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GAS PRICES

1980 - 1986

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SERVIÇO DE ESTATÍSTICA DAS COMUNIDADES EUROPEIAS

L-2920 Luxembourg — Tél. 43011 — Télex: Comeur Lu 3423
B-1049 Bruxelles, Bâtiment Berlaymont, Rue de la Loi 200 (Bureau de liaison) — Tél. 235 11 11

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SYMBOLS AND ABBREVIATIONS

-/	Nil
0	Data less than half the unit used
.	No data available
1980 = 100	reference year
*	Natural gas
+	Gasworks gas
m^3	cubic metre
kWh	kilowatthour
Gwh	gigawatthour (10^6 kWh)
h	hour
MJ	megajoule
GJ	gigajoule (10^3 MJ)
n	number
GCV	gross calorific value
NCV	Net calorific value
BFR	Belgian franc
DKR	Danish crown
DM	German mark
ESC	Escudo
FF	French franc
HFL	Dutch guilder
IR£	Irish pound
LFR	Luxembourg franc
LIT	Italian lira
PTA	Peseta
UK£	Pound sterling
PPS	Purchasing power standard
ECU	European currency unit
EUR 12	Total of the member countries of the European Communities
Eurostat	Statistical Office of the European Communities

I. INTRODUCTION

The present publication is a complete updating of the study "Gas Prices" 1980-1985" published by Eurostat in 1985.

It contains the most recent prices, valid in 1986 together with a time series going back to 1980.

The text describes all recent changes in tariffs, taxation, supply and conditions of sale liable to affect consumer price levels.

The scope of the study has been widened to include Spain and Portugal with as complete a description as possible of the structure of the gas industry, tariffs and taxes in these two new Member States.

The definitions and methods remain the same as those used in previous studies, so that the formation and development of gas prices can be observed over a very long time series.

For reasons of economy this publication is only available in two languages : English and French.

The survey on which the 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 the Energy Institute of Cologne University, to whom we express our sincere thanks.

Our special thanks to the many government departments and gas companies in Spain and Portugal who willingly cooperated in this study and provided so much information, even before the two countries joined the European Economic Community which enabled early publication of the results.

II. CONDITIONS AND METHODS

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 occuring 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) cokeoven, or blast-furnace gas.
Only piped distribution is considered.

The prices were recorded in 34 towns or regions within the Community :

FR of Germany : Hamburg, Hannover, Weser-Ems, Dortmund, Düsseldorf, Frankfurt/Main, Stuttgart, Munich;

France : Lille, Paris, Strasbourg, Marseille, 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;

Spain : Madrid, Barcelona, Valencia, North & East;

Portugal : Lisbon.

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 study: 1980 to 1986.

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, correspnding to the invoiced delivery price 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 calorie 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 = 1 watt/second = 1 newton metre. However, a concession was granted to the United Kingdom and Ireland, who may continue to use the therm for a transitional period.

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

the joule (Belgium);

the kilowatthour (FR of 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 an average is not calculated but it is considered 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	8.37 GJ (i.e. 2 326 kWh)	cooking and water heating
D_2 [(a)]	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

(a) 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 :

$$\text{daily load factor } nd = \frac{Qa}{Qd\ max}$$

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

where Qa = annual volume consumed,

Qd 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 industrial standard 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	116.6 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 days 8 000 h

[1] If necessary 115-200 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 of 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 load factor 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 the interruption 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 1st January. In the case of tariffs or contracts with short term 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 case of freely negociated prices or contracts, the returns relate 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 purpose 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.

III. UNITS OF VALUE

To permit comparisons between countries, prices expressed in national currencies need to be converted to a common unit. In this study two common units are used :

(i) the European currency unit (ECU);

(ii) the purchasing power standard (PPS).

1. THE EUROPEAN CURRENCY UNIT (ECU)

The ECU is a basket-type currency unit based on the market exchange rates of a certain amount of each of the Community currencies, weighted according to the gross national product and intra-Community trade of each Member State.

In 1984, this weighting was revised on the accession of Greece and will remain in force until further notice.

The new composition of the ECU basket is as follows:

DM 0.719	LIT 140	FF 1.31	DKR 0.219	HFL 0.256
IRL 0.00871	BFR 3.71	UKL 0.0878	LFR 0.14	DR 1.15.

The conversion rates for the ECU against the national currencies in January of each year are given in a table in the Statistical Annex.

