gas) the distribution companies must offer two-part tariffs to the small consumers. These tariffs must contain a standing charge, which should correspond to the cost of meter rental and reading and an identical commodity rate for all uses of gas. Very often three tariffs are offered with various combinations of standing charge and commodity rate.

These tariffs are published and concern the standard consumers D_1 and D_2 (cooking and hot water). Above this level a system of contracts (Sonderverträge) prevails. The law does not oblige the publication of these contracts, the basis of which are liberally established by the gas distribution companies.

For households the formulae are are generally of the two-part type with a standing charge and a commodity rate, however variations exist as follows:

(i) a single two-part tariff with four degressive price blocks (Stuttgart);

(ii) one part tariff, without a standing charge (for central heating D_{3b} Düsseldorf);

(iii) a tariff which takes account of boiler capacity (D_4 Frankfurt/Main).

In the common with the regulations governing electricity prices there is a ceiling price which cuts across the degressivity curve. The contracts for all household uses are annual, renewed by tacit agreement. The tariffs and the terms of the contracts are amended at the instigation of the distribution companies. These changes are made as the need arises and may be annual or less frequent. Normally prices are revised in October, before the winter season.

(d) Household prices - analysis

The results are shown in Tables 1 - 3 and Graph No 1 in the annex. For various reasons it has not been possible to collect prices for some cities for the years 1980-83.

Despite these omissions, analysis of the results is possible.

The enquiry for 1984 showed large regional differences in price; The range of prices can be seen from the following table:

DM/GJ (VAT incl.)

Standard consumers	Highest price		Lowest price		Range
D_1	45.24	Düsseldorf	37.53	Hamburg	7.71
D_2	36.53	Stuttgart	29.81	Munich	6.72
D_3	23.47	Stuttgart	18.59	Hannover	4.88
D_{3b}	21.91	Stuttgart	17.73	Hannover	4.18
D_4	18.94	Stuttgart	15.31	Hannover	3.63

The lower levels of consumption exhibit the greatest regional price differences in absolute terms. On the contrary, in relative terms (ratio between the highest and lowest prices) one observes for all standard consumers a range of 20 to 25%.

The city where prices are nearest the median or average is Düsseldorf. It is for this reason that it was chosen for international comparison.

But this regional difference has been reduced since 1978 when the range of relative prices reached 36 tot 50%. The largest ranges were shown for the smallest consumers. The large number of independent companies together with the liberal system are unlikely to lead to a standardization of prices. The regional price differences reflect local distribution conditions together with the distance over which the gas is transported.

Just as the price varied from one city to another, the rates of increase between 1978 and 1984 also varied considerably as illustrated by the following table in which the price including VAT has been taken for analysis:

1984/1978 in %

Standard consumers	Hamburg	Hannover	Düsseldorf	Frankfurt	Stuttgart	Munich
D_1	22	72	54	30	39	73
D_2	24	64	52	70	42	65
D_3	37	70	59	50	58	88
D_{3b}	34	76	59	58	62	90
D_4	59	56	70	70	63	94

Roughly speaking, the evolution of prices during the period studied can be broken down into three phases: a quasi-stability until the beginning of 1980, large increases during

1980, 1981 and 1982 and then a return to stability. The increases in VAT only accounted for two percentage points of the rises. In some cases prices have actually fallen since 1982. In Düsseldorf two changes of tariff introduced in October 1982 and November 1983 meant decreases of 8% on average.

Tariff degression i.e. the reduction in unit price as a result of the volume consumed is of the order of 40% in 1984 (D_4/D_1), which is a little greater than in 1978.

A comparison between the selling price of gas (VAT inclusive) and the gross domestic product (GDP) price index gives the following results, Düsseldorf being taken as most representative:

1975 = 100

	GDP price index	VAT inclusive price - Düsseldorf				
		D_1	D_2	D_3	D_{3b}	D_4
1978	111.7	148.4	154.5	156.4	153.2	161.1
1979	116.3	148.4	154.5	156.4	153.2	161.1
1980	121.4	149.7	155.9	157.8	154.6	162.5
1981	126.4	181.4	189.1	204.9	206.3	238.4
1982	132.4	235.8	245.5	255.4	264.6	292.3
1983	136.7[1]	.	.	.	.	.
1984	140.5[2]	228.1	234.3	236.6	243.6	273.2

[1] Provisional.
[2] Estimated.

The price of gas is greater than the price of all goods and services as represented by the GDP index. In real terms gas is actually more expensive now than it was in 1975. The same holds true for the other cities of the FR Germany.

(e) Industrial prices - tariffs

Above the level of the small professional users (represented in this study by I_1 who have a similar tariff to domestic users there are no published tariffs for industry in FR Germany. All prices result from liberally concluded contracts between the buyers and the sellers, the terms of which are not published.

Nevertheless these contracts are based on simple formulae for the calculation of prices which can be divided into two categories:

(i) two-part formulae composed of:

(1) annual standing charge (Grundpreis) which depends on the capacity of the users installation,

(2) a single commodity rate (Arbeitspreis - DM/kWh);

(ii) three-part formulae comprising:

(1) annual meter rental (Meßpreis),

(2) offtake charge (Leistungspreis) based on the regularity of offtake (DM/kWh),

(3) a single commodity rate (Arbeitspreis - DM/kWh).

All contracts are concluded for a period of one year and are renewable (if not denounced by one or other party). The terms are modified by the seller normally when the contract is being renewed.

Old fixed price contracts no longer exist and the clauses of all the present contracts are the same for all users having the same offtake.

Alongside these contracts for non-interruptible supplies there are also those for interruptible supplies. The conditions therein vary considerably from one distributor to another. The conditions depend on:

(i) the length of interruption which can be from 10 to 42 days considering the polyvalent capacity of the users installation;

(ii) the notice, always short, between 30 minutes and 6 hours;

(iii) the price levels result from either a cancellation of the standing charge (i.e. only a commodity rate) or a very large reduction is granted on the standing charge or thirdly a reduced monthly commodity rate based on the fuel oil price quotations published by the Federal Statistics Office.

In general the price for interruptible supplies is between 15 and 30% below that for firm supplies for similar volumes of consumption.

f) Industrial prices - analysis

The results are shown in Tables 4 to 6 and on Graph No 2 in the annex.
For various reasons it is not possible to give the prices for 1980 to 1983 in certain cities. Furthermore certain standard consumers (I_5 for example) do not exist and in the

absence of such levels of consumption no price is given. In Munich, for reasons of secrecy only an average price has been given for the large industrial consumers (I_3,I_4).

Despite these omissions an analysis of the results can be made. As with domestic users one notices regional differences in prices which reflects the liberal contract terms of the distributors. In 1984 the range between extreme cities comparing the prices excl. VAT was as follows:

DM/GJ (VAT excl.)

Standard consumers	Highest price		Lowest price		Range
I_1	20.12	Munich	14.34	Hamburg	5.78
I_2	17.25	Stuttgart	13.82	Frankfurt	3.43
I_{3-1}	15.55	Düsseldorf	13.06	Munich	2.49
I_{3-2}	14.99	Düsseldorf	12.39	Frankfurt	2.60
I_{4-1}	14.91	Düsseldorf	12.02	Hannover	2.89
I_{4-2}	14.36	Düsseldorf	11.78	Hamburg	2.58
I_5	14.36	Düsseldorf	12.09	Frankfurt	2.27

In relative terms (ratio between highest and lowest prices) there is a range of 20 to 25% except for I_1. These regional price differences have greatly diminished since 1978 when they were of the order of 60%.

Just as prices vary from one city to another so also do the rates of increase. The following table, calculated on the tax exclusive price shows the evolution of prices over the six-year period.

1984/1978 (in %)

Standard consumers	Hamburg	Hannover	Düsseldorf	Frankfurt	Stuttgart
I_1	- 11	73	51	67	-
I_2	63	101	115	72	65
I_{3-1}	83	121	115	86	-
I_{3-2}	82	142	118	80	70
I_{4-1}	83	138	135	91	70
I_{4-2}	88	-	138	93	71

In general the large consumers have suffered the greatest increases. This shows that the commodity rate has increased more than the standing charge in the price fixing formulae. In other words the cost of acquiring the gas has grown by more than the cost of transport and distribution.

Because the rates of increase vary from one city to another their classification is never stable. It is therefore impossible to select a median or average city in the FR Germany.

As with domestic consumers three phases can be seen in the evolution of prices, calm in 1978 and 1979, increases from 1980 to 1982 followed by stabilization.

Tariff degression as a result of the volume consumed is between - 10% and - 15% between I_2 and I_{4-1}, i.e. the unit price drops by 10 to 15% when consumption is multiplied one hundredfold. This degression has been reduced since 1978 when the reduction was 20 to 30%.

In addition to the volume of consumption the modulation always has an effect as one can see from the tables in the annex by comparing the prices for the standard consumers I_{3-1}/I_{3-2} and I_{4-1}/I_{4-2}. An improvement in modulation (reduction of the maximum daily offtake) from 200 to 250 days means a decrease in the unit price of between 4 to 7% according to city.

A comparison between the selling price of gas and the gross domestic product (GDP) price index can be attempted. We have taken Düsseldorf as an example because it offers the most complete price series.

1975 = 100

	GDP price index	Selling price excl. VAT - Düsseldorf					
		I_1	I_2	I_{3-1}	I_{3-2}	I_{4-1}	I_{4-2}
1978	111.7	117.4	128.7	128.7	126.4	135.2	133.6
1979	116.3	117.4	128.7	128.7	126.4	146.3	145.1
1980	121.4	117.4	176.0	172.9	170.6	196.8	195.8
1981	126.4	155.9	214.2	211.8	211.0	243.5	244.5
1982	132.4	196.9	294.3	294.3	292.1	337.7	337.8
1983	136.7[1]	.	.	.	.	.	.
1984	140.5[2]	177.2	277.5	277.2	275.1	317.9	317.7

[1] Provisional.
[2] Estimated.

In all cases since 1975 the price of gas for industry has grown by more than the price of all goods and services as represented by the GDP price index. In real terms these increases are greater for the larger consumers.

A similar conclusion can be drawn for the evolution of prices in the other cities studied in the FR Germany.

(a) Situation in the gas industry

In France gasworks gas has virtually disappeared from the market and this study therefore covers only natural gas.

The breakdown of natural gas sales in 1983 within the country is as follows:

%

Customers	Sellers					
	1 Gaz de France	2 Private companies and authorities	3 Société Gaz du Sud-Ouest	4 CEFEM	5 SNRA (P)	Total
Domestic uses (individual and collective)	35.9	1.2	-	-	-	37.1
Industry	34.8	0.4	4.8	4.9	1.5	46.4
Public power stations (EDF)	0.1	-	-	0.3	2.4	2.8
Commercial uses and other uses	12.8	0.9	-	-	-	13.7
Total	83.6	2.5	4.8	5.2	3.9	100

[1] Represented in this study by Toulouse (except I_4 and I_5), Lille, Paris, Lyon and Marseille.

[2] Represented in this study by Strasbourg.

[3] Represented in this study by Toulouse (I_4 and I_5).

[4] CEFEM = Compagnie française du méthane.

[5] SNEA (P) = Société nationale Elf Aquitaine - Production.

The national enterprise Gaz de France thus dominantes the domestic and industrial market. Its direct sales of gas are broken down as follows:

%

	1980	1981	1982	1983	Standard consumers
Domestic uses: heating tariffs	26.8	26.6	27.1	27.3	D_3 D_{3b}
Domestic uses: other tariffs	4.9	4.5	4.5	4.8	D_1 D_2
Collective heating	9.9	10.0	10.6	11.0	D_4
Commercial and similar uses	15.0	14.4	15.0	15.3	I_1 I_2
Industry	43.4	44.6	42.8	41.6	I_3 I_4 I_5
	100	100	100	100	

In 1983 the total number of customers was 8 425 000 broken down as follows:

households: heating tariffs	3 463 000
households: other tariffs	4 629 000
commercial and similar uses	316 000
industry	17 000

Supplies of natural gas are diversifying as regards both origin and point of entry:

%

		1980	1981	1982	1983
National production (South-West)		28.1	25.5	25.6	22.2
Imports	Netherlands	37.5	31.0	20.1	23.6
	FR Germany	3.9	3.8	4.2	1.8
	USSR	13.2	15.0	14.3	12.4
	Norway	9.3	9.8	9.6	8.5
	Algeria	7.9	14.9	26.1	28.1
	Others	-	-	0.1	3.4
		100	100	100	100

(b) Taxes

From 1978 to 1982 sales of gas were subject to value-added tax at the rate of 17.6%. For 1983 and 1984 the rate was 18.6%. VAT is deductible in the case of industrial and commercial consumers, who have not opted for a system of outright payment.

(c) Household prices - tariffs

The tariff for 'retail' or 'semi-wholesale' sales are of the simple two-part type with a standing charge and a rate for the gas consumed. The standing charges are standarized throughout the country. The commodity rate is uniform for the smallest household consumers (cooking and hot water) and has a limited number of levels for larger consumers (heating), depending on the region (6 zones). As an example, the table below shows the tariff components applicable in January 1984 in the cities chosen for the survey (Paris, Lille, Lyon, Marseilles, Toulouse) in zone 1 which are supplied by Gaz de France:

Tarifs zone 1 January 1984

Standard consumers	Tariff	Standing charge FF/year	Commodity rate	
			C/kWh	FF/GJ
D_1 D_2	Bo	185.40	24.69	68.58
D_3 D_{3b}	3 Gb	979.68	16.05	44.58
D_4	B_2 heating	2 128.56	15.32	42.55

For the tariffs 3Gb and B_2 - heating, higher commodity rate levels are applied in certain regions which are some distance away from the transport grid connecting the country's natural gas supply points.

Tariff B_2 applies to collective domestic heating (block central heating of appartments) and also to commercial and similar uses (standard consumers I_1 and I_2 in this study).

These tariffs were augmented on 1 February 1984 with increases in the commodity rate ranging from 5% for small consumers to 10% for large consumers.

(d) Household prices - analysis

The prices are given in Tables 7 to 9 and on Graph No 3 in the annex. Between 1978 and 1984 the tax inclusive price of gas for domestic users increased by between 121% and 200%. The fact that larger increases are suffered by the bigger consumers is important as this has the effect to reducing tariff degression. Those using gas for central heating have suffered larger increases than those using gas for cooking.

The price of gas showed an upward trend throughout the period with the largest increases occuring during 1979 and 1981.

Until 1980 the rate of increase varied from one city to another in order to standardize

the prices in the area served by Gaz de France. Since 4 January 1980 Gaz de France prices for domestic consumers have been the same and regional differences no longer exist (with the exception of Strasbourg which is not served by Gaz de France and where another tariff system operates).

The diversification of the points of supply of natural gas and the interconnection of supply grids has brought an end to the geographical influence on prices.

The increases in the price of gas to the consumer have been a direct result of the rising cost of imported natural gas. During the period taxation has remained fairly constant with a rise of 1% in the rate of VAT during 1982.

Tariff degression has decreased during the study period. In 1978 the difference in the unit price between D_1 and D_4 was - 63%, by 1984 it had fallen to - 50%.

A comparison between the index of the tax inclusive selling price of gas, the gross domestic product (GDP) index and the average receipts gives the following results:

1975 = 100

	GDP price index	Average receipts[1]	Tax incl. selling price - Paris				
			D_1	D_2	D_3	D_{3b}	D_4
1978	131.1	112.4	113.8	113.7	115.4	118.7	106.4
1979	144.7	117.5	125.2	125.1	127.8	132.7	116.9
1980	162.1	150.9	159.0	160.1	171.3	181.6	166.6
1981	181.6	189.7	179.4	183.2	201.7	217.3	198.0
1982	204.3	231.0	212.0	219.0	251.0	274.9	261.9
1983	225.1[2]	252.0	234.4	243.1	278.6	307.0	292.5
1984	241.1[3]		251.5	261.8	300.0	332.6	319.7

[1] Individual domestic consumption (D_1,D_2,D_3).
[2] Provisional.
[3] Estimated.

Until 1979 the selling price of gas evolved in line with the GDP price index which shows that the tariff adjustments only compensated for monetary depreciation. Thereafter the

selling price of gas grew faster than the GDP price index, particularly for heating users (D_3,D_4) which means an increase in real terms.

Likewise for the average receipts two periods can be distinguished. Until 1979 the average receipt for individual domestic users grew slower than the selling price, from 1980 onwards the average receipt seemed to have caught up.
This is due to two opposite effects: the first being the growth of the average consumption and the lowering of the unit price as the consumption increases; and secondly the reduction in tariff degression.

Between 1975 and 1983 the average consumption of each domestic subscriber grew by about 40% due to the increased use of gas for central heating.

Actually the average consumption per domestic subscriber (D_1,D_2,D_3) has grown to about 32 GJ per year and the average receipt established itself at FF 70/GJ (VAT incl.) thus between standard consumers D_2 and D_3.

(e) Industrial prices - tariffs

For the cities chosen for this study the tariffs differ with the seller:

Lille, Paris, Lyons, Marseilles (I_1 to I_5):	Gaz de France
Toulouse (I_1,I_2,I_3)	:
Toulouse (I_4,I_5)	: Société du Gaz du Sud-Ouest
Strasbourg	: Gaz de Strasbourg

Gaz de France has two types of tariff, namely type B_2 - heating for 'semi-wholesale' sales (I_1,I_2) and type S or subscription tariffs for large industrial consumers (I_3,I_4, I_5).

The B_2 - heating tariff is the same as that which was explained in chapter C.

The tariffs for large industrial consumers whose consumption is above 18 000 TH/year (I_3,I_4,I_5) have a more complex structure than those described above: they are the subscription tariffs, known as S tariffs.

The S tariffs which are now in force were introduced as from January 1979. They now cover virtually all industrial customers.

These subscription tariffs are made up of three components:

(i) an identical annual subscription charge for every point on the grid;

(ii) a monthly standing charge based on the daily demand (kWh/day) which the customer has requested;

(iii) a commodity charge per kilowatt hour, with differing rates for two blocks of consumption.

These tariffs have two versions corresponding to the type of network to which the customer's installations are connected, namely the SR tariff for installations connected to the public distribution network and the ST tariff for installations connected directly to the transmission grid.

A single tariff is applied to the major interconnected transmission routes linking the country's sources of gas; prices for the minor routes are obtained by adding the charges specific to each one to this tariff (system of tolls).

The tariffs refer to an index N which applies to all the tariff components.

The index N is given by the formula:

$$N = 50 \frac{F}{Fo} + 50 \frac{C}{Co}$$

with Co = 204, Fo = 119.10 (values of C and F on 31 January 1959).

C represents the wholesale price of French raw coal as published by the Institut National de la Statistique et des Etudes Economiques (INSEE);

F represents the price in francs per tonne of No 2 heavy fuel oil calculated as follows:

F = 375.32 Fu/283.

Fu refers to the index of No 2 heavy fuel oil prices, published in the Bulletin Officiel du Commerce et de la Concurrence (BOCC) for the last day of the month to which N applies.

The basic tariff components which appear in the contracts correspond to a value of 426 for the index N.

According to the economic conditions of November 1983, the value of N is 1 335. However, actual prices are not the result of the free application of this index, but result from registered price lists. For example in January 1984, actual prices are obtained by applying to the elements of the tariff (N = 426) the applied value Na = 685,2 plus an increase of 3.188 c/kWh on the commodity rates (i.e. FF 8.8563 GJ).

The applied price resulting from this must be greater than the price which would result from the free application of the terms of the contract.

If Pref is defined as the reference price (N = 426), the following inequality must always be observed:

$$\text{Pref} \times \frac{Na}{426} + \text{increase} \leq \text{Pref} \times \frac{N \text{ (contract)}}{426}$$

This is the 'ceiling' system of subscription tariffs. The prices actually charged depend therefore on the index Na and the absolute increase, provided that the ceiling price calculated on the basis of N does not come into play.

The table below shows the basic prices of the tariff components per Gigajoule for the Paris region: N = 426.

Standard consumers	Tariff	Annual subscription charge in FF	Monthly standing charge FF/GJ[1]	Commodity rate in FF/GJ	
				First block[2]	Remainder
I_3	SR	24 000	43.79	13.22	12.67
I_4,I_5	ST	24 000	33.67	13.08	12.53

[1] Per GJ of maximum daily offtake.

[2] Limit set at 24 000 000 kWh/year, i.e. 86 400 GJ/year.

By applying the index Na and the commodity rate increase the tariff has the following values for January 1984:

Standard consumers	Tariff	Annual subscription charge in FF	Monthly standing charge FF/GJ[1]	Commodity rate in FF/GJ	
				First block[2]	Remainder
I_3	SR	38 603	69.79	30.13	29.23
I_4,I_5	ST	38 603	54.15	29.90	29.01

[1] Per GJ of maximum daily offtake.

[2] Limit set at 24 000 000 kWh/year, i.e. 86 400 GJ/year.

In the other regions, these basic prices may differ as a result of the system of tolls.

Industrial supply contracts, like all contracts are signed for a period of three years.

There are also interruptible contracts, likewise signed for three years, which cover approximately 30% of Gas de France's sales to industry.

The terms of these contracts are as follows:

(i) the customers must possess an installation capable of using a type of fuel other than gas;

(ii) as a general rule at least 80% of the quantities stipulated in the contract must be consumed in this way, except in the case of an interruption of supply;

(iii) the supplies are interrupted by Gaz de France, with prior notice of between 24 hours and 15 days;

(iv) the price charged results, according to the supply conditions, either from the normal registered tariff (see above) or the normal tariff limited by the price of the alternative fuel. As a rule, it is the actual price of heavy fuel oil used by the consumer, plus 1 or 2%. In other words, the normal list price for gas only applies when the price of the alternative fuel is higher. This type of contract was not applied to the standard consumers in this study.

(f) Industrial prices - analysis

The prices are shown in Tables 10 to 12 and in Graph No 4, in the annex.
Several prices shown here differ from previous editions as a result of changes in the method of calculation proposed by Gaz de France.

During the period 1978-84 prices rose steadly with two large rises during 1979 and 1981. This is due to the influence of the index N which reflects oil prices. The increases in tax inclusive prices ranged from 185% to 234% in the Paris region, the larger the consumption the larger the increases, which has meant an oblateness of the tariff degressivity curve. Thus the difference in unit price between I_1 and I_5 has dropped from - 45% in 1978 to - 35% in 1984 for Gaz de France.

The price increases vary, not only according to consumption but also according to zone thus causing lesser regional price differences.

Since 4 January 1980 the tariffs for commercial and like users (I_1,I_2) have been identical throughout, with the exception of Strasbourg which is not severed by Gaz de France. For the larger industrial users the difference in price between the principal cities is

only a few percent in 1984. It is Toulouse which remains cheapest, because of its proximity to the Lacq gas fields.

The modulation has a small influence on prices. The reduction in the unit price as a result of an increase in modulation from 200 to 250 days (I_3) is 2.4% and 2% from 250 to 330 days (I_4). This reduction for regularity of offtake has diminished in recent years.

Regularization of offtake from the grid is obtained mainly by the use of interruptible contracts and by stocks.

A comparison between the price of gas, the average receipts and the gross domestic product price index (GDP) gives the following results:

1975 = 100

	GDP price index	Average receipts[1]		VAT exclusive price - Paris						
		Commerce (I_1,I_2)	Industry (I_3,I_4,I_5)	I_1	I_2	I_{3-1}	I_{3-2}	I_{4-1}	I_{4-2}	I_5
1978	131.1	114.6	142.5	107.8	106.4	120.9	123.0	126.4	127.0	128.7
1979	144.7	125.0	156.7	117.2	117.6	120.9	123.0	126.4	127.0	128.7
1980	162.1	173.5	238.8	163.9	169.2	170.3	188.9	208.3	210.5	224.5
1981	181.6	227.9	325.0	194.0	201.6	204.5	227.1	252.1	255.0	272.0
1982	204.3	280.7	395.1	253.0	268.7	268.3	298.8	334.6	339.4	362.5
1983	225.1[2]	310.0	436.6	279.4	298.0	293.3	326.6	365.8	370.9	396.2
1984	241.1[3]	.	.	304.3	326.5	313.7	349.6	392.6	398.6	426.0

[1] VAT exclusive.
[2] Provisional.
[3] Estimated.

Here the index of the price of gas is calculated exclusive of VAT which differs little from the tax inclusive price (increase of 1% in the rate of VAT during 1982). This index confirms the decrease in tariff degression, the larger industrial consumers suffering the larger increases.

Since 1979 the price of gas has grown by more than the price of all goods and services as measured by the GDP price index which means that gas prices have increased in real terms.

Since 1979 the average receipts have increased a little faster than the selling price of gas for the following reasons:

(i) slight decrease in individual average consumption;

(ii) reduction in tariff degression;

(iii) regional adjustment of prices;

(iv) the influence of interruptible contracts.

In industry for some years one notices a slowdown and sometimes a drop in the sales of natural gas as a result of the economic recession and the high prices which have encouraged energy conservation.

(a) Situation in the gas industry

The structure of the gas industry, which has a considerable influence on price formation, has two levels:

(i) SNAM, a company of the ENI group, which has a virtual monopoly (about 98%) on the transport and wholesale distribution of natural gas. In particular, SNAM supplies gas to industries consuming over 500 000 m^3 a year (i.e. approximately 19 000 GJ/year) and to the distribution companies.[1]

(ii) The gas distributors, whose function is to distribute gas to small consumers. They receive natural gas from SNAM and resell it either as it is or after treatment. These distributors are either municipal undertakings, concessionary or local authorities.

SNAM applies a standard national tariff (I_3,I_4,I_5), which is negotiated between SNAM and the industrial association Cofindustria.

On the other hand each distributor [2] issues its own tariffs according to a method introduced by the Interministerial Price Committee (CIP).

The following table gives the pattern of gas sales (1982 figures):

		%	Standard consumers
SNAM direct sales		57	
i.e.	industries	38.5	I_3,I_4,I_5
	power stations	10.5	
	chemical synthesis	7	
	motor fuel	1	
Sales via distributors		43	
i.e.	small domestic consumers	10	D_1,D_2
	individual central heating	17	D_3
	collective heating	8	D_4
	non domestic users	8	I_1,I_2
		100	

[1] Exceptionally, one or two large industrial consumers may be supplied by local distribution companies and SNAM may also supply industrial consumers whose consumption is lower than the limit stated.

[2] 1 463 companies serving 1 835 areas in 1983.

At the end of 1983 the number of consumers was broken down as follows:

Supplied by SNAM	industry	3 025
	power stations	17
	chemical synthesis	21
	other	325
	distribution companies	1 463
	Total	4 851
Supplied via distributors	small domestic consumers	4 920 000
	individual central heating	3 400 000
	others[1]	280 000
	Total	8 600 000

[1] Collective heating, handicraft, small industry and the tertiary sector.

Furthermore collective central heating serves 1 million families.

Natural gas dominates the market either in its natural state or used as a raw material for manufactured gas.
In the cities chosen for this study the nature of supplies by the distribution companies was as follows:

Milan - gas manufactured from natural gas and petroleum products (730 000 consumers);

Turin - natural gas resold intact (570 000 consumers);

Genoa - natural gas resold intact;

Rome - three-quarters of the urban area supplied with natural gas (580 000 consumers), one quarter supplied with gas manufactures from natural gas;

Naples - natural gas mixed with air.

These five cities account for over one third of the population supplied by the gas distribution network in Italy.

The sources of natural gas are as follows:

%

	1978	1980	1981	1982	1983
National production	47.5	47	50	48	45
Imports from:					
Netherlands	22.5	24	23	19	18
USSR	21	24	27	33	29
Libya	9	5	-	0	0
Algeria	-	-	-	-	8

(b) Taxes

In Italy the rate of value-added tax (VAT) on gas sales depends on the type of consumer, domestic or non-domestic.
The rates have evolved as follows:

Periods	% of price before VAT	
	Domestic	Non-domestic
1.12.1977 - 31.12.1980	6	14
1. 1.1981 - 30. 9.1982	8	15
since 1.10.1982	8	18

Also since February 1977 sales of natural gas to household consumers have been subject to a consumption tax (imposta consumo) the rates of which were as follows:

until August 1979 = LIT 30.00 per m^3
September 1979 - February 1980 = LIT 36.50 per m^3
from March 1980 = LIT 30.00 per m^3

For natural gas sold intact LIT 30 m^3 is equal to approximately LIT 788 per GJ GCV.

This tax is also appplied to manufactured gas by reference to the percentage of natural gas used in its manufacture. The rate therefore differs according to the composition of the gas. Two examples are found in this study:

	Milan		Rome	
	LIT/m^3	LIT/GJ	LIT/m^3	LIT/GJ
1980	14.50	702.8	12.80	766
1981	12.17	589.8	10.52	629
1982	12.31	596.6	10.52	629
1983	12.54	607.8	10.37	620
1984	12.58	609.7	10.61	634

Since November 1980 (Law No 784) domestic consumers in the South of Italy ('Cassa per il Mezzogiorno' zone) are exempt from this tax. Such is the case of Naples.
This tax is included in the basis of assessment to VAT.

(c) Household prices - tariffs

The tariffs employed by the distribution companies follow the method introduced in 1975 by the Interministerial Price Committee (CIP), modified in 1980 and profoundly altered in July 1983 (for more detail see CIP Regulation No 17/1983 published in the Official Journal No 180, 2.7.1983). This method determines the method by which a 'standard cost' is calculated by each distribution company which fixes the level of the average receipts and on which tariffs should be based. The tariffs are obliged to contain a standing charge and a commodity rate.
In this regard the distribution companies may propose:

(i) a single tariff where the commodity rate is equal to the average receipt minus the standing charge;

(ii) several tariffs with one or more consumption blocks of varying price on condition that the receipts derived from these tariffs cover the 'standard cost'.

Furthermore the CIP decides the maximum standing charge: presently LIT 2 300 per month per consumer for small domestic consumers, LIT 170 per month per 'flame' for other users.

Before the 30 April of each year the distribution companies submit for approval to the authorities their calculation of the 'standard cost' and their proposals for the tariffs necessary to cover these costs.

Because of these legal obligations there is a proliferation of local tariffs, revised annually, for consumers of less than 38 000 GJ per year (D_1,D_2,D_3,D_4,I_1,I_2).

Three examples of the domestic tariffs applicable in 1984 are given hereunder for each type of gas distributed in Italy:

Turin (natural gas)

1 m^3 = 38.1 MJ (GCV)

Standard consumers	Flames n	Standing charge LIT/month	Commodity rate Consumption blocks	LIT/m^3
D_1,D_2,D_3	≤ 20	2 300	0 - 360 m^3/year	409.50
			361 - 1 800 m^3/year	401.50
			> 1 800 m^3/year	404.37
D_4	145	170 x 145	-	404.37

Naples (methane/air mixture)

1 m^3 = 17.85 MJ (GCV)

Standard consumers	Flames n	Standing charge LIT/month	Commodity rate Consumption blocks	LIT/m^3
D_1,D_2	≤ 20	2 300	0 - 422 m^3/year	316
			> 422 m^3/year	312
D_3	30	170 x 30	0 - 1 200 m^3/year	295
D_{3b}	50	170 x 50	> 1 200 m^3/year	239
D_4	300	170 x 300	-	239

Milan (gasworks gas)

1 m^3 = 20.633 MJ (GCV)

Standard consumers	Flames n	Standing charge LIT/month	Commodity rate Consumption blocks	LIT/m^3
D_1,D_2	≤ 20	2 300	0 - 240 m^3/year	269.62
			> 240 m^3/year	279.62
D_3,D_{3b}	50	170 x 50	0 - 240 m^3/year	269.62
			> 240 m^3/year	279.62
D_4	100	170 x 100	-	279.62

The amount of the standing charge is determined within legal limits according to the number of flames by each distribution company, following the cubic capacity of the necessary meter.

Several examples of progressive tariffs are found, the object of which is to encourage energy saving.

(d) Household prices - analysis

The prices are shown in Tables 13 to 15 and on Graphs Nos 5 and 6, in the annex. As a result of survey difficulties several prices prices are missing for 1981 and 1982.

Because of the large number of distribution companies applying their own individual tariff system prices differ considerably from city to city. At the beginning of 1984 there is a range of 55 - 60% between the extreme cities of this study. The absolute range of price level is greater for the small consumers (D_1 and D_2) than for heating consumers

(D_3 and D_4). Since 1978 regional price differences have diminished. At that time the dearest city was two times more expensive than the cheapest.

Several factors are to blame for these prices ranges:

(i) varying 'standard costs' used by each company as a tariff basis;

(ii) nature of the gas (natural or manufactured);

(iii) taxation, with exemption of specific taxes in the south;

(iv) structure of the clientele.

Gasworks gas is more expensive than natural gas distributed intact. The most striking example is to be found in Rome where both gases are distributed. Here gasworks gas is 30 to 45% dearer than natural gas according to the level of consumption. The structure of the clientele also influences regional price ranges. As the average annual consumption per user is lowered so the costs of distribution increase.

It is the north of the country that the lowest prices are found, for example natural gas in Turin and Genoa. Meanwhile the highest prices found are for gasworks gas in Rome and Naples (combination of low consumption per user and the supplementary cost of manufacture). Milan gives an average position and it was for this reason that it was chosen for international comparison.
Because of a certain latitude in the way tariffs are based on standard costs one encounters various degressivity curves. In 1984, the reduction in unit price between D_1 and D_4 was between 16 and 33% according to city. No trend can be found in the evolution of tariff degression between 1978 and 1984. Tariffs containing progressive price blocks are also found. This pecularity applies to space heating and explains why there is sometimes a small range of unit price between the consumers D_3,D_{3b} and D_4. It seems that two objectives, not always easy to reconcile are being followed: not to encourage energy waste with low prices and to encourage the use of natural gas, particularly for heating by offering attractive prices.

In the course of the past six years current prices have grown by what seems like an enormous amount at first sight (200 to 370% according to city and standard consumer). These rates of increase must be looked at in the light of inflation which plays an important part. A large part of the tariff revision is to take account of inflation. Taxation plays a small part, a rise of two percentage points in the rate of VAT and a lowering of the specific taxes. In all cities the pattern is the same - large increases with two periods of lesser increases during 1978 and 1981. This corresponds to the evolution of the tariff applied by SNAM for supplies to the distribution companies. The tariff also follows the pattern of heating gasoil (gasolio riscaldamento) prices, it being the principal competitor of natural gas. Actually the average tax excl. price of

natural gas for domestic uses is around LIT 12 000 per gigajoule, thus a little less than the price of heating gasoil, 15% cheaper than paraffin oil (kerosene) and twice as cheap as LPG and electricity. If one adds the taxes, principally VAT, the range is greater disfavouring gasoil and paraffin. Natural gas currently finds itself in a very favourable position to sell the increased availability imported from Algeria.

The large increases in the price of gas have followed those for other energy sources while maintaining a current advantage. To examine these increases in current prices one must look at the index of gas prices in the light of the implied gross domestic product (GDP) price index. Two examples, for Milan and Rome give the following results:

1975 = 100

	GDP price index	Selling price (incl. all taxes) - Milan[1]				
		D_1	D_2	D_3	D_{3b}	D_4
1978	160.0	201.6	196.8	214.1	216.2	219.3
1979	185.4	207.6	203.2	222.3	224.4	228.0
1980	223.7	258.6	257.4	314.6	319.9	331.4
1981	264.7	311.6	320.6	404.0	409.3	429.1
1982	310.9	333.8	344.1	434.4	440.1	461.5
1983	356.0[2]	504.5	490.7	587.9	593.1	622.0
1984	395.2[2]	557.9	539.8	683.4	675.9	680.6

[1] Gasworks gas.

[2] Provisional.

[3] Estimated.

1975 = 100

	GDP price index	Selling price (incl. all taxes) - Rome[1]				
		D_1	D_2	D_3	D_{3b}	D_4
1978	160.0	215.2	294.0	381.7	394.9	428.0
1979	185.4	191.4	249.5	322.3	332.1	358.6
1980	223.7	287.4	366.5	515.2	533.5	553.9
1981	264.7	499.7	570.8	695.8	714.0	755.4
1982	310.9	532.0	614.4	759.3	780.2	827.2
1983	356.0[2]	754.5	853.3	1 051.7	1 080.3	1 164.7
1984	395.2[3]	851.1	967.0	1 183.5	1 215.0	1 308.3

[1] Natural gas.
[2] Provisional.
[3] Estimated.

The conclusion is clear: since 1975 the price of gas including all taxes for domestic uses has grown significantly more than the price of all goods and services represented by the GDP price index.

In real terms gas is about twice as expensive today than in 1975 with variations according to city and the level of consumption.

(e) Industrial prices - tariffs

A distinction must be made between the two systems of gas supply:

(1) Small industrial consumers (I_1,I_2) who are supplied by the urban networks of the local distribution companies and for whom the tariffs differ from city to city. The tariffs are of the two-part type, similar to those applied to households, with a standing charge which depends on the number of flames and a commodity rate, often in block form.

(2) Other industrial consumers (I_3,I_4,I_5) who are supplied almost exclusively by SNAM, which applies a standardized national tariff.

A new three-year agreement 1984-86 was signed on 21 December 1983 between SNAM and Cofindustria replacing that of 30 September 1981 which laid down the tariff elements for the supply of natural gas to industry. The resulting tariff came into effect on 1 January 1983 and contained several new factors. Thus the old one part tariff was replaced by a two part system composed of a monthly charge according to the daily offtake and a commodity rate decided by reference to consumption blocks. The user has a choice between two variants:

(i) high usage (CA), advantageous for regular consumers;

(ii) low usage (CB) for less regular consumers.

If the consumer does not choose he is automatically accorded the CA tariff for high usage.

The price varies according to:

(i) the quantity taken (degressive price, 6 blocks);

(ii) the load factor (maximum daily offtake);

(iii) seasonal factors.

The revision of the reference values is quarterly for the load factor and monthly for the commodity rate.
The granting of high or low usage depends on the load factor, calculated as follows:

$$\frac{\text{annual quantity}}{365 \times \text{maximum daily offtake}}$$

The CA tariff, high usage is given when this factor is greater than 0.5 as is the case of the standard consumers I_3, I_4 and I_5 in this study.

The CB tariff, low usage is applied to users whose load factor is less than 183 days (factor $<$ 0.5).
The CA tariff can be expressed as follows:

Monthly offtake charge

$$\left[661.5 \times \left(0.6 \times \frac{SO}{116} + 0.4 \times \frac{PNA}{146.3}\right)\right] \times Pg$$

where SO is the index of industrial workers salaries published by Istat (1982 = 100) refering to the third month before the quarter;[1]

116 is the index of salaries published in July 1983;

PNA is the index of gross non-agricultural prices published by Istat (1983 = 100) refering to the third month before the quarter;[1]

146.3 is the index of gross prices published in July 1983;

Pg are cubic metres of maximum daily offtake.

For a transitional period in 1984 the maximum daily offtake is calculated from the average monthly offtake according to the formula:

$$Pg = \frac{\text{Monthly volume}}{\text{N days in month}} \times 1.1$$

For our standard consumers we have taken:

$$Pg = \frac{\text{1/12 annual volume}}{365/12} \times 1.1$$

From 1985 when offtake meters are installed it is the true maximum daily offtake which will be taken into account for subscribers having a maximum offtake greater than 4 000 m^3 per day.

Commodity rate (LIT per m^3)

$$P = 271.823 \times \left(0.7 \times \frac{ATZ}{292.813} + 0.3 \times \frac{BTZ}{322.164}\right)$$

where ATZ is the official carriage paid price excluding tax of 1 kg of normal heavy fuel oil recorded by CIP in the preceding month;

BTZ is the same for low sulphur heavy fuel oil;

292.813 is the value of ATZ September 1983;

322.164 is the value of BTZ September 1983.

[1] Therefore the index for October 1983 is used for the first quarter 1984.

Six degressive blocks are derived from this price P:

Consumption blocks 1 000 m^3 per month	Price
≤ 100	$P_1 = P$
> 100 - 300	$P_2 = P \times 0.96$
> 300 - 700	$P_3 = P \times 0.94$
> 700 - 2 000	$P_4 = P \times 0.92$
> 2 000 - 4 000	$P_5 = P \times 0.89$
> 4 000	$P_6 = P \times 0.87$

The CB tariff is derived from the above as follows:

Monthly offtake charge

1/3 CA offtake charge.

Commodity rate

equal to the commodity rate P of the CA tariff augmented by the offtake charge of CA multiplied by 0.043836.
This gives P_1 to which one applies the reducing blocks of tariff CA.

Seasonal factor

A rebate of 4% on the commodity rate is given during the period April to September inclusive.
No rebate is therefore included in the calculation of prices at the beginning of the year.

Regularity rebate

Clients who scrupulously pay their invoices during a calendar year receive a rebate of 1% on the total price. We have applied this rebate, considering that our standard consumers are such.

In January 1984, with index values of:

SO = 118.9

PNA = 151.4

ATZ = 304.085

BTZ = 334.593

one has the following summarized formula for high usage:

Offtake charge LIT/month	Commodity rate	
	Monthly blocks 1 000 m^3	LIT m^3
680.645794 x m^3[1]	≤ 100	282.294
	> 100 - 300	271.002
	> 300 - 700	265.356
	> 700 - 2 000	259.710
	> 2 000 - 4 000	251.241
	> 4 000	245.595

[1] Of daily offtake.