The definition of the ECU is such that it reflects fluctuations in exchange rates and is suitable for measuring the prices and values of international flows of goods and services. Data expressed in ECU therefore permit the comparison of prices in terms of money changed at a bank. Such currency conversion at the market exchange rates, however, has the disadvantage that it fluctuates in time under the influence of many factors which are independent of internal price movements :

(i) capital transfers;

(ii) political decisions;

(iii) regulations;

(iv) speculation;

(v) interest rates.

2. THE PURCHASING POWER STANDARD (PPS)

The PPS is a reference unit so calculated that its value in relation to the various national currencies is proportional to the purchasing power parities (PPP) between these currencies.

The purchasing power parities reflect the ratios between price levels in the different countries. The ratios between the prices expressed in national currencies are calculated for each of the products included in the uses of the GDP. If these ratios are suitably weighted, one obtains mean price ratios, the most general of which is the mean calculated for the GDP and known as the PPP at GDP level.

Such parities would be adequate to express all the data in real terms in the currency of any one of the countries considered. The method ensures that they are transitive and unaffected by the country chosen as a basis of reference. For Community calculations another reference unit known as the PPS is used. It is defined by applying the price ratios to the GDP of the various countries expressed in national currency and adjusting the parities so that the value of the GDP of the Community as a whole in 1975 is identical whether expressed in ECU or PPS. Only the proportion accounted for by each country will be different.

When prices are converted to PPS using the GDP parity, the result may be interpreted as follows :

If one gigajoule of energy costs 10 PPS in country A and 5 PPS in country B, this means that after allowance has been made for the differences between the general level of prices in the two countries, this gigajoule of energy is twice as expensive in country A as in country B.

This conclusion is independent of market exchange rates, which are influenced by factors other than the level of prices (movements of capital, speculation, interest rates, political decisions, etc.).

The conversion rates for the years covered by the study are given in a table in the annex. They were revised when the base year was changed.

3. PRICES IN CURRENT PPS AND CONSTANT PPS

The price surveys required to calculate purchasing power parities are not carried out every year. The most recent available is that for 1980 an another is planned for 1985. Since the parities are price ratios, however, their value for the other years may be estimated by extrapolation using the movement of the GDP price indices for the various countries, referred to the Community average. These are known as "current parities".

The data can also be converted into base year PPS. If price series deflated by the GDP price index for each country are expressed in base year PPS, one obtains an indication of the change in prices for the product in question in relation to the general level of prices in the country. The data so calculated can also be compared between countries, giving the same results in relative terms as will be obtained using current prices and current PPP, since the latter are extrapolated using the same indices, namely, the GDP price indices for each country and the average Community index.

Calculation using deflated PPS is thus carried out as follows :

1. The prices of the time series in current national currency are divided by one hundredth of the GDP price index of each of the years concerned;

2. This deflated series is converted to PPS using the conversion factor of the base year 1980.

4. PRICE SERIES

In the light of the foregoeing, the results of this survey of Community prices are given in three forms :

1. a series of current prices in the national currency for each country;

2. a series in current ECU using the conversion rates for January of the year concerned;

3. a series in "deflated" PPS (base year 1980), which allows prices to the compared for different times and places.

IV. TAXATION

For convenience sake and in keeping with the different price levels shown in the tables a distinction is made between value added tax, which is a general indirect tax and other specific taxes.

1. VALUE-ADDED TAX

During the period studied VAT was levied on the price net of VAT but comprising any specific tax included in the basis of assessment. VAT is always a proportional tax, unlike the specific taxes. The following table summarizes VAT rates in force during the period studied.

Value-added tax (VAT) rates on gas sales

(% of price before VAT)

January	1980	1981	1982	1983	1984	1985	1986
FR of Germany	13	13	13	13	14	14	14
France	17,6	17,6	17,6	18,6	18,6	18,6	18,6
Italy (domestic)	6	8	8	8	8	9	9
Italy (non-domestic)	14	15	15	18	18	9-18(1)	9-18(1)
Netherlands	18	18	18	18	19	19	19
Belgium	6	16	17	17	17	17	17
Luxembourg	5	5	5	5	6	6	6
United Kingdom	0	0	0	0	0	0	0
Ireland	0	0	0	0	5	5	10
Denmark	20,25	22	22	22	22	22	22
Spain	-	-	-	-	-	-	12
Portugal	-	-	-	-	-	-	8

(1) See chapter V-3 Italy

VAT is deductible for industrial and comercial consumers registered for general tax purposes.

2. SPECIFIC TAXES

a) France

A specific tax was introduced on 1 January 1986 at the rate of 2.694 FF/GJ on consumption above 18000 GJ/year.

b) Italy

Since February 1977 sales of natural gas for households uses have been subject to a consumption tax (imposta di consumo) at the rate of 30 LIT/m^3 (except from September 1979 to February 1980 when it was 36.50 LIT/m^3).For natural gas LIT 30 per m^3 is approximately LIT 788 per GJ (GCV).