All prices are calculated for a standard m^3 of 38.1 MJ (GCV). For interruptible supplies a new formula valid from 1 March 1984 to 31 December 1986 is applied.
Prices are determined by the formula:

$$Pi = 0.875\ (ATZ + T)\ \left(1 + \frac{PR}{12x100}\right) \times \frac{PCS}{9100}$$

where Pi is the price in LIT per standard m^3;

ATZ is the official price, without VAT of 1 kg of normal heavy fuel oil recorded by CIP during the preceding month;

T is the cost of transport to provincial zones fixed by CIP (from LIT 2.5 to 10 kg);

PR is the prime rate determined by the Italian Banking Association;

PCS is the gross calorific value of delivered gas expressed in kcal.

For interruptible supplies the seasonal rebate is 1% and the rebate for regularity of payment is 0.5%.

None of these tariffs apply to deliveries to power stations (ENEL tariff) or to local gas distribution companies.

(f) Industrial prices - analysis

The results are shown in Tables 16 - 18 and on Graphs Nos 7 and 8 in the annex. The small industrial and commercial consumers I_1 and I_2 are supplied by the local distribution companies and their prices have evolved along the same lines as those for households and for the same reasons. From 1978 to 1984 the price before VAT has increased fourfold for natural gas and threefold for gasworks gas (see Graph No 7). Nevertheless gasworks gas remains more expensive than natural gas. In Rome where both are distributed, gasworks gas is 70% dearer.

The regional difference in price is larger than for households.

The dearest location found in this study is, in 1984 two-and-a-half times more expensive than the cheapest. This regional difference has diminished since 1978 when the difference was 3.4 times. This difference is due to the tariff system based on 'standard costs' of each company and the nature of the gas. In this case taxation has no role because there are no specific duties on the industrial and commercial uses of gas.

For the large industrial consumers (I_3,I_4,I_5) supplied with natural gas by SNAM prices are uniform throughout the country (Table 16). Between 1978 and 1984 prices before VAT have increased fourfold. No parallelism can be drawn with the evolution of prices for the small industrial and commercial users because of the different tariffs.

A period of calm until 1979 was followed by a strong tendency of increases (see Graph No 8). This follows the introduction of heavy fuel oil prices into the tariff formula from 1980. The new tariff which came into operation at the beginning of 1984 continues the price trend. Meanwhile tariff degression has widened during the period studied, when the consumption is increased one hundredfold (I_3-I_5) the reduction in unit price which was of the order of 5% in 1978 is now 10%. The load factor does not influence price levels during the introductory period of the new tariffs in 1984 (see Table 16). This will change in 1985 when all the maximum daily offtake meters will be in service.

The preceeding analysis together with the tables and graphs in the annex concern non-interruptible supplies. For interruptible supplies, which represent 15% of SNAM's sales to industry, prices are a bit lower. For example with an annual consumption of 418 600 GJ (I_4) a reduction in unit price of about 9% is achieved (with PR = 18.875% and T = 6).

Despite the price increases natural gas remains competitive in industry against other forms energy: 5 to 8% better value than low sulphur heavy fuel oil, 20% compared to light fuel oil, 30% compared to LPG and 3 to 4 times cheaper than electricity, that is on the price before tax. The difference is still greater, in favour of gas when we add

the duties levied on liquid fuels. For their part the tariffs for interruptible supplies offer advantageous prices compared with ordinary high sulphur heavy fuel oil.
In 1984 natural gas occupies a favourable and competitive position in industry.

The increases in current prices which seem great must be looked at in the light of inflation.
To achieve this a comparison is necessary with the gross domestic product (GDP) price index.

1975 = 100

	GDP price index	Price of gas (excluding VAT)				
		Milan		Italy (= SNAM)		
		I_1	I_2	I_3	I_4	I_5
1978	160.0	172	185	221.5	223.5	223.0
1979	185.4	179	193	225.5	227.7	227.5
1980	223.7	232	280	396.7	400.5	400.0
1981	264.7	307	369	604.5	598.0	584.0
1982	310.9	331	399	769.0	761.0	743.0
1983	356.0[1]	460	548	850.0	839.5	820.0
1984	395.2[2]	506	602	935.0	916.5	893.0

[1] Provisional.
[2] Estimated.

One sees that the price of gas has grown faster than the price of all goods and services as represented by the GDP price index. The trend is particularly noticeable from 1980 onwards. In real terms gas is now 2 to 2.5 times more expensive than in 1975.

One sees also that the evolution is not the same for the different levels of consumption. For the large industrial consumers (SNAM tariff) the increases were lowest for the larger volumes of consumption which confirms the growth of tariff degression.

(a) Situation in the gas industry

The gas industry has three levels:

(1) natural gas production (NAM);

(2) transporting, importing and selling to very large consumers connected to the main transmission grid (Gasunie);

(3) distribution (local societies or communal enterprises).

Direct sales by Gasunie currently represent around 48% of the volume of gas sold (including power stations), the remaining 52% is supplied to the public via the distribution companies.
Gasunie supplies 150 distribution companies, 29 power stations and 400 large industrial enterprises.

The number of customers and gas sales is broken down as follows:

Users	1978		1981		Standard consumers
	Customers 1 000	Sales %	Customers 1 000	Sales %	
Small consumers	4 483.5	35.8	4 811	43.3	
≤ 21 GJ/year	605.8	0.3	.	36.1[2]	D_1,D_2
21 - 6 000 GJ/year	3 667.4	29.2	1		D_3,D_4
21 - 6 000 GJ/year	210.3	5.7	.	6.5	I_1,I_2
Reduced tariffs	3.4	0.6	3.5	0.7	
Large consumers	18.7	64.2	12	56.7	
6 000 - 35 000 GJ/year	11.6	6.5	4.0	4.0	
35 000 - 309 000 GJ/year	0.9	4.1	0.7	4.1	I_3
> 309 000 GJ/year	0.4	22.8	0.4	23.9	I_4,I_5
Reduced tariffs	6.2	7.1	6.8	7.3	
Public power stations	0.0	23.5	0.0	17.3	
Total	4 502.6	100	4 823	100	

[1] Of which 9.8% collective central heating (D_4).
[2] Of which 3.5% collective central heating (D_4).

Around 87% of the consumption of the small consumers is for space heating. Despite a certain decentralization, the tariff system is uniform throughout and the prices shown for Rotterdam are indicative of the rest of the country (with reductions for areas close to the Groningen gas fields).

The Groningen gas fields remain the principal source of natural gas consumed in the country. However, during recent years gas has been imported from Norway as part to the policy to conserve national resources. These importations which began in 1978 have grown to 119 000 TJ which represents over 9% of inland consumption.

(b) Taxes

In theory all sales of gas are subject to a special air pollution tax (Heffin brandstoffen luchtverontreiniging). The rate was 0.03 cents/m^3 in 1978 and rose to 0.05 cents/m^3 in 1982 and to 0.054 cents/m^3 in 1983. This tax is included in the basis of assessment to VAT.

In practice this tax is charged only to consumers whose consumption is less than 170 000 m^3 per year (D_1 - D_4,I_1,I_2). For consumers above this level prices are related to heavy fuel oil prices which already include a special air pollution tax so the customer is not taxed a second time. Gasunie does however pay to the government the special air pollution tax on all its sales.

Value-added tax is also charged on all sales of gas. This was at the rate of 4% at the beginning of 1978 but was raised to 18% in April of the same year, and remained unchanged until 1 January 1984 when it was raised to 19%.
VAT is deductible for industrial and commercial users.

(c) Household prices - tariffs

Before January 1980 consumers with an annual consumption of less than 170 000 m^3 were charged under a block tariff in which consumption was divided into two blocks, consumption above 600 m^3 per year being charged at a lower rate than the rest.

In 1980 this was replaced by a simple two-part tariff consisting of a standing charge, payable irrespective of consumption, and a commodity rate per cubic metre of gas consumed. These charges are not indexed but are revised periodically.

The following rates were applied:

Date	Standing charge HFL/year	Commodity rate cents/m^3
January 1983	57	49.6
January 1984	57	52.6

This general tariff was used to calculate prices for standard consumers D_1,D_2,D_3 and D_{3b}. There is also a special tariff for collective central heating, for example apartment blocks, which is applied to standard consumer D_4. This is also a simple two-part tariff, the rates of which were as follows:

Date	Standing charge HFL/year	Commodity/rate cents/m^3
January 1983	15/apartment	49.6
January 1984	15/apartment (minimum 210 HFL/year	52.6

The above tariffs are based on a standard cubic metre of 35.17 GJ (GCV).

(d) Household prices - analysis

The prices are given in Table 19 and Graph No 9 in the annex. Domestic tax inclusive gas prices increased by between 91% and 159% during the period 1978 to 1984, the major part of which occurred during 1980. These increases resulted from:

(1) the raising of the VAT rate by 14 percentage points,

(2) modification of the tariffs, notably the abolition of the 'block' system.

The different rates of increase between the standing charge and commodity rate have resulted in a flattening of the degressivity curve. Therefore it is the larger consumers who have suffered the largest increases. The reduction in tariff degression is very clear: in 1984, the largest consumer (D_4) paid 30% less per unit of gas than the smallest consumer (D_1), compared with 50% in 1978.

A comparison between the selling price of gas and the gross domestic product (GDP) price index gives the following results:

1975 = 100

	GDP price index	Selling price (including all taxes) Rotterdam				
		D_1	D_2	D_3	D_{3b}	D_4
1978	122.1	111.7	108.7	129.0	133.0	144.0
1979	126.9	126.7	123.3	155.0	161.0	177.0
1980	134.0	135.8	132.0	175.0	184.0	206.0
1981	141.8	165.9	168.0	237.0	250.0	281.0
1982	149.8	185.0	192.0	277.0	292.0	330.0
1983	151.3[1]	203.0	208.0	294.0	310.0	349.0
1984	154.3[2]	213.0	220.0	313.0	331.0	373.0

[1] Provisional.
[2] Estimated.

It can be clearly seen that since 1975 gas prices have risen by more than the price of all goods and services as represented by the GDP index, i.e. domestic gas is now more expensive in real terms.

This has led to a reduction in domestic consumption, particularly since 1980. Subsidies were introduced to encourage energy conservation by means of thermal insulation.

Moreover some collective central heating units have returned to gas oil.

(e) Industrial prices - tariffs

Industrial and commercial consumers with an annual consumption of less than 170 000 m^3 (I_1,I_2) are charged according to the general tariff described in (c).

Above this level a block tariff is applied, the rates of which are linked to fuel oil prices (P). The method by which the rates are derived from heavy fuel-oil prices has been in force since 1 January 1982 and is as follows:

Blocks of annual consumption	Price of cents/m^3
0 - 170 000 m^3	= Household tariff + pollution tax[1]
170 000 - 1 million m^3	$\left(\frac{P}{500} \times 40.0\right) + 2.8$
1 - 10 millions m^3	$\frac{P}{500} \times 40.0$
10 - 50 millions m^3	$\frac{P}{500} \times 38.2$
> 50 millions m^3	$\left(\frac{P}{500} \times 38.2\right) - \left(\frac{P}{500} \times 1.9\right) + 0.75$

This tariff is based on a standard m^3 of 35.17 GJ (GCU).

[1] Because the pollution tax is already included in P, it is added to the basic rate, which is not linked to P.

Thus the evolution of P is as follows:

Year/quarter		P^1 CBS	P^2 CBS Industry	P^3 Platt's	P used to calculate prices
1982	III	515.10	-	-	
	IV	539.20	534.21	-	
1983	I	494.15	481.11	479.56	P^1III82 + P^2IV82 = 524.66
	II	513.20	512.15	506.87	P^2IV82 + P^2I83 = 507.66
	III	559.00	556.20	553.99	P^2I83 + P^3II83 = 493.99
	IV	-	-	567.03	P^3II83 + P^3III83 = 530.43
1984	I	-	-	.	P^3III83 + P^3IV83 = 560.51

Gas prices are calculated on the basis of the average of the values of P for the two previous quarters. The method used to compute the value of P has undergone some alterations:

[1] Until the third quarter of 1982, P was the price of heavy fuel-oils (> 65 cst at 50°C) computed by the Centraal Bureau voor de Statistiek (CBS) for deliveries to all large consumers, including power stations;

[2] as from the last quarter of 1982 only deliveries to industry were taken into account (exclusion of power stations);

[3] as from the first quarter of 1983, P is no longer calculated by the CBS, but the average price of 1% and 3.5% sulphur heavy fuel-oil, fob barges Rotterdam, published daily by Platt's Oilgram in London.

All contracts are concluded on the basis of these tariff formulae, which result in a degressive price depending on the volume of consumption and do not include a component based on the regularity of offtake.

(f) Industrial prices - analysis

The prices are given in Table 20 and Graph No 10 in the annex. As taxes have changed significantly during the period 1978 to 1984 the evolution of prices before and after tax must be looked at.

Prices for the smaller industrial consumers I_1 and I_2, developed along the lines of domestic prices (same tariff) with a total increase of 160%, 38% of which was during 1980.

For larger consumers I_3,I_4 and I_5, prices are linked to fuel oil prices and developed accordingly. Between 1978 and 1984 the tax inclusive price rose by around 190% while the VAT exclusive price rose by 150%. This reflects the change in the rate of VAT which went from 4% to 19%.

The largest increase occurred between 1978 and 1982. In 1983 prices fell as a result of a drop in heavy fuel oil prices. Because of the two tariff systems there is no correlation in the development of prices between small and large industrial consumers.

For the large consumers the increases are similar regardless of the consumption. Thus tariff degressivity suffered little change. It remains low because the unit price is only reduced by 7% when consumption is increased on hundredfold (I_3 to I_5). If the volume has little effect on the price, the regularity of offtake (load factor) has none, because of the tariff formula. Thus the prices are the same for the standard consumers I_{3-1}, I_{3-2} and I_{4-1},I_{4-2} respectively. Moreover, interruptible contracts do not exist, except for power stations. There is no incentive to reduce peak consumption which is met by increases in production or stocks.

A comparison between the price of gas and the GDP price index gives the following results:

1975 = 100

	GDP price index	VAT exclusive price - Rotterdam				
		I_1	I_2	I_3	I_4	I_5
1978	122.1	140	143	124	121	145
1979	126.9	151	156	131	128	144
1980	134.0	175	180	173	173	200
1981	141.8	239	248	223	222	259
1982	149.8	281	292	300	294	341
1983	151.3[1]	297	308	292	282	326
1984	154.3[2]	315	327	310	301	369

[1] Provisional.

[2] Estimated.

The price of gas has risen by more than the cost of all goods and services. Thus, in real terms the price of gas for industry has doubled since 1975. The increases in the tax inclusive prices have been greatest. These increases in prices combined with the recession have brought about a reduction in the consumption of natural gas by industry but however no conversion back to petroleum products or coal.

(a) Situation in the gas industry

The general structure of the gas industry has two levels:

(i) import, transmission, deliveries to general distribution organizations and to large industrial consumers (> 33 500 GJ/year) by the company Distrigaz;

(ii) general distribution (households and non-domestic consumers up to 33 500 GJ/year (and even up 140 700 GJ/year by agreement with Distrigaz) by municipal undertakings, either individually or grouped together to form associations, with or without the participation of private companies, to manage operations.

The breakdown of natural gas deliveries within the country is as follows:

%

Users	1980	1981	1982	1983[1]	Standard consumers
- Distrigaz	58.8	55.2	47.2	50	
Industry, firm and erasable supplies	34.0	34.7	35.4	30	I_3, I_4, I_5
Industry, interruptible supplies	13.3	10.2	6.7	9	
Public power stations	11.5	10.3	5.1	11	
- Public distribution	41.2	44.8	52.8	50	
Household uses	28.5	30.6	36.3	34	
(heating tariffs)	(26.8)	(29.0)	(34.5)	.	D_3, D_4
(other tariffs)	(1.7)	(1.6)	(1.8)	.	D_1, D_2
Non-domestic uses	12.8	14.2	16.5	16	I_1, I_2
Total	100	100	100	100	

[1] Provisional.

At 31 December 1982, the number of customers (= meters in service) had grown to:

Domestic : 1 862 772
Non-domestic: 56 984
Total : 1 919 756

Natural gas is imported from several foreign gas fields, with a tendency towards diversification. Imports intendended for the Belgian market are broken down as follows:

%

	1980	1981	1982	1983
Netherlands	78.3	77.6	71.7	59.8
Norway	21.7	22.4	24.2	20.8
Algeria	-	-	4.1	19.4

Since 17 November 1982 deliveries of Algerian natural gas have been arriving in transit through France via the Port of Montoire. Norwegian and Algerian gas has a higher energy content than the Dutch gas, necessitating adaptation of appliances to receive this gas. By 31 December 1983 about 509 000 installations, representing 27% of customers had already been converted to this rich gas.

(b) Taxes

Sales of natural gas are liable to value-added tax (VAT) the rates of which were as follows:

	(% of price before VAT)
until 30.9.1980	6
1.10.1980-30.6.1981	16
since 1.7.1981	17

VAT is deductible for non-domestic consumers.

Gas supplied by the public distribution companies is subject to an indirect tax designed to benefit the communes in the form of dividends pait to them. This tax which is difficult to isolate is a component of the costs and is included in the prices net of tax given in this study.

(c) Household prices - tariffs

Since 1980 the tariff system for small consumers applied by the public distribution companies has not changed. It is a two-part block system with double indexation. The values of the base parameters have changed little, prices have risen due to the effects of indexation.

Two indices are taken into consideration:

Iga which reflects the frontier price of imported natural gas and takes account of the diversification in the sources of supply;

Igd which reflects the average wages of workers in the private gas and electricity industry.

The values of these indices are:

	Iga	Igd
January 1980	1.3732	1.0152
January 1981	1.9796	1.0490
January 1982	3.2293	1.0947
January 1983	3.7840	1.1161
January 1984	4.2599	1.1297

(Value 1 at first quarter 1979).

The tariff formulae are as follows:

Standard consumer	Tariff	Standing charge BFR	Commodity rate centimes/MJ
D_1	A	35.2 x Igd/month	- 1st block[1] Brussels/Liège 5.9524 Iga + 24.5290[2] Igd
D_2			Antwerp 5.9524 Iga + 23.0866 Igd
			- Remainder 5.9524 Iga + 16.4070 Igd
D_3	B	2 718 x Igd/year	5.9524 Iga + 7.2670 Igd
D_4	C	n x 139 x Igd/month	5.9524 Iga + 4.3739 Igd

n = number of dwellings, minimum 10.

[1] Size of first block: Brussels, Liège = 15 474 MJ/year;
Antwerp = 17 936 MJ/year.

[2] Following a recommendation of the Gas and Electricity Control Committee this was reduced to 23.0866 from 1 January 1982.

If the meters are read annually (as it is the case in Brussels and Liège) the size of the first block is 15 474 MJ/year, if the meters are read bi-monthly (as in Antwerp) the size of the first block is 17 936 MJ/year.

(d) Household prices - analysis

The results are shown in Tables 21 and 22 and on Graph No 11 in the annex. Between 1978 and 1981 the prices for the small consumers D_1 and D_2 varied according to city. However the difference was small, of the order of 1% for D_1 and 3% for D_2.

Since 1 January 1982 the tariffs for all three cities are uniform, the only difference being a larger basic consumption block for Antwerp than Liège or Brussels to compensate for the extra costs involved in reading meters bi-monthly instead of annually. This gives rise to minor differences in price for the consumer D_2 only, of the order of 1%.

The prices for all domestic consumers followed the same tendency: small rises during 1978 and 1979 followed by larger increases in 1980 and 1981. The increases showed a slackening off in 1982 and 1983 partly due to a decision to block price increases taken by the 'Comité de Contrôle' on 22 February 1982 (later some flexibility was allowed).

The total increases between January 1978 and January 1984 ranged from 73% to 200%, the percentage being linked to the level of consumption.

There were two reasons for the increases in selling prices:

(i) the rising cost of imported gas with a tripling of price between the end of 1979 and the end of 1981 (the effect of the index Iga),

(ii) the increase in the rate of VAT from 6% to 16% during 1980 and then to 17% during 1981.

Tariff degression has decreased sharply, the standard consumer D_4 who only paid 32% of the unit price paid by D_1 in 1978 now pays 56% of the unit price paid by D_1.

A comparison can be made between the selling price of gas, the gross domestic product (GDP) price index and the average receipts of the public distribution companies:

1975 = 100

	GDP price index	Average receipts distribution[1]	Selling price (VAT included) - Brussels				
			D_1	D_2	D_3	D_{3b}	D_4
1978	119.9	111	116	117	113	124	138
1979	124.8	113	117	118	114	125	140
1980	130.2	138	126	128	130	144	167
1981	136.8	175	150	153	172	193	232
1982	146.4	217	176	182	234	266	334
1983	155.7[2]	235[2]	190	197	261	297	378
1984	164.8[3]		201	209	284	324	416

[1] Domestic consumers.

[2] Provisional.

[3] Estimated.

Prices for the smaller consumers D_1,D_2 and D_3 were more or less in line with inflation until 1980, but since then have have risen by more than the general cost of living, making gas for these small consumers more expensive in real terms in 1984 than it was in 1975. For the larger consumers D_{3b} and D_4 prices have risen much more sharply so that D_4 prices in real terms are now more than twice as expensive as they were in 1975.

A comparison between the level of selling prices and average receipts of the public distribution companies shows that the latter rose less than the former until 1980 and faster thereafter. This is because the average consumption of gas grew until 1980 when it diminished (the effect of tariff degression).

(e) Industrial prices - tariffs

For non-domestic consumers who take less than 33 500 GJ per year (I_1,I_2) the tariffs are linked to the same system of indexing (Iga and Igd) as for household uses (see above). The tariffs, which are valid for the whole country, are as follows:

Standard consumer	Tariff	Standing charge BFR/year	Commodity rate centimes/MJ
I_1[1]	ND1 35- 879 GJ/year	5 500 x Igd	Load factor $\geq$ 115 days 5.9524 Iga + 6.6695 Igd $<$ 115 days 5.9524 Iga + 8.1677 Igd
-	ND2 879-3 517 GJ/year	6 497 Igd	March-November 5.9524 Iga + 4.9837 Igd December-February 5.9524 Iga + 8.1343 Igd
I_2	ND3 $>$ 3 517 GJ/year	46 401 Igd +4.003 Igd/MJ[2]	5.9524 Iga + 2.2046 Igd

[1] Standard consumer I_1 is regarded as having a load factor of more than 115 days.

[2] Per megajoule of daily maximum offtake.

Industrial consumers who take more than 33 500 GJ a year (I_3,I_4,I_5) are subject to the Distrigaz tariff system.

This tariff system covers three types of supply, defined below, from which the consumer chooses:

Firm supply : it is not possible for Distrigaz to interrupt supply except in case of 'force majeure'.

Erasable : supply may be interrupted by Distrigaz in winter between 15 November and 15 March. The total number of days of interruption per winter period may not exceed 35.

Interruptible: supply may be interrupted at any time, by either party. There is no limit to the duration of the interruption.

The prices for firm and erasable supplies are based on the following tariff formulae:

standing charge: (1 - Rh) x 4 371 x RDZ x Sn x K BFR/month

commodity rate : 1.02 (G - 61.35) + 76.26 + 6 x RDZ x Cne) P.K BFR/GJ

connection charge: R x L x RDT BFR/month

The various parameters in these formulae are defined as follows:

S_n: sum of 'firm and erasable' subscriptions ($Sn_F + Sn_E$), i.e. the subscribed maximum hourly offtake in GJ;

Rh: coefficient of hourly regularity assessed on annual consumption (Qa) and the sum of subscriptions (S_n);

$$R_h = \frac{Qa}{8\,760 \times S_n}$$

C_{ne}: coefficient of non-interruptibility ranging between 0 and 1 according to the degree of interruptibility of supplies;

$$C_{ne} = \frac{S_n F}{S_n}$$

P: coefficient which adjusts the commodity rate according to the use made of the gas.

P can have three values as indicated below.

	Non-specific applications	Specific applications	Raw material
Non-erasable	1	1.1	1
Erasable	0.9	1	0.9

Non-specific applications are those where residual fuel oils may be substituted easily, whereas specific applications are in competition with light petroleum products.

K is a reduction coefficient based on the monthly offtake:

first 41 870 GJ	K = 1
next 41 870 GJ	K = 0.99
next 41 870 GJ	K = 0.98
next 41 870 GJ	K = 0.97
next 41 870 GJ	K = 0.96
remainder	K = 0.95

This reduction coefficient applies only to the largest standard consumer, I_5, who which a weighted K was calculated, K = 0.968.

G: cost of gas at the frontier in BFR/GJ, valid for the month of supply and calculated monthly to represent the average price of the various gases purchased by Distrigaz during the month.

	January 1980	79.2
	January 1981	108.94
G =	January 1982	178.053
	January 1983	198.270
	January 1984	222.323

RDZ: monthly revision index, based on salaries and other costs.

	January 1980	1.146352
	January 1981	1.175864
RDZ =	January 1982	1.245958
	January 1983	1.299293
	January 1984	1.327432

The connection charge depends on the length of the connection in metres (L) and on the subscribed maximum hourly offtake (R a function of S_n). This charge is indexed by RDZ.

The extreme values for this charge are BFR 0 and 5 per GJ and per year. In this study, an average representative value of BFR 0.5 per GJ was taken until 1982, 0.6 thereafter.

The price for <u>interruptible supplies</u> is:

(i) either agreed monthly with the client;

(ii) or is obtained by applying the national erasable tariff (see above) with the following values for the parameters:

Rh = 1
P = 0.9
Cne = 0
K = 1

Thus the standing charge disappears and the commodity rate becomes:

1.02 G + BFR 6.06 per GJ

i.e. a simple tariff indexed to the price of gas at the frontier.

In the present study, four variations have been calculated, covering the range of industry prices, firm and erasable, by applying the following parameters:

firm deliveries	Cne = 1 and P = 1.1
firm deliveries	Cne = 1 and P = 1
deliveries, half of which are erasable	Cne = 0.5 and P = 1
deliveries which are totally erasable	Cne = 0 and P = 0.9

(f) Industrial prices - analyses

The results are given in Tables 23 and 24 and on Graph No 12 in the annex. All non-domestic tariffs are standarized throughout the whole of the country. The small standard consumers I_1 and I_2 have tariffs similar to households, and prices including VAT have evolved along the same lines. However, VAT is generally deductible for industrial and commercial consumers, and prices without VAT show less sharp increases, between 155% and 181% (instead of the 182% and 210% recorded for prices inclusive of VAT) between 1978 and 1984.

For the larger standard consumers, the tariff system is different but the effects are the same. Prices including VAT have increased by between 189% and 250% between 1978 and 1984, with the largest consumers bearing the largest increases. Again ex-VAT prices show rather smaller increases, of the order of 162% to 217%.

The largest increases occurred during 1980 and 1981 as a result of the high prices for imported natural gas. This can be seen clearly on Graph No 12.

Tariff degression for industrial consumers has also decreased. In 1978 standard consumer I_5 paid per unit 55% of the price paid by I_1, whereas by 1984 this had been increased to 68%.

However gas prices depend on more than increased consumption. Variations in load factor or modulation have a greater effect. It is only when consumption exceeds 41 870 GJ per month (i.e. 502 440 per year) that prices are reduced because of quantity. For example, standard consumer I_{4-1} pays the same as I_{3-2} because both have the same modulation even though I_{4-1} consumes 10 times more than I_{3-2}. On the other hand, I_{3-2} pays around 10% less than I_{3-1} even though they both consume 41 860 GJ per year, the improved price per unit being due to the improved load factor.

For the consumers charged according to the Distrigaz tariff system, prices also vary according to the use made of the gas, by applying an adjustment coefficient P, see chapter (e). The use made of the gas obviously depends on the type of industry using it and is therefore not something the consumer can vary to improve prices. However by opting to have all or part of his gas supply erasable the customer can reduce the value of P as well as the value of Cne, leading to lower prices. Thus, a consumer using gas for specific applications can decrease to price paid by 5% or 6% by opting to have 50% of his supply erasable.

To conclude this analysis, a comparison may be made between the selling price of gas, the gross domestic product (GDP) price index and the average receipts.

1975 = 100

	GDP price index	Average receipts		Price without VAT - Brussels					
		Distribution	Distrigaz	Distribution		Distrigaz P = 1 Cne = 1			
				I_1	I_2	I_{3-1}	I_{4-1}	I_{4-2}	I_5
1978	119.9	135	162	125	153	149	179	197	215
1979	124.8	141	186	125	154	149	178	196	213
1980	130.2	184	255	143	186	182	225	252	275
1981	136.8	248	363	177	238	225	288	326	359
1982	146.4	323	489	246	343	325	434	501	555
1983	155.7[1]	357[1]	533[1]	276	390	356	478	552	612
1984	164.8[2]			320	430	391	529	613	681

[1] Provisional.

[2] Estimated.

In all cases the price of gas and the average receipts have grown faster than the price of all goods and services, as represented by the GDP price index. This has resulted in gas for industry being between two and four times more expensive in real terms than in 1975 (depending on the standard consumer).

The average receipts remain more or less in line with the selling price because tariff degression as a result of increased volume is not a major factor.

The economic crisis together with the large increases in prices have hit the largest consumers the hardest explaining the recession in the sales of gas to industry in Belgium since 1979.

(a) Situation in the gas industry

All natural gas is imported from the Netherlands gasfields under a supply contract with the Belgian company Distrigaz.

A single Luxembourg company (Soteg) imports the gas, transports it and resells it either to the public distribution companies or directly to large industrial customers with an annual consumption of more than 2 million m^3.

For the period studied natural gas sales were broken down as follows:

Users		% of sales			Standard consumers
		1978	1980	1982	
Iron and steel group		80	74	44	
Other heavy industries		1	1	11	
Public distribution		19	25	45	
of which	household tariffs	1.0	1.0	1.7	D_1,D_2
	household tariffs with heating	11.5	15.0	25.5	D_3,D_{3b}
	collective heating tariffs	5.2	7.8	15.7	D_4
	small industry and craft trades	1.2	1.1	2.1	I_1,I_2,I_3
Total		100	100	100	

An agreement between the public distribution companies and the iron and steel industry stipulates that the latter will reduce its consumption of natural gas during winter peak periods by up to a maximum of 25% of its hourly and daily offtake, so as to allow the distribution companies to supply their peaks in demand. In return, the iron and steel works can take advantage of reductions in the distribution companies' consumption during other periods of the year. This results in a good modulation in the flow of natural gas in the network, which allows the distribution companies to offer particularly favourable terms of sale to their customers. Moreover the reduction in consumption by the iron and steel industry means the advantage of greater availability for the public distribution. Since 1980 the network has been adapted for the distribution of 'rich gas'.

(b) Taxes

Value-added tax (VAT) on supplies of gas went from 5% to 6% on 1 July 1983. It is deductible for commercial and industrial consumers.

(c) Household prices - tariffs

Domestic gas tariffs are adjusted every six months by applying two indices E_1 and E_2 which are linked to the cost of living and the purchase price of natural gas.

The values of these indices are as follows:

	1st half 1982	1st half 1983	1st half 1984
E_1	2.707665	2.784633	2.835508
E_2	6.33699	6.585590	6.69218

The indices are applied to the tariffs below:

in LFR

Standard consumer	Tariff	Monthly meter charge	Monthly standing charge	Price per m^3
D_1, D_2	TG 1	19	$33 \times E_1$	$10.74 + E_2$
D_2	TG 2	19	$110 \times E_1$	$8.08 + E_2$
D_3, D_{3b}	TMC 1	19	$31 \times E_1$[1] $+ 79 \times N \times E_1$	$3.64 + E_2$
-	TMC 2		$16 \times E_1$[1] $+ 79 \times N \times E_1$	$3.64 + E_2$
-	TC 1		$31 \times E_1$[1]	$3.64 + E_2$
D_4	TC 2	85	$16 \times E_1$[1]	$3.64 + E_2$

N = number of households ($N \geq 10$ pour TMC 2).

Since November 1980 the gross calorific value of one cubic meter of gas is 41 868 kJ (rich gas).

[1] Per whole block of 21 000 kJ/h of installed useful output, which depends on the customer's maximum offtake of gas. For the purposes of this study the following were considered: 3 blocks for D_3, 4 blocks for D_{3b}, 30 blocks for D_4.

These differing tariffs are applied as follows:

TG 1 : General basic tariff for domestic, commercial or professional uses, applied automatically if the consumer does not opt for another tariff. This tariff is advantageous for the smallest consumers only.

TG 2 : General tariff with subscription for a whole year for domestic, commercial or professional uses. The threshold at which this tariff becomes advantageous varies because of the system of indexation. Since 1982 this threshold has been under 39/GJ/year.

TMC 1: Tariff with annual subscription for gas used for household purposes and to supply heating equipment, either individual or collective, provided the latter serves less than 10 apartments in the same building.

TMC 2: Tariff with annual subscription for gas used for household purposes and to supply collective heating equipment serving at least 10 apartments in the same building.

TC 1 : Tariff with annual subscriptions for consumption used solely for heating purposes.

TC 2 : Similar to tariff TC 1, but for equipment with a useful output of 150 000 kcal/h and over (630 000 kJ/h).

(d) Household prices - analysis

The results are shown in Table 22 and on Graph No 13 in the annex.

The period 1978-84 is marked by very different increases in prices, + 59% for the small domestic consumers (D_1 and D_2) and more than 140% for those using gas for heating. Small customers have been relatively protected. This is a direct result of the tariff formulae which contain a large non-indexed part for small users. Since 1981 the basic tariff TG 1 has become more advantageous for the standard consumer D_2 (16.74 GJ/year). It is this which was applied in this case. The increases resulted mainly from the increased purchase price of gas at the frontier. They were not regular during the period as can be seen clearly from Graph No 13 in the annex. The largest increases occurred during 1980 and particularly during 1981 largely caused by a dramatic rise in the frontier purchase price. Since 1982 the rates of increases are at a new low, around 2% per year, 1% of which is due to VAT. A parallelism has been established between the selling prices for the different consumers. The difference in price between the consumers D_1 and D_4 is slowly being corrected. On the other hand the relative difference is lessening, that is t say that the tariff degressivity curve is diminishing. However the degression remains high; in 1984 the unit price fell by 55% when consumption went from 8.37 GJ/year to 1 047 GJ (D_1,D_4); in 1978 the reduction was 70%.

A comparison between the index of tax inclusive selling prices of gas, and the gross domestic product (GDP) price index gives the following results:

1975 = 100

	GDP Price index	Selling price of gas VAT incl. - Luxembourg				
		D_1	D_2	D_3	D_{3b}	D_4
1978	120.7	130.9	132.0	157.3	159.1	163.1
1979	127.7	138.1	139.8	169.5	171.3	172.9
1980	137.7	139.0	141.2	171.9	173.6	175.0
1981	148.5	159.3	162.7	253.7	255.4	253.8
1982	160.3	200.8	202.9	373.2	373.8	372.8
1983	171.8[1]	204.3	206.2	380.2	383.3	381.6
1984	184.5[2]	208.0	209.7	388.4	388.4	389.4

[1] Provisional.

[2] Estimated.

In all cases the price of gas has grown by more than the price of all goods and services as represented by the GDP price index. Despite the price increase in real terms the domestic consumption has tripled since 1975, due mainly to the increased use of gas for space heating.

(e) Industrial prices - tariffs

Since July 1978 the following tariffs are applied to industrial consumers:

LFR

Standard consumer	Tariff	Monthly meter charge	Subscription standing charge (monthly)	Monthly standing charge per m^3 of maximum offtake		Commodity charge per m^3
				hourly	daily	
I_1	T_1	85	31 x E_1 [1]			3.64 + E_2
I_2	TS 1	-	2 500	48.552 x E_1	5.069 x E_1	2.401 + E_2
-	TS 2	-	5 000	46.684 x E_1	4.882 x E_1	2.304 + E_2
I_{3-1} I_{3-2}	TS 3	-	5 000	44.817 x E_1	4.685 x E_1	2.207 + E_2

[1] Per whole block of 21 000 kJ/h of installed useful output which depends on the maximum gas offtake. 12 blocks were taken for this consumer.

The indices E_1 and E_2 are the same as for household uses (see above).

Gross calorific value of one m^3 = 41 868 kJ (rich gas).

The special tariffs (TS 1, 2, 3) do not have a meter charge but an annual subscription amounting to 10% of the actual cost of delivery, payable in 12 monthly instalments. 'Delivery' includes the provision of meters and the pressure reducer, maintenance, annual overhaul and related wage costs. The monthly subscriptions shown in the table are calculated from the normal average bills charged to subcribers who correspond to the standard consumers covered by this study.

All these tariffs require subscription for a whole year.

(f) Industrial prices - analysis

The prices are shown in Table 25 and on Graph No 14 in the annex. Prices are only shown for the standard consumers I_1 - I_{3-2}. The few larger consumers are not supplied by the public distribution but directly by the company Soteg.

The price of gas for industrial and commercial users evolved in the same way as that for domestic users with the effect of the same indices and for identical reasons. Between 1978 and 1984 the price without VAT increased by between 140% and 222% according to the level of consumption. The increases in the VAT inclusive prices were slightly higher.

After the large rises of 1980 and 1981 there followed a period of calm with annual increases in the order of a few percent. The substantial increases of 1980/81 resulted from the introduction of new parameters into the price fixing formula by the suppliers of natural gas on the international market.

It was the largest consumers who suffered the greatest increases. Thus tariff degressivity was reduced during the period studied.

The standard consumer I_{3-2} now pays 15% less per unit of gas than I_1, as against 35% less in 1978. Regularity of offtake also influences price levels. For the same annual consumption (41 860 GJ) by increasing the load factor from 200 days 1 600 hours to 250 days 4 000 hours that is, to reduce the maximum hourly and daily offtake means a 7% reduction in price.

A disparity of price exists between the industrial and commercial consumer I_2 and the tariff for collective central heating D_4. Since 1982 the former pays more than the latter even though his consumption is greater. A forthcoming adjustment in the tariff formula will do away with this disparity.

A comparison between the price of gas exclusive of VAT and the gross domestic product (GDP) price index gives the following results:

1975 = 100

	GDP Price index	Price of gas (VAT excl.) - Luxembourg			
		I_1	I_2	I_{3-1}	I_{3-2}
1978	120.7	160.1	165.3	165.7	165.0
1979	127.7	172.4	187.2	187.6	188.2
1980	137.7	174.5	190.4	191.3	191.5
1981	148.5	253.6	304.2	318.5	323.6
1982	160.3	371.1	465.5	499.0	509.6
1983	171.8[1]	380.6	478.4	513.0	524.3
1984	184.5[2]	384.9	484.5	520.0	531.0

[1] Provisional.

[2] Estimated.

It can be seen that the price of gas for industrial and commercial users is substantially above that for all goods and services as represented by the GDP price index.

In real terms gas is now twice or three times more expensive than in 1975.

(a) Situation in the gas industry

This study relates only the Great Britain, as the gas industry in Ulster is organized on a separate basis.

Virtually all the natural gas distributed in Great Britain comes from the North Sea (in 1982/83 77% from British fields and 23% from Norwegian fields).

British Gas' sales in 1982/83 may be broken down as follows:

Users	Consumers %	Sales %	Standard consumers
Domestic sales:			
Prepayment tariff	10.8	2.2	D_1
Credit tariff	85.5	50.1	$D_2, D_{2b}, D_3, D_{3b}, D_4$
Commercial sales	3.0	11.8	
Industrial sales	0.5	34.0	I_1, I_2, I_3, I_4, I_5
National and local government	0.2	1.8	
Total	n = 15 929 428	16 463 M ths[1]	

[1] i.e. 1 736 850 TJ.

Tariffs are the responsibility of the British Gas Corporation within the framework of financial targets laid down by government.