This tax is also applied to town gas in proportion to the percentage of natural gas used in its manufacture. For more details see the chapter V-3 'Italy'. Since November 1980 (Law N° 784) domestic consumers in the south of Italy (Cassa per il Mezzogiorno zone) are exempt from this tax, which is included in the basis of VAT assessment.

c) Netherlands

A special antipollution levy is applied directly to gas sales at the rate of 0,85 cents/GJ until 1981, 1,42 cents/GJ thereafter. It is included in the basis of VAT assessment. The basis for this levy is dealt with in greater detail in the chapter on the Netherlands.

d) Denmark

Between 1 August 1979 and 31 December 1983 a specil 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 at the rate of 20 øre/m^3 until 29.6.1980 and 16 øre/M^3 thereafter. This tax is included in the basis of VAT assessment and is deductible when VAT is deductible, that is to say it is only levied once, in the case of re-sale.

e) SPAIN

A special tax was levied during the period 31.1.80 to 31.12.85 at the following rates :

PTA/GJ

Period	31.1.80-14.7.83	15.7.83-30.12.83	31.12.83-31.12.85
Natural gas	22	0,28	0,28
Gasworks gas	22	22	11

In addition a municipal tax (Arbitrio) has been levied since 22.2.1982 at the rate of 1.50 % of the tax excl. price. This tax remains inforce following the introduction of VAT and is included in the basis of assessment.

V. GAS PRICES IN THE VARIOUS COUNTRIES

1. FR OF GERMANY
2. FRANCE
3. ITALY
4. NETHERLANDS
5. BELGIUM
6. G.D. OF LUXEMBOURG
7. UNITED KINGDOM
8. IRELAND
9. DENMARK
10. SPAIN
11. PORTUGAL

1. FR OF GERMANY

a) Situation in the gas industry

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

(i) producers of natural gas (5 companies);

(ii) gas transporters (Ferngasgesellschaften) (13 companies);

(iii) gas distributors (506 companies).

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 town gas.

In 1984, sales (natural and town gas) were as follows :

Sellers	Buyers						
	Industry	Power stations	House-holds	Commerce and handi-crafts	Government depts	Heating stations and others	Total
Natural gas pro-ducers	2,7	1,1	-	-	-	0	3,9
Gas trans-porters	23,7	4,9	-	0	-	0	28,6
Distri-butors	20,0	5,6	27,2	5,3	5,1	4,3	67,5
Total	46,4	11,6	27,2	5,3	5,1	4,3	100

"Interruptible" supplies account for 10% of total deliveries, mainly supplied by the distribution companies.

At the end of 1984 the number of gas consumers was as follows :

	No of consumers (1 000)	Standard consumers
Households	7 982	
of which (tariffs	(4 482)	D_1 D_2
of which (standard contracts	(3 500)	D_3 D_4
Commerce, small industries	309	I_1 I_2
Government departments	41	
Industry	30	I_3 I_4 I_5
Others	14	-

In addition, 688 000 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, i.e. power stations and industrial companies (some 1 700 customers).

Natural gas dominates the market. Town gas now represents only 1% of requirements. It is for this reason that the prices covered by this study refer to natural gas only.

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

	1980	1981	1982	1983	1984	1985
National production	30.5	33.0	31.0	32.5	30.7	28.0
Imports from the Netherlands	37.0	32.0	33.0	33.0	29.9	34.0
Imports from the USSR	17.0	20.0	20.0	20.0	25.1	24.8
Imports from Norway	15.5	15.0	16.0	14.5	14.1	12.7
Imports from Denmark	-	-	-	-	0.2	0.7
	100	100	100	100	100	100

Since September 1984 the Federal Republic of Germany has been receiving gas from the Danish fields in the North Sea.

b) Taxes

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

13% from 1.7.1979 to 30.6.1983;
14% since 1.7.1983.

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

c) Households prices - tariffs

In accordance with German law (Bundestarifordnung Gas) the distribution companies must offer two-part tariffs to small consumers. These tariffs must contain a standing charge for meter rental and reading and a 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 apply to standard consumers D_1 and D_2 (cooking and hot water). Above this level a system of contracts (Sonderverträge) prevails. The law does not require publication of these contracts, which are drawn up by the gas distribution companies.