(b) Taxes

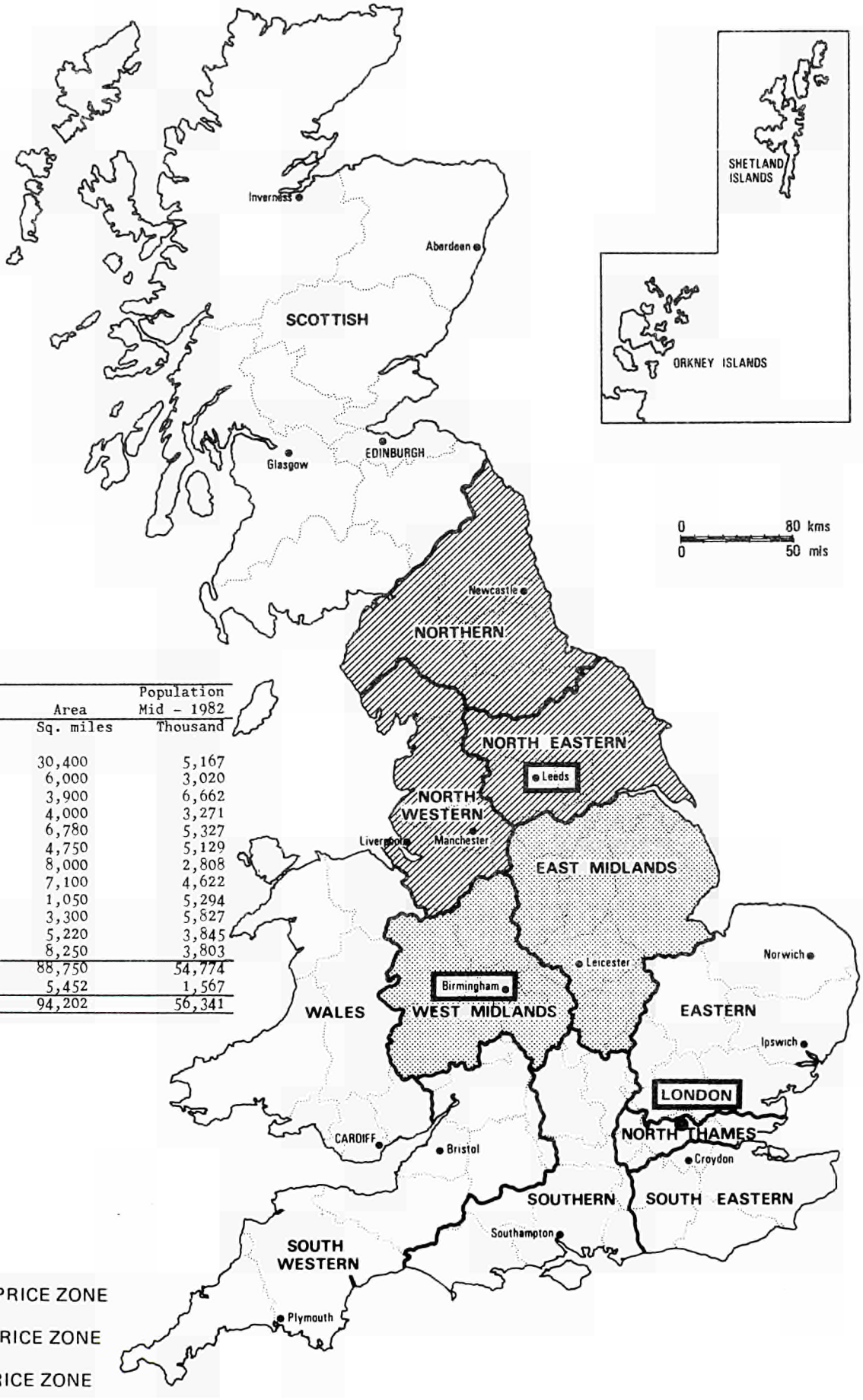
There are no taxes levied directly on gas sales. (VAT rate is 0%).

(c) Household prices - tariffs

There are three gas tariff zones in Great Britain, i.e.:
the General Zone, represented in this study by London,
the Northern Zone, represented by Leeds, and
the Midlands, represented by Birmingham.

The map shows the boundaries of these three zones.

BOUNDARIES OF GAS REGIONS



Gas Region	Area Sq. miles	Population Mid - 1982 Thousand
Scotland	30,400	5,167
Northern	6,000	3,020
North Western	3,900	6,662
North Eastern	4,000	3,271
East Midlands	6,780	5,327
West Midlands	4,750	5,129
Wales	8,000	2,808
Eastern	7,100	4,622
North Thames	1,050	5,294
South Eastern	3,300	5,827
Southern	5,220	3,845
South Western	8,250	3,803
Great Britain	88,750	54,774
Northern Ireland	5,452	1,567
United Kingdom	94,202	56,341

Each zone has two tariffs on offer to domestic consumers: the credit tariff and the domestic prepayment tariff.

The credit tariff was altered in January 1984. It is a simple two-part tariff which consists of a quarterly standing change and a single commodity rate for the gas consumed. The standing charge varies from one zone to another, but the commodity rate is the same for all zones.

In January 1984 the rates were as follows:

Zone	Standing charge per quarter	Commodity rate
General	UKL 9.90	35.2 p/therm
Northern	UKL 9.20	
Midlands	UKL 8.60	

The domestic prepayment tariff, where customers insert coins directly into a meter, is used by 11% of domestic customers but accounts for only 4% of total domestic sales.

In April 1981 a standing charge was introduced into this tariff. In January 1984 the rates for the prepayment tariff were as follows:

Zone	Standing charge per quarter	Commodity rate	
		First 39 therms per quarter	Remainder
General	UKL 3.70	54.7 p/therm	37.7 p/therm
Northern	UKL 3.30	52.2 p/therm	
Midlands	UKL 3.00	49.8 p/therm	

As from 28 February 1983, British Gas, at the request of the government, introduced a rebate for consumers (both domestic and non-domestic) on the credit and prepayment tariffs who use small quantities of gas. Consumers are eligible for a rebate if the standing charge is larger than the charge for therms of gas supplied. The rebate reduces the standing charge so that it is equal to the charge for therms supplied. The rebate scheme affects the point at which it is worthwhile for consumers to change from the prepayment to the credit tariff and vice versa.

D_1 is calculated on the prepayment tariff as an example until 1983. For London in 1984 the credit tariff is used since this is more advantageous to the consumer at this level because of the operation of the rebate system.

Block central heating by gas is rare in Great Britain and no special tariffs exists so no prices have been given for D_4. The additional standard consumer D_{2b} corresponds to a consumer with one gas fire as well as a gas cooker and water heater. This category represents a large number of consumers in Great Britain.

(d) Household prices - analysis

Tables 26 and 27 in the annex give the prices recorded.

During 1978 and 1979 prices changed only slightly. In January 1980 the Secretary of State for Energy announced a new financial target for British Gas over the three-year period 1980/81 to 1982/83. In connection with this target the government said that as a result domestic gas tariffs would be increased by 10% per annum above the rate of general price increase over these three years. Consequently domestic tariffs have been increased on average as follows:

	1980	1981	1982
April	+ 17%	+ 15%	+ 12%
October	+ 10%	+ 10%	+ 10%

These tariff increases resulted in a more reasonable relationship between the prices paid by domestic and industrial customers by 1982.

Prices were subsequently increased by an average of 4.3% as from 1 January 1984, which is below the current rate of inflation on an annual basis. Standing charges were unaltered and no changes have been made to the rebate scheme. The new tariffs followed agreement with the government on the financial and performance targets over the four years 1983/84 and 1986/87.

The pattern of price trends can be seen on Graph No 15 in the annex.

Between 1978 and 1984 prices increased by 139% for the smallest standard consumer (D_1) and by 121% for the largest (D_{3b}). As these increases were not the same for all levels of consumption, the tariff degression has increased during the whole period. For in-

stance -41% between D_1 and D_{3b} for London in 1978 to -45% in 1984. This latest figure means that the unit price of gas for individual central heating is almost half the unit price of that for a small consumer (only cooking for instance).

Regional price differences have been narrowed during the period. For customers using 16.74 GJ per annum (D_2) London was 21% dearer than Birmingham in 1978. In 1984 the difference was 6%.

For customers on the credit tariff there are only small differences in prices between zones in 1984 because the commodity rate is uniform for the whole of Great Britain.

To conclude, a comparison may be made between the selling price of gas, the implied gross domestic product (GDP) price index and the average receipts of British Gas from the domestic market.

1975 = 100

	GDP Price index	Average receipts	Selling price (VAT incl.) - London				
			D_1	D_2	D_{2b}	D_3	D_{3b}
1978	145.4	159.5	127	136	151	155	157
1979	166.4	159.5	127	136	151	155	157
1980	199.4	168.1	137	146	162	166	168
1981	222.5	208.6	173	193	205	212	215
1982	238.0	262.0	252	230	246	264	269
1983	251.3[1]	326.7	310	284	305	326	332
1984	264.6[2]		305	292	316	340	348

[1] Provisional.
[2] Estimated.

The average receipts correspond to the domestic tariffs (prepayment and credit) applied in Great Britain for the financial year ending on 31 March.

Until 1980 the gas prices increased by less than the gross domestic product price index. Afterwards they increased by more. This was indeed the target of the tariff policy.

Because of the degressive element in the tariff system the average receipts per therm

for domestic users grew less than the selling price because the average consumption per user is increasing. In 1978 the average consumption of domestic consumers was 53 GJ/year, in 1983 it was 59 GJ/year.

(e) Industrial prices - tariffs

All customers with an annual consumption of less than 25 000 therms (2 638 GJ) are charged according to the general credit tariff, the rates of which are identical to those of the domestic credit tariff since 1 October 1981 and are given in the section on household tariffs.

This tariff applies to standard consumer I_1.

Standard consumers I_2,I_3,I_4,I_5 are now always supplied under contracts, the terms of which are not published. Contract prices are mainly influenced by the conditions of delivery, the most important of which is the nature of the supply, i.e. firm or interruptible. Firm gas consumers are charged for the first 25 000 therms (2 638 GJ) at the commodity rate of the general credit tariff mentioned above and thereafter the contract price is charged.

The prices quoted for 1984 in this study for consumers I_2,I_3 and I_4, are representative of new and renewed contracts and take account of the tariff commodity rate which came into force on 1 January 1984 applied to the first 25 000 therms of consumption.

Although gas may be supplied on a firm basis at any level of consumption, interruptible contracts are more common for larger industrial consumers (I_5). Prices are therefore for interruptible contracts, and these prices apply for the whole of their consumption.

Geographical location does not at present influences gas prices for industry.

(f) Industrial prices - analysis

Tables 28 and 29 in the annex give the prices recorded. Analysis is more complex than for the domestic sector.

The small industrial and commercial consumer (I_1) like domestic consumers are charged according to tariffs.

The other small industrial consumer (I_2) changed from being a tariff customer to a contract customer during the year 1981, which meant a large alteration in prices. For larger industrial consumers (I_3,I_4,I_5) the prices given up to 1980 showed the level for new contracts, whereas the prices quoted afterwards are representative of new and re-

newed contracts. This means there is an unavoidable break in the time series between 1980 and 1981. This has to be kept in mind when looking at the trends on Graph No 16 in the annex.

A discrepancy had arisen between tariff and contract customers when contract prices increased along with competing oil prices, larger industrial consumers had to pays a higher price than smaller tariff customers. This distortion was erased during the year 1982.

Now prices for industrial consumers I_1 to I_4 show a degression along with the amount of consumption.

For domestic tariff customers prices were raised bringing them into line with the industrial tariff customer I_1. This avoided a larger tariff customer paying more than a smaller one.

The price levels given in this study are for contract customers (I_3,I_4,I_5) and are in fact guidelines only. Actual prices formerly varied according to the kind of contract - old, new or renewed. However, by 1982 the range of prices had been greatly reduced, as there were few old contracts left and as the renewals caught up with the new contract prices. In 1981 renewal prices were pegged at government request and in 1982 the dates for price changes in contracts were brought into line.

After one small increase in all contract prices early in 1982, contract renewal prices were again pegged, at government request until the end of 1982. British Gas Corporation has since progressively extended the contract prices freeze on its own initiative through until 1 April 1984. Contract prices have therefore risen by less then 4% between January 1982 and January 1984.

The following table gives an idea of the dispersion of prices:

UKL/GJ

Quarter		Average price for large consumers[1]	New and renewed contracsts[2]	Selling price (VAT excl.) - London				
				Tariffs		Contracts		
				I_1	I_2	I_3	I_4	I_5
1978	1	1.05	1.45	1.76	1.70	1.65	1.43	1.22
	2	1.11	1.44					
	3	1.13	1.45					
	4	1.14	1.45					
1979	1	1.21	1.46	1.76	1.70	1.77	1.53	1.22
	2	1.20	1.50					
	3	1.29	1.78					
	4	1.47	2.02					
1980	1	1.51	2.09	2.32	2.28	2.83	2.45	1.89
	2	1.62	2.26					
	3	1.69	2.54					
	4	1.87	2.59					
1981	1	1.98	2.59	2.55	2.47	2.68	2.68	2.32
	2	2.03	2.61					
	3	2.03	2.61					
	4	2.14	2.61					
1982	1	2.20	2.61	2.65	2.78	2.78	2.78	2.42
	2	2.19	2.66					
	3	2.16	2.66					
	4	2.25	2.66					
1983	1	2.28	2.66	3.27	3.06	2.89	2.87	2.51
	2	2.27	2.66					
	3	2.24	2.66					
	4	2.33	2.66					
1984	1			3.43	3.17	2.91	2.87	2.51

[1] Average prices paid by respondents to a Department of Energy survey covering some 900 establishments.

[2] British Gas Corporation estimates of the average price of new and renewed contracts in the quarter, both firm and interruptible supplies.

The Department of Energy's panel of 900 consumers was selected so as to cover high proportion of consumption with a relatively small number of returns. It is therefore biased towards large consumers who quite often have interruptible contracts, and may also contain some of the customers whose long-term contracts expired in 1980 and who still had some catching up to do. The figures are the average unit values of gas invoiced to the consumers during that period and will often relate to contracts in force for some time. This is why the prices are seen to be lower than in the other columns. However, it is clear that the average price for these consumers is rising more quickly than the prices

for new and renewed contracts (comumn 2), evidence of the catching up of the prices to long-term customers.

To complete this analysis a comparison may be attempted between gas price indices, average receipts and the GDP price index:

1975 = 100

	GDP Price index	Average receipts		Selling price (VAT excl.) - London				
				Tariffs		Contracts		
		Commercial	Industrial	I_1	I_2	I_3	I_4	I_5
1978	145.4	172	250	130	144	143	132	142
1979	166.4	182	306	130	144	154	142	142
1980	199.4	219	363	172	193	246	227	220
1981	222.5	272	485	189	209	233	248	270
1982	238.5	290	559	196	236	242	257	281
1983	251.3[1]	.	.	242	259	251	266	292
1984	264.6[2]			254	269	253	266	292

[1] Provisional.

[2] Estimated.

With the exception of small industrial and commercial consumers, since 1980 gas prices rose by more than prices for the whole of goods and services, as represented by the GDP index. Gas for industrial uses has become more expensive, not only in current terms, but also in real terms (constant currency), as have industrial prices generally in the Community.

It can also be seen that the average receipts have not evolved along the same lines as prices. They have increased at a slightly faster rate, due to the effect of the ending of old contracts at pre-crisis prices.

(a) Situation in the gas industry

Natural gas discovered off the coast of Cork has been coming on shore since August 1978. Of the 69 000 TJ (NCV) of natural gas sold by the State-owned Bord Gáis Eireamm in 1982 only 540 TJ went for premium usage through gasworks, the balance being sold for the generation of electricity and as a chemical feedstock. The government is meeting the cost of conversion work to enable greater premium usage of natural gas.

Gasworks gas in Ireland is supplied by eight independent gasworks most of whom manufacture gas from naphta imported from the United Kingdom. Natural gas is supplied to customers in Cork City where conversion work has been completed. In December 1982 the 'Alliance and Dublin Gas Co' which supplies the Dublin area and accounts for approximately 75% of gasworks gas sales in the country commenced to supply reformed natural gas. It is expected that conversion work to natural gas will be completed in 1984. In 1982 Dublin Gas Co's total gas sales were 2 047 TJ of which 600 went to the light industrial and commercial sectors. There are 130 000 domestic customers and 3 500 industrial or commercial customers. There are no large industrial gasworks gas consumers in Ireland.

The prices quoted in this study are those supplied by the Alliance and Dublin Consumers Gas Co.

(b) Taxes

On 1 May 1983 value-added tax (VAT) which had not been applied since 1975 was reintroduced on the sale of gas at the rate of 5%. There are no other taxes levied on sales of gas. VAT is deductible for commercial and industrial consumers.

(c) Household price - tariffs

Prior to the introduction of reformed natural gas the following tariff system was operated, which included government subsidies so that rates are presented at two levels:

(i) gross: which corresponds to production and distribution costs;

(ii) net: after deduction of government subsidies.

Below are examples of the tariff system in force in January 1982 used in the computation of prices for the domestic consumers in this study.

Tariff	Two monthly standing charge	Commodity rate P/therm		Standard consumers
		Gross	Net	
Prepayment	-	143.80	126.78	D_1
Ordinary domestic	-	142.39	125.69	D_2
Two-part domestic	IRL 4.0 gross IRL 3.29 net	116.66	103.96	D_3,D_{3b}

1 therm = 0.1055 GJ.

Obviously it is the net rate which has been used to calculate the price paid by the consumer. Most of the small consumers (D_1) have a coin-operated meter, to which the pre-payment tariff applies.

On 9 January 1981 a fuel cost surcharge was introduced at the rate of 2.27 P/therm. On 31 August 1981 this was increased to 29.28 P/therm. In arriving at prices for January 1981 and 1982 the relevant fuel cost surcharge has been taken into account.

In December 1982 the following tariffs were introduced:

Tariff	Two monthly standing charge	Commodity rate P/therm	Consumption blocks therms per 2 months
Coin meter	-	164.0	-
Basic domestic	-	162.0	0 - 16 therms
		110.0	17 - 40 therms
		70.0	> 40 therms
Reducing rate	IRL 2.72	135.0	0 - 16 therms
		99.0	17 - 40 therms
		63.0	> 40 therms

The reducing rate tariff has been used in the calculation of prices because it is the cheapest.

Government subsidies were erased when costs were cut with the use of natural gas as a raw material.

Collective central heating (D_4) is very rare in Ireland and no special tariff exists.

(d) Households prices - analysis

The results are shown in Table 27 and on Graph No 17 in the annex.

The prices are shown for the beginning of 1980 differ from those previously published and take account of a change in tariff introduced on 7 January 1980.

In the period studied three phases can be seen in the evolution of the prices:

(i) a calm period until 1979;

(ii) numerous prices changes with large rises during 1980 and 1981;

(iii) arrival of natural gas and new tariff systems at the end of 1982 bringing about a decrease in prices.

The increases of the second phase meant a tripling of tariffs caused by the price of petroleum products used to manufacture the gas. Despite government subsidies which lowered price levels increases still occurred. This was because the government subsidies were a fixed amount and their effect diminished over the years as costs rose. They reduced the selling price by 33% in 1970 but only by 12% in 1982.

The new tariff system which came into force in December 1982 brought about two important changes:

(1) a divorce from petroleum products, with a lowering of production costs and the selling price of gas,

(2) the introduction of a two-part block-consumption tariff with degressive prices.

Between 1982 and 1984 tax inclusive prices decreased by:

11% for D_2 cooking and hot water

38% for D_3 } heating

42% for D_{3b} }

For the smallest standard consumer (D_1) there was a stagnation of price level (5% increase due to VAT). In this case the reduction in the tariff conpensated for the removal of government subsidies.

As one has already said the new formulae brought about greater tariff degression favouring the use of gas for heating. When the consumption is multiplied by 15 (D_1-D_{3b}) the unit price was reduced by a quarter in 1978, and by half in 1984. The decrease in unit price as consumption rises is designed in line with the aim of developing the consumption of natural gas.

The present price of gas makes it more competitive than botteled LPG and electricity (day tariff) for cooking and hot water, and electricity (night tariff), bulk LPG and gas oil for household heating. This should bring about a large increase in the consumption of gas. A comparison between the selling price of gas and the gross domestic product (GDP) price index gives the following results:

1975 = 100

	GDP Price index	Selling price (VAT incl.) - Dublin			
		D_1	D_2	D_3	D_{3b}
1978	149.2	111.2	112.4	114.0	114.4
1979	167.8	122.1	123.4	128.3	129.1
1980	192.0	206.9	211.0	220.5	224.2
1981	225.4	310.9	318.9	351.5	358.6
1982	261.6	376.1	386.3	438.9	448.4
1983	289.1[1]	375.0	326.8	259.7	247.7
1984	311.6[2]	394.0	343.2	272.7	260.0

[1] Provisional.
[2] Estimated.

Despite the recent decreases in prices, the level of prices in 1984 is very much above that of 1975 and 1978.

Until 1979 the price of gas grew slower than the price of all goods and services as represented by the GDP price index. From then on the price of gas for small consumers (D_1,D_2) grew faster than the price of the GDP index, thus becoming more expensive in real terms.

Gas for heating is now cheaper in real terms than it was in 1975. This confirms the advantage of gas for heating and is sure to mean its expansion in Ireland.

(e) Industrial prices - tariffs

As with household prices the tariffs for industrial consumers changed in December 1982. The following are the tariffs available in January 1981 and January 1982:

(i) Industrial and special purposes tariff which consists of a commodity rate only as follows:

gross price = 130.51 P/therm

net price (after deduction of government subsidies) = 116.01 P/therm.

Successive rebates are applied to these prices per consumption block, the sizes of which are irregular:

Two-monthly consumption blocks (1 therm = 0.1055 GJ)	Net rebates[1]
3.2 therms	0.00 P/therm
47.5 therms	0.36 P/therm
79.3 therms	5.92 P/therm
8.1 therms	7.71 P/therm
467 therms	13.20 P/therm
33.2 therms	16.82 P/therm
2 500 therms	20.34 P/therm
3 166.5 therms	22.44 P/therm
9 500 therms	25.20 P/therm
9 500 therms	25.37 P/therm
15 831 therms	25.56 P/therm
Remainder	25.92 P/therm

[1] After deduction of government subsidies.

From 9 January 1981 a fuel cost surcharge, identical to that for domestic consumers was added to this tariff, i.e. 2.27 P/therm and 29.28 P/therm from 31 August 1981. The prices for January 1981 and 1982 include this surcharge.

(ii) Along with this industrial tariff there is also a two-part commercial tariff which was less advantageous.

In December 1982 a new tariff was introduced with the arrival of reformed natural gas.

It is a two-part block tariff which is still in force for all industrial and commercial users:

Annual standing charge	Commodity blocks therms per 2 months	Commodity rate P/therm
IRL 52.00	0 - 40	105.0
	41 - 200	70.0
	201 - 3 000	60.0
	3 001 - 10 000	57.0
	> 10 000	54.0

Fuel cost surcharges no longer exist. Also government subsidies have been done away with following the lowering of costs with the introduction of natural gas as a raw material.

(f) Industrial prices - analysis

The results are shown in Table 29 and on Graph No 18 in the annex.

The prices shown for the beginning of 1980 differ from those previously published and take account of a charge in tariff introduced on 7 January 1980.

The prices for industrial and commercial consumers have envolved along the same lines as those for domestic consumers and for the same reasons.

Again one finds three phases:

(i) a calm period until 1979;

(ii) very large increases between 1980 and 1982 (+ 230%);

(iii) a drop in price with the introduction of new tariffs (around - 50%).

The rises are due to the increased price of petroleum products used to manufacture the gas while the decrease can be attributed to the introduction of natural gas as a raw material.

The new block tariff shows greater degressivity than the old tariff system with rebates. When consumption is increased tenfold (I_1/I_2) the reduction in unit price which was 4% in 1978 had grown to 11% in 1984. The new gas tariffs for industry are more competitive than LPG or heating gas oil.

A comparison between the selling price of gas without VAT and the gross domestic product (GDP) price index gives the following results:

1975 = 100

	GDP Price index	Selling price (VAT excl.) - Dublin	
		I_1	I_2
1978	149.2	135.0	137.0
1979	167.8	161.5	158.6
1980	192.0	265.0	254.6
1981	225.4	426.0	407.5
1982	261.6	533.0	520.3
1983	289.1[1]	263.6	246.3
1984	311.6[2]	263.6	246.3

[1] Provisional.

[2] Estimated.

Until 1982 the price of gas grew faster than the price of all goods and services as represented by the GDP price index. This was a reflection of the price of oil.

From 1983 there was a break and the price of gas became cheaper in real terms than in 1975. The present position of gas is thus very favourable for industrial and commercial users.

(a) Situation in the gas industry

The prices recorded relate to the Copenhagen gasworks owned by Københavens Belysningsvaesen, which is the largest in the country, with 250 000 customers including 1 500 industrial consumers. This company makes and distributes gas manufactured from LPG (35%) and naphtas (65%). Its volume of production accounts for approximately 60% of the works gas produced in the whole country.

Some natural gas is imported from FR of Germany (10 Mio m^3 in 1983) to feed consumers in the southern part of Denmark awaiting production from the Danish fields of the North Sea to develop. This national production is due to start in October 1984. In November 1983 approval was obtained from the City Corporation for the delivery of natural gas from the national company DONG to the City of Copenhagen area. Delivery will commence on 1 October 1984 when modifications to the Sundby gasworks will be completed enabling natural gas to be used as a raw material for the production of manufactured gas.

In 1980, the consumption of gasworks gas in the whole country was as follows:

Users	TJ (NCV)		Standard consumers
Households heating	1 812	38%	D_3,D_4
Households - other uses	1 672	35%	D_1,D_2
Commerce and administrations	303	6%	I_1,I_2
Industry	1 028	21%	I_1,I_2
Total	4 815	100%	

(Source: Energy input-output tables, drawn up by Danmarks Statistik.)

(b) Taxes

1. Value-added tax (VAT)

In January				% of price before VAT		
1978	1979	1980	1981	1982	1983	1984
18[1]	20.25	20.25[2]	22	22	22	22

[1] Increased on 2.10.1978.

[2] Increased on 1.7.1980.

2. Other taxes

In August 1979 a consumption tax on piped gas with a gross calorific value of less than 23 MJ/m^3, which is the case in this study, was introduced. The original rate was 20 øre per m^3 but this was reduced to 16 øre per m^3 from 30 June 1980. This tax was abolished on 1 January 1984.

This tax is included in the basis of assessment to VAT and is deductible when VAT is deductible.

(c) Household prices - tariffs

The tariff structure introduced in March 1977 is still in force. It comprises a standard tariff and a heating tariff.

The standard tariff has three components: meter rental, commodity rate and surcharge for raw materials.

(1) The annual meter rental, which for the years covered by this study was as follows:

1978/1982	1983	1984
DKR 72	DKR 98	DKR 105

for meters up to 5 m^3/hour.

(2) The commodity rate is degressive according to blocks of annual consumption:

øre/m^3

	1978	1979	1980	1981	1982	1983	1984
1st block 12 000 m^3/year	53	53	59	69	69	94	106
2nd block 108 000 m^3/year	33	33	35	41	41	56	66
3rd block 600 000 m^3/year	26	26	28	32	32	44	53
4th block 1 080 000 m^3/year	23	23	25	29	29	41	50
excess	18	18	20	24	24		

(3) The raw materials surcharge is added to the commodity rate per m^3 and is calculated monthly on the basis of the cost of the products used to manufacture the gas (petroleum products in Copenhagen).

At the beginning of each of the years under review, to following rates applied:

						øre/m^3
1978	1979	1980	1981	1982	1983	1984
33.6	43.5	68.6	92.2	104.1	116.6	117.7

For meters which are read quarterly, which is the case for households, the surcharge is the average of the preceeding three months, and thus becomes:

						øre/m^3
1978	1979	1980	1981	1982	1983	1984
34.7	47.0	68.6	89.43	103.73	116.6	117.7

When the gas is used mainly for heating, a heating tariff is applied on request. It has four components:

(i) a meter rental as given in the standard tariff;

(ii) a standing charge of DKR 180 a year (1978 to 1983 incl.) DKR 192 a year for 1984;

(iii) a single commodity rate per m^3 consumed; i.e.

						øre/m^3
1978	1979	1980	1981	1982	1983	1984
26.0	26.0	29.0	34.0	34.0	48.0	57.0

(iv) a raw materials surcharge identical to that of the standard tariff.

In Copenhagen the gas has an energy content of 16 745 kilojoules (GCV) per m^3.

(d) Household prices - analysis

The results are given in Table 19 and on Graph No 19 in the annex. Between 1978 and 1984 prices increased by between 148% and 196%, the arger part of the increase occurring during 1980. The larger the consumption the larger the increase. The increase in VAT was more than compensated for by the reduction in the special consumption tax but as prices continued to rise this was only temporary, VAT being a percentage tax whereas the consumption tax is a fixed amount. The abolition of this tax on 1 January 1984 brought about a decrease of between 1% and 3% in prices.

Although the basic tariff was increased (by around 119% for the consumers in this survey) the main cause of the price rises was the 239% increase in the raw materials surcharge, in line with the price of petroleum products used to manufacture the gas.

Tariff degression between D_1 and D_4 has decreased from -40% in 1978 to -28% in 1984. The average consumption per domestic consumer in Copenhagen is around 8.8 GJ per year, therefore it is D_1 which is most representative of gas consumers. Consumption is low because of the high prices and the tariff structure.

A comparison between selling prices and the gross domestic product (GDP) price index gives the following results:

1975 = 100

	GDP Price index	Selling price (VAT incl.) - Copenhagen				
		D_1	D_2	D_3	D_{3b}	D_4
1978	129.8	137.0	154.3	140.4	144.5	153.1
1979	139.5	156.4	177.7	169.9	175.5	187.3
1980	151.0	221.5	256.6	267.0	278.0	300.9
1981	167.0	265.8	310.2	325.3	339.4	368.4
1982	184.5	282.4	330.2	351.6	367.1	399.1
1983	196.4[1]	341.6	397.6	411.2	429.7	467.7
1984	207.7[2]	339.6	393.9	399.0	416.5	452.5

[1] Provisional.
[2] Estimated.

In all cases the selling price of gas has increased by more than the price for all goods and services. Gas heating in real terms is now more than twice as expensive as in 1975.

(e) Industrial prices - tariffs

The tariff for industrial uses, which in fact applies to only fairly modest levels of consumption, is calculated from that for domestic consumers.

It has three components:

(i) a meter rental similar to that of the standard household tariff (DKR 252/year for I_1, 5-15 m^3/hour and DKR 540 for I_2 25-50 m^3/hour) in January 1984;

(ii) a degressive commodity rate for blocks of consumption, identical to the standard household tariff;

(iii) a raw materials surcharge which is added to the commodity rate per m^3 and applied monthly, as industrial consumers are billed every month. Accordingly, in January in each of the years under review this surcharge amounted to:

øre/m^3

1978	1979	1980	1981	1982	1983	1984
33.6	43.5	68.6	92.2	104.1	116.6	117.7

(f) Industrial prices - analysis

The prices are given in table 20 and on Graph No 20 of the annex. Prices are given only for I_1 and I_2 as industrial consumers with higher consumptions are rare.

The trends in selling prices are similar to those for domestic consumers, for the same reasons. Between 1978 and 1984 selling prices rose by 174% for I_1 and 189% for I_2. Prices without taxes show smaller increases.

A comparison between selling prices and the gross domestic product (GDP) price index gives the followings results:

1975 = 100

	GDP Price index	Selling price (VAT excl.) Copenhagen	
		I_1	I_2
1978	129.8	120.93	123.60
1979	139.5	136.52	142.70
1980	151.0	213.61	233.83
1981	167.0	256.87	281.60
1982	184.5	275.59	304.52
1983	196.1[1]	326.75	355.46
1984	207.7[2]	320.62	345.19

[1] Provisional.
[2] Estimated.

For non-domestic users also, gas prices have increased by more than the price for all goods and services.

Gas has been abandoned by most industrial users in favour of competing petroleum products as the price per gigajoule of heating gasoil (fyring-gasolie) has remainded about 40% lower than the price of gas in recent years. Consequently sales of gas for industrial applications remain very low.

Non-domestic gas users are mainly those who require a quality clean fuel or for whom energy costs are a minor factor.

The locations chosen for the international comparison are either capital cities or major economic centres, i.e.:

Düsseldorf	Rotterdam	London
Paris	Brussels	Dublin
Milan	Luxembourg	Copenhagen

The findings are presented in Tables 31 to 34 and on Graphs Nos 21 to 27 in the annex according to two units of value: current ECU and deflated PPS (see Chapter III). Table 30 gives the rates of conversion between ECU, PPS and national currencies. It also shows the deflator used (GDP price index). The prices taken for analysis were inclusive of all taxes for domestic consumers and excluding VAT for industrial consumers.

The difficulties involved in comparing price levels internationally mean that interpretations and conclusions drawn from these tables should be regarded with caution. Nevertheless, these findings permit some comments and analyses based on deflated PPS prices, the only unit allowing spatial and temporal comparisons.

1. HOUSEHOLD USES

In all the countries the deflated PPS prices prove are to be higher in 1984 than in 1978. In other words, gas prices have risen more than the prices of all goods and services. The rates of these increases in real terms differ greatly according to country, city and consumer. The following percentages make this clear.

1984/1978 in %

Standard customers	Düssel-dorf	Paris	Milan	Rotter-dam	Brussels	Luxem-bourg	London	Dublin	Copen-hagen
D_1	22	20	12	51	26	4	31	70	55
D_2	20.5	25	11	60	30	4	18	46	60
D_3	20	41	29	92	83	61	20	14	78
D_{3b}	26.5	52.5	27	97	90	60	21	9	80
D_4	35	63	26	105.5	118	56.5	/	/	84.5

Three tariff policies are discernible here:

(i) the smallest consumers have been spared on social grounds, and suffer the smallest increases in real terms. This is the case for Milan and Luxembourg;

(ii) consumers of gas for 'heating' were favoured with moderate rises in order to encourage greater use of gas among a group of customers considered promising. This is the case for Dublin;

(iii) the increase are more marked as the level of consumption increases, which is evidence of a contraction in tariff degression (less difference between small and large consumer). This is the case for Paris, Rotterdam, Brussels and Copenhagen.

Except for Dublin and London, gas for heating buildings is subject to larger increases than for cooking and hot water. The sharpest rises of all are in the Netherlands. But natural gas prices there were verly low some 10 years ago, so what one has is a kind of 'catching up'. Moreover, taxes also play a part in the increase in domestic selling prices in the Netherlands.

There is no parallel development of prices between the various countries. The curves on the graphs in the annex cross in many places. Thus, it would be futile to try to classify the cities according to price level. Despite the obvious differences in price development it is possible to discern three phases:

(i) calm up to and including 1979;

(ii) strong upward trends between 1980 and 1982 or 1983;

(iii) stabilization and even downward movement during the last year.

The exact dates of these phases vary from country to country in line with the speed and method of tariff revision.

It should be remembered that these are deflated series and that stabilization in real prices may correspond to an increase in current prices (increase equal to inflation rate).

Despite the difficulties and uncertainties involved in classifying the various cities, one can say that manufactured gas (Dublin, Copenhagen, Milan) is the most expensive, whereas the lowest prices are those for natural gas in Rotterdam and London. All the other cities supplied with natural gas come somewhere in between, not in any definite order. This reflects the costs of gas supply and production. Proximity to major gas fields brings a decisive advantage for prices (Netherlands and United Kingdom).
On the other hand, manufactured gas always includes the additional cost of production from raw material: petroleum products or natural gas.

One peculiar feature here is that gas is cheaper in Luxembourg than Brussels although the transport distance is longer. This difference is due to the lower rate of tax in Luxembourg.

The geographical spread of prices remains large throughout the Community. In 1984 the price differences range up to at least double between the extremes. However, this spread has decreased somewhat compared with 1978 when the differences were pu to threefold.

As was the case with price developments, the geographical spread of the prices is very variable in time. Graphs Nos 21, 22 and 23 clearly show how the spread grew during the period of instability between 1980 and 1983. From 1983 onwards there is a strong contraction in the relative price differences in the Community.

Togehter with this spread of prices between countries there also exists a regional spread within certain countries (FR of Germany, Italy, United Kingdom, for example). The relative differences are, however, smaller within a country than on the international scale. In 1984, there were regional differences of about 60% in Italy, 25% in the FR of Germany and 6% in the United Kingdom (% of the most expensive location as against the cheapest).

In all cases the regional spread within countries has decreased since 1978. In the case of standard national tariffs there has even been a flattening out of the regional price differences. This phenomenon of geographical equalization is found, for example, in Belgium and in France between the large cities served by Gaz de France.

In addition, the range of prices between consumers also tends to shrink. In other words, the tariff degression diminishes, except in London, and especially in Dublin. This contraction results from the fact that the largest consumers suffer the highest increases, as indicated above. Consequently, the difference between the unit price for small consumers (cooking and hot water) and large consumers (heating) is smaller in 1984 than in 1978. Price reductions as a function of volume consumed are as follows:

	Düssel-dorf	Paris	Milan	Rotter-dam	Brussels	Luxem-bourg	London	Dublin	Copen-hagen
							Price D_4/price D_1 in %		
1978	- 64	- 64	- 25	- 49	- 68	- 70	/	/	- 40
1984	- 60	- 51	- 16	- 30	- 44	- 55	/	/	- 28
							Price D_{3b}/price D_1 in %		
1978	- 57	- 55	- 23	- 46	- 58	- 66	- 41	- 25	- 37
1984	- 55	- 42	- 13	- 29	- 37	- 48	- 45	- 52	- 27

This trend is due to a larger increase in commodity costs (cost of the energy proper) than in standing costs (distribution costs). The exception noted in Dublin proves this rule. Indeed, in Dublin the cost of the raw material has decreased (indigenous natural gas replacing imported petroleum products) while the distribution costs continue to grow, thus undermining tariff degression.

The preceding remarks prove that the tariff degressivity curves are continuously changing. The standing charges and commodity charges making up the two-part tariffs never develop in parallel.

This calls for a brief digression on the tariff systems in force in the Community. Two-part systems are mostly in operation for household uses, with or without commodity price blocks. It should be noted that the commodity price blocks are intended to accentuate the degression effect of the two-part systems. One exception worthy of note is Italy, where some cities have progressive blocks, the aim being to encourage energy savings. While tariff systems may be similar, the ways they are updated differ greatly. Two approaches are discernible: index-linked or non-index-linked tariffs. Index-linking obviously means automatic up-dating. However, index-linking is never straightforward because the indices never apply to all of the tariff terms, or apply in different ways (partial or double index-linking).

The situation is as follows in the Community:

(i) index-linked tariffs
monthly indices : Belgium
quarterly indices[1] : Denmark
half-yearly indices: Luxembourg;

(ii) non-index-linked tariffs
annual revision : Italy
irregular revision : FR of Germany, France, Netherlands, United Kingdom, Ireland.

For more on this subject refer to Sections (c) of the chapters on the various countries.

Reference has been made at several points to the influence of taxes. This is not negligible and plays a role in the increase and spread of selling prices for household consumers (see also Chapter IV). Apart from two exceptions, the tax burden has increased since 1978. The most flagrant case is in the Netherlands, where in the space of six years the indirect tax on gas sales rose from 4% to 19% of the price net of tax. The two exceptions are the United Kingdom, where gas is still zero-rated, and Italy, where the consumption tax is a fixed amount per m^3 and whose impact is reduced by inflation.

To sum up, gas prices net of tax increased less than the selling price inclusive of all taxes. By way of example, the prices net of tax developed as follows during the period studied.

[1] Raw material surcharge which acts as partial index-linking.

1984/1978 in %

Standard customers	Düssel-dorf	Paris	Milan	Rotter-dam	Brussels	Luxem-bourg	London	Dublin	Copen-hagen
D_1	20	19	17	32	14	3	31	62	50
D_2	18.5	24	16	40	18	3	18	39	54
D_3	17.9	40	38	68	66	60	20	9	72
D_4	33	62	34.5	79	97	55	-	-	78.5

It should be remembered that this represents the development of prices in real terms (deflated PPS). Thus the fiscal revenue grows more than the average receipts of the gas sellers. Two aspects of the prices should be mentioned here. For the seller it is the price net of tax which counts and affects his receipts. For the household buyer the price inclusive of all taxes is the one which counts and determines whether he switches to other energy sources. This final aspect will form the conclusion of this analysis. Despite the real increases in gas prices inclusive of all taxes throughout the Community countries, one can say that this source of energy remains competitive against rival energy sources. If gas consumption in the household sector has fallen during the past few years it has either been due to the weather or moves to save energy. Cases of changes to other energy sources remain extremely rare and marginal.

2. Industrial prices

In most cases the PPS-deflated prices are higher in 1984 than in 1978. Thus, gas for industrial use has risen more than the prices for all goods and services. There are two exceptions to this trend. In Dublin, the prices currently offered to industrial and commercial users are lower, in real terms, than previously. This is evidence of a commercial expansion policy aimed at developing the use of indigenous natural gas as a raw material in gas works. The situation is different for the United Kingdom. The development recorded for the large industrial consumers (standard consumers I_3,I_4,I_5) is not very meaningful because of a break in the statistical series; pre-1981, new contract prices, then prices for all new and renewed contracts. However, minimal price rises, in real terms, are noted for the small industrial and commercial consumers (types I_1,I_2) for whom there is no break in the series. See the chapter on the United Kingdom for more details.

At the other extreme a doubling of real prices is observed in the Benelux area. These are the largest rises recorded in the Community and are due to higher international supply prices for Dutch natural gas. These supply prices are index-linked to fuel oil so that the increases reflect the higher prices of a rival energy source rather than increased gas production and transport costs.

The development of prices excluding VAT (in deflated PPS) can be summarized as follows:

1984/1978 in %

Standard customers	Düssel-dorf[1]	Paris[1]	Milan[2]	Rotter-dam[1]	Brussels[1]	Luxem-bourg[1]	London[1]	Dublin[2]	Copen-hagen[2]
I_1	20	54	19	78	86	57	7	- 7	66
I_2	72	67	31.5	80	104	91.5	3	- 11	74.5
I_{3-1}	71	41	71[1]	98	91	105	- 3[3]	/	/
I_{3-2}	73	55	71	98	115	110	- 3[3]	/	/
I_{4-1}	87	68	66	97	115	/	10.5[3]	/	/
I_{4-2}	89	70	66	97	125	/	10.5[3]	/	/
I_5	.	80	62	101	130	/	13[3]	/	/

[1] Natural gas.

[2] Gasworks gas.

[3] Break in series.

The two tariff groups reflected by the percentage table above are distinguished by a dividing line. The smallest industrial and commercial consumers (I_1 and I_2) are charged according to simple tariffs in line with the tariffs applicable to household consumers. There are no large industrial clients in Dublin and Copenhagen, conurbations supplied with gasworks gas.

Furthermore, these percentages demonstrate the tariff policies pursued by the gas sellers. In moste cases the largest consumers suffer the largest increases (Düsseldorf, France, Belgium, Luxembourg, United Kingdom, Denmark). This is evidence of a reduction in tariff degression. An exception worthy of mention is Italy where the largest consumers suffer the lowest increases (strengthening the SNAM degression). This shows a desire to expand natural gas outlets among large industrial clients.

Graphs Nos 24 to 27 in the annex show the irregular development of prices during the period studied. This irregularity is very marked for the small consumers, (I_1 and I_2). The curves cross frequently so that it is hardly possible to classify the locations in a definite order of price level. Nevertheless, two groups seem to have evolved during the past few years: Paris, London, Rotterdam with the lowest prices, Italy, Brussels, Dublin with the highest prices. The favourable price levels in the Netherlands and the United Kingdom are obviously due to the proximity of the gas fields in Groningen and the North Sea. This spotlights the attractive prices offered to industry in France despite the large distances involved in natural gas transport. Another peculiarity becomes evident: the prices in Luxembourg are often lower than in Brussels or Antwerp, although it is the same kind of gas, which comes from the Netherlands and crosses

Belgium. Taxes play no role in this because these are prices net of VAT. This difference is due to the terms of the international supply contracts.

In addition, it comes as no surprise that the highest prices are for manufactured gas delivered to small industrial and commercial consumers (I_1 and I_2) in Milan, Dublin and Copenhagen.

Despite the irregular and differing temporal development of prices three phases are discernible:

(i) calm period up to and including 1979;

(ii) upward trends from 1980 to 1982;

(iii) followed by stabilization and even slight decreases in real prices.

Price developments for small consumers I_1,I_2 are similar to those for household consumers because of their similar tariff systems. Again, attention should be drawn to the apparent development of prices in the United Kingdom, which should be interpreted with great caution because of the break in the statistical series. Nevertheless, since 1981 there has been a downward trend in real terms of customers receiving contractual deliveries (I_3,I_4,I_5). In other words, the contractual price revisions do not entirely offset monetary inflation.

To round off this analysis of price developments it should be remembered that for industrial consumption prices net of taxes are identical to prices excluding VAT with the exception of Denmark where a specific fax was levied from 1979 to 1983 (see also Chapter IV). If one takes the prices inclusive of VAT the increases stand out more because the fiscal burden has risen everywhere, except in the United Kingdom. The development of prices inclusive of all taxes (in deflated PPS) would be the following for standard customers I_1,I_2, equivalent to businesses, administrative departments, small industries, craft trades and other services which cannot always deduct VAT in their accounts:

1984/1978 in %

Standard consumers	Düssel-dorf	Paris	Milan	Rotter-dam	Brussels	Luxem-bourg	London	Dublin	Copen-hagen
I_1	22	55	23	104	93	58	7	- 2	71
I_2	75	68	36	107	126	94	3	- 10	80

At Community level the geographical spread of prices remains very large. However this spread varies according to the level of consumption. For small consumers I_1,I_2 prices in 1984 differed by up to a factor of two between the least expensive and most expensive places studied, and by up to a factor of three in 1978, as was the case for household consumers. As for the major industrial consumers (I_3,I_4,I_5), in 1984 the most expensive place was from 35 to 40% higher than the least expensive. In all cases, the geographical

spread of prices has decreased in the Community since 1978, both in absolute values and even more in relative values. This trend is shown on Graphs Nos 24 to 27 in the annex.

The regional differences in prices within the countries are much smaller than the differences at international level. In 1984 there were differences of from 20 to 25% in the FR of Germany, and a more 2 to 3% in France. Standard national tariffs or contracts often exist which do not take account of the purchaser's location, for example in Italy (SNAM tariff), the Netherlands and the United Kingdom.

The largest price differences among consumers occur as a function of the volume of gas consumed. This is the concept of degression which plays an important role in industrial tariffs.

When the annual consumption is multiplied by a thousand the unit price reduction (I_{4-2}/I_1) is as follows:

%

	Düsseldorf	Paris	Rotterdam	Brussels	London
1978	- 53	- 41	- 24	- 44	- 19
1984	- 26	- 34	- 16	- 31	- 16

Two things become clear from this:

(i) degressivity has been greatly reduced;

(ii) degression is smallest in the countries where natural gas is abundant and cheap (Netherlands, United Kingdom).

If the volume consumed affects price level, the regularity with which the consumer takes gas from the network can also have a bearing. This is the concept of modulation, which affects certain tariffs (see definition in Chapter II).

When modulation increases from 200 days 1 600 hours to 250 days 4 000 hours (standard consumers I_{3-2}/I_{3-1}), the unit price reduction is as follows:

%

	Düsseldorf	Paris	Milan	Rotterdam	Brussels	Luxembourg	London
1978	- 4.5	- 11	0	0	- 19	- 9	0
1984	- 3.5	- 2.4	0	0	- 9	- 7	0

When modulation increases from 250 days 4 000 hours to 330 days 8 000 hours (standard customers I_{4-2}/I_{4-1}), the reduction is as follows:

%

	Düsseldorf	Paris	Milan	Rotterdam	Brussels	Luxembourg	London
1978	- 4.5	- 3	0	0	- 8	/	0
1979	- 3.7	- 2	0	0	- 2	/	0

In the case of degression, the effect of modulation has diminished during the years. In some countries modulation has no effect whatsoever on prices. Modulation is meant to encourage the consumer to spread his consumption over a period of time. But another method, without doubt more effective, of achieving this aim is to offer what are known as 'interruptible' supply conditions.

The seller reserves the right to reduce the offtake or even to stop supplies at certain periods chosen by him in order to deal with peaks in network demand. In return for this constraint a discount is allowed on the price. These discounts can be of the following order:

15 to 30% in FR of Germany,

about 9% in Italy,

2 to 10% in Belgium.

All this demonstrates the great variety of tariff formulae applied to industrial consumers in the Community countries. Moreover, these formulae often become very complex for certain volumes of industrial supply. Indeed, one finds one, two, three or more part, formulae, some simple or some with consumption blocks. Similarly, the tariffs or contracts are up-dated in a multiplicity of ways. Broadly speaking, one can distinguish index-linked tariffs, i.e. those revised automatically, others whose revision is based on other principles:

(i) index-linked tariffs
monthly indices : Italy (I_3,I_4,I_5), Belgium, Denmark[1]
quarterly indices : Netherlands (I_3,I_4,I_5)
half-yearly indices: Luxembourg;

(ii) non-index-linked tariffs
annual revision : Italy (I_1 and I_2)
irregular revision : FR of Germany, France, Netherlands (I_1 and I_2), United Kingdom, Ireland.

The systems of index-linking are never straightforward because the indices are not applied identically to the overall tariff formula (partial or double index-linking).

[1] Raw material surcharge which acts as partial index-linking.

In most cases such index-linking has meant that gas prices have developed in line with the prices of rival energy sources, usually fuel oils for industrial uses. However, a comparison is more difficult here than for household uses because degression and modulation mean that gas prices differ greatly according to the terms of delivery.

In general, one can say that firm deliveries of natural gas compete with low sulphur heavy fuel oil, whereas interruptible deliveries are meant to compete with ordinary heavy fuel oil. The competitive position of gas differs according to country and is difficult to define with certainty. For example, in Italy and the United Kingdom natural gas maintains its competitive edge despite price rises. The same is true for Ireland, where there are new tariffs. On the other hand, gasworks gas cannot compete with rival energy sources in Denmark.

Any drop in industrial gas consumption observed from 1979 or 1980 has to be viewed as a consequence of the economic recession. Although difficult to detect there is no doubt that substitution of gas by coal, oil or electricity continues to be the exception.

VII. STATISTICAL ANNEX

NOTE: In the Statistical Annex, the Continental practice of using a comma for the decimal point is adopted.

TABLES

GRAPHS

B.R. DEUTSCHLAND

DM/GJ

Januar / January / Janvier / Gennaio		Hamburg *			Hannover *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	30,65	27,37	27,37	23,99	21,42	21,42
	1979	30,65	27,37	27,37	23,99	21,42	21,42
	1980	30,93	27,37	27,37	24,87	22,01	22,01
8,37 GJ	1981	•	•	•	•	•	•
	1982	•	•	•	•	•	•
	1983	37,53	32,92	32,92	•	•	•
	1984	37,53	32,92	32,92	41,20	36,14	36,14
D_2	1978	24,14	21,55	21,55	21,62	19,30	19,30
	1979	24,14	21,55	21,55	21,62	19,30	19,30
	1980	24,35	21,55	21,55	22,85	20,22	20,22
16,74 GJ	1981	•	•	•	•	•	•
	1982	•	•	•	•	•	•
	1983	30,02	26,33	26,33	•	•	•
	1984	30,02	26,33	26,33	35,48	31,12	31,12
D_3	1978	14,31	12,78	12,78	10,95	9,78	9,78
	1979	14,31	12,78	12,78	10,95	9,78	9,78
	1980	15,71	13,90	13,90	11,48	10,16	10,16
83,7 GJ	1981	•	•	•	•	•	•
	1982	•	•	•	•	•	•
	1983	•	•	•	•	•	•
	1984	19,56	17,16	17,16	18,59	16,31	16,31
D_{3b}	1978	13,99	12,49	12,49	10,07	8,99	8,99
	1979	13,99	12,49	12,49	10,07	8,99	8,99
	1980	15,05	13,32	13,32	10,87	9,62	9,62
125,6 GJ	1981	•	•	•	•	•	•
	1982	•	•	•	•	•	•
	1983	•	•	•	•	•	•
	1984	18,73	16,43	16,43	17,73	15,55	15,55
D_4	1978	10,15	9,06	9,06	9,81	8,76	8,76
	1979	10,15	9,06	9,06	9,81	8,76	8,76
	1980	11,28	9,98	9,98	10,45	9,25	9,25
1 047 GJ	1981	•	•	•	•	•	•
	1982	•	•	•	•	•	•
	1983	•	•	•	•	•	•
	1984	16,14	14,16	14,16	15,31	13,43	13,43

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

B.R. DEUTSCHLAND

DM/GJ

Januar January Janvier Gennaio		Düsseldorf *			Frankfurt/M *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	29,42	26,27	26,27	32,73	29,22	29,22
	1979	29,42	26,27	26,27	32,73	29,22	29,22
	1980	29,69	26,27	26,27	35,19	31,14	31,14
8,37 GJ							
	1981	35,97	31,83	31,83	.	.	.
	1982	46,76	41,38	41,38	.	.	.
	1983	.	.	.	.	.	.
	1984	45,24	39,68	39,68	42,40	37,19	37,19
D_2	1978	22,33	19,94	19,94	22,83	20,38	20,38
	1979	22,33	19,94	19,94	22,83	20,38	20,38
	1980	22,53	19,94	19,94	24,66	21,82	21,82
16,74 GJ							
	1981	27,33	24,19	24,19	.	.	.
	1982	35,47	31,39	31,39	.	.	.
	1983	.	.	.	.	.	.
	1984	33,85	29,69	29,69	31,07	27,25	27,25
D_3	1978	14,28	12,75	12,75	13,23	11,81	11,81
	1979	14,28	12,75	12,75	13,23	11,81	11,81
	1980	14,41	12,75	12,75	14,67	12,98	12,98
83,7 GJ							
	1981	18,71	16,56	16,56	.	.	.
	1982	23,32	20,64	20,64	.	.	.
	1983	.	.	.	.	.	.
	1984	21,60	18,95	18,95	19,79	17,36	17,36
D_{3b}	1978	12,73	11,37	11,37	11,51	10,28	10,28
	1979	12,73	11,37	11,37	11,51	10,28	10,28
	1980	12,85	11,37	11,37	12,75	11,28	11,28
125,6 GJ							
	1981	17,14	15,17	15,17	.	.	.
	1982	21,97	19,44	19,44	.	.	.
	1983	.	.	.	.	.	.
	1984	20,24	17,75	17,75	18,21	15,97	15,97
D_4	1978	10,70	9,55	9,55	9,78	8,73	8,73
	1979	10,70	9,55	9,55	9,78	8,73	8,73
	1980	10,79	9,55	9,55	10,99	9,73	9,73
1 047 GJ							
	1981	15,83	14,01	14,01	.	.	.
	1982	19,41	17,18	17,18	.	.	.
	1983	.	.	.	.	.	.
	1984	18,14	15,91	15,91	16,67	14,62	14,62

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

B.R. DEUTSCHLAND

DM/GJ

Januar January Janvier Gennaio		Stuttgart *			München *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	31,42	28,05	28,05	21,95	19,60	19,60
	1979	31,42	28,05	28,05	21,95	19,60	19,60
	1980	31,70	28,05	28,05	23,22	20,55	20,55
8,37 GJ	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	43,56	38,21	38,21	37,98	33,32	33,32
D_2	1978	25,65	22,90	22,90	18,09	16,15	16,15
	1979	25,65	22,90	22,90	18,09	16,15	16,15
	1980	25,88	22,90	22,90	19,18	16,97	16,97
16,74 GJ	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	36,53	32,04	32,04	29,81	26,15	26,15
D_3	1978	14,86	13,27	13,27	11,70	10,45	10,45
	1979	14,86	13,27	13,27	11,70	10,45	10,45
	1980	15,00	13,27	13,27	12,88	11,40	11,40
83,7 GJ	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	23,47	20,59	20,59	22,02	19,32	19,32
D_{3b}	1978	13,56	12,11	12,11	10,93	9,76	9,76
	1979	13,56	12,11	12,11	10,93	9,76	9,76
	1980	13,68	12,11	12,11	12,02	10,64	10,64
125,6 GJ	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	21,91	19,22	19,22	20,77	18,22	18,22
D_4	1978	11,65	10,40	10,40	8,44	7,54	7,54
	1979	11,65	10,40	10,40	9,83	8,78	8,78
	1980	11,75	10,40	10,40	11,21	9,92	9,92
1 047 GJ	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	18,94	16,61	16,61	16,39	14,38	14,38

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

B.R. DEUTSCHLAND

DM/GJ

Januar January Janvier Gennaio		Hamburg *			Hannover *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	18,13	16,19	16,19	10,56	9,43	9,43
	1979	18,13	16,19	16,19	10,56	9,43	9,43
	1980	18,29	16,19	16,19	10,86	9,61	9,61
418,6 GJ							
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,35	14,34	14,34	18,65	16,36	16,36
I_2	1978	9,76	8,71	8,71	7,87	7,03	7,03
	1979	9,76	8,71	8,71	8,43	7,53	7,53
	1980	10,87	9,62	9,62	8,97	7,94	7,94
4 186 GJ							
200 Tage/days/jours/giorni	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,15	14,17	14,17	16,14	14,16	14,16
I_{3-1}	1978	8,62	7,70	7,70	6,75	6,03	6,03
	1979	8,47	7,56	7,56	7,60	6,79	6,79
	1980	10,31	9,12	9,12	8,61	7,62	7,62
41 860 GJ							
200 Tage/days/jours/giorni	1981	.	.	.	.	.	.
1 600 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,06	14,09	14,09	15,16	13,30	13,30
I_{3-2}	1978	8,10	7,23	7,23	5,94	5,30	5,30
	1979	8,00	7,14	7,14	6,68	5,96	5,96
	1980	9,11	8,06	8,06	8,60	7,61	7,61
41 860 GJ							
250 Tage/days/ jours/giorni	1981	.	.	.	.	.	.
4 000 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	15,01	13,17	13,17	14,59	12,80	12,80
I_{4-1}	1978	7,41	6,62	6,62	5,67	5,06	5,06
	1979	7,31	6,53	6,53	6,41	5,72	5,72
	1980	8,64	7,65	7,65	7,98	7,06	7,06
418 600 GJ							
250 Tage/days/jours/giorni	1981	.	.	.	.	.	.
4 000 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	13,81	12,11	12,11	13,70	12,02	12,02
I_{4-2}	1978	7,01	6,26	6,26			
	1979	6,91	6,17	6,17			
	1980	8,42	7,45	7,45			
418 600 GJ							
330 Tage/days/jours/giorni	1981	.	.	.			
8 000 h	1982	.	.	.			
	1983	.	.	.			
	1984	13,43	11,78	11,78			
I_5	1978						
	1979						
	1980						
4 186 000 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

B.R. DEUTSCHLAND

DM/GJ

Januar January Janvier Gennaio		Düsseldorf *			Frankfurt/M *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	14,45	12,90	12,90	10,45	9,33	9,33
	1979	14,45	12,90	12,90	10,45	9,33	9,33
	1980	14,58	12,90	12,90	11,83	10,47	10,47
418,6 GJ							
	1981	19,36	17,13	17,13	.	.	.
	1982	24,45	21,64	21,64	.	.	.
	1983	.	.	.	.	.	.
	1984	22,20	19,47	19,47	17,73	15,55	15,55
I_2	1978	8,64	7,71	7,71	8,99	8,03	8,03
	1979	8,64	7,71	7,71	8,99	8,03	8,03
	1980	11,91	10,54	10,54	11,46	10,14	10,14
4 186 GJ							
200 Tage/days/jours/giorni	1981	14,50	12,83	12,83	.	.	.
	1982	19,92	17,73	17,63	.	.	.
	1983	.	.	.	.	.	.
	1984	18,95	16,62	16,62	15,75	13,82	13,82
I_{3-1}	1978	8,09	7,22	7,22	7,93	7,08	7,08
	1979	8,09	7,22	7,22	7,93	7,08	7,08
	1980	10,96	9,70	9,70	10,57	9,35	9,35
41 860 GJ							
200 Tage/days/jours/giorni	1981	13,42	11,88	11,88	.	.	.
1 600 h	1982	18,66	16,51	16,51	.	.	.
	1983	.	.	.	.	.	.
	1984	17,73	15,55	15,55	15,05	13,20	13,20
I_{3-2}	1978	7,72	6,89	6,89	7,72	6,89	6,89
	1979	7,72	6,89	6,89	7,72	6,89	6,89
	1980	10,51	9,30	9,30	10,25	9,07	9,07
41 860 GJ							
250 Tage/days/ jours/giorni	1981	13,00	11,50	11,50	.	.	.
4 000 h	1982	17,99	15,92	15,92	.	.	.
	1983	.	.	.	.	.	.
	1984	17,09	14,99	14,99	14,12	12,39	12,39
I_{4-1}	1978	7,10	6,34	6,34	7,25	6,47	6,47
	1979	7,68	6,86	6,86	7,25	6,47	6,47
	1980	10,43	9,23	9,23	10,20	9,03	9,03
418 600 GJ							
250 Tage/days/jours/giorni	1981	12,90	11,42	11,42	.	.	.
4 000 h	1982	17,90	15,84	15,84	.	.	.
	1983	.	.	.	.	.	.
	1984	17,00	14,91	14,91	14,12	12,39	12,39
I_{4-2}	1978	6,76	6,04	6,04	7,03	6,28	6,28
	1979	7,35	6,56	6,56	7,03	6,28	6,28
	1980	10,00	8,85	8,85	9,90	8,76	8,76
418 600 GJ							
330 Tage/days/jours/giorni	1981	12,49	11,05	11,05	.	.	.
8 000 h	1982	17,26	15,27	15,27	.	.	.
	1983	.	.	.	.	.	.
	1984	16,37	14,36	14,36	13,78	12,09	12,09
I_5	1978	-	-	-	-	-	-
	1979	-	-	-	-	-	-
	1980	-	-	-	-	-	-
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	-	-	-	-	-	-
8 000 h	1982	-	-	-	-	-	-
	1983	-	-	-	-	-	-
	1984	16,37	14,36	14,36	13,78	12,09	12,09

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

B. R. DEUTSCHLAND

DM/GJ

Januar January Janvier Gennaio		Stuttgart *			München *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	11,70	10,45	10,45	10,60	9,46	9,46
	1979	11,73	10,47	10,47	10,60	9,46	9,46
	1980	11,83	10,47	10,47	11,35	10,04	10,04
418,6 GJ							
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	–	–	–	22,94	20,12	20,12
I_2	1978	11,73	10,47	10,47	9,31	8,31	8,31
	1979	11,75	10,49	10,49	10,74	9,59	9,59
	1980	12,92	11,43	11,43	12,25	10,84	10,84
4 186 GJ							
200 Tage/days/jours/giorni	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	19,67	17,25	17,25	16,40	14,39	14,39
I_{3-1}	1978	11,65	10,40	10,40	9,31	8,31	8,31
	1979	11,66	10,41	10,41	10,74	9,59	9,59
	1980	12,84	11,36	11,36	12,25	10,84	10,84
41 860 GJ							
200 Tage/days/jours/giorni	1981	.	.	.	.	.	.
1 600 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	–	–	–	14,89	13,06	13,06
I_{3-2}	1978	9,64	8,61	8,61	6,96	6,21	6,21
	1979	9,65	8,62	8,62	8,03	7,17	7,17
	1980	10,81	9,57	9,57	9.15	8,10	8,10
41 860 GJ							
250 Tage/days/ jours/giorni	1981	.	.	.	.	.	.
4 000 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,06	14,61	14,61	14,89	13,06	13,06
I_{4-1}	1978	9,63	8,60	8,60	6,52	5,82	5,82
	1979	9,65	8,62	8,62	7,65	6.83	6,83
	1980	10,80	9,56	9,56	8,32	7,36	7,36
418 600 GJ							
250 Tage/days/jours/giorni	1981	.	.	.	.	.	.
4 000 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,63	14,59	14,59	14,89	13,06	13,06
I_{4-2}	1978	8,96	8,00	8,00	6,52	5,82	5,82
	1979	8,98	8,02	8,02	7,65	6,83	6,83
	1980	10,14	8,97	8,97	8,32	7,36	7,36
418 600 GJ							
330 Tage/days/jours/giorni	1981	.	.	.	.	.	.
8 000 h	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	15,62	13,70	13,70	14,89	13,06	13,06
I_5	1978	–	–	–			
	1979	–	–	–			
	1980	–	–	–			
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	–	–	–			
8 000 h	1982	–	–	–			
	1983	–	–	–			
	1984	15,62	13,70	13,70			

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

FRANCE

FF/GJ

Januar January Janvier Gennaio		Lille *			Région parisienne *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	48,70	41,41	41,41	48,70	41,41	41,41
	1979	53,59	45,57	45,57	53,59	45,57	45,57
	1980	67,91	57,75	57,75	67,88	57,73	57,73
8,37 GJ							
	1981				76,75	65,27	65,27
	1982		= PARIS		90,81	77,22	77,22
	1983				100,28	84,55	84,55
	1984				107,61	90,73	90,73
D_2	1978	41,02	34,88	34,88	41,02	34,88	34,88
	1979	45,15	38,39	38,39	45,15	38,39	38,39
	1980	57,80	49,15	49,15	57,77	49,13	49,13
16,74 GJ							
	1981				66,11	56,22	56,22
	1982		= PARIS		79,00	67,18	67,18
	1983				87,70	73,94	73,94
	1984				94,47	79,66	79,66
D_3	1978	24,83	21,11	21,11	25,67	21,83	21,83
	1979	28,49	24,23	24,23	28,44	24,18	14,18
	1980	38,14	32,43	32,43	38,12	32,42	32,42
83,7 GJ							
	1981				44,88	38,16	38,16
	1982		= PARIS		55,84	47,49	47,49
	1983				61,98	52,26	52,26
	1984				66,76	56,29	56,29
D_{3b}	1978	21,64	18,40	18,40	22,18	18,86	18,86
	1979	24,84	21,12	21,12	24,78	21,07	21,07
	1980	33,92	28,84	28,84	33,92	28,84	28,84
126,6 GJ							
	1981				40,60	34,53	34,53
	1982		= PARIS		51,35	43,67	43,67
	1983				57,35	48,36	48,36
	1984				62,13	52,38	52,38
D_4	1978	17,85	15,18	15,18	17,60	14,97	14,97
	1979	19,57	16,64	16,64	19,33	16,44	16,44
	1980	27,53	23,41	23,41	27,55	23,42	23,42
1 047 GJ							
	1981				32,75	27,85	27,85
	1982		= PARIS		43,30	36,82	36,82
	1983				48,36	40,77	40,77
	1984				52,87	44,58	44,58

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

FRANCE

FF/GJ

Januar Janvier / January Gennaio		Lyon *			Toulouse *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978				48,10	40,90	40,90
	1979				52,94	45,02	45,02
	1980				67,91	57,75	57,75
8,37 GJ			= PARIS				
	1981					= PARIS	
	1982						
	1983						
	1984						
D_2	1978				41,02	34,88	34,88
	1979				44,49	37,83	37,83
	1980				57,80	49,15	49,15
16,74 GJ			= PARIS				
	1981					= PARIS	
	1982						
	1983						
	1984						
D_3	1978	26,40	22,45	22,45	25,67	21,83	21,83
	1979	29,19	24,82	24,82	28,44	24,18	24,18
	1980	38,14	32,43	32,43	38,14	32,43	32,43
83,7 GJ							
	1981						
	1982		= PARIS			= PARIS	
	1983						
	1984						
D_{3b}	1978	22,91	19,48	19,48	22,18	18,86	18,86
	1979	25,52	21,70	21,70	24,78	21,07	21,07
	1980	33,92	28,84	28,84	33,92	28,84	28,84
125,6 GJ							
	1981						
	1982						
	1983		= PARIS			= PARIS	
	1984						
D_4	1978	18,08	15,37	15,37	17,60	14,97	14,97
	1979	19,79	16,83	16,83	19,33	16,44	16,44
	1980	27,53	23,41	23,41	27,53	23,41	23,41
1 047 GJ							
	1981						
	1982						
	1983		= PARIS			= PARIS	
	1984						

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

FRANCE

FF/GJ

Januar January Janvier Gennaio		Strasbourg *			Marseille *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	68,96	58,64	58,64			
	1979	75,89	64,53	64,53			
	1980	86,48	73,54	73,54			
8,37 GJ							
	1981	106,72	90,75	90,75			
	1982	127,88	108,74	108,74		= Paris	
	1983	139,46	117,59	117,59			
	1984	148,55	125,25	125,25			
D_2	1978	49,49	42,08	42,08			
	1979	55,21	46,95	46,95			
	1980	63,68	54,15	54,15			
16,74 GJ						= Paris	
	1981	79,73	67,80	67,80			
	1982	96,07	81,69	81,69			
	1983	106,06	89,43	89,43			
	1984	112,80	95,11	95,11			
D_3	1978	27,47	23,36	23,36	26,04	22,14	22,14
	1979	29,14	24,78	24,78	28,82	24,51	24,51
	1980	34,46	29,30	29,30	38,14	32,43	32,43
83,7 GJ							
	1981	46,49	39,53	39,53			
	1982	59,59	50,67	50,67			
	1983	65,68	55,38	55,38		= Paris	
	1984	70,07	59,08	59,08			
D_{3b}	1978	25,78	21,92	21,92	22,54	19,17	19,17
	1979	27,33	23,24	23,24	25,17	21,40	21,40
	1980	32,48	27,62	27,62	33,92	28,84	28,84
125,6 GJ							
	1981	44,35	37,71	37,71			
	1982	53,37	45,38	45,38			
	1983	63,34	53,41	53,41		= Paris	
	1984	67,73	57,11	57,11			
D_4	1978	19,32	16,43	16,43	17,85	15,18	15,18
	1979	21,65	18,41	18,41	19,57	16,64	16,64
	1980	27,04	22,99	22,99	27,53	23,41	23,41
1 047 GJ							
	1981	36,39	30,94	30,94			
	1982	48,43	41,18	41,18			
	1983	53,80	45,36	45,36		= Paris	
	1984	58,84	49,61	49,61			

* Naturgas
Natural gas

* Gaz naturel
Gas naturele

FRANCE

FF/GJ

Januar January Janvier Gennaio		Lille *			Région parisienne *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	20,07	17,07	17,07	19,84	16,87	16,87
	1979	21,80	18,54	18,54	21,57	18,34	18,34
	1980	30,16	25,65	25,65	30,16	25,65	25,65
418,6 GJ							
	1981	35,70	30,36	30,36	35,70	30,36	30,36
	1982	46,57	39,60	39,60	46,57	39,60	39,60
	1983	51,85	43,72	43,72	51,85	43,72	43,72
	1984	56,49	47,63	47,63	56,49	47,63	47,63
I_2	1978	16,74	14,23	14,23	16,51	14,04	14,04
	1979	18,47	15,71	15,71	18,24	15,51	15,51
	1980	26,25	22,32	22,32	26,25	22,32	22,32
4 186 GJ							
200 Tage/days/jours/giorni	1981	31,27	26,59	26,59	31,27	26,59	26,59
	1982	41,67	35,44	35,44	41,67	35,44	35,44
	1983	46,61	39,30	39,30	46,61	39,30	39,30
	1984	51,08	43,07	43,07	51,08	43,07	43,07
I_{3-1}	1978	15,87	13,49	13,49	15,97	13,58	13,58
	1979	15,87	13,49	13,49	15,97	13,58	13,58
	1980	22,43	19,07	19,07	22,50	19,13	19,13
41 860 GJ							
200 Tage/days/jours/giorni	1981	26,95	22,91	22,91	27,03	22,98	22,98
1 600 h	1982	35,35	30,06	30,06	35,45	30,14	30,14
	1983	38,97	32,86	32,86	39,08	32,95	32,95
	1984	41,68	35,14	35,14	41,79	35,24	35,24
I_{3-2}	1978	14,30	12,16	12,16	14,23	12,10	12,10
	1979	14,30	12,16	12,16	14,23	12,10	12,10
	1980	21,77	18,51	18,51	21,86	18,59	18,59
41 860 GJ							
250 Tage/days/ jours/giorni	1981	26,20	22,28	22,28	26,29	22,35	22,35
4 000 h	1982	34,47	29,31	29,31	34,57	29,40	29,40
	1983	38,00	32,04	32,04	38,11	32,14	32,14
	1984	40,68	34,30	34,30	40,80	34,40	34,40
I_{4-1}	1978	12,38	10,53	10,53	12,07	10,26	10,26
	1979	12,38	10,53	10,53	12,07	10,26	10,26
	1980	19,81	16,85	16,85	19,89	16,91	16,91
418 600 GJ							
250 Tage/days/jours/giorni	1981	23,98	20,39	20,39	24,07	20,47	20,47
4 000 h	1982	31,84	27,08	27,08	31,95	27,17	27,17
	1983	35,10	29,60	29,60	35,22	29,70	29,70
	1984	37,70	31,78	31,78	37,81	31,88	31,88
I_{4-2}	1978	12,04	10,24	10,24	11,71	9,96	9,96
	1979	12,04	10,24	10,24	11,71	9,96	9,96
	1980	19,33	16,44	16,44	19,40	16,50	16,50
418 600 GJ							
330 Tage/days/jours/giorni	1981	23,41	19,91	19,91	23,51	19,99	19,99
8 000 h	1982	31,18	26,51	26,51	31,29	26,61	26,61
	1983	34,37	28,98	28,98	34,49	29,08	29,08
	1984	36,94	31,15	31,15	37,07	31,25	31,25
I_5	1978	11,34	9,64	9,64	11,02	9,37	9,37
	1979	11,34	9,64	9,64	11,02	9,37	9,37
	1980	19,13	16,27	16,27	19,22	16,34	16,34
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	23,19	19,72	19,72	23,29	19,80	19,80
8 000 h	1982	30,92	26,29	26,29	31,03	26,39	26,39
	1983	34,08	28,74	28,74	34,20	28,84	28,84
	1984	36,64	30,90	30,90	36,77	31,01	31,01

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

FRANCE

FF/GJ

Januar January Janvier Gennaio		Lyon *			Toulouse *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. compreso	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	20,30	17,26	17,26	19,84	16,87	16,87
	1979	22,03	18,73	18,73	21,57	18,34	18,34
	1980	30,16	25,65	25,65	30,16	25,65	25,65
418,6 GJ							
	1981	35,70	30,36	30,36	35,70	30,36	30,36
	1982	46,57	39,60	39,60	46,57	39,60	39,60
	1983	51,85	43,72	43,72	51,85	43,72	43,72
	1984	56,49	47,63	47,63	56,49	47,63	47,63
I_2	1978	16,96	14,43	14,43	16,51	14,04	14,04
	1979	18,70	15,90	15,90	18,24	15,51	15,51
	1980	26,25	22,32	22,32	26,25	22,32	22,32
4 186 GJ							
200 Tage/days/jours/giorni	1981	31,27	26,59	26,59	31,27	26,59	26,59
	1982	41,67	35,44	35,44	41,67	35,44	35,44
	1983	46,61	39,30	39,30	46,61	39,30	39,30
	1984	51,08	43,07	43,07	51,08	43,07	43,07
I_{3-1}	1978	16,64	14,15	14,15	14,46	12,30	12,30
	1979	16,64	14,15	14,15	14,46	12,30	12,30
	1980	22,17	18,85	18,85	21,60	18,37	18,37
41 860 GJ							
200 Tage/days/jours/giorni	1981	26,65	22,66	22,66	26,01	22,12	22,12
1 600 h	1982	35,00	29,77	29,77	34,25	29,12	29,12
	1983	38,59	32,54	32,54	37,75	31,83	31,83
	1984	41,28	34,81	34,81	40,42	34,08	34,08
I_{3-2}	1978	14,15	12,04	12,04	13,63	11,59	11,59
	1979	14,15	12,04	12,04	13,63	11,59	11,59
	1980	21,56	18,34	18,34	20,64	17,55	17,55
41 860 GJ							
250 Tage/days/ jours/giorni	1981	25,96	22,08	22,08	24,91	21,18	21,18
4 000 h	1982	34,19	29,08	29,08	32,95	28,02	28,02
	1983	37,69	31,78	31,78	36,32	30,62	30,62
	1984	40,37	34,04	34,04	38,95	32,84	32,84
I_{4-1}	1978	12,80	10,89	10,89	12,04	10,24	10,24
	1979	12,80	10,89	10,89	12,10	10,29	10,29
	1980	19,62	16,68	16,68	18,87	16,05	16,05
418 600 GJ							
250 Tage/days/jours/giorni	1981	23,74	20,19	20,19	22,92	19,49	19,49
4 000 h	1982	31,57	26,84	26,84	29,49	25,08	25,08
	1983	34,80	29,34	29,34	33,72	28,43	28,43
	1984	37,38	31,52	31,52	36,27	30,58	30,58
I_{4-2}	1978	11,88	10,10	10,10	10,68	9,08	9,08
	1979	11,88	10,10	10,10	11,68	9,93	9,93
	1980	19,17	16,30	16,30	18,38	15,63	15,63
418 600 GJ							
330 Tage/days/jours/giorni	1981	23,24	19,76	19,76	22,36	19,01	19,01
8 000 h	1982	30,97	26,33	26,33	27,68	23,54	23,54
	1983	34,14	28,78	28,78	32,98	27,81	27,81
	1984	36,70	30,94	30,94	35,51	29,94	29,94
I_5	1978	11,45	9,74	9,74	10,57	8,99	8,99
	1979	11,80	10,03	10,03	11,57	9,84	9,84
	1980	18,96	16,13	16,13	18,26	15,53	15,53
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	23,02	19,57	19,57	22,21	18,89	18,89
8 000 h	1982	30,71	26,11	26,11	27,24	23,16	23,16
	1983	33,85	28,54	28,54	32,80	27,66	27,66
	1984	36,40	30,70	30,70	35,32	29,78	29,78

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

FRANCE

FF/GJ

Januar January Janvier Gennaio		Strasbourg *			Marseille *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	24,18	20,56	20,56	20,07	17,07	17,07
	1979	27,11	23,05	23,05	21,80	18,54	18,54
	1980	32,99	28,05	28,05	30,16	25,65	25,65
418,6 GJ							
	1981	43,91	37,34	37,34	35,70	30,36	30,36
	1982	55,77	47,42	47,42	46,57	39,60	39,60
	1983	61,65	51,98	51,98	51,85	43,72	43,72
	1984	66,04	55,68	55,68	56,49	47,63	47,63
I_2	1978	20,38	17,33	17,33	16,74	14,23	14,23
	1979	22,83	19,41	19,41	18,47	15,71	15,71
	1980	27,47	23,36	23,36	26,25	22,32	22,32
4 186 GJ							
200 Tage/days/jours/giorni	1981	36,95	31,42	31,42	31,27	26,59	26,59
	1982	46,72	39,73	39,73	41,67	35,44	35,44
	1983	51,93	43,79	43,79	46,61	39,30	39,30
	1984	56,88	47,96	47,96	51,08	43,07	43,07
I_{3-1}	1978				17,68	15,04	15,04
	1979				17,68	15,04	15,04
	1980				22,48	19,11	19,11
41 860 GJ							
200 Tage/days/jours/giorni	1981				27,00	22,96	22,96
1 600 h	1982				35,42	30,12	30,12
	1983				39,04	32,92	32,92
	1984				41,76	35,21	35,21
I_{3-2}	1978	15,93	13,55	13,55	14,53	12,36	12,36
	1979	15,93	13,55	13,55	14,53	12,36	12,36
	1980	20,12	17,12	17,12	21,82	18,55	18,55
41 860 GJ							
250 Tage/days/ jours/giorni	1981	28,05	23,85	23,85	26,25	22,32	22,32
4 000 h	1982	36,66	31,17	31,17	34,53	29,36	29,36
	1983	40,41	34,07	34,07	38,07	32,10	32,10
	1984	43,17	36,40	36,40	40,75	34,36	34,36
I_{4-1}	1978				13,05	11,10	11,10
	1979				13,05	11,10	11,10
	1980				19,87	16,90	16,90
418 600 GJ							
250 Tage/days/jours/giorni	1981				24,03	20,44	20,44
4 000 h	1982				31,91	27,13	27,13
	1983				35,17	29,66	29,66
	1984				37,77	31,84	31,84
I_{4-2}	1978				12,08	10,27	10,27
	1979				12,08	10,27	10,27
	1980				19,37	16,47	16,47
418 600 GJ							
330 Tage/days/jours/giorni	1981				23,46	19,95	19,95
8 000 h	1982				31,23	26,56	26,56
	1983				34,43	29,03	29,03
	1984				37,01	31,20	31,20
I_5	1978				11,64	9,90	9,90
	1979				11,64	9,90	9,90
	1980				19,18	16,31	16,31
4 186 000 GJ							
330 Tage/days/jours/giorni	1981				23,24	19,77	19,77
8 000 h	1982				30,97	26,34	26,34
	1983				34,15	28,79	28,79
	1984				36,71	30,95	30,95

* Naturgas
Naturel gas

* Gaz naturel
Gas naturale

ITALIA

LIT/GJ

Januar January Janvier Gennaio		Torino *			Milano +		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	4 242	4 002	3 214	6 702	6 323	5 745
	1979	4 500	4 245	3 457	6 903	6 512	5 933
	1980	5 996	5 657	4 697	8 599	8 112	7 410
8,37 GJ							
	1981	8 083	7 484	6 696	10 360	9 593	9 003
	1982	8 835	8 181	7 392	11 098	10 276	9 679
	1983	13 227	12 247	11 458	16 775	15 532	14 924
	1984	16 037	14 849	14 061	18 550	17 176	16 566
D_2	1978	3 927	3 705	2 916	6 170	5 821	5 243
	1979	4 164	3 928	3 140	6 371	6 010	5 432
	1980	5 661	5 341	4 381	8 068	7 611	6 909
16,74 GJ							
	1981	7 577	7 016	6 228	10 050	9 306	8 716
	1982	8 330	7 713	6 924	10 788	9 989	9 392
	1983	11 637	10 775	9 987	15 382	14 243	13 635
	1984	14 215	13 162	12 374	16 924	15 670	15 060
D_3	1978	3 704	3 494	2 706	5 196	4 902	4 324
	1979	3 874	3 655	2 866	5 396	5 091	4 512
	1980	5 369	5 065	4 106	7 636	7 204	6 501
83,7 GJ							
	1981	7 072	6 548	5 760	9 804	9 078	8 488
	1982	7 824	7 244	6 456	10 542	9 761	9 164
	1983	10 265	9 504	8 716	14 269	13 212	12 604
	1984	12 657	11 720	10 931	16 585	15 356	14 747
D_{3b}	1978	3 660	3 453	2 665	5 165	4 873	4 295
	1979	3 825	3 608	2 820	5 362	5 058	4 481
	1980	5 321	5 020	4 061	7 642	7 209	6 507
125,6 GJ							
	1981	7 048	6 526	5 738	9 778	9 053	8 464
	1982	7 800	7 222	6 434	10 515	9 737	9 140
	1983	10 167	9 414	8 626	14 168	13 119	12 511
	1984	12 543	11 614	10 826	16 148	14 952	14 342
D_4	1978	3 703	3 496	2 706	4 994	4 711	4 134
	1979	3 799	3 584	2 797	5 191	4 897	4 319
	1980	5 293	4 994	4 036	7 547	7 120	6 418
1 047 GJ							
	1981	7 089	6 564	5 776	9 771	9 048	8 458
	1982	7 840	7 259	6 462	10 508	9 730	9 133
	1983	10 245	9 486	8 699	14 164	13 115	12 507
	1984	12 624	11 689	10 902	15 498	14 350	13 740