In common with the regulations governing electricity prices there is a ceiling price which cuts across the degressivity curve. The contracts for all households 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 reviewed in October, before the winter season.

d) Household prices - analysis

The results are shown in tables 1 to 4 in the annex. Some prices are not available for the intermedate years, owing to survey difficulties. Furthermore, two new areas (Dortmund and Weser-Ems) have been added from 1984 or 1985, but it was not possible to calculate prices for the previous years.

However, the information avaibable is sufficient for a more or less complete analysis.

The past year was characterised by a stabilisation of prices in most cases. In six cities or regions prices remain unchanged since 1985 whilst rises of 7-14% in Hamburg and decreases of 3-5% in Munich are seen.
Despite the stabilisation of prices, the rises since 1980 are greater than inflation (the implicit GDP price index rose by around 19% between 1980 and 1986). Gas has thus become more expensive in real terms during the period studied.

In addition, regional price differences in the Federal Republic of Germany remain considerable as a result of the decentralization of companies and their freedom to fix tariffs. A further aspect of these regional differences is provided by the addition of two new areas to the survey. In 1986 differences of between 30% and 45% between areas were recorded. The reasons for these differences are the distances over which the natural gas has to be transported and distribution costs at local level.

In 1985 and 1986 out of the eight areas surveyed, the lowest prices were found in the Weser-Ems region, and the highest prices in Stuttgart.

Because of these differences and to give an overall idea of prices we have calculated the median. In 1986 the median prices including all taxes were :

Standard consumers	D_1	D_2	D_3	D_{3-b}	D_4
DM/GJ (GCV)	42.6	34.0	21.3	19.7	18.8

A comparison between the median price and the average price of heating gasoil (Heizöl extraleicht) in the F.R. Germany which had fallen to 17 DM/GJ (NCV) including all taxes during January 1986 shows that gas is more expensive for heating than its principal competitor.

e) Industrial prices - tariffs

Above the level of the small professional users (standard consumers I_1 in this study) who have similar tariffs to households users, there are no published tariffs for industry in the Federal Republic of Germany. All prices result from contracts concluded freely 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 :

. two-part formulae comprising :

1) annual standing charge (Grundpreis) which depends on the capacity of the user's installation;

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

. three-part formulae comprising :

1) annual meter rental (Meßpreis),

2) offtake charge (Leistungspreis) based on the load factor (DM/kWh),

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

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

Alongside these contracts for non-interruptible supplies there are also those for interruptible supplies. The conditions in such contracts vary considerably from one distributor to another and cover :

- the lenght of interruption, which can be unlimited or up to 42 days, taking into account the capacity of the user's polyvalent installations;
- the notice, which is always short (between 30 minutes and 6 hours);
- the price level, which results from either the abolition of the standing charge (leaving only a commodity rate), a very large reduction on the standing charge and offtake charge, or from a reduced monthly commodity rate based on the fuel oil price quotations published by the Federal Statistical Office.

f) Industrial prices - analysis

The results are shown in tables 5 to 8 in the annex.

For various reasons it was not possible to collect the prices for 1980-83 in certain cities. Furthermore, some standard consumers (I_5 for example) do not exist everywhere, and where a particular type of consumers is not found no price can be given. In Munich, for reasons of secrecy, only an average price has been given for large industrial consumers as a whole (I_3, I_4, I_5).

Also, two new regions Dortmund and Weser-Ems have been surveyed, and prices are indicated as from 1984 or 1985, although it was not possible to calculate prices for previous years. Despite this the main results can be analysed.

Prices changed little during 1985 as the following comprison between the beginning of 1985 and 1986 shows :

Hamburg	+1	to	+7%
Hannover	prices unchanged		
Dortmund	+3	to	+5%
Weser-Ems	-2	to	+2%
Düsseldorf	prices unchanged		
Frankfurt/M	0	to	+4%
Stuttgart	prices unchanged		
Munich	-5	to	+2%

No clear trend can be seen as the small price movements varied between regions and consumption levels.

Despite this quasi stability of prices during 1985 gas has become more expensive in real terms since 1980 as inflation was only 19% during the same period (current prices of gas rose by 30-90%).

Regional price differences in the Federal Republic of Germany also remain considerable, as a result of each company's freedom to negociate contracts. The addition of two more survey regions provides a new aspect of regional differences, which in 1986 stand at between 23% and 42%. The differences are smallest in the case of the largest industrial consumers.

One of the causes of geographical price differences is transport distance with the lowest prices found in the areas near to the fields (Weser-Ems), and the highest prices in the more distant areas (Stuttgart).