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

ITALIA

LIT/GJ

Januar January Janvier Gennaio		Roma *			Roma +		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	5 064	4 777	3 989	7 795	7 354	6 724
	1979	4 504	4 249	3 461	6 637	6 261	5 631
	1980	6 763	6 380	5 421	9 470	8 934	8 168
8,37 GJ	1981	11 759	10 888	10 099	14 915	13 810	13 182
	1982	12 519	11 592	10 804	15 742	14 576	13 947
	1983	17 754	16 272	15 484	20 992	19 437	18 817
	1984	20 026	18 543	17 754	25 454	23 569	22 934
D_2	1978	5 139	4 848	4 060	8 345	7 873	7 243
	1979	4 362	4 115	3 327	7 175	6 769	6 139
	1980	6 408	6 045	5 086	9 040	8 528	7 762
16,74 GJ	1981	9 978	9 239	8 451	12 870	11 917	11 288
	1982	10 739	9 944	9 155	13 697	12 682	12 054
	1983	14 915	13 810	13 022	18 067	16 729	16 109
	1984	16 903	15 651	14 863	22 296	20 644	20 011
D_3	1978	4 577	4 318	3 530	7 707	7 271	6 641
	1979	3 864	3 645	2 857	6 132	5 785	5 155
	1980	6 177	5 827	4 868	8 756	8 260	7 494
83,7 GJ	1981	8 343	7 725	6 937	11 234	10 402	9 773
	1982	9 104	8 430	7 641	12 061	11 168	10 539
	1983	12 610	11 676	10 887	15 727	14 562	13 942
	1984	14 190	13 139	12 351	19 771	18 306	17 672
D_{3b}	1978	4 537	4 280	3 492	7 682	7 247	6 617
	1979	3 816	3 600	2 812	6 089	5 744	5 114
	1980	6 130	5 783	4 824	8 704	8 211	7 445
125,8 GJ	1981	8 204	7 596	6 808	11 093	10 271	9 643
	1982	8 964	8 300	7 512	11 920	11 037	10 408
	1983	12 413	11 494	10 705	15 526	14 376	13 756
	1984	13 959	12 925	12 137	19 553	18 105	17 471
D_4	1978	4 524	4 268	3 480	7 861	7 416	6 783
	1979	3 790	3 575	2 788	6 189	5 839	5 242
	1980	5 855	5 524	4 566	8 139	7 678	6 909
1 047 GJ	1981	7 985	7 394	6 606	10 987	10 173	9 542
	1982	8 744	8 096	7 309	11 817	10 942	10 311
	1983	12 311	11 399	10 612	15 968	14 785	14 164
	1984	13 829	12 805	12 018	20 081	18 594	17 957

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

ITALIA

LIT/GJ

Januar January Janvier Gennaio		Genova *			Napoli +		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	5 055	4 769	3 916	7 409	6 990	6 328
	1979	5 575	5 259	4 406	9 345	8 816	8 151
	1980	7 193	6 786	5 748	10 812	10 200	9 383
8,37 GJ							
	1981	•	•	•	14 899	13 795	13 107
	1982	•	•	•	14 953	13 845	13 845
	1983	12 415	11 495	10 707	20 604	19 078	19 078
	1984	16 319	15 111	14 332	22 661	20 982	20 982
D_2	1978	4 270	4 028	3 175	7 335	6 920	6 258
	1979	4 891	4 614	3 761	9 274	8 749	8 084
	1980	6 509	6 141	5 103	10 743	10 135	9 317
16,74 GJ							
	1981	•	•	•	14 352	13 289	12 601
	1982	•	•	•	14 407	13 340	13 340
	1983	11 822	10 946	10 157	18 956	17 552	17 552
	1984	14 539	13 462	12 673	20 771	19 232	19 232
D_3	1978	3 668	3 460	2 607	3 826	3 609	2 948
	1979	4 436	4 185	3 331	5 758	5 432	4 767
	1980	6 055	5 712	4 674	7 227	6 818	6 000
83,7 GJ							
	1981	•	•	•	10 997	10 182	9 494
	1982	•	•	•	11 051	10 232	10 232
	1983	11 347	10 506	9 718	14 794	13 698	13 698
	1984	13 114	12 143	11 354	16 114	14 920	14 920
D_{3b}	1978	3 600	3 396	2 543	3 603	3 399	2 738
	1979	4 505	4 250	3 397	5 556	5 242	4 576
	1980	6 123	5 776	4 739	7 024	6 626	5 809
125,6 GJ							
	1981	•	•	•	10 708	9 915	9 227
	1982	•	•	•	10 767	9 969	9 969
	1983	11 516	10 663	9 875	14 454	13 383	13 383
	1984	13 630	12 620	11 832	15 913	14 734	14 734
D_4	1978	3 473	3 276	2 424	3 189	3 008	2 347
	1979	3 906	3 685	2 832	5 182	4 889	4 223
	1980	5 524	5 211	4 174	6 649	6 273	5 455
1 047 GJ							
	1981	•	•	•	10 169	9 416	8 728
	1982	•	•	•	10 230	9 472	9 472
	1983	10 065	9 320	8 532	13 865	12 838	12 838
	1984	12 292	10 417	9 629	15 089	13 971	13 971

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

ITALIA

LIT/GJ

Januar January Janvier Gennaio		Torino * Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Torino * Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Torino * Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Milano *+ Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Milano *+ Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Milano *+ Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	3 356	2 944	2 944	5 447	4 778	4 778
	1979	3 664	3 214	3 214	5 659	4 964	4 964
	1980	5 078	4 454	4 454	7 343	6 441	6 441
418,6 GJ							
	1981	7 297	6 345	6 345	9 790	8 513	8 513
	1982	8 098	7 042	7 042	10 568	9 190	9 190
	1983	11 120	9 424	9 424	15 070	12 771	12 771
	1984	13 751	11 653	11 653	16 564	14 040	14 040
I_2	1978	3 278	2 875	2 875	4 840	4 246	4 246
	1979	3 585	3 145	3 145	5 053	4 432	4 432
	1980	4 999	4 385	4 385	7 321	6 422	6 422
4 186 GJ							
200 Tage/days/jours/giorni	1981	7 198	6 259	6 259	9 741	8 470	8 470
	1982	7 999	6 956	6 956	10 518	9 146	9 146
	1983	10 816	9 166	9 166	14 817	12 557	12 557
	1984	13 406	11 361	11 361	16 279	13 796	13 796
I_{3-1}	1978	2 153	1 889	1 889			
	1979	2 193	1 924	1 924			
	1980	3 858	3 384	3 384			
41 860 GJ							
200 Tage/days/jours/giorni	1981	5 929	5 156	5 156	= TORINO		
1 600 h	1982	7 543	6 559	6 559			
	1983	8 554	7 249	7 249			
	1984	9 411	7 975	7 975			
I_{3-2}	1978	2 153	1 889	1 889			
	1979	2 193	1 924	1 924			
	1980	3 858	3 384	3 384			
41 860 GJ							
250 Tage/days/ jours/giorni	1981	5 929	5 156	5 156	= TORINO		
4 000 h	1982	7 543	6 559	6 559			
	1983	8 554	7 249	7 249			
	1984	9 411	7 975	7 975			
I_{4-1}	1978	2 108	1 849	1 849			
	1979	2 147	1 883	1 883			
	1980	3 776	3 312	3 312			
418 600 GJ							
250 Tage/days/jours/giorni	1981	5 689	4 947	4 947	= TORINO		
4 000 h	1982	7 236	6 292	6 292			
	1983	8 193	6 943	6 943			
	1984	8 944	7 580	7 580			
I_{4-2}	1978	2 108	1 849	1 849			
	1979	2 147	1 883	1 883			
	1980	3 776	3 312	3 312			
418 600 GJ							
330 Tage/days/jours/giorni	1981	5 689	4 947	4 947	= TORINO		
8 000 h	1982	7 236	6 292	6 292			
	1983	8 193	6 943	6 943			
	1984	8 944	7 580	7 580			
I_5	1978	2 038	1 788	1 788			
	1979	2 077	1 822	1 822			
	1980	3 653	3 204	3 204			
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	5 382	4 680	4 680	= TORINO		
8 000 h	1982	6 846	5 953	5 953			
	1983	7 750	6 568	6 568			
	1984	8 441	7 153	7 153			

* Naturgas
Natural gas

\+ Ortsgas für $I_1 I_2$
Gasworks gas for $I_1 I_2$

* Gaz naturel
Gas naturale

\+ Gaz d'usines pour $I_1 I_2$
Gas di officina per $I_1 I_2$

ITALIA

LIT/GJ

Januar January Janvier Gennaio		Roma *			Roma +		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	3 965	3 478	3 478	8 109	7 113	7 113
	1979	3 125	2 741	2 741	6 340	5 561	5 561
	1980	6 134	5 381	5 381	9 350	8 202	8 202
418,6 GJ							
	1981	9 034	7 856	7 856	13 916	12 101	12 101
	1982	9 844	8 560	8 560	14 800	12 870	12 870
	1983	12 780	10 830	10 830	20 426	17 310	17 310
	1984	14 475	12 267	12 267	25 064	21 241	21 241
I_2	1978	3 886	3 409	3 409	7 717	6 769	6 769
	1979	3 044	2 672	2 672	5 947	5 217	5 217
	1980	6 056	5 312	5 312	8 958	7 858	7 858
4 186 GJ							
200 Tage/days/jours/giorni	1981	8 935	7 770	7 770	13 422	11 671	11 671
	1982	9 745	8 474	8 474	14 306	12 440	12 440
	1983	12 423	10 528	10 528	18 904	16 020	16 020
	1984	14 067	11 921	11 921	23 338	19 778	19 778
I_{3-1}	1978						
	1979	= Torino					
	1980						
41 860 GJ							
200 Tage/days/jours/giorni	1981						
1 600 h	1982						
	1983						
	1984						
I_{3-2}	1978						
	1979	= Torino					
	1980						
41 860 GJ							
250 Tage/days/ jours/giorni	1981						
4 000 h	1982						
	1983						
	1984						
I_{4-1}	1978						
	1979	= Torino					
	1980						
418 600 GJ							
250 Tage/days/jours/giorni	1981						
4 000 h	1982						
	1983						
	1984						
I_{4-2}	1978						
	1979	= Torino					
	1980						
418 600 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						
I_5	1978						
	1979	= Torino					
	1980						
4 186 000 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

ITALIA

LIT/GJ

Januar January Janvier Gennaio		Genova * Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Genova * Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Genova * Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Napoli + Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Napoli + Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Napoli + Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	2 362	2 072	2 072	-	-	-
	1979	2 905	2 549	2 549	-	-	-
	1980	4 435	3 891	3 891	-	-	-
418,8 GJ							
	1981	.	.	.	10 175	8 848	8 848
	1982	.	.	.	11 024	9 586	9 586
	1983	8 551	7 247	7 247	15 423	13 070	13 070
	1984	9 355	7 928	7 928	16 814	14 249	14 249
I_2	1978	2 231	1 957	1 957			
	1979	2 763	2 424	2 424			
	1980	4 293	3 766	3 766			
4 188 GJ							
200 Tage/days/jours/giorni	1981	.	.	.			
	1982	.	.	.			
	1983	8 590	7 280	7 280			
	1984	9 470	8 026	8 026			
I_{3-1}	1978						
	1979				= TORINO		
	1980						
41 860 GJ							
200 Tage/days/jours/giorni	1981						
1 600 h	1982						
	1983		= TORINO				
	1984						
I_{3-2}	1978						
	1979				= TORINO		
	1980						
41 860 GJ							
250 Tage/days/ jours/giorni	1981						
4 000 h	1982						
	1983		= TORINO				
	1984						
I_{4-1}	1978						
	1979				= TORINO		
	1980						
418 600 GJ							
250 Tage/days/jours/giorni	1981						
4 000 h	1982						
	1983		= TORINO				
	1984						
I_{4-2}	1978						
	1979				= TORINO		
	1980						
418 600 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983		= TORINO				
	1984						
I_5	1978						
	1979				= TORINO		
	1980						
4 186 000 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983		= TORINO				
	1984						

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

NEDERLAND HFL/GJ | DANEMARK DKR/GJ

	Januar / January / Janvier / Gennaio	Rotterdam • Preis alle Steuern inbegr. / Price incl. all taxes / Prix TTC / Prezzi imp. compresa	Rotterdam • Preis ohne MWSt. / Price excl. VAT / Prix hors TVA / Prezzi IVA escl.	Rotterdam • Preis ohne Steuern / Price excl. all taxes / Prix hors taxes / Prezzi imp. escluse	København + Preis alle Steuern inbegr. / Price incl. all taxes / Prix TTC / Prezzi imp. compresa	København + Preis ohne MWSt. / Price excl. VAT / Prix hors TVA / Prezzi IVA escl.	København + Preis ohne Steuern / Price excl. taxes / Prix hors taxes / Prezzi imp. escluse
D_1	1978	13,58	13,06	13,05	71,94	60,97	60,97
	1979	15,41	13,06	13,05	82,18	68,34	68,34
	1980	16,51	13,99	13,98	116,37	96,77	84,83
8,37 GJ							
	1981	20,17	17,09	17,08	139,64	114,46	104,90
	1982	22,51	19,08	19,07	148,32	121,57	112,01
	1983	24,69	20,92	20,91	179,43	147,07	137,51
	1984	25,91	21,77	21,76	178,40	146,23	146,23
D_2	1978	10,79	10,37	10,36	66,87	56,67	56,67
	1979	12,24	10,37	10,36	77,01	64,04	64,04
	1980	13,12	11,12	11,11	111,20	92,47	80,53
16,74 GJ							
	1981	16,78	14,22	14,21	134,40	110,16	100,60
	1982	19,13	16,21	16,20	143,06	117,26	107,71
	1983	20,67	17,51	17,50	172,29	141,22	131,66
	1984	21,86	18,37	18,36	170,68	139,90	139,90
D_3	1978	7,66	7,37	7,36	46,32	39,25	39,25
	1979	9,20	7,80	7,79	56,06	46,62	46,62
	1980	10,42	8,83	8,82	88,10	73,26	61,31
83,7 GJ							
	1981	14,08	11,93	11,92	107,31	87,96	78,40
	1982	16,43	13,92	13,91	115,99	95,07	85,51
	1983	17,46	14,79	14,78	135,67	111,21	101,65
	1984	18,61	15,64	15,63	131,64	107,90	107,90
D_{3b}	1978	7,38	7,10	7,09	45,15	38,25	38,25
	1979	8,93	7,57	7,56	54,83	45,60	45,60
	1980	10,20	8,64	8,63	86,86	72,23	60,29
125,6 GJ							
	1981	13,85	11,74	11,73	106,05	86,92	77,36
	1982	16,20	13,73	13,72	114,72	94,02	84,47
	1983	17,19	14,56	14,55	134,27	110,06	100,50
	1984	18,34	15,41	15,40	130,15	106,68	106,68
D_4	1978	6,96	6,69	6,68	43,17	36,59	36,59
	1979	8,57	7,26	7,25	52,81	43,92	43,92
	1980	9,95	8,43	8,42	84,82	70,53	58,61
1 047 GJ							
	1981	13,60	11,53	11,52	103,86	85,13	75,57
	1982	15,96	13,52	13,51	112,52	92,23	82,68
	1983	16,89	14,31	14,30	131,84	108,07	98,52
	1984	18,04	15,16	15,15	127,57	104,57	104,57

• Naturgas
Natural gas

+ Ortsgas
Gasworks gas

• Gaz naturel
Gas naturale

+ Gaz d'usines
Gas di officina

NEDERLAND HFL/GJ DANEMARK DKR/GJ

Januar January Janvier Gennaio		Rotterdam *			København +		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	6,58	6,71	6,70	54,20	45,93	45,93
	1979	8,55	7,25	7,24	62,35	51,85	51,85
	1980	9,87	8,37	8,36	97,56	81,13	69,18
418,6 GJ							
	1981	13,53	11,47	11,46	119,02	97,56	88,01
	1982	15,89	13,46	13,45	127,70	104,67	95,11
	1983	16,81	14,24	14,23	151,40	124,10	114,54
	1984	17,97	15,10	15,09	148,57	121,77	121,77
I_2	1978	6,83	6,57	6,56	45,18	38,29	38,29
	1979	8,41	7,13	7,12	53,16	44,21	44,21
	1980	9,76	8,27	8,26	87,12	72,44	60,51
4 186 GJ							
200 Tage/days/jours/giorni	1981	13,41	11,37	11,36	106,43	87,24	77,68
	1982	15,77	13,36	13,35	115,09	94,34	84,79
	1983	16,67	14,12	14,11	134,34	110,12	100,56
	1984	17,82	14,97	14,96	130,47	106,94	106,94
I_{3-1}	1978	5,66	5,44	5,44			
	1979	6,81	5,77	5,77			
	1980	8,96	7,59	7,59			
41 860 GJ							
200 Tage/days/jours/giorni	1981	11,53	9,77	9,77			
1 600 h	1982	15,51	13,14	13,14			
	1983	15,10	12,80	12,80			
	1984	16,21	13,62	13,62			
I_{3-2}	1978	5,66	5,44	5,44			
	1979	6,81	5,77	5,77			
	1980	8,96	7,59	7,59			
41 860 GJ							
250 Tage/days/ jours/giorni	1981	11,53	9,77	9,77			
4 000 h	1982	15,51	13,14	13,14			
	1983	15,10	12,80	12,80			
	1984	16,21	13,62	13,62			
I_{4-1}	1978	5,34	5,13	5,13			
	1979	6,37	5,40	5,40			
	1980	8,64	7,32	7,32			
418 600 GJ							
250 Tage/days/jours/giorni	1981	11,06	9,37	9,37			
4 000 h	1982	14,68	12,44	12,44			
	1983	14,08	11,93	11,93			
	1984	15,16	12,74	12,74			
I_{4-2}	1978	5,34	5,13	5,13			
	1979	6,37	5,40	5,40			
	1980	8,64	7,32	7,32			
418 600 GJ							
330 Tage/days/jours/giorni	1981	11,06	9,37	9,37			
8 000 h	1982	14,68	12,44	12,44			
	1983	14,08	11,93	11,93			
	1984	15,16	12,74	12,74			
I_5	1978	5,19	4,99	4,99			
	1979	5,86	4,97	4,97			
	1980	8,14	6,90	6,90			
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	10,54	8,93	8,93			
8 000 h	1982	13,85	11,74	11,74			
	1983	13,26	11,24	11,24			
	1984	15,12	12,71	12,71			

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

BELGIQUE/BELGIË

BFR/GJ

Januar Janvier	January Gennaio		Antwerpen *			Liège *		
			Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1		1978	390,0	368,0	368,0	383,0	361,0	361,0
		1979	390,8	368,7	368,7	386,7	364,8	364,8
		1980	419,3	395,6	395,6	415,1	391,6	391,6
	8,37 GJ							
		1981	479,1	413,0	413,0	496,6	428,1	428,1
		1982	585,1	500,1	500,1	585,1	500,1	500,1
		1983	630,9	539,2	539,2	630,9	539,2	539,2
		1984	668,5	571,4	571,4	668,5	571,4	571,4
D_2		1978	363,0	343,0	343,0	350,0	330,0	330,0
		1979	364,0	343,4	343,4	352,7	332,7	332,7
		1980	392,2	370,0	370,0	380,5	359,0	359,0
	16,74 GJ							
		1981	448,3	386,5	386,5	458,4	395,2	395,2
		1982	552,9	472,6	472,6	546,4	467,0	467,0
		1983	598,0	511,1	511,1	591,3	505,4	505,4
		1984	635,2	542,9	542,9	628,5	537,2	537,2
D_3		1978	173,0	163,0	163,0	173,0	163,0	163,0
		1979	174,7	164,7	164,7	174,7	164,7	164,7
		1980	199,7	188,4	188,4	199,7	188,4	188,4
	83,7 GJ							
		1981	264,6	228,1	228,1	264,6	228,1	228,1
		1982	359,7	307,4	307,4	359,7	307,4	307,4
		1983	400,8	342,6	342,6	400,8	342,6	342,6
		1984	435,6	372,3	372,3	435,6	372,3	372,3
D_{3b}		1978	161,0	152,0	152,0	161,0	152,0	152,0
		1979	163,0	153,8	153,8	163,0	153,8	153,8
		1980	188,0	177,4	177,4	188,0	177,4	177,4
	125,6 GJ							
		1981	251,5	216,8	216,8	251,5	216,8	216,8
		1982	345,7	295,5	295,5	345,7	295,5	295,5
		1983	404,5	330,5	330,5	404,5	330,5	330,5
		1984	421,3	360,1	360,1	421,3	360,1	360,1
D_4		1978	125,0	118,0	118,0	125,0	118,0	118,0
		1979	126,4	119,2	119,2	126,4	119,2	119,2
		1980	150,8	142,3	142,3	150,8	142,3	142,3
	1 047 GJ							
		1981	209,3	180,4	180,4	209,3	180,4	180,4
		1982	301,3	257,5	257,5	301,3	257,5	257,5
		1983	352,5	291,8	291,8	352,5	291,8	291,8
		1984	375,6	321,0	321,0	375,6	321,0	321,0

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

BELGIQUE/BELGIË BFR/GJ GRAND-DUCHE DE LUXEMBOURG LFR/GJ

Januar January Janvier Gennaio		Bruxelles *			Luxembourg *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	386,0	364,0	364,0	385,5	367,1	367,1
	1979	389,7	367,6	367,6	406,8	387,4	387,4
	1980	418,1	394,4	394,4	409,5	390,0	390,0
8,37 GJ	1981	496,6	428,1	428,1	469,2	446,9	446,9
	1982	585,1	500,1	500,1	591,6	563,4	563,4
	1983	630,9	539,2	539,2	601,7	573,0	573,0
	1984	668,5	571,4	571,4	612,6	577,9	577,9
D_2	1978	352,0	332,0	332,0	331,7	315,9	315,9
	1979	355,4	335,3	335,3	351,4	334,7	334,7
	1980	383,4	361,7	361,7	354,9	338,0	338,0
16,74 GJ	1981	458,4	395,2	395,2	408,8	389,4	389,4
	1982	546,4	467,0	467,0	510,0	485,7	485,7
	1983	591,3	505,4	505,4	518,2	493,5	493,5
	1984	628,5	537,2	537,2	527,0	487,2	497,2
D_3	1978	173,0	163,0	163,0	137,2	130,7	130,7
	1979	174,7	164,7	164,7	147,8	140,8	140,8
	1980	199,7	188,4	188,4	149,9	142,8	142,8
83,7 GJ	1981	264,6	228,1	228,1	221,2	210,7	210,7
	1982	359,7	307,4	307,4	325,4	307,9	307,9
	1983	400,8	342,6	342,6	331,5	315,7	315,7
	1984	435,6	372,3	372,3	338,7	319,5	319,5
D_{3b}	1978	161,0	152,0	152,0	130,8	124,6	124,6
	1979	163,0	153,8	153,8	140,8	134,1	134,1
	1980	188,0	177,4	177,4	142,7	135,9	135,9
125,6 GJ	1981	251,5	216,8	216,8	209,9	199,9	199,9
	1982	345,7	295,5	295,5	307,3	292,6	292,6
	1983	386,7	330,5	330,5	315,1	300,1	300,1
	1984	421,3	360,1	360,1	319,3	301,2	301,2
D_4	1978	125,0	118,0	118,0	116,9	111,3	111,3
	1979	126,4	119,2	119,2	123,9	118,0	118,0
	1980	150,8	142,3	142,3	125,4	119,4	119,4
1 047 GJ	1981	209,3	180,4	180,4	181,9	173,3	173,3
	1982	301,3	257,5	257,5	266,8	254,1	254,1
	1983	341,4	291,8	291,8	273,5	260,5	260,5
	1984	375,6	321,0	321,0	279,1	263,3	263,3

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

BELGIQUE/ BELGIË *

BFR/GJ

Januar January Janvier Gennaio		Cne = 0; P = 0,9 (1)			Cne = 1,0 ; P = 1 (1)		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978				151,2	142,6	142,6
	1979				150,2	141,7	141,7
	1980				172,6	162,8	162,8
418,6 GJ							
	1981				233,9	201,6	201,6
	1982				327,1	279,6	279,6
	1983				367,7	314,3	314,3
	1984				402,3	343,8	343,8
I_2	1978				118,5	111,8	111,8
	1979				119,5	112,7	112,7
	1980				143,8	135,7	135,7
4 186 GJ							
200 Tage/days/jours/giorni	1981				201,4	173,6	173,6
	1982				293,0	250,4	250,4
	1983				333,0	284,6	284,6
	1984				366,9	313,6	313,6
I_{3-1}	1978	106,8	100,8	100,8	115,2	108,7	108,7
	1979	107,0	100,9	100,9	115,3	108,8	108,8
	1980	125,1	118,1	118,1	140,6	132,6	132,6
41 860 GJ							
200 Tage/days/jours/giorni	1981	173,1	149,2	149,2	190,1	163,9	163,9
1 600 h	1982	259,3	221,6	221,6	276,9	236,7	236,7
	1983	285,1	243,7	243,7	303,2	259,1	259,1
	1984	314,7	269,0	269,0	333,0	284,6	284,6
I_{3-2}	1978	84,2	79,4	79,4	92,5	87,3	87,3
	1979	84,0	79,2	79,2	92,3	87,1	87,1
	1980	101,2	95,5	95,5	116,6	110,0	110,0
41 860 GJ							
260 Tage/days/ jours/giorni	1981	146,3	126,1	126,1	163,2	140,7	140,7
4 000 h	1982	230,5	197,0	197,0	248,2	212,1	212,1
	1983	255,3	218,2	218,2	273,3	233,6	233,6
	1984	284,2	242,9	242,9	302,5	258,5	258,5
I_{4-1}	1978	84,2	79,4	79,4	92,5	87,3	87,3
	1979	84,0	79,2	79,2	92,3	87,1	87,1
	1980	101,2	95,5	95,5	116,6	110,0	110,0
418 600 GJ							
260 Tage/days/jours/giorni	1981	146,3	126,1	126,1	163,2	140,7	140,7
4 000 h	1982	230,5	197,0	197,0	248,2	212,1	212,1
	1983	255,3	218,2	218,2	273,3	233,6	233,6
	1984	284,2	242,9	242,9	302,5	258,5	258,5
I_{4-2}	1978	76,6	72,3	72,3	85,1	80,3	80,3
	1979	76,2	71,9	71,9	84,6	79,8	79,8
	1980	93,3	88,0	88,0	108,7	102,5	102,5
418 600 GJ							
330 Tage/days/jours/giorni	1981	137,2	118,3	118,3	154,3	133,0	133,0
8 000 h	1982	221,0	188,9	188,9	238,7	204,0	204,0
	1983	245,2	209,6	209,6	263,3	225,0	225,0
	1984	274,0	234,2	234,2	292,3	249,8	249,8
I_6	1978	74,4	70,2	70,2	82,6	77,9	77,9
	1979	73,9	69,7	69,7	81,9	77,3	77,3
	1980	90,9	85,8	85,8	105,8	99,8	99,8
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	134,8	116,2	116,2	151,3	130,4	130,4
8 000 h	1982	218,4	186,7	186,7	235,5	201,3	201,3
	1983	242,7	207,4	207,4	260,1	222,3	222,3
	1984	271,4	232,0	232,0	289,1	247,1	247,1

* Naturgas
Natural gas

(1) Siehe Text
See text
Voir texte
Vedere testo

* Gaz naturel
Gas naturale

BELGIQUE/BELGIË *

BFR/GJ

Januar January Janvier Gennaio		Cne = 0,5; P = 1 (1)			Cne = 1; P = 1,1 (1)		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978						
	1979						
	1980						
418,6 GJ							
	1981						
	1982						
	1983						
	1984						
I_2	1978						
	1979						
	1980						
4 186 GJ							
200 Tage/days/jours/giorni	1981						
	1982						
	1983						
	1984						
I_{3-1}	1978	–	–	–	123,7	116,7	116,7
	1979	–	–	–	123,7	116,7	116,7
	1980	136,8	129,1	129,1	149,4	140,9	140,9
41 860 GJ							
200 Tage/days/jours/giorni	1981	185,9	160,3	160,3	199,8	172,2	172,2
1 600 h	1982	272,5	232,9	232,9	286,7	245,0	245,0
	1983	298,6	255,2	255,2	313,0	267,5	267,5
	1984	328,3	280,6	280,6	342,8	293,0	293,0
I_{3-2}	1978	–	–	–	100,9	95,2	95,2
	1979	–	–	–	100,7	95,0	95,0
	1980	113,0	106,6	106,6	125,4	118,3	118,3
41 860 GJ							
250 Tage/days/ jours/giorni	1981	159,2	137,2	137,2	173,0	149,1	149,1
4 000 h	1982	243,8	208,4	208,4	258,0	220,5	220,5
	1983	268,8	229,7	229,7	283,1	242,0	242,0
	1984	297,8	254,5	254,5	312,3	266,9	266,9
I_{4-1}	1978	–	–	–	100,9	95,2	95,2
	1979	–	–	–	100,7	95,0	95,0
	1980	113,0	106,6	106,6	125,4	118,3	118,3
418 600 GJ							
250 Tage/days/jours/giorni	1981	159,2	137,2	137,2	173,0	149,1	149,1
4 000 h	1982	243,8	208,4	208,4	258,0	220,5	220,5
	1983	268,8	229,7	229,7	283,1	242,0	242,0
	1984	297,8	254,5	254,5	312 3	266,9	266,9
I_{4-2}	1978	–	–	–	93,5	88,2	88,2
	1979	–	–	–	93,1	87,8	87,8
	1980	105,0	99,1	99,1	117,4	110,8	110,8
418 600 GJ							
330 Tage/days/jours/giorni	1981	150,2	129,5	129,5	164,0	141,4	141,4
8 000 h	1982	234,2	200,2	200,2	248,5	212,4	212,4
	1983	258,8	221,2	221,2	273,2	233,5	233,5
	1984	287,6	245,8	245,8	302,1	258,2	258,2
I_5	1978	–	–	–	90,7	85,6	85,6
	1979	–	–	–	90,0	84,9	84,9
	1980	102,3	96,5	96,5	114,4	107,9	107,9
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	147,2	126,9	126,9	160,5	138,4	138,4
8 000 h	1982	231,3	197,7	197,7	245,0	209,4	209,4
	1983	255,8	218,6	218,6	269,7	230,5	230,5
	1984	284,5	243,2	243,2	298,6	255,2	255,2

* Naturgas
Natural gas

(1) Siehe Text
See Text
Voir texte
Vedere testo

* Gaz naturel
Ges naturale

GRAND–DUCHE DE LUXEMBOURG LFR/GJ

Januar January Janvier Gennaio		Luxembourg *					
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	122,2	116,3	116,3			
	1979	131,5	125,2	125,2			
	1980	133,0	126,7	126,7			
418,6 GJ							
	1981	193,4	184,2	184,2			
	1982	283,0	269,5	269,5			
	1983	290,2	276,4	276,4			
	1984	296,3	279,5	279,5			
I_2	1978	96,6	92,0	92,0			
	1979	109,4	104,2	104,2			
	1980	111,3	106,0	106,0			
4 186 GJ							
200 Tage/days/jours/giorni	1981	177,7	169,3	169,3			
	1982	272,1	259,1	259,1			
	1983	279,6	266,3	266,3			
	1984	285,9	269,7	269,7			
I_{3-1}	1978	85,6	81,5	81,5			
	1979	96,9	92,3	92,3			
	1980	98,8	94,1	94,1			
41 860 GJ							
200 Tage/days/jours/giorni	1981	164,5	156,7	156,7			
1 600 h	1982	257,8	245,5	245,5			
	1983	265,0	252,4	252,4			
	1984	271,1	255,8	255,8			
I_{3-2}	1978	77,8	74,1	74,1			
	1979	88,7	84,5	84,5			
	1980	90,3	86,0	86,0			
41 860 GJ							
250 Tage/days/ jours/giorni	1981	152,6	145,3	145,3			
4 000 h	1982	240,2	228,8	228,8			
	1983	247,2	235,4	235,4			
	1984	252,7	238,4	238,4			
I_{4-1}	1978						
	1979						
	1980						
418 600 GJ							
250 Tage/days/jours/giorni	1981						
4 000 h	1982						
	1983						
	1984						
I_{4-2}	1978						
	1979						
	1980						
418 600 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						
I_5	1978						
	1979						
	1980						
4 186 000 GJ							
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

UNITED KINGDOM

UKL/GJ

Januar January Janvier Gennaio		Leeds *			Birmingham *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
D_1	1978	2,46	2,46	2,46	2,27	2,27	2,27
	1979	2,46	2,46	2,46	2,27	2,27	2,27
	1980	2,64	2,64	2,64	2,44	2,44	2,44
8,37 GJ							
	1981	3,51	3,51	3,51	3,22	3,22	3,22
	1982	5,17	5,17	5,17	4,84	4,84	4,84
	1983	6,36	6,36	6,36	5,99	5,99	5,99
	1984	6,52	6,52	6,52	6,15	6,15	6,15
D_2	1978	2,29	2,29	2,29	2,20	2,20	2,20
	1979	2,29	2,29	2,29	2,20	2,20	2,20
	1980	2,46	2,46	2,46	2,36	2,36	2,36
16,74 GJ							
	1981	3,34	3,34	3,34	3,15	3,15	3,15
	1982	4,37	4,37	4,37	4,25	4,25	4,25
	1983	5,37	5,37	5,37	5,23	5,23	5,23
	1984	5,53	5,53	5,53	5,39	5,39	5,39
D_{2b} (1)	1978	1,96	1,96	1,96	1,89	1,89	1,89
	1979	1,96	1,96	1,96	1,89	1,89	1,89
	1980	2,09	2,09	2,09	2,02	2,02	2,02
33,5 GJ							
	1981	2,69	2,69	2,69	2,59	2,59	2,59
	1982	3,47	3,47	3,47	3,41	3,41	3,41
	1983	4,27	4,27	4,27	4,20	4,20	4,20
	1984	4,43	4,43	4,43	4,36	4,36	4,36
D_3	1978	1,65	1,65	1,65	1,62	1,62	1,62
	1979	1,65	1,65	1,65	1,62	1,62	1,62
	1980	1,78	1,78	1,78	1,75	1,75	1,75
83,7 GJ							
	1981	2,28	2,28	2,28	2,24	2,24	2,24
	1982	2,94	2,94	2,94	2,91	2,91	2,91
	1983	3,61	3,61	3,61	3,59	3,59	3,59
	1984	3,78	3,78	3,78	3,75	3,75	3,75
D_{3b}	1978	1,60	1,60	1,60	1,58	1,58	1,58
	1979	1,60	1,60	1,60	1,58	1,58	1,58
	1980	1,70	1,70	1,70	1,69	1,69	1,69
126,6 GJ							
	1981	2,19	2,19	2,19	2,16	2,16	2,16
	1982	2,82	2,82	2,82	2,80	2,80	2,80
	1983	3,47	3,47	3,47	3,45	3,45	3,45
	1984	3,63	3,63	3,63	3,61	3,61	3,61

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

(1) Zusätzlicher typischer Abnehmer für das Vereinigte Königreich
(1) Extra standard consumer for United Kingdom only

(1) Consommateur-type supplémentaire, Royaume-Uni seulement
(1) Consumatore tipo supplementare per il Regno Unito

UNITED KINGDOM — UKL/GJ — IRELAND — IRL/GJ

Januar / January / Janvier / Gennaio		London *			Dublin +		
		Preis alle Steuern inbegr. / Price incl. all taxes / Prix TTC / Prezzi imp. comprese	Preis ohne MWSt. / Price excl. VAT / Prix hors TVA / Prezzi IVA escl.	Preis ohne Steuern / Price excl. all taxes / Prix hors taxes / Prezzi imp. escluse	Preis alle Steuern inbegr. / Price incl. all taxes / Prix TTC / Prezzi imp. comprese	Preis ohne MWSt. / Price excl. VAT / Prix hors TVA / Prezzi IVA escl.	Preis ohne Steuern / Price excl. taxes / Prix hors taxes / Prezzi imp. escluse
D_1	1978	2,79	2,79	2,79	4,37	4,37	4,37
	1979	2,79	2,79	2,79	4,80	4,80	4,80
	1980	3,00	3,00	3,00	8,13	8,13	8,13
8,37 GJ	1981	3,79	3,79	3,79	12,22	12,22	12,22
	1982	5,51	5,51	5,51	14,78	14,78	14,78
	1983	6,79	6,79	6,79	14,74	14,74	14,74
	1984	6,67	6,67	6,67	15,48	14,74	14,74
D_2	1978	2,65	2,65	2,65	4,27	4,27	4,27
	1979	2,65	2,65	2,65	4,69	4,69	4,69
	1980	2,85	2,85	2,85	8,02	8,02	8,02
18,74 GJ	1981	3,77	3,77	3,77	12,12	12,12	12,12
	1982	4,49	4,49	4,49	14,68	14,68	14,68
	1983	5,54	5,54	5,54	12,42	12,42	12,42
	1984	5,70	5,70	5,70	13,04	12,42	12,42
D_{2b} (1)	1978	2,17	2,17	2,17			
	1979	2,17	2,17	2,17			
	1980	2,32	2,32	2,32			
33,5 GJ	1981	2,94	2,94	2,94			
	1982	3,53	3,53	3,53			
	1983	4,36	4,36	4,36			
	1984	4,52	4,52	4,52			
D_3	1978	1,74	1,74	1,74	3,34	3,34	3,34
	1979	1,74	1,74	1,74	3,76	3,76	3,76
	1980	1,87	1,87	1,87	6,46	6,46	6,46
83,7 GJ	1981	2,38	2,38	2,38	10,30	10,30	10,30
	1982	2,96	2,96	2,96	12,86	12,86	12,86
	1983	3,65	3,65	3,65	7,61	7,61	7,61
	1984	3,81	3,81	3,81	7,99	7,61	7,61
D_{3b}	1978	1,65	1,65	1,65	3,26	3,26	3,26
	1979	1,65	1,65	1,65	3,68	3,68	3,68
	1980	1,77	1,77	1,77	6,39	6,39	6,39
126,6 GJ	1981	2,26	2,26	2,26	10,22	10,22	10,22
	1982	2,83	2,83	2,83	12,78	12,78	12,78
	1983	3,49	3,49	3,49	7,06	7,06	7,06
	1984	3,65	3,65	3,65	7,41	7,06	7,06

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

(1) Zusätzlicher typischer Abnehmer für das Vereinigte Königreich
(1) Extra standard consumer for United Kingdom only

(1) Consommateur–type supplémentaire, Royaume–Uni seulement
(1) Consumatore tipo supplementare per il Regno Unito

UNITED KINGDOM

UKL/GJ

Januar January Janvier Gennaio		Leeds *			Birmingham *		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	1,73	1,73	1,73	1,72	1,72	1,72
	1979	1,73	1,73	1,73	1,72	1,72	1,72
	1980	2,32	2,32	2,32	2,32	2,32	2,32
418,6 GJ							
	1981	2,55	2,55	2,55	2,55	2,55	2,55
	1982	2,65	2,65	2,65	2,65	2,65	2,65
	1983	3,27	3,27	3,27	3,27	3,27	3,27
	1984	3,43	3,43	3,43	3,43	3,43	3,43
I_2	1978	1,70	1,70	1,70	1,69	1,69	1,69
	1979	1,70	1,70	1,70	1,69	1,69	1,69
	1980	2,28	2,28	2,28	2,28	2,28	2,28
4 186 GJ							
200 Tage/days/jours/giorni	1981	2,47	2,47	2,47	2,47	2,47	2,47
	1982	2,78	2,78	2,78	2,78	2,78	2,78
	1983	3,06	3,06	3,06	3,06	3,06	3,06
	1984	3,17	3,17	3,17	3,17	3,17	3,17
I_{3-1}	1978						
	1979						
	1980						
41 860 GJ			= LONDON			= LONDON	
200 Tage/days/jours/giorni	1981						
1 600 h	1982						
	1983						
	1984						
I_{3-2}	1978						
	1979						
	1980						
41 860 GJ			= LONDON			= LONDON	
250 Tage/days/ jours/giorni	1981						
4 000 h	1982						
	1983						
	1984						
I_{4-1}	1978						
	1979						
	1980						
418 600 GJ			= LONDON			= LONDON	
250 Tage/days/jours/giorni	1981						
4 000 h	1982						
	1983						
	1984						
I_{4-2}	1978						
	1979						
	1980						
418 600 GJ			= LONDON			= LONDON	
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						
I_5	1978						
	1979						
	1980						
4 186 000 GJ			= LONDON			= LONDON	
330 Tage/days/jours/giorni	1981						
8 000 h	1982						
	1983						
	1984						