Another factor causing price differences is the volume consumed (tariff degression). In 1986, a hundred-fold increase in volume entails a unit price reduction of 9-19%, depending on location (price ration I_4/I_2).

In addition to the volume consumed, the regularity with which the consumer takes gas from the mains network (load factor) always has an effect on the price. This can be seen by comparing the prices for standard consumers I_{3-1} with I_{3-2} and I_{4-1} with I_{4-2} in the tables in the annex. Improving load factor by a 20-25% reduction in maximum daily offtake results in unit price reductions of around 2-10% according to the area (examples I_3, I_4).

All these factors explain the large number of recorded prices which are spread, almost at random around a central value, an idea of which can be got by calculating the median. In 1986 the median price (excl. VAT) was :

Standard consumers		I_1	17.9	DM/GJ	(GCV)
"	"	I_2	15.7	"	"
"	"	I_3	14.4	"	"
"	"	I_4	14.1	"	"
"	"	I_5	13.6	"	"

Furthermore the above values also show that the largest industrial consumer (I_5) is almost at the asymptote of the degressivity curves.

Given that the average consumption by industrial users is between 30 000 and 40 000 GJ per year (standard consumer I_3), the reprentative price net of VAT in the Federal Republic of Germany at the beginning of 1986 was around 14.40 DM/GJ (GCV) or 15.80 DM/GJ (NCV) for firm deliveries. The fall in oil prices brought the price of ordinary heavy fuel oil to around 10 DM/GJ (NCV, excl. VAT). This competition is particularly felt at the level of interruptable gas supply contracts where the price is 20-30% lower than for firm deliveries.

2. FRANCE

a) Situation in the gas industry

Whilst it does not enjoy a monopoly, GAZ de FRANCE dominates the market as the following table of natural gas sales in 1984/85 shows :

Companies	% of sales	Cities surveyed
Gaz de France	86,0	Lille, Paris, Lyon, Marseille, Toulouse (I_1 / I_3)
Gaz du Sud-Ouest	4,5	Toulouse (I_4 I_5)
Municipal authorities	2,5	Strasbourg
Other companies	7,0	-

The direct sales of Gaz de France are broken down as follows

%

Users	1980	1981	1982	1983	1984 (1)	standard consumers
Domestic heating tariffs	26,8	26,6	27,1	27,4	27,4	D_3 D_{3b}
Other domestic tariffs	4,9	4,5	4,5	4,2	3,9	D_1 D_2
Collective heating	9,9	10,0	10,6	10,8	10,7	D_4
Commercial and professional	15,0	14,4	15,0	15,5	14,9	I_1 I_2
Industry	43,4	44,6	42,8	42,1	43,1	I_3 I_4 I_5
	100	100	100	100	100	

(1) Final figures

At the 31st December 1984 the total number of consumerss was 8 488 350

of which	(household heating tariffs	3 864 202
	(other household tariffs	4 286 893
	(commercial and professional	321 001
	(industry	16 254

At the same time gas heating appliances, which account for a large proportion of consumption were estimated as follows :

individual central heating	3 400 000
number of dwellings collectively heated	1 400 000
convector heaters with exhaust outlet	1 400 000

In terms of the supply of natural gas, 1985 was marked by negotiations with the USSR and the Netherlands on supply contracts which brought about a softening of purchase conditions :

- Postponement of contract deadlines
- margin of flexability in annual deliveries
- price variation clause based on nearest market competitor by reference to heating gas oil and heavy fuel oil prices
- slight lowering of prices
- invoicing in ECU or FF in place of the dollar.

These changes should bring about a fall in consumer prices.

Supplies of natural gas have been from the following sources :

%

	1980	1981	1982	1983	1984	1985 (1)
National production (south west)	28,1	25,5	25,6	22,2	22,5	17.9
Imports						
Netherlands	37,5	31,0	20,1	23,6	23,5	23.6
Germany (FR)	3,9	3,8	4,2	1,8	-	-
USSR	13,2	15,0	14,3	12,4	15,7	22.1
Norway	9,3	9,8	9,6	8,5	8,2	9.4
Algeria	7,9	14,9	26,1	28,1	29,9	26.9
Others	-	-	0,1	3,4	0,2	0.1
	100	100	100	100	100	100

(1) month

b) Taxes

Sales of gas have been subject to value added tax (VAT) at the rate of 18,6 % of the price before VAT since the 1st July 1982 (17,6 % before then). VAT is deductible for industrial and commercial consumers who have not opted for flat rate payment.