* Naturgas
Natural gas

* Gaz naturel
Gas naturale

UNITED KINGDOM UKL/GJ IRELAND IRL/GJ

Januar January Janvier Gennaio		London *			Dublin +		
		Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. all taxes Prix hors taxes Prezzi imp. escluse	Preis alle Steuern inbegr. Price incl. all taxes Prix TTC Prezzi imp. comprese	Preis ohne MWSt. Price excl. VAT Prix hors TVA Prezzi IVA escl.	Preis ohne Steuern Price excl. taxes Prix hors taxes Prezzi imp. escluse
I_1	1978	1,76	1,76	1,76	3,23	3,23	3,23
	1979	1,76	1,76	1,76	3,86	3,86	3,86
	1980	2,32	2,32	2,32	6,33	6,33	6,33
418,6 GJ							
	1981	2,55	2,55	2,55	10,18	10,18	10,18
	1982	2,65	2,65	2,65	12,74	12,74	12,74
	1983	3,27	3,27	3,27	6,30	6,30	6,30
	1984	3,43	3,43	3,43	6,62	6,30	6,30
I_2	1978	1,70	1,70	1,70	3,11	3,11	3,11
	1979	1,70	1,70	1,70	3,60	3,60	3,60
	1980	2,28	2,28	2,28	5,78	5,78	5,78
4 186 GJ							
200 Tage/days/jours/giorni	1981	2,47	2,47	2,47	9,25	9,25	9,25
	1982	2,78	2,78	2,78	11,81	11,81	11,81
	1983	3,06	3,06	3,06	5,59	5,59	5,59
	1984	3,17	3,17	3,17	5,87	5,59	5,59
I_{3-1}	1978	1,65	1,65	1,65			
	1979	1,77	1,77	1,77			
	1980	2,83	2,83	2,83			
41 860 GJ							
200 Tage/days/jours/giorni	1981	2,68	2,68	2,68			
1 600 h	1982	2,78	2,78	2,78			
	1983	2,89	2,89	2,89			
	1984	2,91	2,91	2,91			
I_{3-2}	1978	1,65	1,65	1,65			
	1979	1,77	1,77	1,77			
	1980	2,83	2,83	2,83			
41 860 GJ							
250 Tage/days/ jours/giorni	1981	2,68	2,68	2,68			
4 000 h	1982	2,78	2,78	2,78			
	1983	2,89	2,89	2,89			
	1984	2,91	2,91	2,91			
I_{4-1}	1978	1,43	1,43	1,43			
	1979	1,53	1,53	1,53			
	1980	2,45	2,45	2,45			
418 600 GJ							
250 Tage/days/jours/giorni	1981	2,68	2,68	2,68			
4 000 h	1982	2,78	2,78	2,78			
	1983	2,87	2,87	2,87			
	1984	2,87	2,87	2,87			
I_{4-2}	1978	1,43	1,43	1,43			
	1979	1,53	1,53	1,53			
	1980	2,45	2,45	2,45			
418 600 GJ							
330 Tage/days/jours/giorni	1981	2,68	2,68	2,68			
8 000 h	1982	2,78	2,78	2,78			
	1983	2,87	2,87	2,87			
	1984	2,87	2,87	2,87			
I_5	1978	1,22	1,22	1,22			
	1979	1,22	1,22	1,22			
	1980	1,89	1,89	1,89			
4 186 000 GJ							
330 Tage/days/jours/giorni	1981	2,32	2,32	2,32			
8 000 h	1982	2,42	2,42	2,42			
	1983	2,51	2,51	2,51			
	1984	2,51	2,51	2,51			

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officina

TABELLE FUR DIE UMRECHNUNG DES KAUFKRAFTSTANDARDS (KKS)

TABLE DE CONVERSION DU STANDARD DE POUVOIR D'ACHAT (SPA)

CONVERSION TABLE FOR THE PURCHASING POWER STANDARD (PPS)

TABELLA DI CONVERSIONE DELLO STANDARD DI POTERE D'ACQUISTO (SPA)

1 KKS = 1 PPS = 1 SPA =

	BR Deutschland DM	France FF	Italia LIT	Nederland HFL	Belgie Belgique BFR	Luxembourg LFR	United Kingdom UKL	Ireland IRL	Danmark DKR
1975 (1)	3,59	5,95	624	3,47	51,7	46,30	0,449	0,441	9,05
1978	3,05	5,93	760	3,22	47,15	42,57	0,496	0,500	8,93
1979	2,91	5,99	806	3,06	44,94	40,59	0,520	0,515	8,78
1980	2,74	6,05	877	2,92	42,26	40,38	0,562	0,531	8,57
1981	2,61	6,21	950	2,83	40,67	40,44	0,574	0,571	8,68
1982	2,51	6,41	1024	2,74	39,93	40,86	0,564	0,608	8,80
1983	2,43	6,62	1108	2,62	40,20	41,60	0,557	0,633	8,89
1984 (2)	2,38	6,75	1162	2,55	40,70	42,40	0,556	0,651	8,90

(1) ausgewähltes Basisjahr/ chosen reference year
année de base choisie / anno di referenza scelto

(2) vorläufig/provisional
provisoire /provvisorio

TABELLE FÜR DIE UMRECHNUNG DER EUROPAISCHEN WAHRUNGSEINHEIT (ECU)

TABLE DE CONVERSION DE L'UNITE MONETAIRE EUROPEENNE (ECU)

CONVERSION TABLE FOR THE EUROPEAN CURRENCY UNIT (ECU)

TABELLA DI CONVERSIONE DELL'UNITA MONETARIA EUROPEA (ECU)

1 ECU = 1 ECU =

Januar/January Janvier/Gennaio	BR Deutschland DM	France FF	Italia LIT	Nederland HFL	Belgie Belgique BFR	Luxembourg LFR	United Kingdom UKL	Ireland IRL	Danmark DKR
1978	2,5944	5,7798	1067,7	2,7816	40,2310	40,2310	0,6336	0,6336	7,0749
1979	2,5099	5,7612	1135,9	2,7099	39,5842	39,5842	0,6774	0,6774	6,9629
1980	2,4885	5,8302	1161,3	2,7474	40,4260	40,4260	0,6373	0,6734	7,7713
1981	2,5806	5,9657	1225,8	2,8047	41,4920	41,4920	0,5346	0,6919	7,9395
1982	2,4442	6,2102	1308,9	2,6790	41,6068	41,6068	0,5653	0,6922	7,9886
1983	2,2967	6,5095	1320,9	2,5287	45,0461	45,0461	0,6103	0,6909	8,0884
1984	2,2580	6,9034	1371,2	2,5379	46,0675	46,0675	0,5706	0,7288	8,1769

PREISINDICES DES BIP
GDP PRICE INDICES

INDICES DE PRIX DU PIB
INDICI DEI PREZZI DEL PIL

1975 = 100

	BR Deutschland	France	Italia	Nederland	Belgie Belgique	Luxembourg	United Kingdom	Ireland	Danmark
1978	111,7	131,1	160,0	122,1	119,9	120,7	145,4	149,2	129,8
1979	116,3	144,7	185,4	126,9	124,8	127,7	166,4	167,8	139,5
1980	121,4	162,1	223,7	134,0	130,2	137,7	199,4	192,0	151,0
1981	126,4	181,6	264,7	141,8	136,8	148,5	222,5	225,4	167,0
1982	132,4	204,3	310,9	149,8	146,4	160,3	238,4	261,6	184,5
1983 (1)	136,7	225,1	356,0	151,3	155,7	171,8	251,3	289,1	196,4
1984 (1)	140,5	241,1	395,2	154,3	164,8	184,5	264,6	311,6	207,7

(1) vorläufig / provisional / provisoire / provvisorio

Preisbereinigt KKS/GJ
Deflated PPS/GJ

EUR 9

SPA déflaté/GJ
SPA deflazionato/GJ

Januar Janvier	January Gennaio	Düsseldorf *	Paris *	Milano +	Rotterdam *	Bruxelles *	Luxembourg *	London *	Dublin +	København +
D_1	1978	7,34	6,24	6,71	3,21	6,23	6,90	4,27	6,64	6,12
	1979	7,05	6,22	5,97	3,50	6,04	6,88	3,73	6,49	6,51
	1980	6,81	7,04	6,16	3,55	6,21	6,42	3,35	9,60	8,52
8,37 GJ	1981	7,93	7,10	6,27	4,10	7,02	6,82	3,79	12,29	9,24
	1982	9,84	7,47	5,72	4,33	7,73	7,97	5,15	12,81	8,88
	1983	.	7,49	7,55	4,70	7,84	7,56	6,02	11,56	10,09
	1984	8,97	7,50	7,52	4,84	7,85	7,17	5,61	11,27	9,49
D_2	1978	5,57	5,26	6,18	2,55	5,68	5,94	4,06	6,49	5,69
	1979	5,35	5,24	5,51	2,78	5,51	5,94	3,55	6,34	6,10
	1980	6,81	5,99	5,78	2,82	5,70	5,57	3,18	9,47	8,14
16,74 GJ	1981	6,02	6,12	6,08	3,41	6,42	5,95	3,77	12,19	8,89
	1982	7,46	6,50	5,56	3,68	7,22	6,87	4,19	12,72	8,57
	1983	.	6,55	6,92	3,94	7,35	6,51	4,91	9,74	9,69
	1984	6,71	6,59	6,86	4,08	7,38	6,17	4,80	9,49	9,08
D_3	1978	3,56	3,29	5,20	1,81	2,79	2,46	2,67	5,08	3,94
	1979	3,42	3,30	4,66	2,09	2,71	2,50	2,33	5,08	4,44
	1980	3,31	3,95	5,47	2,24	2,97	2,35	2,09	7,63	6,45
83,7 GJ	1981	4,12	4,15	5,94	2,86	3,74	3,22	2,38	10,36	7,10
	1982	4,91	4,59	5,43	3,16	4,75	4,38	2,77	11,15	6,95
	1983	.	4,63	6,42	3,33	4,98	4,17	3,23	5,97	7,63
	1984	4,28	4,65	6,73	3,48	5,11	3,96	3,21	5,81	7,00
D_{3b}	1978	3,17	2,84	5,17	1,74	2,60	2,34	2,53	4,95	3,84
	1979	3,05	2,88	4,63	2,03	2,53	2,38	2,21	4,97	4,34
	1980	2,95	3,52	5,47	2,19	2,79	2,24	1,98	7,55	6,36
125,6 GJ	1981	3,78	3,76	5,92	2,81	3,56	3,05	2,26	10,28	7,02
	1982	4,62	4,22	5,42	3,12	4,57	4,14	2,64	11,08	6,87
	1983	.	4,28	6,38	3,27	4,80	3,96	3,09	5,54	7,55
	1984	4,01	4,33	6,55	3,43	4,94	3,74	3,07	5,39	6,92
D_4	1978	2,67	2,26	5,00	1,64	2,02	2,09			3,68
	1979	2,56	2,25	4,49	1,95	1,96	2,10			4,18
	1980	2,48	2,86	5,41	2,14	2,24	1,97			6,21
1 047 GJ	1981	3,49	3,03	5,92	2,76	2,96	2,65			6,87
	1982	4,08	3,56	5,42	3,07	3,98	3,59			6,74
	1983	.	3,61	6,38	3,22	4,24	3,44			7,42
	1984	3,60	3,69	6,28	3,37	4,41	3,27			6,79

* Naturgas
Natural gas

+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

+ Gaz d'usines
Gas di officiana

EUR 9 — ECU/GJ

Januar / Janvier / January / Gennaio		Düsseldorf *	Paris *	Milano +	Rotterdam *	Bruxelles *	Luxembourg *	London *	Dublin +	København +
D_1	1978	11,34	8,43	6,28	4,88	9,59	9,58	4,40	6,90	10,17
	1979	11,72	9,30	6,08	5,69	9,84	10,28	4,12	7,09	11,80
	1980	11,93	11,64	7,40	6,01	10,34	10,13	4,71	12,07	14,97
8,37 GJ	1981	13,94	12,87	8,45	7,19	11,97	11,31	7,09	17,66	17,59
	1982	19,13	14,62	8,48	8,40	14,06	14,22	9,75	21,35	18,57
	1983	.	15,41	12,70	9,76	14,01	13,36	11,13	21,33	22,18
	1984	20,04	15,59	13,53	10,21	14,51	13,30	11,69	21,24	21,82
D_2	1978	8,61	7,10	5,78	3,88	8,75	8,24	4,18	6,74	9,45
	1979	8,90	7,84	5,61	4,52	8,98	8,88	3,91	6,92	11,06
	1980	9,05	9,91	6,95	4,78	9,48	8,78	4,47	11,91	14,31
16,74 GJ	1981	11,18	11,08	8,20	5,98	11,05	9,85	7,05	17,52	16,93
	1982	15,44	12,72	8,24	7,14	13,13	12,26	7,94	21,21	17,91
	1983		13,37	11,65	8,17	13,13	11,50	9,08	17,98	21,30
	1984	14,99	13,68	12,34	8,61	13,64	11,44	9,99	17,89	20,87
D_3	1978	5,50	4,44	4,87	2,75	4,30	3,41	2,75	5,27	6,55
	1979	5,69	4,94	4,75	3,39	4,41	3,73	2,51	5,55	8,05
	1980	5,79	6,54	6,58	3,79	4,94	3,71	2,93	9,59	11,34
83,7 GJ	1981	7,25	7,52	8,00	5,02	6,38	5,33	4,45	14,89	13,52
	1982	9,54	8,99	8,05	6,13	8,65	7,82	5,24	18,58	14,52
	1983	.	9,52	10,73	6,90	8,90	7,36	5,98	11,01	16,77
	1984	9,57	9,61	12,10	7,33	9,46	7,35	6,68	10,96	16,10
D_{3b}	1978	4,91	3,84	4,84	2,65	4,00	3,25	2,60	5,15	6,38
	1979	5,07	4,30	4,72	3,30	4,12	3,56	2,44	5,43	7,87
	1980	5,16	5,82	6,58	3,71	4,65	3,53	2,78	9,49	11,18
125,6 GJ	1981	6,64	6,81	7,98	4,94	6,06	5,06	4,23	14,77	13,36
	1982	8,99	8,27	8,03	6,05	8,31	7,39	5,01	18,46	14,36
	1983	.	8,81	10,73	6,80	8,58	7,00	5,72	10,22	16,60
	1984	8,96	9,00	11,78	7,23	9,15	6,93	6,40	10,17	15,92
D_4	1978	4,12	3,05	4,68	2,50	3,11	2,91			6,10
	1979	4,26	3,36	4,57	3,16	3,19	3,13			7,58
	1980	4,34	4,73	6,50	3,62	3,75	3,10			10,91
1 047 GJ	1981	6,13	5,49	7,97	4,85	5,04	4,38			13,08
	1982	7,94	6,97	8,03	5,96	7,24	6,41			14,09
	1983	.	7,43	10,72	6,68	7,58	6,07			16,30
	1984	8,03	7,66	11,30	7,11	8,15	6,06			15,60

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officiana

Preisbereinigt KKS/GJ
Deflated PPS/GJ

SPA déflaté /GJ
SPA deflazionato/GJ

EUR 9

Januar January Janvier Gennaio		Düsseldorf *	Paris *	Milano * +	Rotterdam *	Bruxelles *	Luxembourg *	London *	Dublin +	København +
I_1	1978	3,22	2,16	4,79	1,58	2,30	2,08	2,70	4,91	3,91
	1979	3,09	2,13	4,29	1,65	2,20	2,12	2,36	5,22	4,11
418,6 GJ	1980	2,96	2,66	4,61	1,80	2,42	1,99	2,59	7,48	5,94
	1981	3,77	2,81	5,15	2,33	2,85	2,68	2,55	10,24	6,46
	1982	4,55	3,26	4,74	2,59	3,69	3,63	2,48	11,04	6,27
	1983	.	3,26	5,75	2,71	3,90	3,47	2,90	4,94	6,98
	1984	3,86	3,32	5,69	2,82	4,04	3,27	2,89	4,58	6,48
I_2	1978	1,92	1,80	4,25	1,55	1,80	1,65	2,60	4,73	3,26
	1979	1,85	1,80	3,83	1,62	1,75	1,76	2,28	4,86	3,50
4186 GJ	1980	2,42	2,31	4,60	1,78	2,02	1,66	2,55	6,83	5,30
	1981	2,83	2,46	5,13	2,31	2,45	2,46	2,47	9,31	5,77
200 Tage/days/	1982	3,73	2,92	4,71	2,57	3,31	3,49	2,60	10,24	5,65
jours/giorni	1983	.	2,93	5,65	2,69	3,54	3,35	2,71	4,38	6,20
	1984	3,30	3,00	5,59	2,80	3,68	3,16	2,67	4,07	5,69
I_{3-1}	1978	1,80	1,74	1,89	1,28	1,75	1,46	2,53		
	1979	1,73	1,58	1,66	1,31	1,69	1,56	2,37		
41 860 GJ	1980	2,23	1,98	2,76	1,63	1,97	1,48	3,16		
	1981	2,62	2,13	3,12	1,99	2,32	2,28	2,68		
200 Tage/days/	1982	3,47	2,48	3,38	2,53	3,13	3,31	2,60		
jours/giorni	1983	.	2,46	3,26	2,44	3,22	3,17	2,56		
	1984	3,08	2,46	3,23	2,54	3,34	2,99	2,45		
I_{3-2}	1978	1,72	1,55	1,89	1,28	1,41	1,33	2,53		
	1979	1,65	1,41	1,66	1,31	1,35	1,43	2,37		
41 860 GJ	1980	2,13	1,93	2,42	1,63	1,63	1,35	3,16		
	1981	2,53	2,07	3,12	1,99	1,99	2,11	2,68		
250 Tage/days/	1982	3,35	2,42	3,38	2,53	2,80	3,08	2,60		
jours/giorni	1983	.	2,40	3,26	2,44	2,90	2,96	2,56		
	1984	2,97	2,40	3,23	2,54	3,03	2,79	2,45		
I_{4-1}	1978	1,58	1,32	1,85	1,21	1,41		2,19		
	1979	1,64	1,19	1,63	1,23	1,35		2,05		
418 600 GJ	1980	2,12	1,75	2,37	1,58	1,63		2,74		
	1981	2,52	1,89	3,00	1,90	1,99		2,68		
250 Tage/days/	1982	3,33	2,24	3,24	2,39	2,80		2,60		
jours/ giorni	1983	.	2,22	3,13	2,27	2,90		2,54		
	1984	2,96	2,22	3,07	2,38	3,03		2,42		
I_{4-2}	1978	1,51	1,28	1,85	1,21	1,30		2,19		
	1979	1,57	1,16	1,63	1,23	1,24		2,05		
418 600 GJ	1980	2,03	1,71	2,37	1,58	1,52		2,74		
	1981	2,44	1,85	3,00	1,90	1,88		2,68		
330 Tage/days/	1982	3,21	2,19	3,24	2,39	2,70		2,60		
jours/giorni	1983	.	2,17	3,13	2,27	2,80		2,54		
	1984	2,85	2,18	3,07	2,38	2,93		2,42		
I_5	1978	.	1,20	1,79	1,18	1,26		1,87		
	1979	.	1,09	1,57	1,13	1,20		1,63		
4186 000 GJ	1980	.	1,69	2,30	1,49	1,48		2,11		
	1981	.	1,83	2,83	1,81	1,84		2,32		
330 Tage/days/	1982	.	2,17	3,07	2,26	2,66		2,26		
jours/giorni	1983	.	2,15	2,96	2,14	2,76		2,22		
	1984	2,85	2,16	2,90	2,37	2,90		2,11		

* Naturgas
Natural gas

+ Orstgas
Gasworks gas

(1) Ohne Mehrwertsteuer
Without VAT
Hors TVA
Senza IVA

* Gaz naturel
Gas naturale

+ Gaz d'usines
Gas di officiana

	Januar Janvier / January Gennaio	Düsseldorf *	Paris *	Milano * +	Rotterdam *	Bruxelles *	Luxembourg *	London *	Dublin +	København +
I_1	1978	4,97	2,92	4,48	2,41	3,54	2,89	2,78	5,10	6,49
	1979	5,14	3,18	4,37	2,68	3,58	3,16	2,60	5,70	7,45
418,6 GJ	1980	5,18	4,40	5,55	3,05	4,03	3,13	3,64	9,40	10,44
	1981	6,64	5,09	6,94	4,09	4,86	4,44	4,77	14,71	12,29
	1982	8,85	6,38	7,02	5,02	6,72	6,48	4,69	18,41	13,10
	1983	.	6,72	9,67	5,63	6,98	6,14	5,36	9,12	15,34
	1984	8,62	6,90	10,24	5,95	7,46	6,07	6,01	8,64	14,89
I_2	1978	2,97	2,43	3,98	2,36	2,78	2,29	2,68	4,91	5,41
	1979	3,07	2,69	3,90	2,63	2,85	2,63	2,51	5,31	6,35
4186 GJ	1980	4,24	3,83	5,53	3,01	3,36	2,62	3,58	8,58	9,32
	1981	4,97	4,46	6,91	4,05	4,18	4,08	4,62	13,37	10,99
200 Tage/days/ jours/giorni	1982	7,25	5,71	6,99	4,99	6,02	6,23	4,92	17,06	11,81
	1983	.	6,04	9,51	5,58	6,32	5,91	5,01	8,09	13,61
	1984	7,36	6,24	10,06	5,89	6,81	5,85	5,56	7,67	13,08
I_{3-1}	1978	2,78	2,35	1,77	1,96	2,70	2,03	2,60		
	1979	2,88	2,36	1,69	2,13	2,75	2,33	2,61		
41 860 GJ	1980	3,90	3,28	3,32	2,77	3,28	2,33	4,44		
	1981	4,60	3,85	4,21	3,48	3,95	3,78	5,01		
200 Tage/days/ jours/giorni	1982	6,75	4,85	5,01	4,90	5,69	5,90	4,92		
	1983	.	5,06	5,49	5,06	5,75	5,60	4,74		
	1984	6,89	5,10	5,82	5,37	6,18	5,55	5,10		
I_{3-2}	1978	2,66	2,09	1,77	1,96	2,17	1,84	2,64		
	1979	2,75	2,10	1,69	2,13	2,20	2,13	2,61		
41 860 GJ	1980	3,74	3,19	2,91	2,77	2,72	2,13	4,44		
	1981	4,46	3,75	4,21	3,48	3,39	3,50	5,01		
250 Tage/days/ jours/giorni	1982	6,51	4,73	5,01	4,90	5,10	5,50	4,92		
	1983	.	4,94	5,49	5,06	5,19	5,23	4,74		
	1984	6,64	4,98	5,82	5,37	5,61	5,18	5,10		
I_{4-1}	1978	2,44	1,78	1,73	1,85	2,17		2,26		
	1979	2,73	1,78	1,66	2,00	2,20		2,26		
418 600 GJ	1980	3,71	2,90	2,85	2,67	2,72		3,84		
	1981	4,43	3,43	4,04	3,34	3,39		5,01		
250 Tage/days/ jours/giorni	1982	6,48	4,38	4,81	4,64	5,10		4,92		
	1983	.	4,56	5,26	4,72	5,19		4,70		
	1984	6,60	4,62	5,53	5,02	5,61		5,03		
I_{4-2}	1978	2,33	1,72	1,73	1,80	2,00		2,26		
	1979	2,61	1,73	1,66	1,84	2,02		2,26		
418 600 GJ	1980	3,56	2,83	2,85	2,52	2,54		3,84		
	1981	4,28	3,35	4,04	3,18	3,21		5,01		
330 Tage/days/ jours/giorni	1982	6,25	4,28	4,81	4,38	4,90		4,92		
	1983	.	4,47	5,26	4,44	4,99		4,70		
	1984	6,36	4,53	5,53	5,01	5,42		5,03		
I_5	1978	.	1,62	1,67	1,79	1,94		1,93		
	1979	.	1,63	1,60	1,83	1,95		1,80		
4186 000 GJ	1980	.	2,80	2,76	2,51	2,47		2,97		
	1981	.	3,32	3,82	3,18	3,14		4,34		
330 Tage/days/ jours/giorni	1982	.	4,25	4,55	4,38	4,84		4,28		
	1983	.	4,43	4,97	4,44	4,93		4,11		
	1984	6,36	4,49	5,22	5,01	5,36		4,42		

* Naturgas
Natural gas

\+ Ortsgas
Gasworks gas

(1) Ohne Mehrwertsteuer
Without VAT
Hors TVA
Senza IVA

* Gaz naturel
Gas naturale

\+ Gaz d'usines
Gas di officiana

Gaspreise für Haushalte
Gas prices for households

1

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

B.R. DEUTSCHLAND

Düsseldorf*

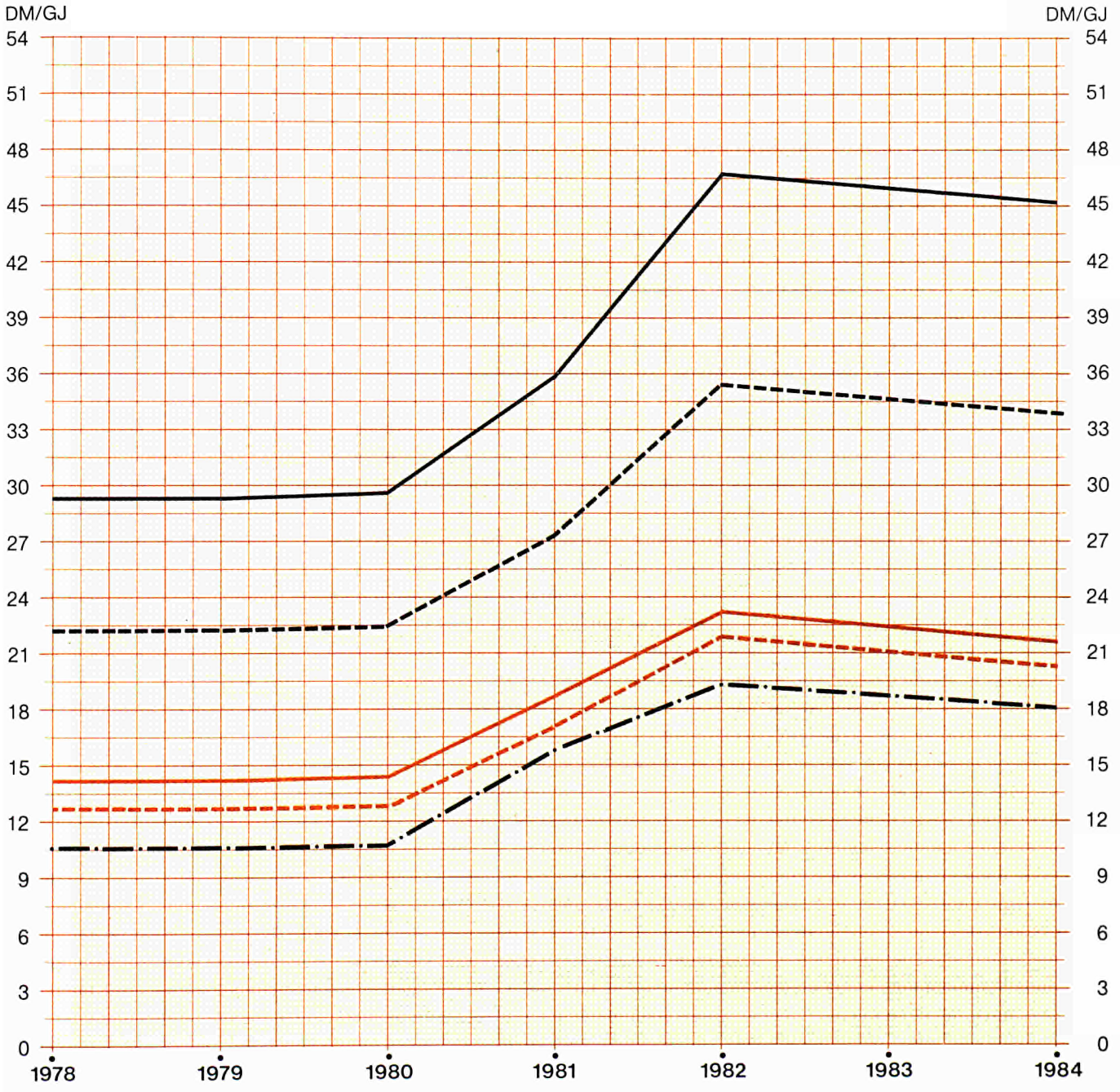
Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_3 D_{3b} D_4

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



Gaspreise für die Industrie
Gas prices for industry

2

Prix du gaz pour usages industriels
Prezzi del gas usi industriali

B.R. DEUTSCHLAND

Düsseldorf*

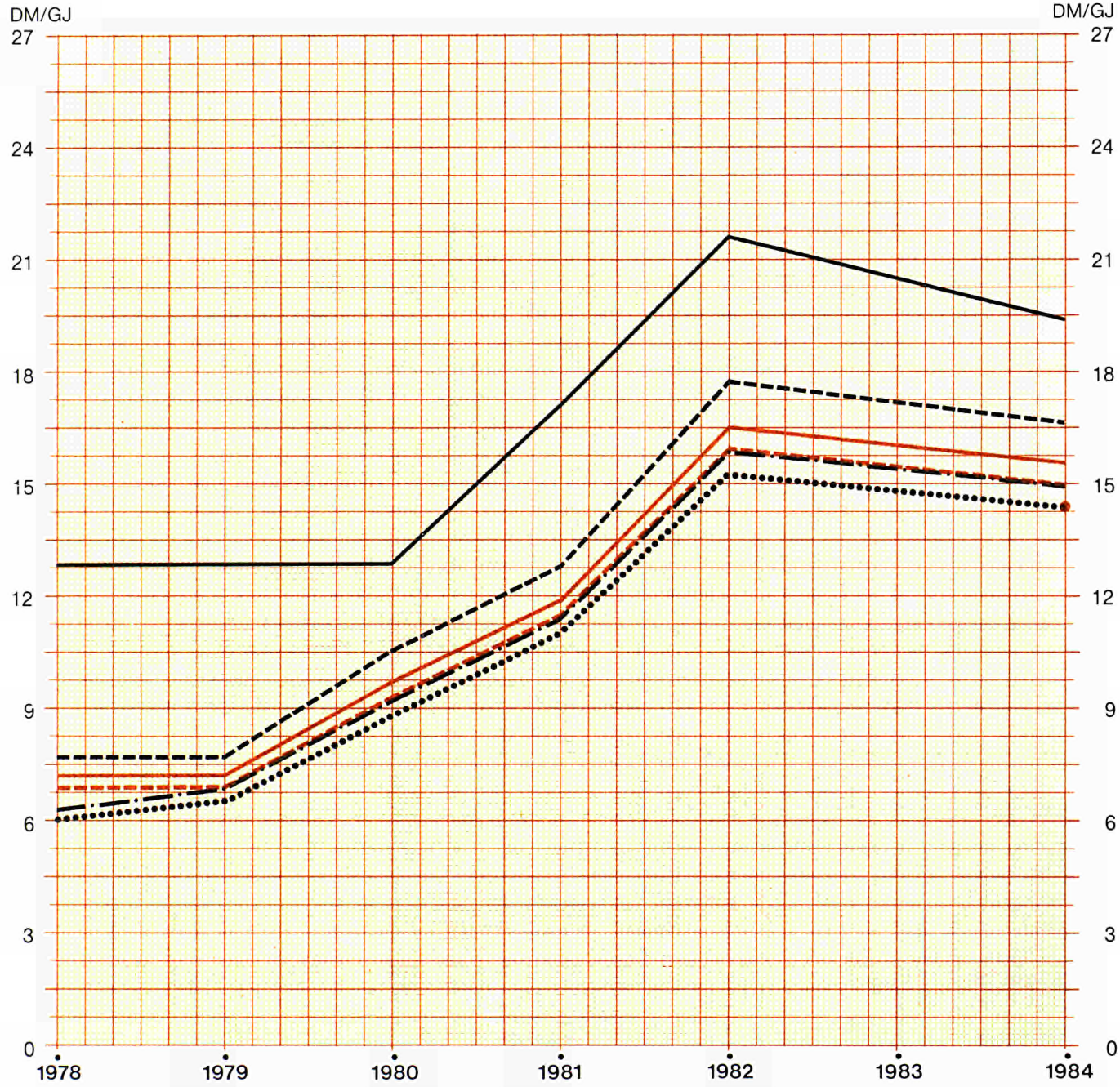
Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

I_1 I_2 I_{3-1} I_{3-2} I_{4-1} I_{4-2} I_5

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



Gaspreise für Haushalte
Gas prices for households

3

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

FRANCE

Preise alle Steuern inbegr.
Price incl. all taxes

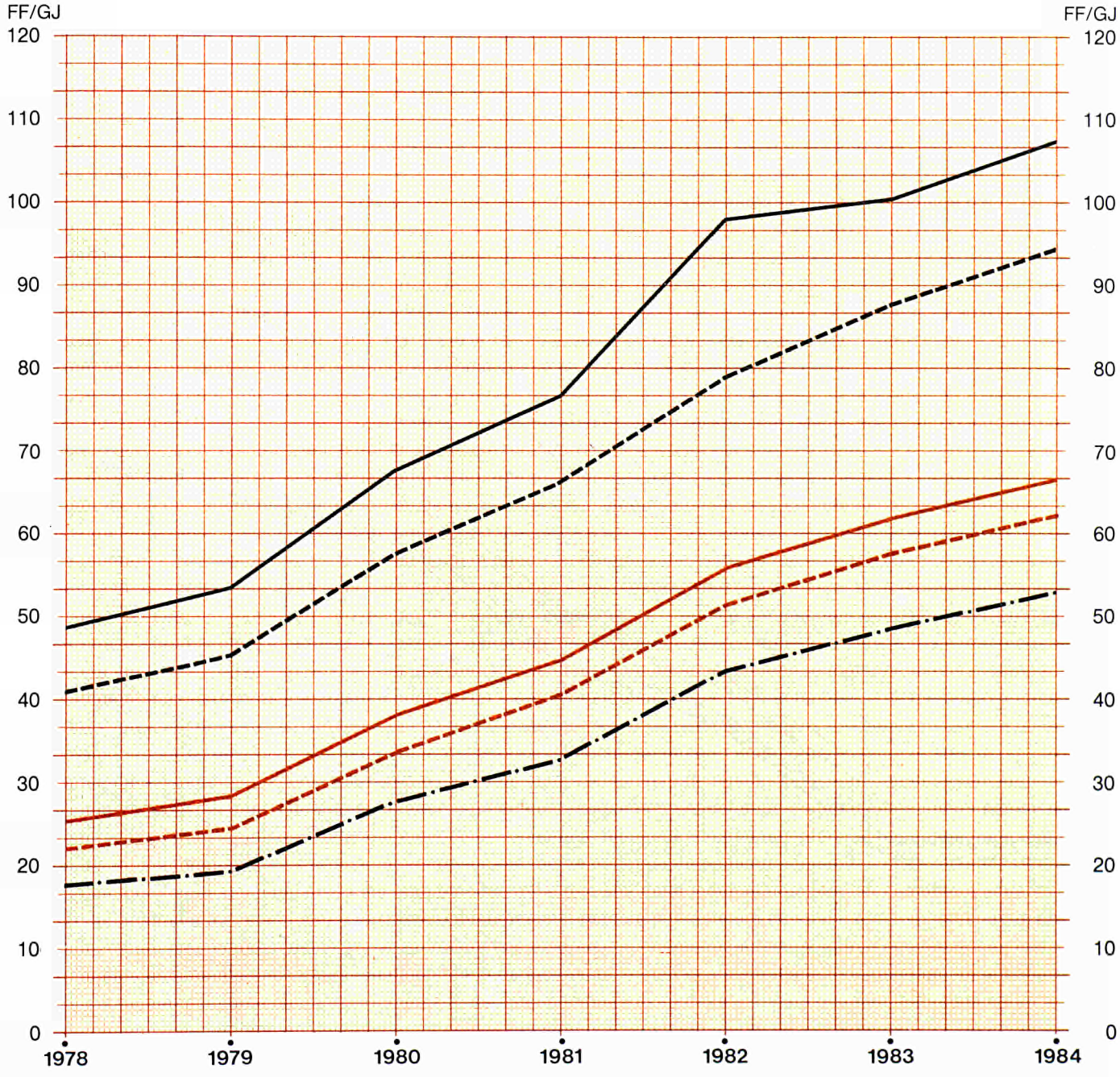
Région parisienne*

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_3 D_{3b} D_4

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



Gaspreise für die Industrie
Gas prices for industry

4

Prix du gaz pour usages industriels
Prezzi del gas usi industriali

FRANCE

Preis ohne MWST
Price excl. VAT

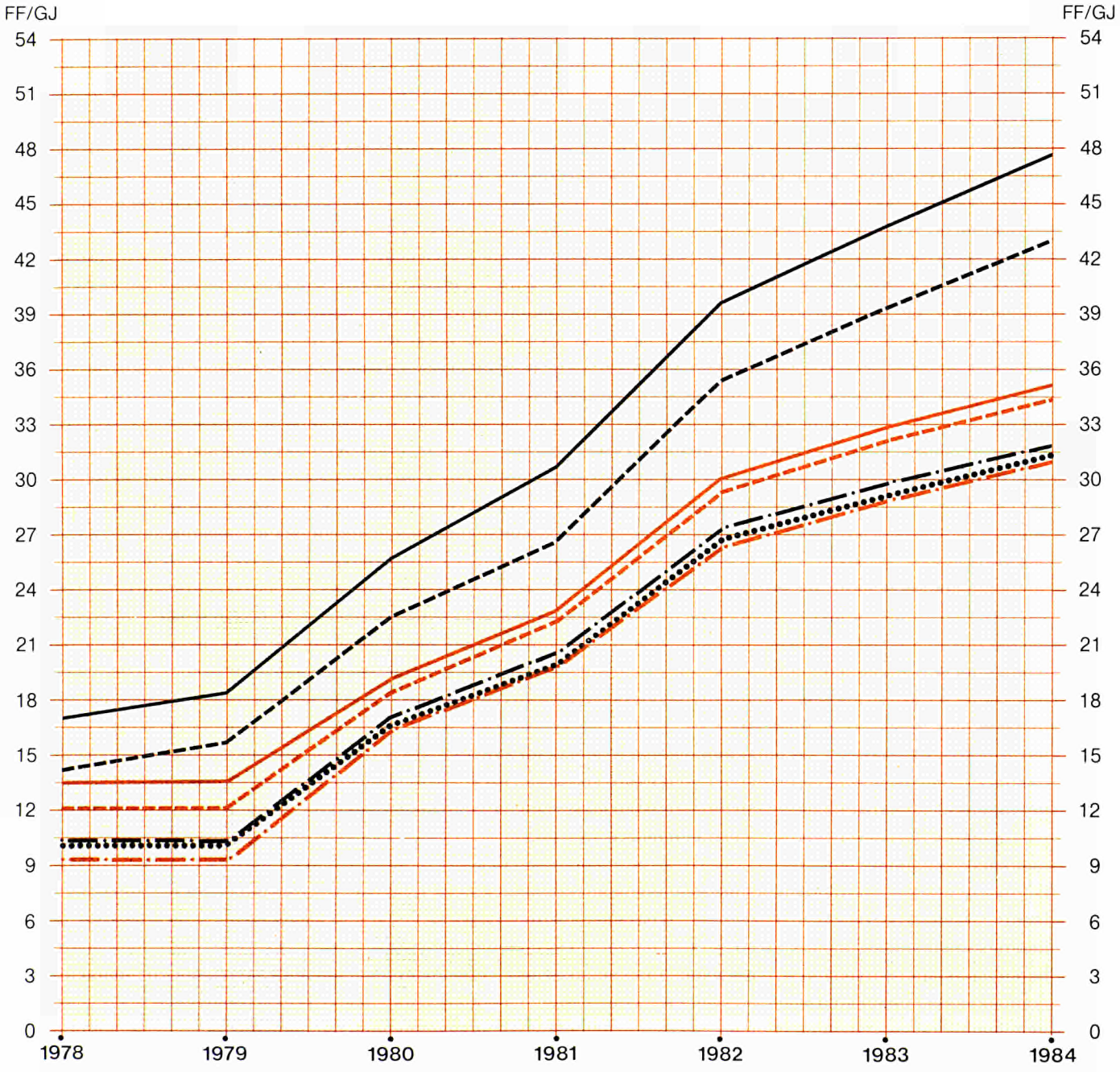
Région parisienne*

Prix hors TVA
Prezzi IVA escl.

I_1 I_2 I_{3-1} I_{3-2} I_{4-1} I_{4-2} I_5

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



XL

Gaspreise für Haushalte
Gas prices for households

5

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

ITALIA

D_2

Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

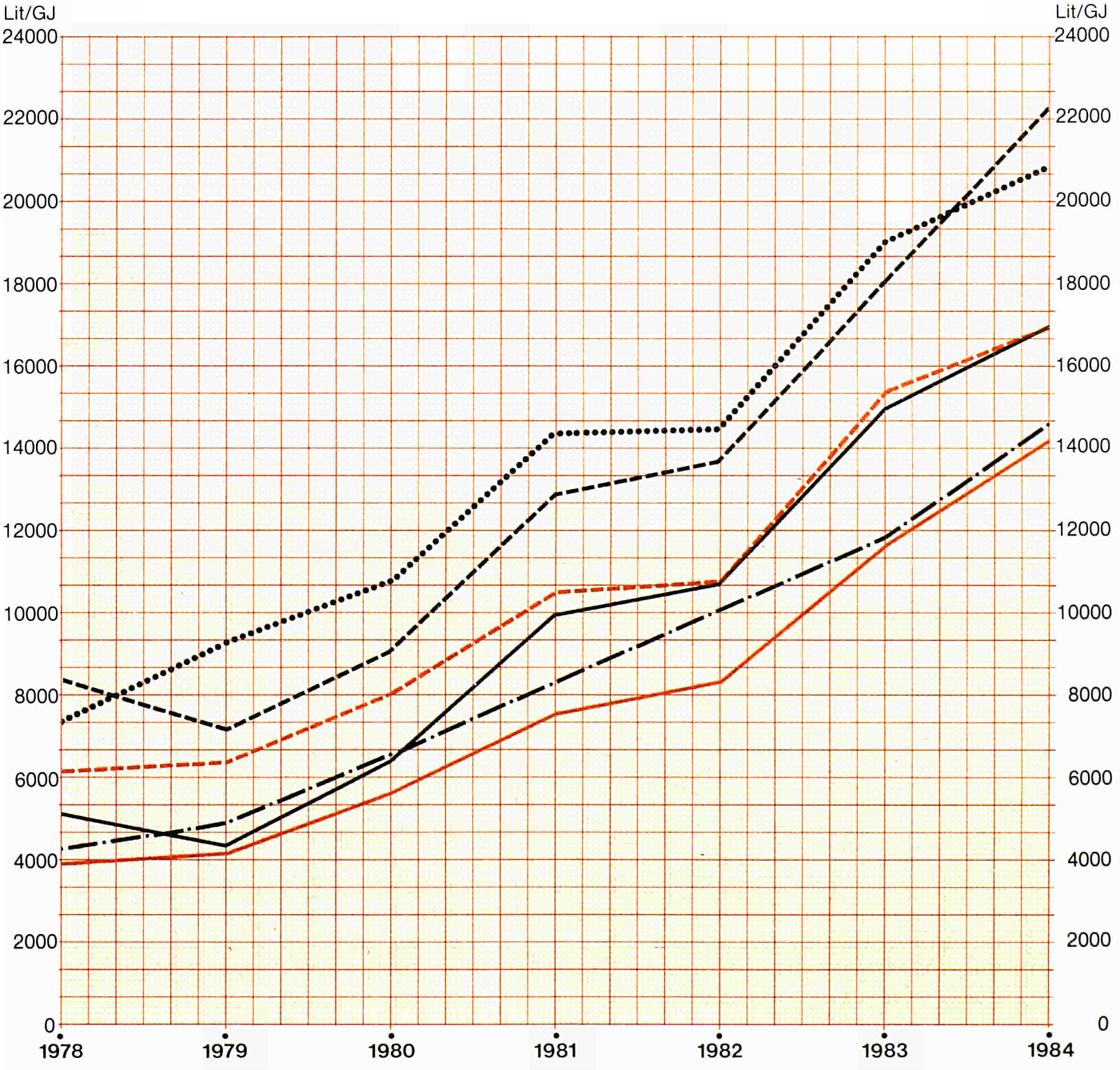
Roma*
Roma+
Torino*
Milano+
Genova*
Napoli+

*Naturgas
Natural gas

+Ortsgas
Gasworks gas

*Gaz naturel
Gas naturale

+Gaz d'usines
Gas di officina



Gaspreise für Haushalte
Gas prices for households

6

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

ITALIA

D_3

Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

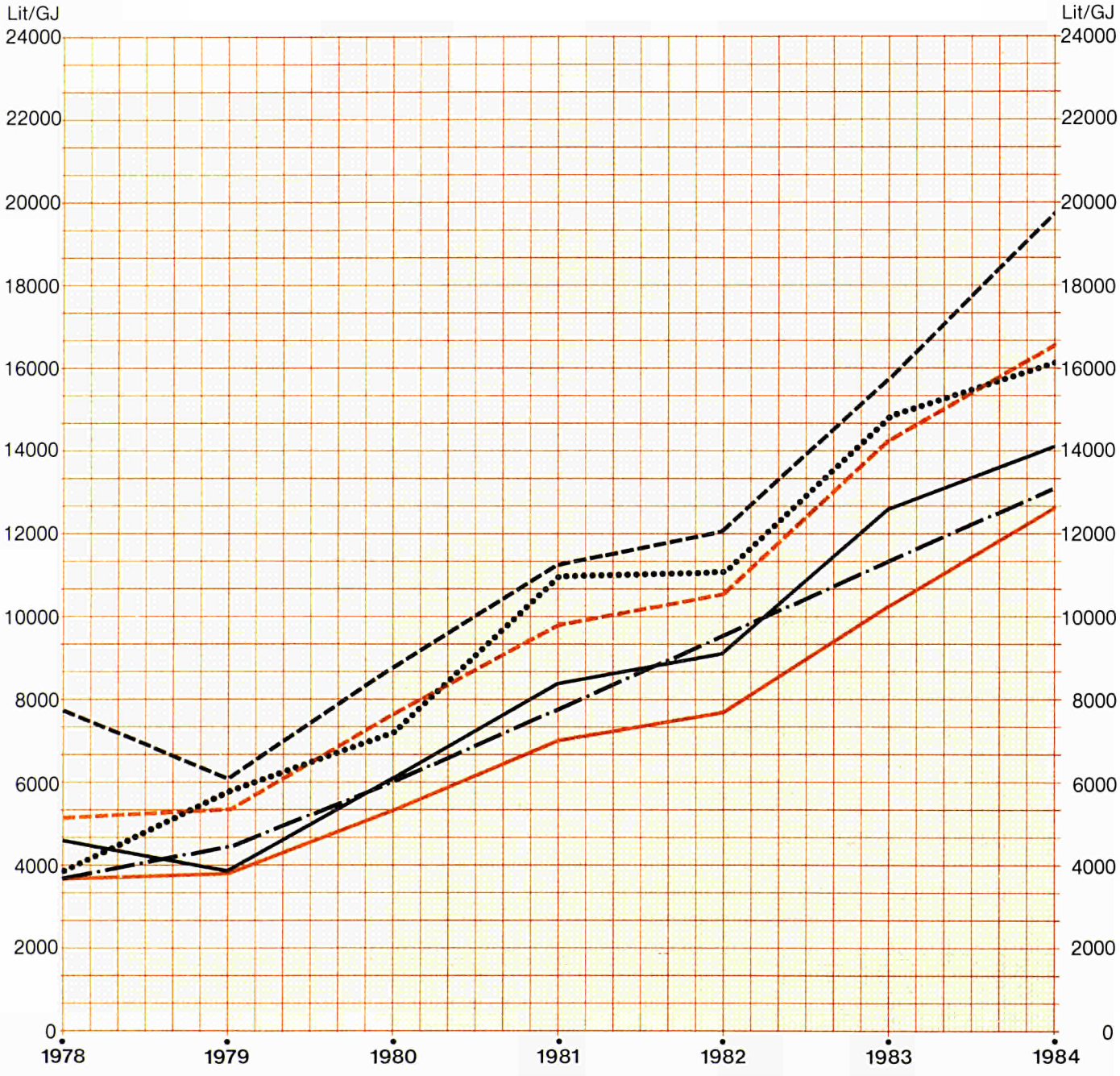
Roma*
Roma+
Torino*
Milano+
Genova*
Napoli+

*Naturgas
Natural gas

+Ortsgas
Gasworks gas

*Gaz naturel
Gas naturale

+Gaz d'usines
Gas di officina



ITALIA

I_1

Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

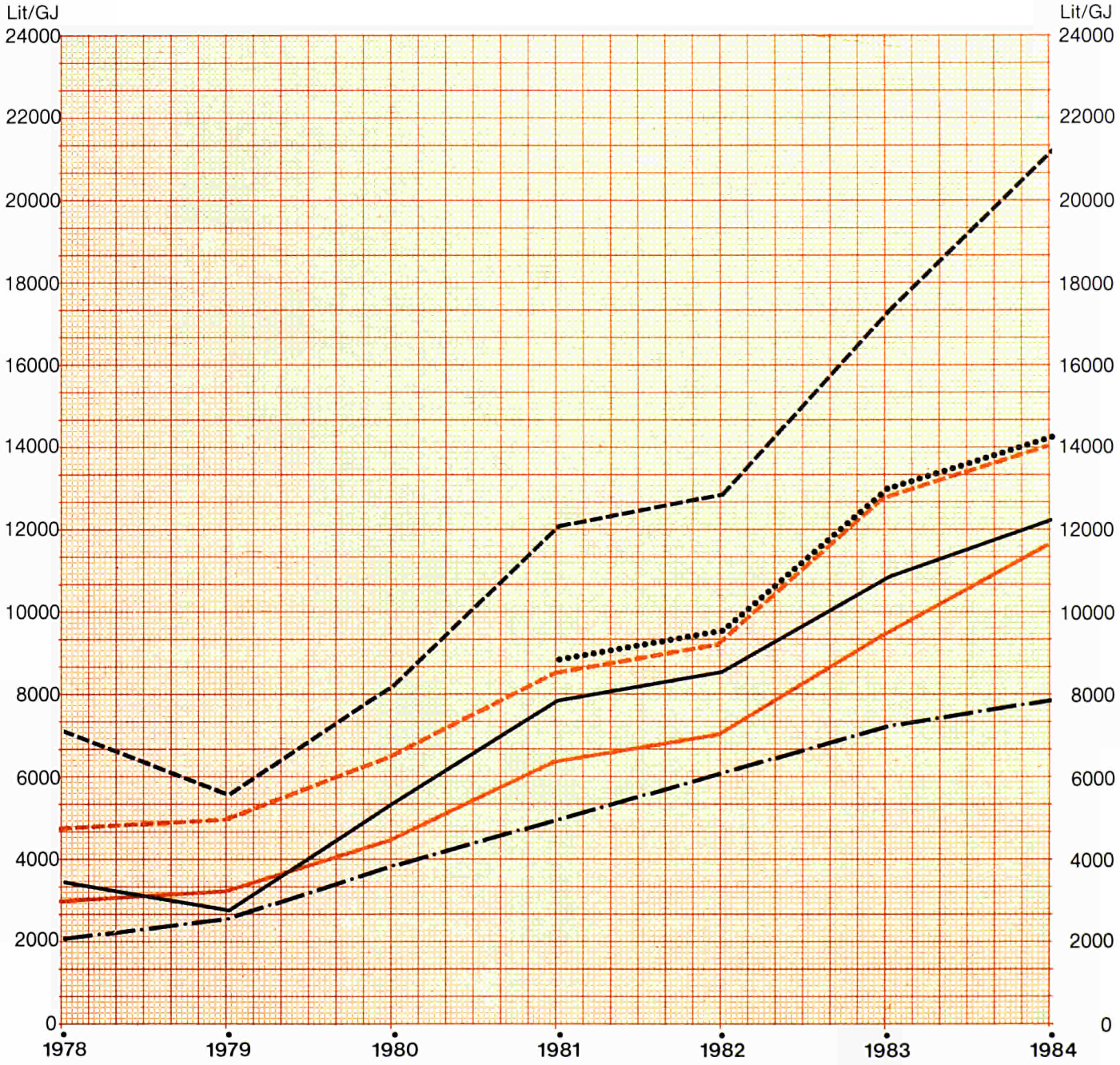
Roma* — Torino* — Genova*
Roma+ — Milano+ — Napoli+

*Naturgas
Natural gas

+Ortsgas
Gasworks gas

*Gaz naturel
Gas naturale

+Gaz d'usines
Gas di officina



ITALIA

SNAM*

Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

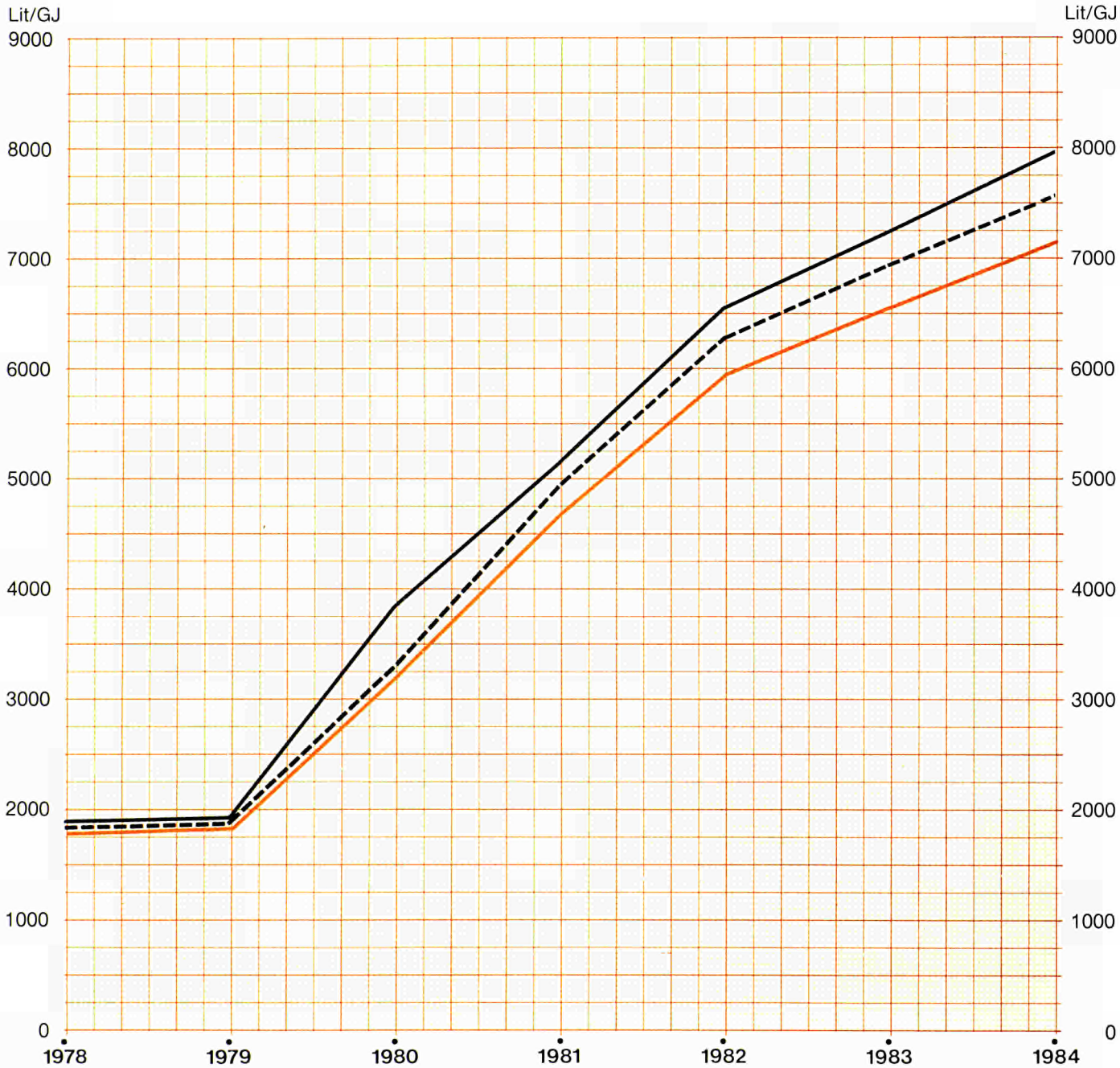
I_{3-1} I_{3-2}

I_{4-1} I_{4-2}

I_5

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



Gaspreise für Haushalte
Gas prices for households

9

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

NEDERLAND

Rotterdam*

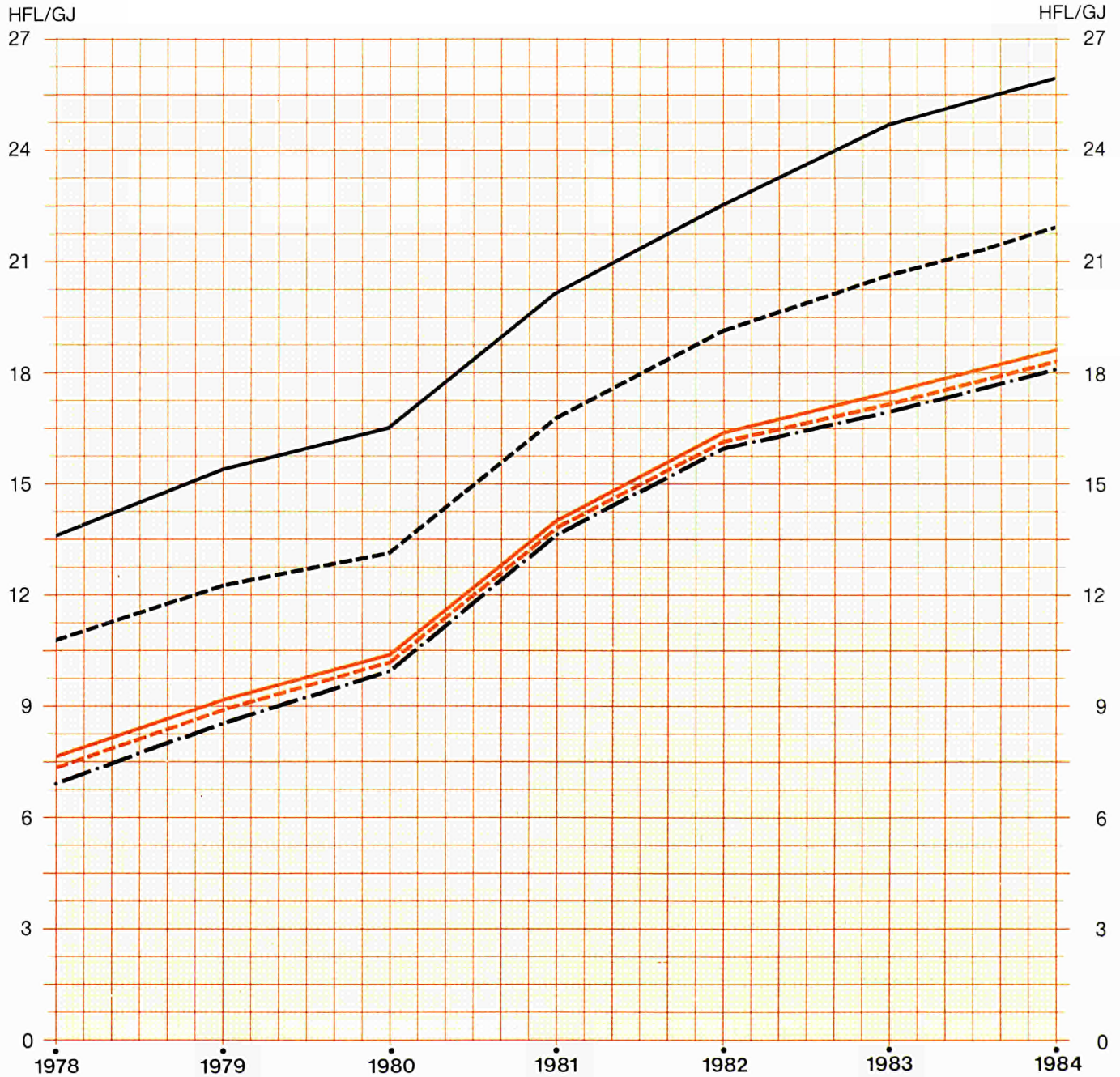
Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_3 D_{3b} D_4

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



XLV

NEDERLAND

Rotterdam*

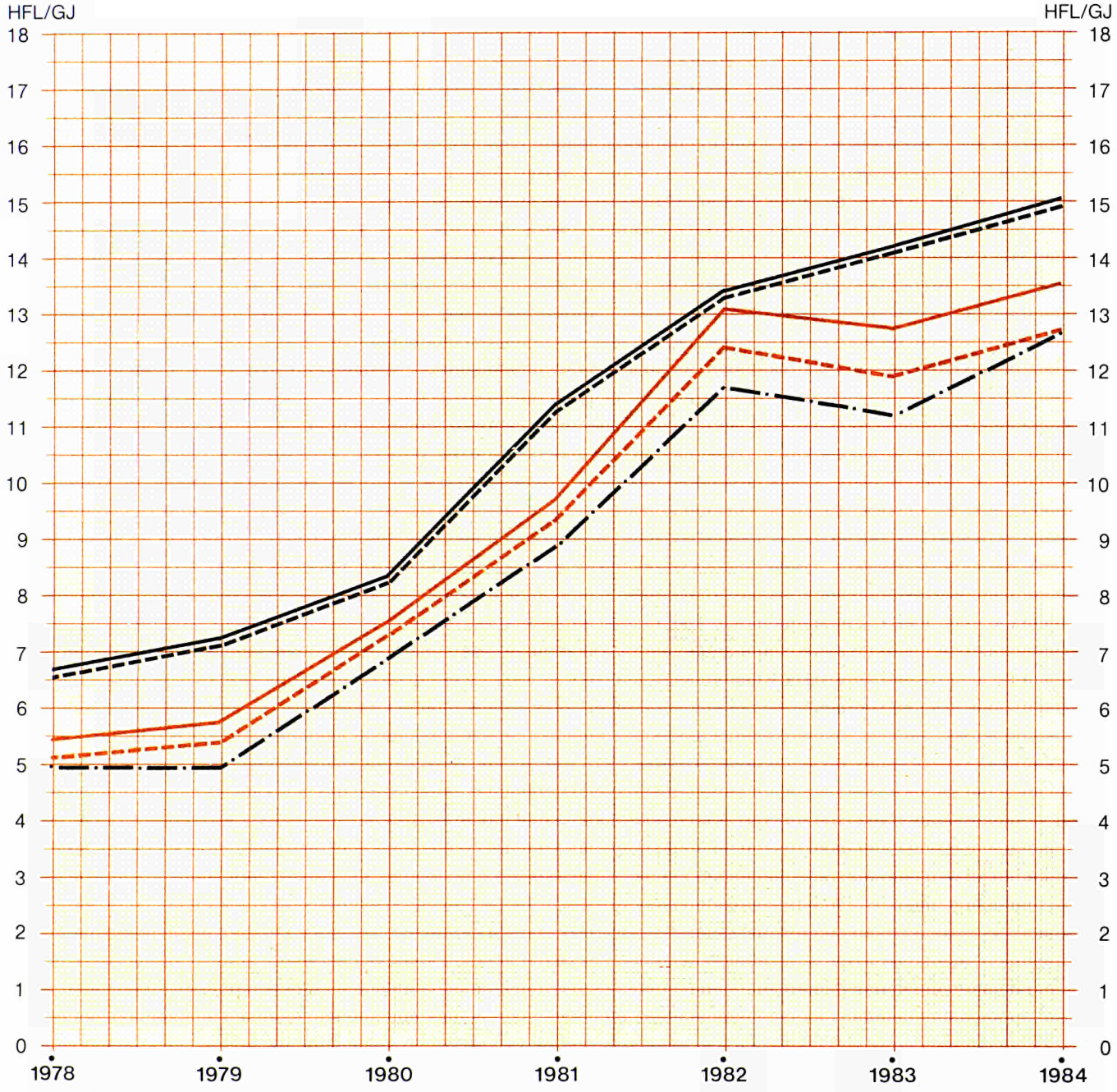
Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

I_1 I_2 I_{3-1} I_{3-2} I_{4-1} I_{4-2} I_5

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



BELGIQUE-BELGIË

Bruxelles*

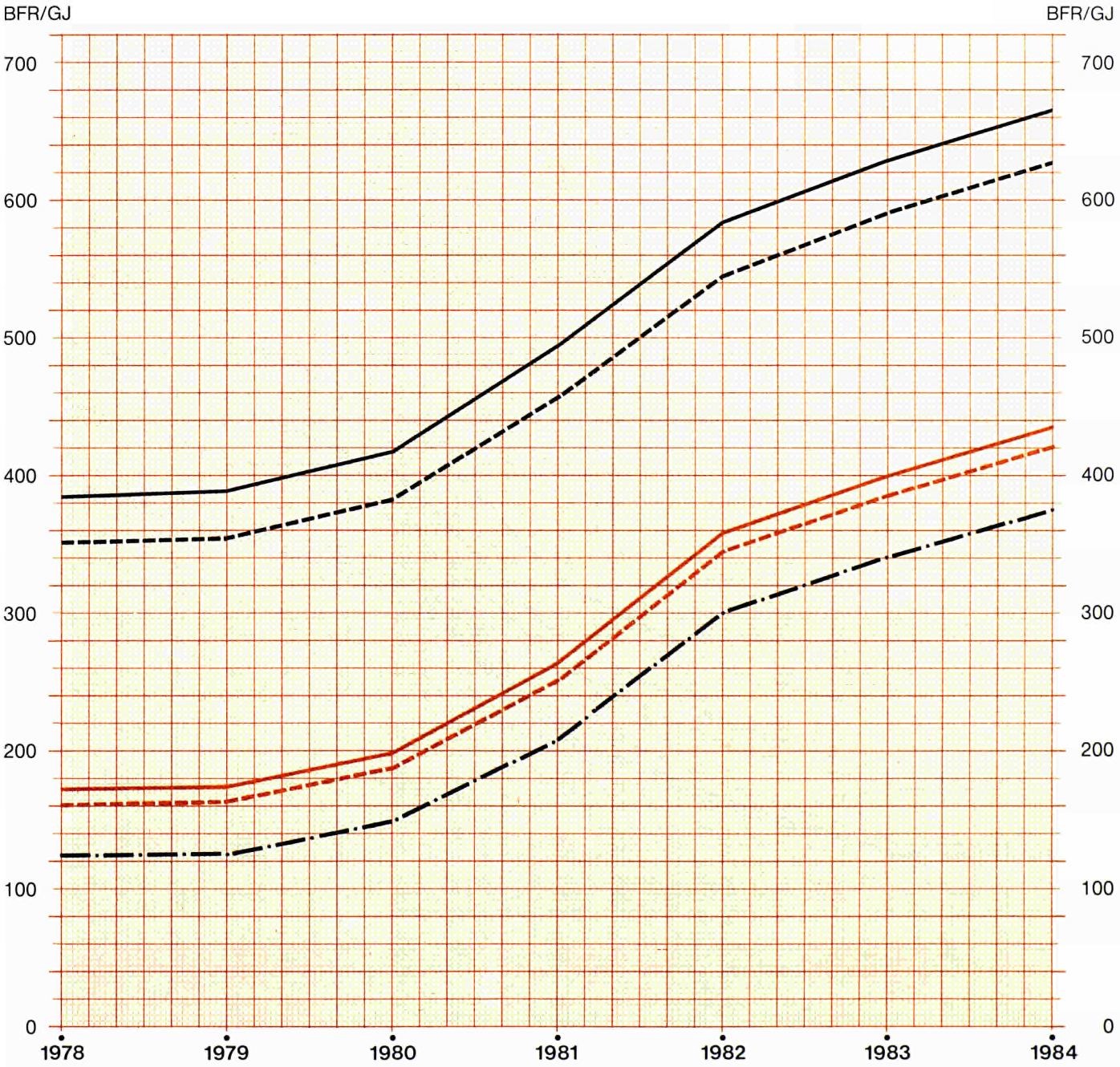
Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_3 D_{3b} D_4

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



BELGIQUE-BELGIË

Bruxelles*

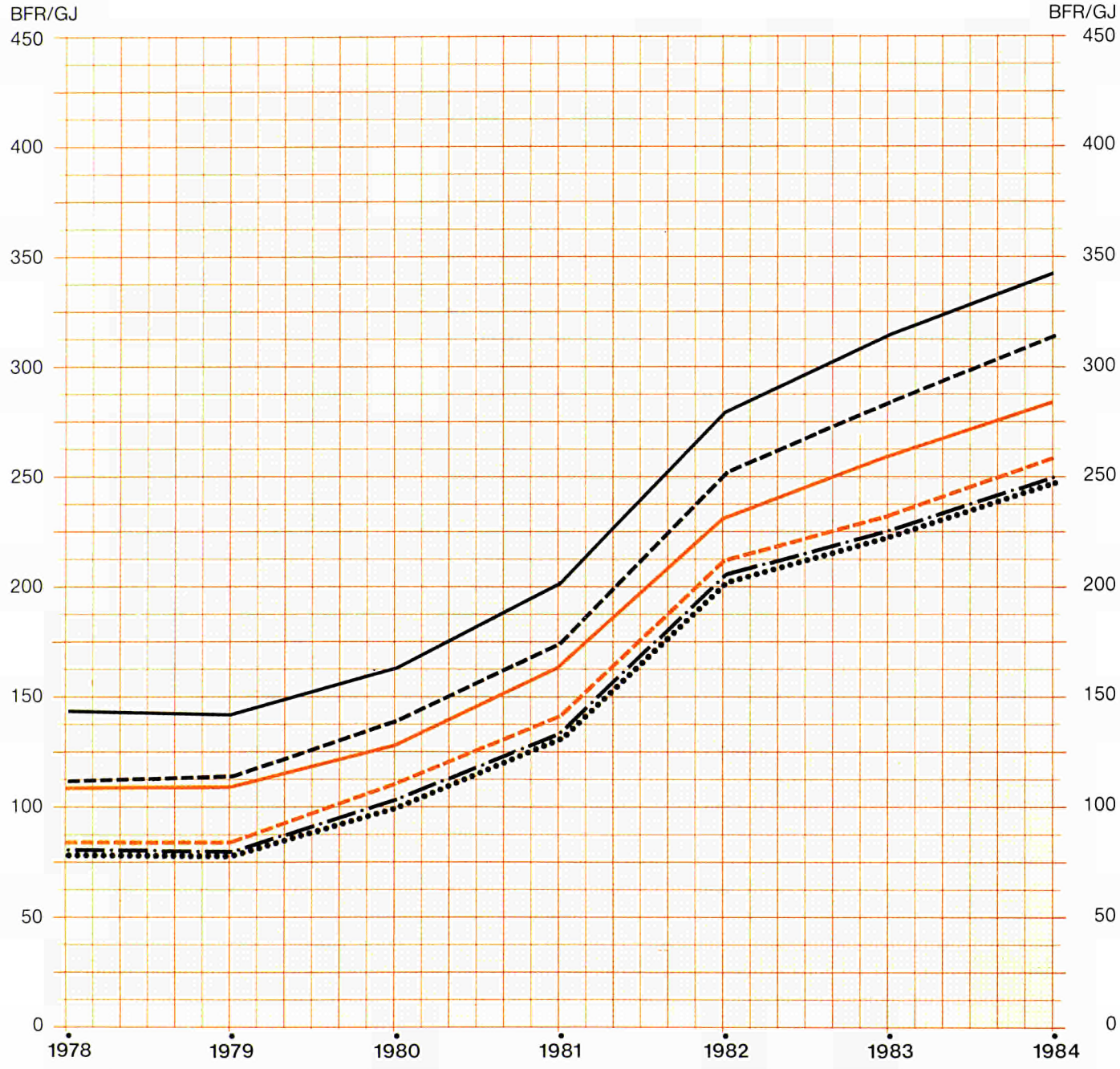
Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