A specific tax on the use of gas as an industrial fuel was introduced on the 1st January 1986 at the rate of 0.95c/kWh plus a stamp duty of 2 % making 0,97 c/kWh or 2.694 FF/GJ. This tax is only applied to the consumption block over 5 million kWh per year (18 000 GJ/year) with a threshold of 400 000 kWh per month. Therefore it is only applied to the standard consumers I_3 I_4 I_5 of this study. It is included in the basis of assessment to VAT.

c) Household prices - tariffs

Gaz de France's new tariffs, introduced during 1984 are still in force. They are of the two part type and concern "retail" and "semi-wholesale" sales to individual domestic, collective domestic, tertiary and small industrial consumers. The rates were lowered twice, on the 10th October and 6th December 1985. The latter, still valid in January 1986 are as follows :

Tariffs zone 1 with effect from 6.12.85 (excl. taxes)

Standard consumers	Tariff	Standing charge FF/year		Commodity rate c/kWh	FF/GJ
D_1 D_2	B0	211,32		27,24	75,66
	B1	847,68		18,52	51,44
D_3	3Gb	893,52		18,25	50,69
D_{3b}	B2 I	1 076,52		17,64	49,00
D_4	B2 S	3 897,24	winter(1)	17,58	48,83
			summer	14,27	39,64

(1) winter 5 months : November to March

The standing charge is the same for the whole country whilst the commodity rate of tariffs B1, 3GB, B2I and B2S are higher in zones 2-6 which are further from the transport network. The larger French cities are in zone 1 (Lille, Paris, Lyon, Marseille, Toulouse).

For the seasonal tariff B2S, standard consumer D_4 was assumed to take 77 % of his consumption during the winter period. Depending on the seasonal breakdown of consumption tariff B2I can be slightly more favourable than tariff B2S around 300 000 kWh/year.

Strasbourg which is served by a municipal authority has different tariffs and prices.

d) Household prices - analysis

The reduction in selling prices towards the end of 1985 (see table 9 in annex) is of partucular note. In January 1986, gas for domestic uses was offered with the following reductions compared to the previous year :

3.4%-3,6% for cooking and hot water
4% for individual central heating
3.7% for collective central heating.

This is the result of several tariff modifications with a general reduction of commodity rates, variable adjustment of standing charges, and a widening of the gap between winter and summer prices in seasonal tariffs. This is directly attributable to the softening of gas supply contracts.

This reduction is the first since 1970 but it by no means cancels out all the rises recorded in the interim. In current terms, 1986 prices are 80 % above 1980 levels for small users and double for heating.

Taxes have had little effect on this trend. On the one hand VAT remained quite stable with a 1 % rise in 1982 whilst the new specific taxes do not affect the small users.

Gas prices, rising until 1984 and falling thereafter reflect the import price which follows, with a certain time lag the price of petroleum products on the international market.

This has been the trend throughout France. Since 1980, GAZ de FRANCE tariffs have been standardised for all the major cities with the exception of Strasbourg which is served by a municipal authority. In areas distanced from the gas transport arteries prices can be up to 8 or 10 % above those shown in this study. Regional price differences are thus not great and reflect the tolls charged.

On the other hand price trends have not been the same for all levels of consumption. Until 1984 it was the central heating consumers who suffered the largest increases while small users enjoyed a measure of protection. However the reductions in 1985 were more favourable for space heating. The difference in unit price between consumers using gas for cooking (D_1) and collective central heating (D_4) is 50 % in 1986, against 60 % in 1980. This reduction in unit price based on consumption (degressivity) results from :

1) the action or tariff formulae
2) the seasonal elements of tariffs.

Tariff B2I can be slightly more favourable than tariff B2S (seasonal) around 300 000 kWh per year, i.e. 1 080 GJ/year depending on the seasonal breakdown of consumption. This is the case for standard consumer D_4 (collective heating). The table in annex gives the price according to tariff B2S, i.e. 50.44FF/GJ whilst the price according to tariff B2I would be 50.03FF/GJ.

Since 1980 the price of gas including all taxes for domestic uses gas grown faster than the price of all goods and services measured by the implicit gross domestic product price index. The latter rose by around 59 % between 1980 and 1986.

Despite the rise in real terms, gas remains in a strong position in relation to other competing forms of energy. The 1985 reductions can be seen as a response to the situation of competitors, particularly petroleum products, the prices of which have fallen. At the beginning of 1986 the price of natural gas for heating is 7-10 % less per gigajoule (NCV) than heating gas oil, its principal rival.

Thus it is not surprising to observe continued growth in the sales of gas for domestic uses, with peaks due to the cold such as at the beginning of 1985.

e) Industrial prices - tariffs

In the cities selected for this study, tariffs differ according to the seller:

Lille, Paris, Lyon, Marseille (I_1-I_5) : Gaz de France;

Toulouse (I_1-I_3) : Gaz de France;

Toulouse (I_4-I_5) : Société du Gaz du Sud-Ouest;

Strasbourg : Gaz de Strasbourg.

Gaz de France has two types of tariffs :

(i) B2 tariffs, described in (c), for "semi-wholesale" sales to standard consumers I_1 and I_2;

(ii) more complex subscription tariffs, known as S tariffs, for large industrial customers with an annual consumption of more than 5 million kWh, or 18 000 GJ (I_3, I_4, I_5).

Tariff B2I is applied to small commercial and industrial consumers type (I_1), and tariff B2S to I_2. In the latter case there is a minimum charge equivalent to 70 times the maximum suscribed offtake at the summer commodity rate, i.e. :

$$\text{minimum charge} = 70 \times \frac{\text{annual consumption}}{\text{load factor}} \times 14.27 \text{ c}$$

This calculation assumes that the standard consumer I_2 took 5/11 of his total gas consumption during the winter period.

For the larger industrial consumers the S tariffs were modified from 1 June 1985 following a government decision allowing tariff freedom. The S tariffs became seasonal. The year is now divided into two seasons :

winter from November to March inclusive;

summer from April to October inclusive.

They are made up of four elements :

- an annual standing charge, identical for all points on the network
- an annual charge based on the subscribed winter daily offtake. In this study it has been taken as the standard consumers maximum daily offtake.
- a reduced annual charge applied to the difference between the winter and summer subscribed demand where the latter in greater. This does not affect the standard consumers in our study.
- a commodity rate per kWh which varies according to the season and two blocks of consumption :

  1st block up to 24 million kWh/year i.e. 86 400 GJ/year

  2nd block all consumption thereafter

Summer prices are lower than winter.

There are two tariffs depending on the network which serves the client : SR tariff for the public distribution network and ST tariff for the transport network. The tariff elements are the same for the major transport arteries which link the country's varied sources of gas.

On the branches, the tariff elements, with the exception of the standing charge are obtained by adding to the basic tariff the specific charges for each branch (tolls).

The base values of the tariff system can be summarised as follows :

(Paris region)

Tariff (and standard consumer)	Annual standing charge	Annual offtake charge winter		Annual offtake charge for summer surplus		Commodity rate			
						1st block		remainder	
	FF	FF/kWh	FF/GJ	FF/kWh	FF/GJ	c/kWh	FF/GJ	c/kWh	FF/GJ
SR	24 000	1,2576	349,3	0,7944	220,7	winter 5,70	15,83	5,50	15,28
(I_3)						summer 4,38	12,17	4,18	11,61
ST	24 000	0,8376	232,7	0,3744	104,0	winter 5,65	15,69	5,45	15,14
(I_4 I_5)						summer 4,33	12,03	4,13	11,47

In other regions prices may differ as a result of the toll system.

The basic values are updated periodically by the formula

$$\frac{Na}{N} + \text{absolute increase}$$

N = 426 for the above tariffs

Na is an index based on the price of coal and No2 heavy fuel oil (high sulphur content)

The absolute increase is expressed in c/kWh and is only applied to the commodity rates.

The coefficient $\frac{Na}{N}$ is applied to all tariff elements.

For January 1986 et seq. Na stood at 716.7 and the absolute increase was 3.668 c/kWh.
By applying the updating formula one arrives at the following tariff values (without tax) :

(Paris region)

Tariff (and standard consumer)	Annual standing charge	Annual offtake charge winter		Annual offtake charge for summer surplus		Commodity rate 1st block		remainder	
	FF	FF/kWh	FF/GJ	FF/kWh	FF/GJ	c/kWh	FF/GJ	c/kWh	FF/GJ
SR	40 378	2,1158	587,7	1,3365	371,3	winter 13,26	36,83	12,92	35,89
(I_3)						summer 11,04	30,67	10,70	29,72
ST	40 378	1,4092	391,5	0,6299	175,0	winter 13,17	36,58	12,84	35,67
(I_4 I_5)						summer 10,95	30,42	10,62	29,50

For our standard consumers we have taken the following breakdown of consumption :

5/12 winter, 7/12 summer for a load factor of 330 days (I_{4-2} I_5)
5/11 winter, 6/11 summer for a load factor of 250 days (I_3, I_{4-1})

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 Gaz de France's sales to industry.

The terms of these contracts are as follows :

(i) the customers must possess an installation capable of using another 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 a few percent. 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 - anaysis

The results are shown in tables 10-12 in Annex.