I_1 I_2 I_{3-1} I_{3-2} I_{4-1} I_{4-2} I_5

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



G.D. LUXEMBOURG

Preise alle Steuern inbegr.
Price incl. all taxes

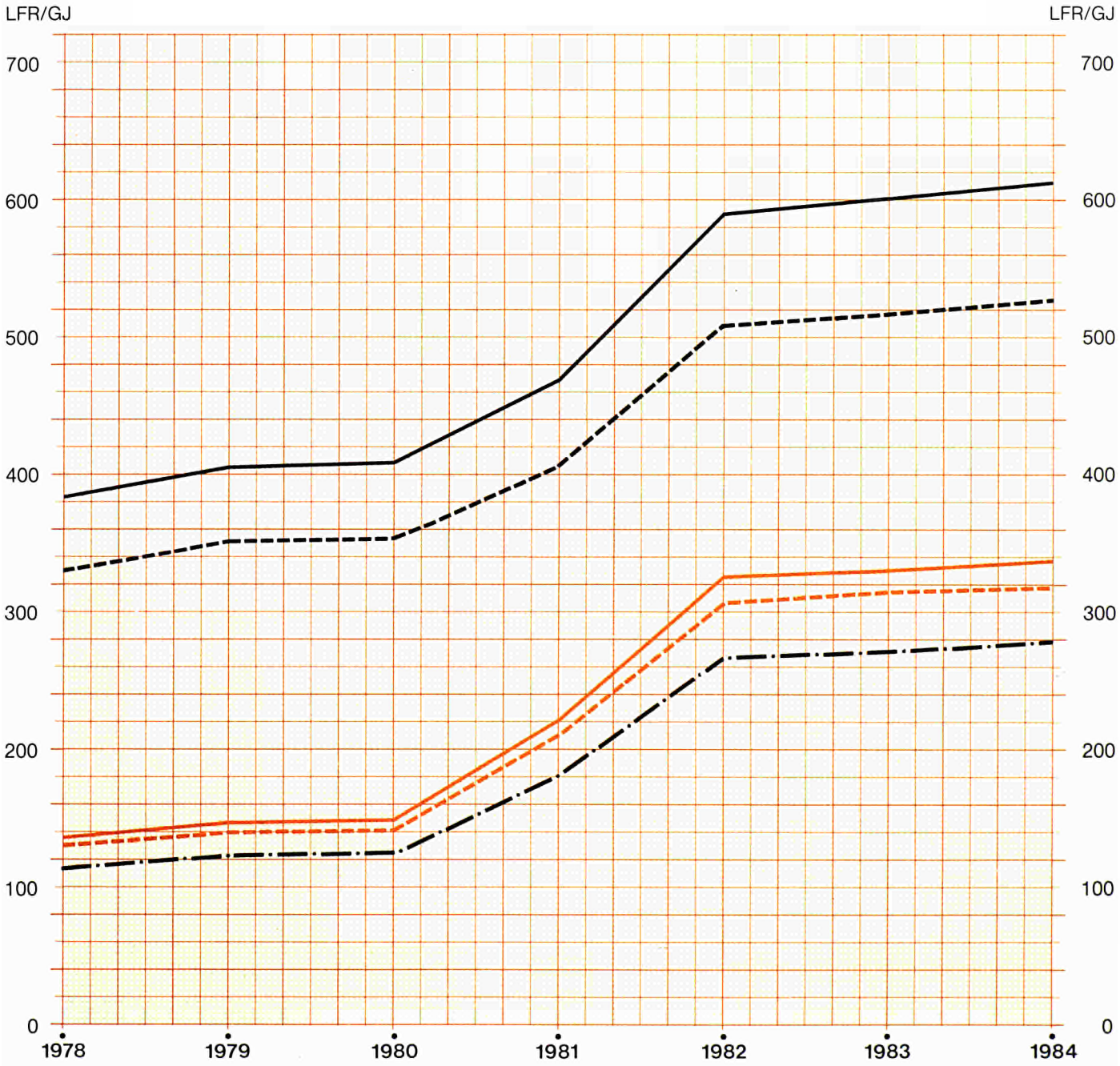
Luxembourg*

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_3 D_{3b} D_4

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



G.D. LUXEMBOURG

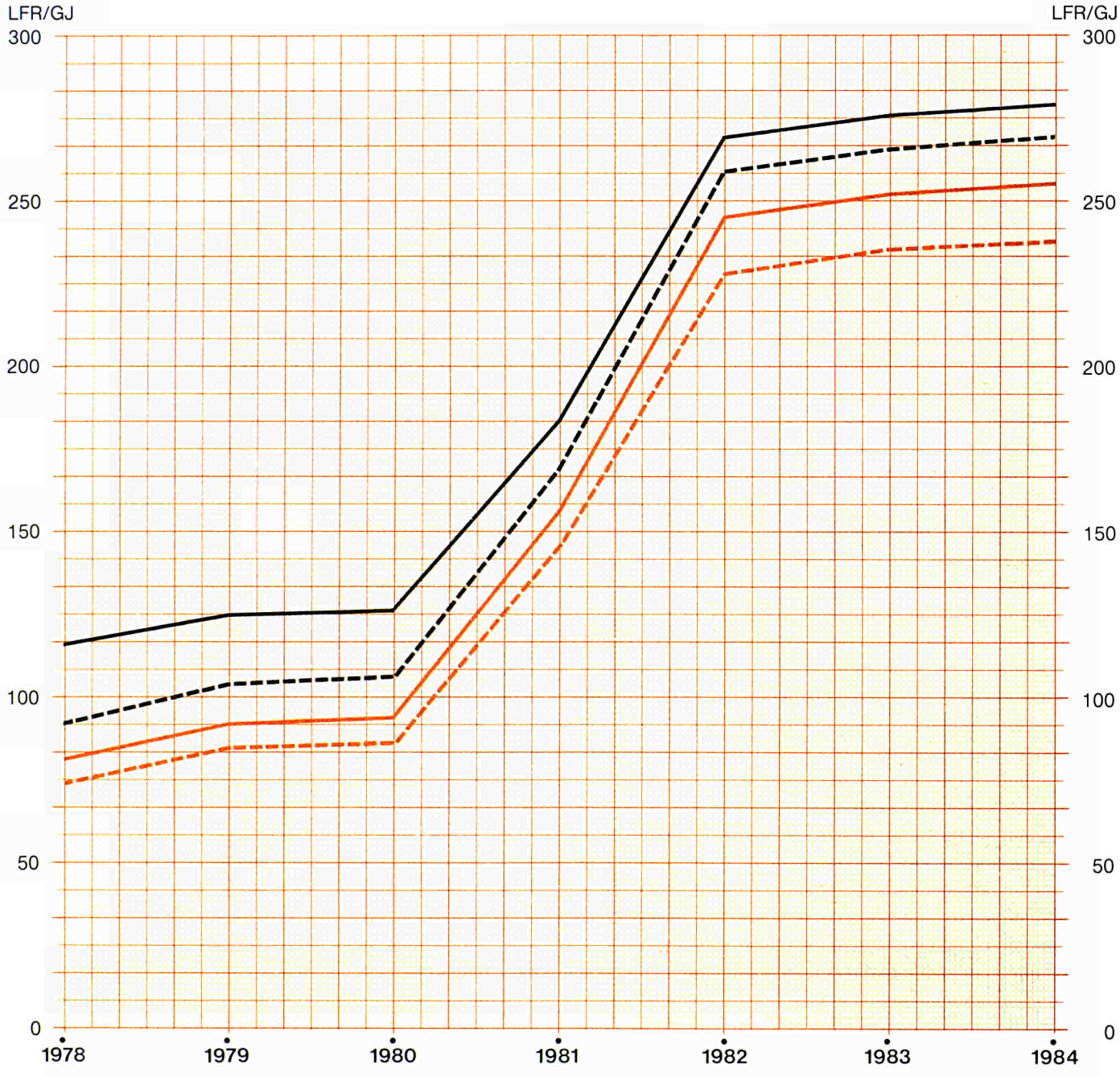
Luxembourg*

Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



L

Gaspreise für Haushalte
Gas prices for households

15

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

UNITED KINGDOM

Preise alle Steuern inbegr.
Price incl. all taxes

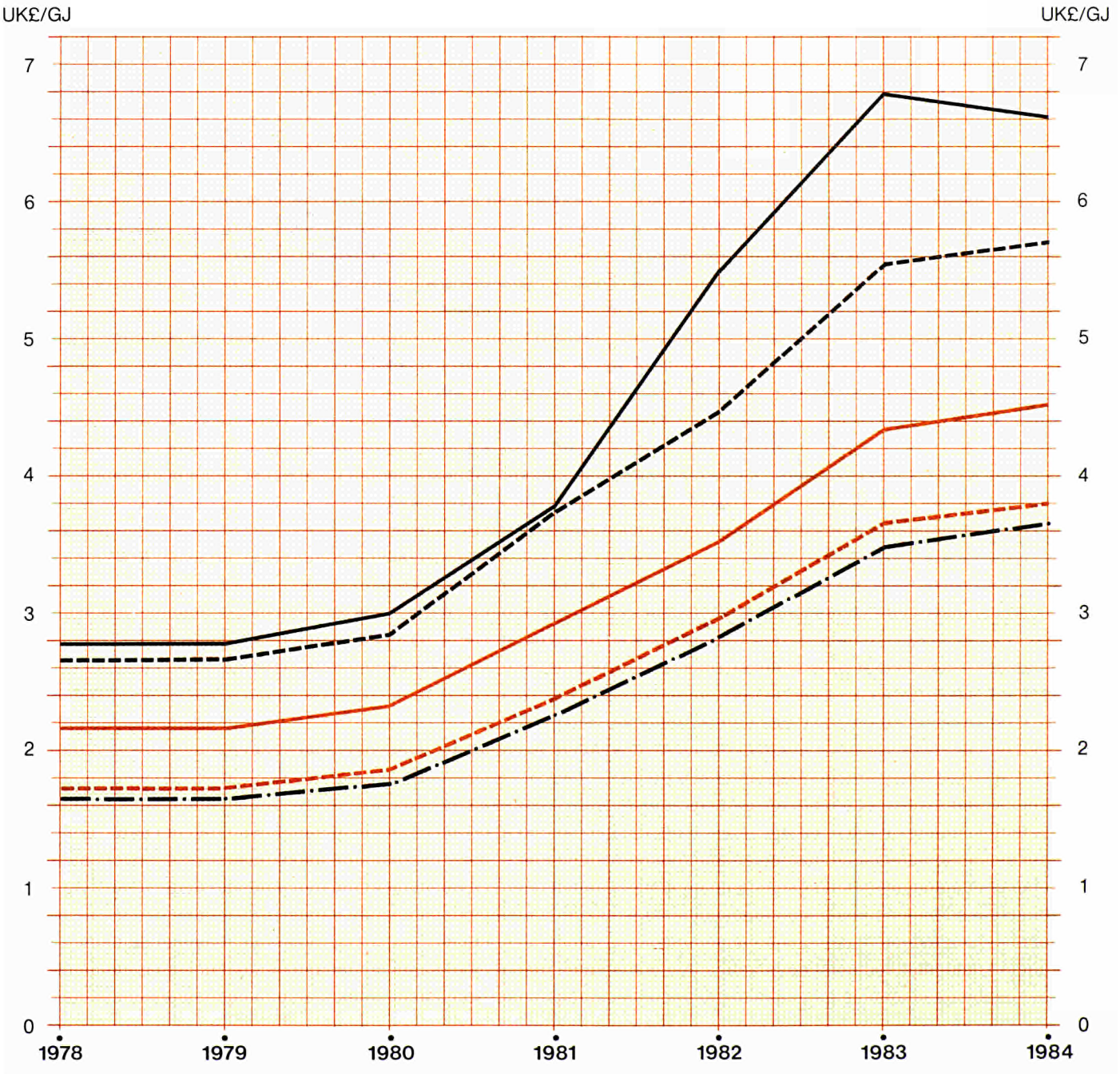
London*

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_{2b} D_3 D_{3b}

*Naturgas
Natural gas

*Gaz naturel
Gas naturale



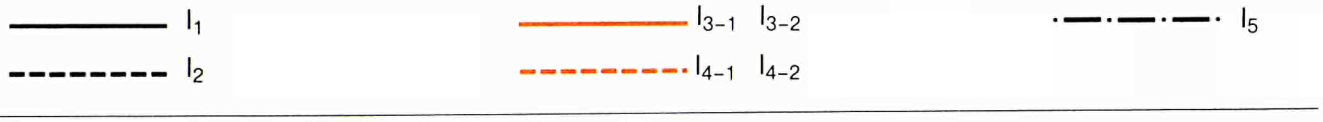
LI

UNITED KINGDOM

London*

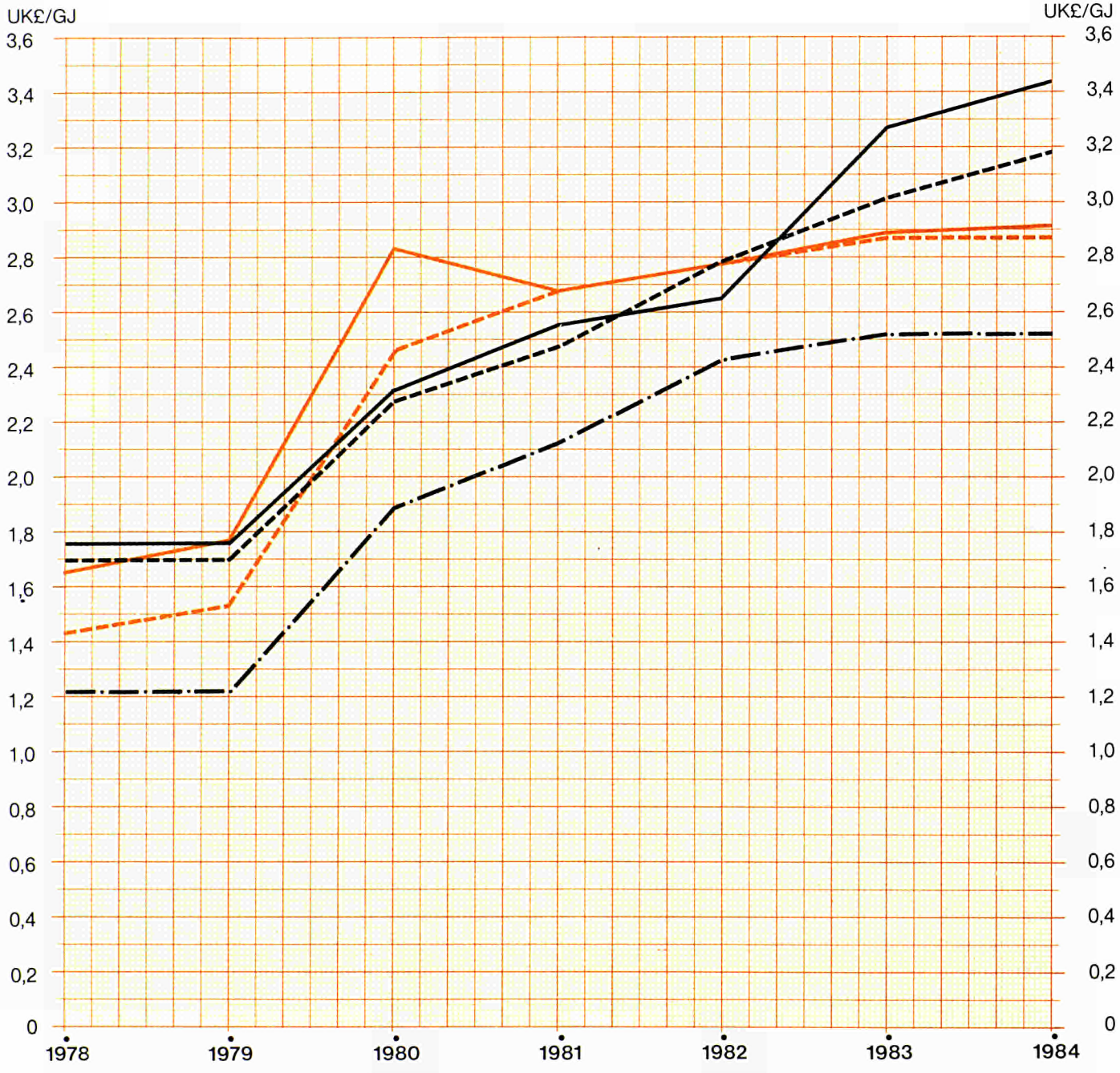
Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.



*Naturgas
Natural gas

*Gaz naturel
Gas naturale



LII

Gaspreise für Haushalte
Gas prices for households

17

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

IRELAND

Dublin[+]

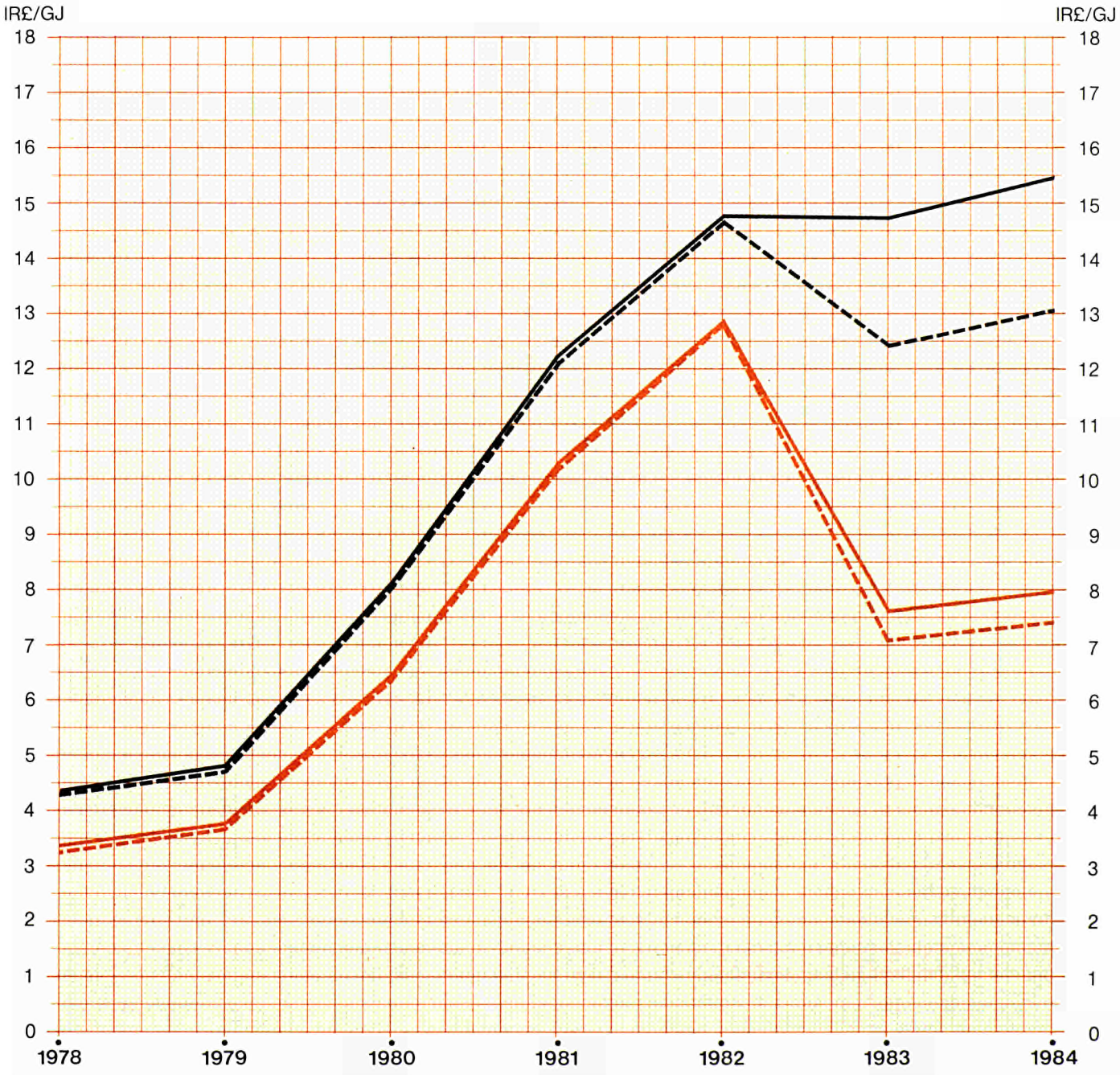
Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

D_1 ——— D_3 ———
D_2 - - - - - - - D_{3b} - - - - - - -

[+]Ortsgas
Gasworks gas

[+]Gaz d'usines
Gas di officina



LIII

IRELAND

Dublin+

Preis ohne MWST
Price excl. VAT

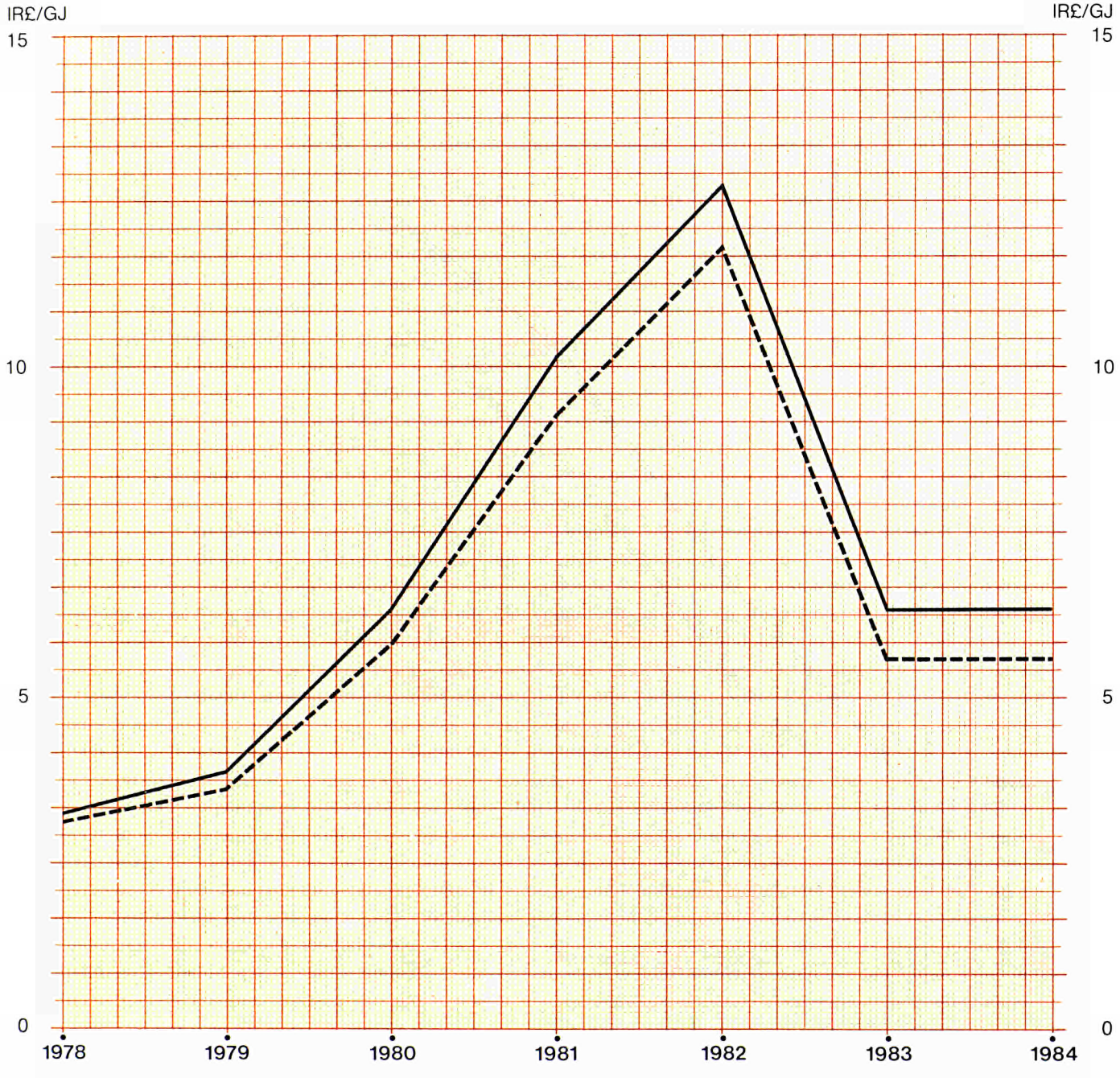
Prix hors TVA
Prezzi IVA escl.

I_1

I_2

+Ortsgas
Gasworks gas

+Gaz d'usines
Gas di officina



LIV

Gaspreise für Haushalte
Gas prices for households

19

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

DANMARK

København[+]

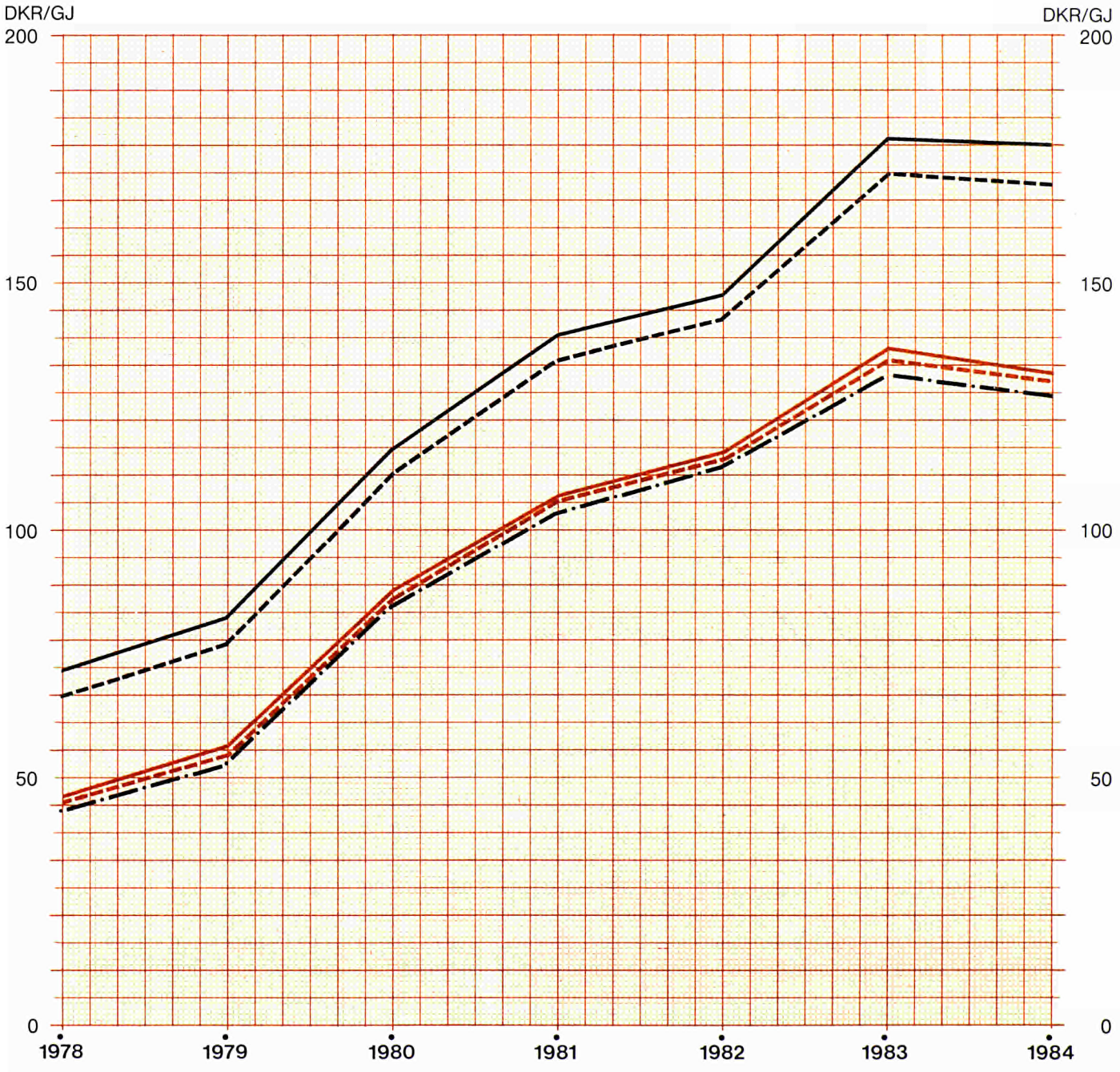
Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

D_1 D_2 D_3 D_{3b} D_4

[+]Ortsgas
Gasworks gas

[+]Gaz d'usines
Gas di officina



LV

Gaspreise für die Industrie
Gas prices for industry

20

Prix du gaz pour usages industriels
Prezzi del gas usi industriali

DANMARK

København+

Preis ohne MWST
Price excl. VAT

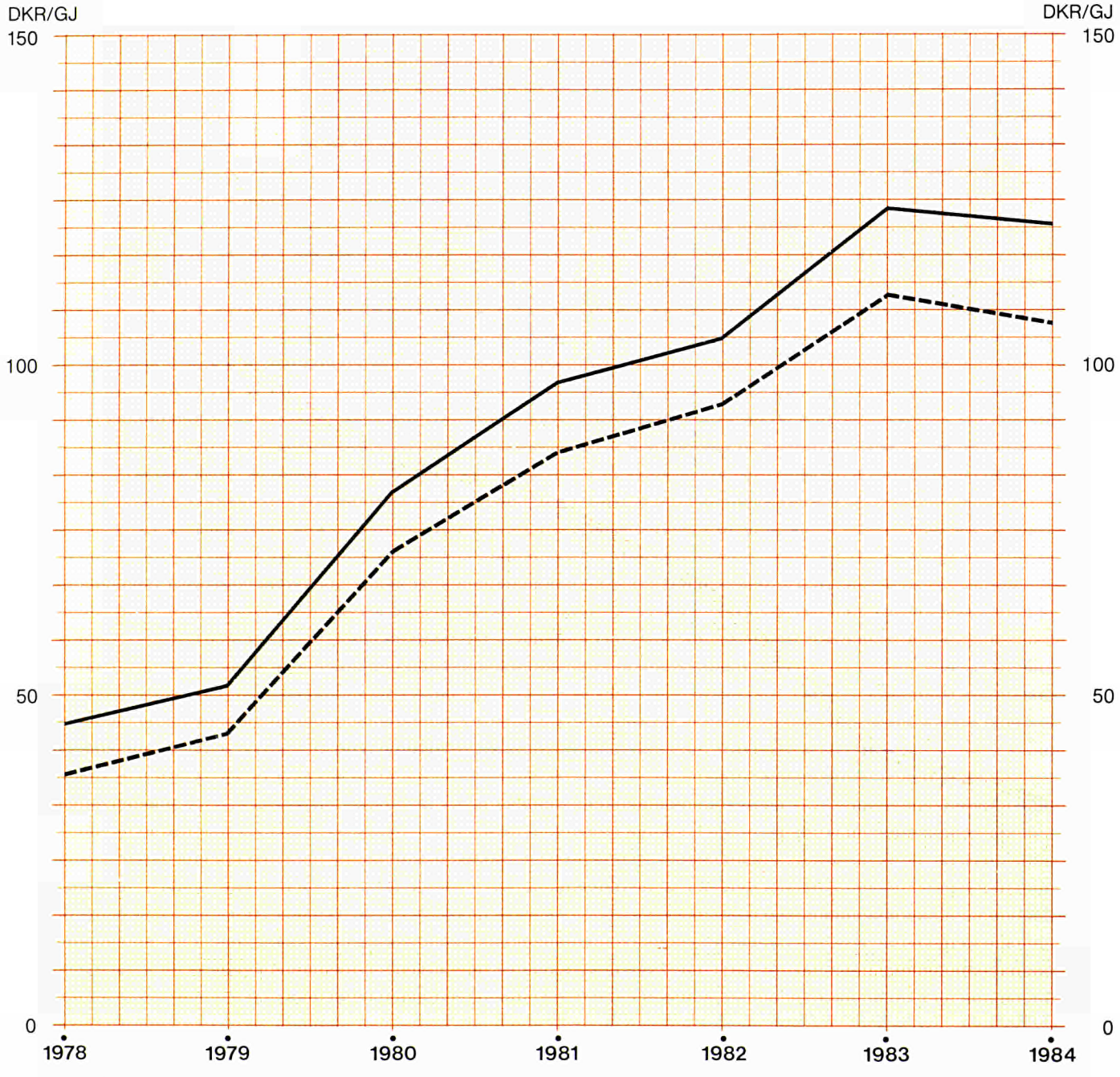
Prix hors TVA
Prezzi IVA escl.

I_1

I_2

+Ortsgas
Gasworks gas

+Gaz d'usines
Gas di officina



LVI

Gaspreise für Haushalte
Gas prices for households

21

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

EUR 9

D_1

Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

Düsseldorf* · Rotterdam* · London*
Paris* · Bruxelles* · Dublin+
Milano+ · Luxembourg* · København+

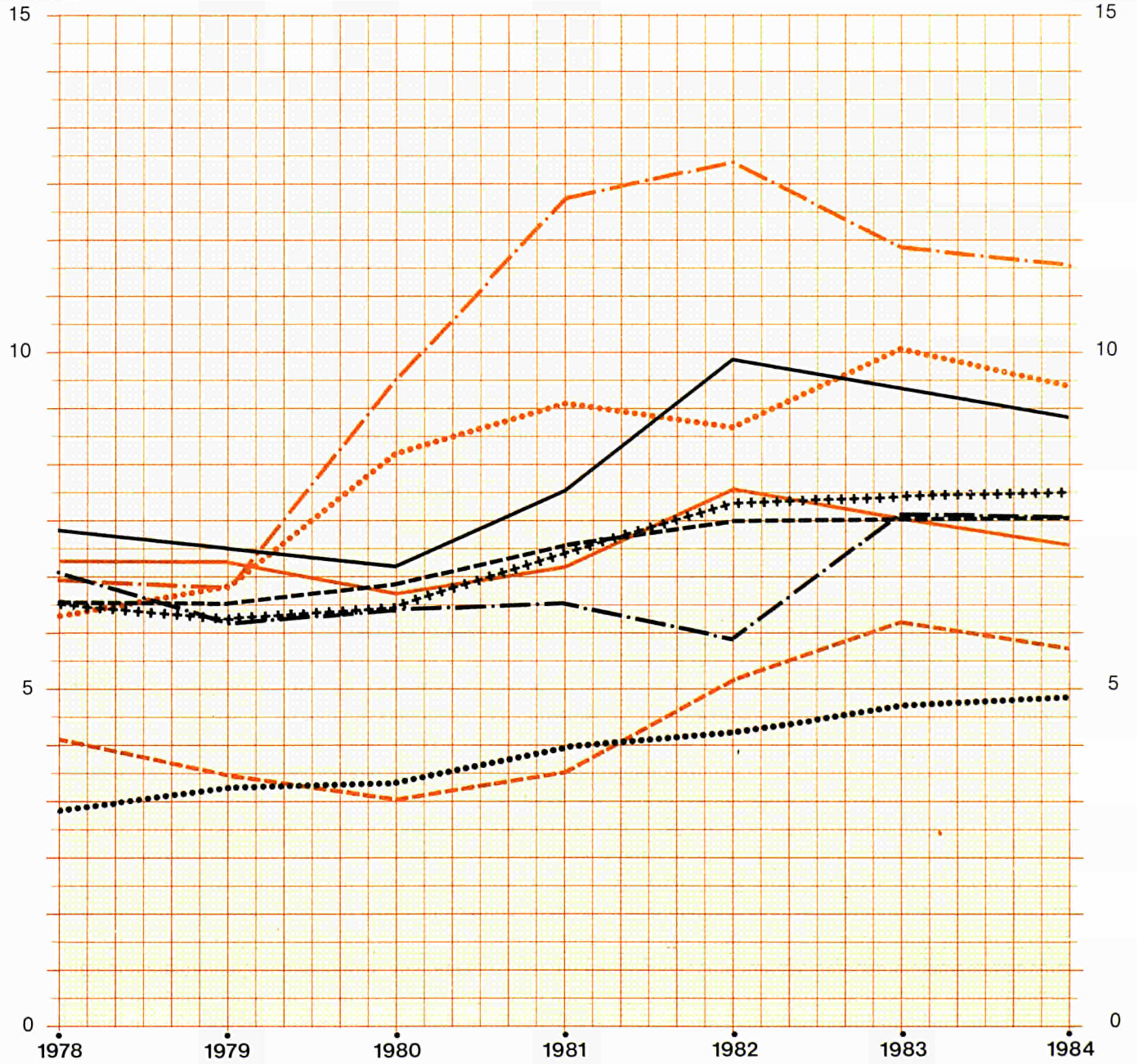
*Naturgas
Natural gas

+Ortsgas
Gasworks gas

*Gaz naturel
Gas naturale

+Gaz d'usines
Gas di officina

KKS/GJ(1)
PPS/GJ(1)
SPA/GJ(1)



(1) Preisbereinigt/Deflated/Déflaté/Deflazionato

EUR 9

D_2

Preise alle Steuern inbegr.
Price incl. all taxes

Prix ttc.
Prezzi imp. comprese

Düsseldorf* · Rotterdam* · London*
Paris* · Bruxelles* · Dublin+
Milano+ · Luxembourg* · København+

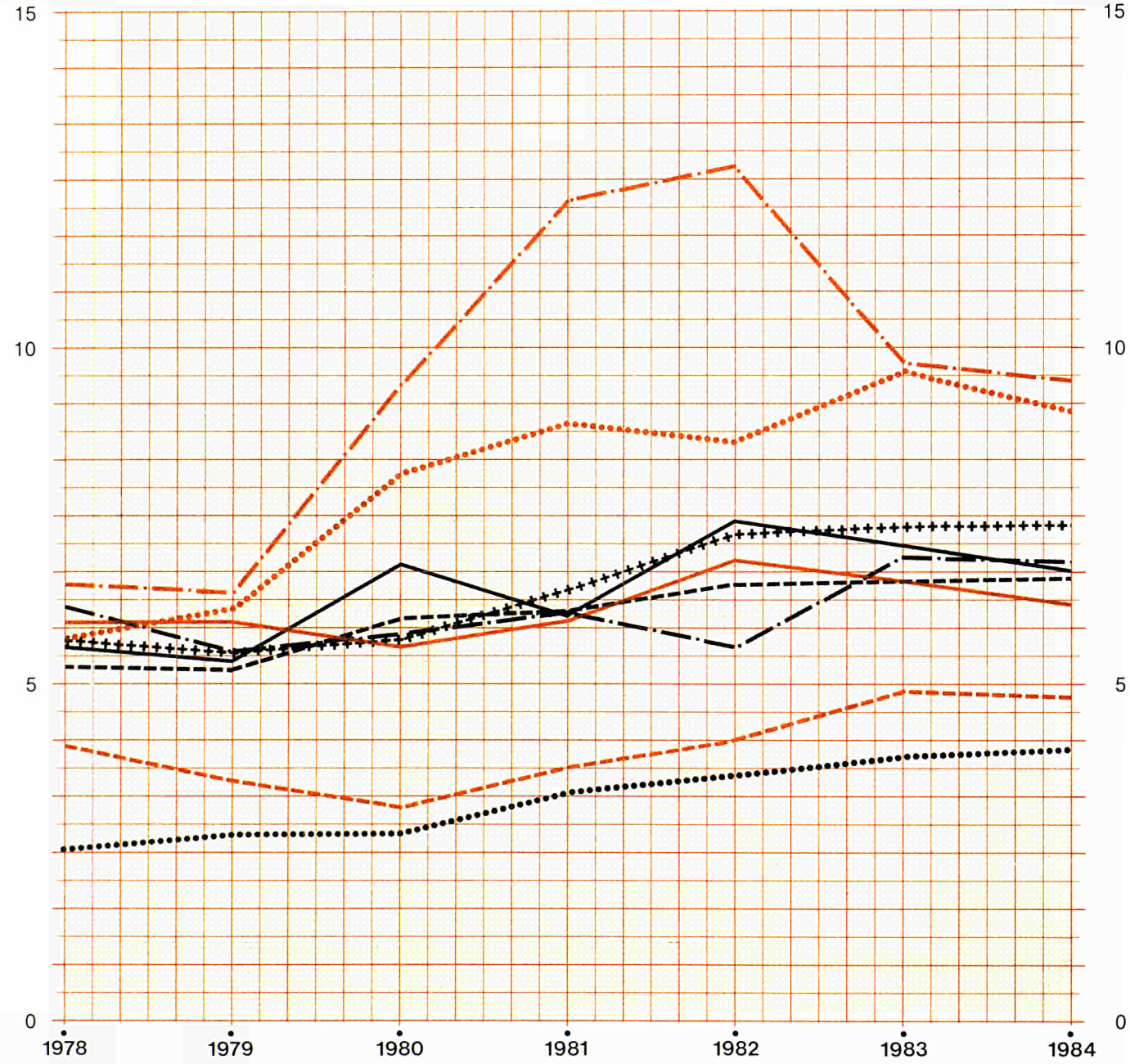
*Naturgas
Natural gas

*Gaz naturel
Gas naturale

+Ortsgas
Gasworks gas

+Gaz d'usines
Gas di officina

KKS/GJ(1)
PPS/GJ(1)
SPA/GJ(1)



(1) Preisbereinigt/Deflated/Déflaté/Deflazionato

Gaspreise für Haushalte
Gas prices for households

23

Prix du gaz pour usages domestiques
Prezzi del gas per usi domestici

EUR 9

Preise alle Steuern inbegr.
Price incl. all taxes

D_3

Prix ttc.
Prezzi imp. comprese

Düsseldorf* | Rotterdam* | London*
Paris* | Bruxelles* | Dublin+
Milano+ | Luxembourg* | København+

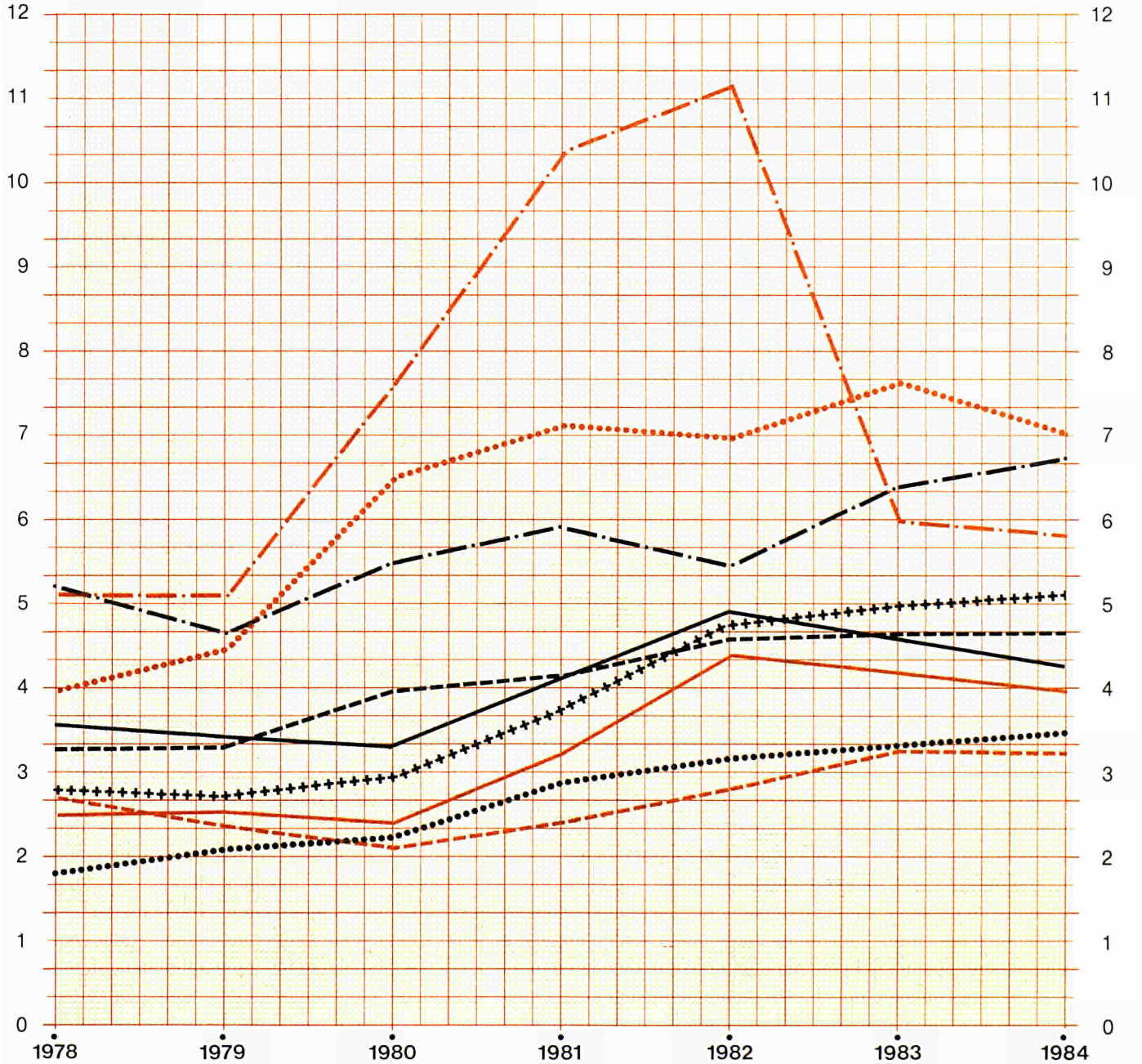
*Naturgas
Natural gas

+Ortsgas
Gasworks gas

*Gaz naturel
Gas naturale

+Gaz d'usines
Gas di officina

KKS/GJ(1)
PPS/GJ(1)
SPA/GJ(1)



(1) Preisbereinigt/Deflated/Déflaté/Deflazionato

EUR 9

I_2

Preis ohne MWST
Price excl. VAT

Prix hors TVA
Prezzi IVA escl.

Düsseldorf* Rotterdam* London*
Paris* Bruxelles* Dublin+
Milano+ Luxembourg* København+

*Naturgas
Natural gas

+Ortsgas
Gasworks gas

*Gaz naturel
Gas naturale

+Gaz d'usines
Gas di officina

KKS/GJ(1)
PPS/GJ(1)
SPA/GJ(1)

(1) Preisbereinigt/Deflated/Déflaté/Deflazionato

LX

EUR 9

Preis ohne MWST
Price excl. VAT

I_{3-1}

Prix hors TVA
Prezzi IVA escl.

Düsseldorf* Rotterdam* London*
Paris* Bruxelles*
Milano* Luxembourg*

*Naturgas
Natural gas

*Gaz naturel
Gas naturale

(1) Preisbereinigt/Deflated/Déflaté/Deflazionato

EUR 9

I_{4-1}

Preis ohne MWST
Price excl. VAT

Prix hors TVA
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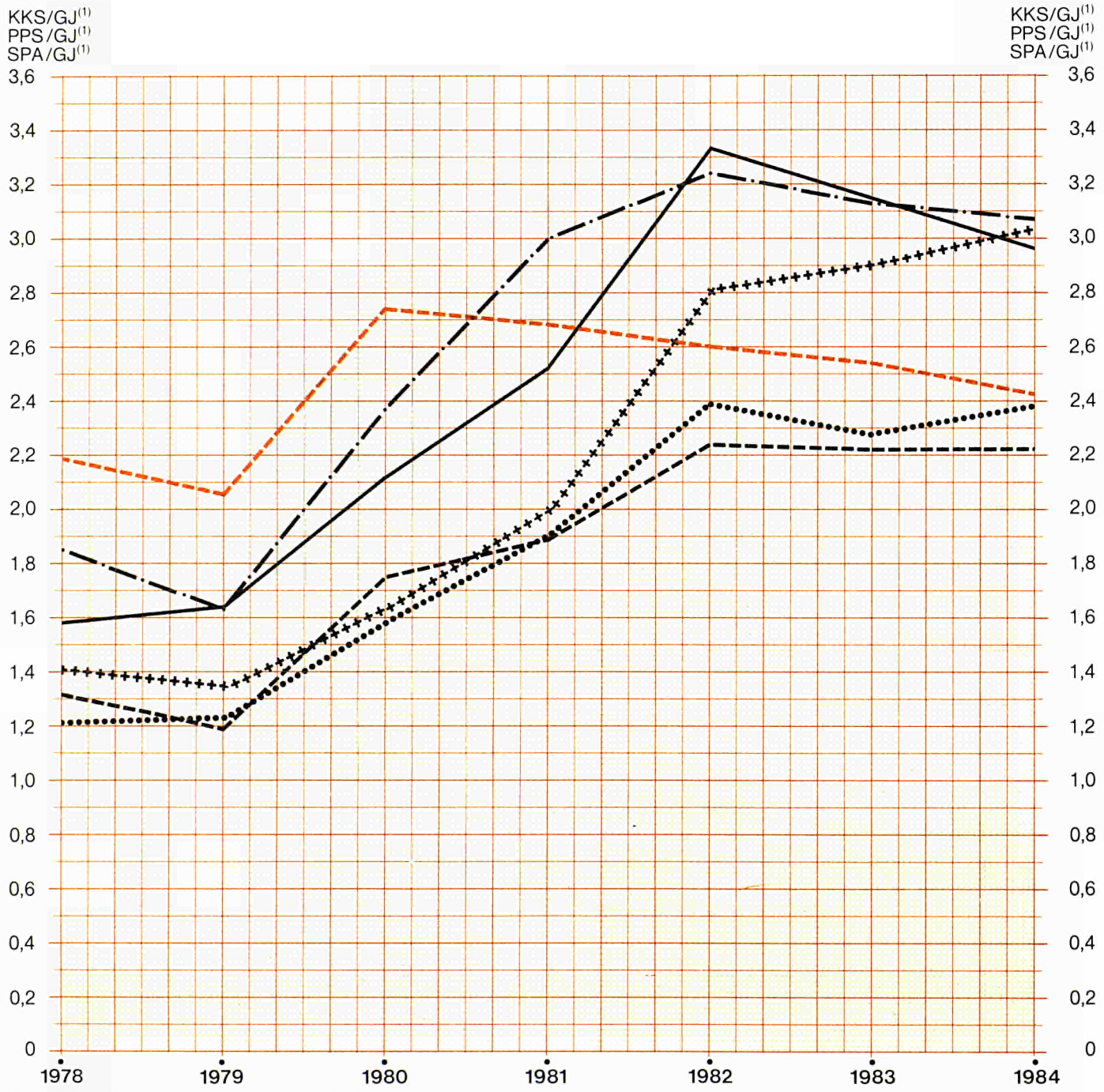

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