Follwing recalculation some prices for 1985 have been slightly altered.

During the past year three things happened that are worth mentoning : seasonal subscription tariffs favouring summer consumption were introduced, prices were successively lowered, a specific tax was introduced from January 1986.

Summer consumption is favoured in two ways : the commodity rate for gas consumed between April and October is 17% lower than in winter; the offtake charge is reduced for those whose offtake is higher in summer than in the other months (see e) above). This affects industrial consumers charged according to the subscription tariffs (I_3 I_4 I_5).

The tariff revisions between the beginning of 1985 and 1986 resulted in tax exclusive prices falling by 4% for commercial and small industrial consumers (I_1 I_2) and around 11% for larger industrial users (I_3 I_4 I_5). The prices for the small users follow the same trend as the domestic sector due to the similarity of tariffs.

However for certain categories of consumers the full benefit of the lower tariffs was not felt due to the introductions of the specific tax on industrial uses of gas from 1 January 1986. Because this tax is only levied above a certain consumption level it does not affect the small users (I_1 I_2) and becomes progressive for the larger users (I_3 I_4 I_5). The higher the annual consumption the higher the effective rate of the tax as can be seen below :

Standard consumer I_3	1.535 FF/GJ
Standard consumer I_4	2.578 FF/GJ
Standard consumer I_5	2.682 FF/GJ

As a result for the users concerned (I_3 I_4 I_5) the drop in tax incl. prices between the beginning of 1985 and 1986 is only 4-8% according to the level of consumption. Nevertheless, these decreases in price, even reduced, break the long upward trend.

Whilst prices for the small industrial and commercial users are the same for all areas served by Gaz de France the prices for larger consumers (I_3 I_4 I_5) differ slightly (1-4% according to consumption) between the main cities. The lowest prices are in Toulouse and Lyon whilst the highest are found in Strasbourg, a city not served by Gaz de France.

The load factor has little effect on prices, with a gain of less than 2% when it is increased from 200 to 250 days (I_3) or 250 to 330 days (I_4). Under the new tariffs it is more advantageous to concentrate consumption outside the winter periods.

The recent trend in industrial gas prices can be summarised by a lowering of price levels and incentives to consume in low season.

3. ITALY

a) Situation in the gas industry

The gas industry operates on two levels :

- SNAM, part of the ENI group, which has a virtual monopoly (about 98%) of the transport and wholesale distribution of natural gas. In general, SNAM supplies gas to industries consuming over 500 000 m^3 a year (approximately 19 000 GJ/year) and to the distribution companies. In exceptional cases some large industrial consumers may be supplied directly by local distribution companies and SNAM may also supply industrial consumers whose consumption is below the limit stated.

- The gas distributors, whose function is to distribute gas to small consumers. They receive natural gas from SNAM and re-sell it either as it is or after processing. This is carried out by municipalities, either directly or through municipal companies, alternatively a concession is granted to a private undertaking.

The tariffs applied by SNAM are agreed at national level with the consumers associations. In particular the industrial tariffs (I_3 I_4 I_5) are negociated between SNAM and the industrial consumers associations COFINDUSTRIA and CONFAPI.

The tariffs applied by the distribution companies are established for each area (1) according to the method worked out by the Interministerial Price Committee (CIP).

The following table illustrates the patters of gas sales :

%

		1982	1983	1984	Standard consumers
SNAM direct sales		57.0	58.7	55.0	
of which	industry	38.5	32.5	35.3	I_3 I_4 I_5
	power stations	10.5	18.5	11.7	
	chemical synthesis	7.0	6.7	6.6	
	motor fuel	1.0	1.0	1.1	
Sales via distributors		43.0	41.3	45.0	
of which	small household consumers	10.0	7.0	9.0	D_1 D_2
	individual central heating	17.0	18.4	19.0	D_3
	collective heating	8.0	8.2	9.0	D_4
	non-domestic users	8.0	7.7	8.0	I_1 I_2
		100	100	100	

(1) 1 537 companies serving 1 462 areas (end of 1984)

The number of consumers was broken down as follows :

		1983	1984
Supplied by SNAM	industry	3 025	3 083
	power stations	17	19
	chemical synthesis	21	21
	others	324	336
	distribution companies	1 463	1 537
	Total	4 850	4 996
Supplied via distributors	small household consumers	4 920 000	5 070 000
	individual central heating	3 400 000	3 620 000
	others (1)	280 000	310 000
	Total	8 600 000	9 000 000

(1) Collective heating, craft trades, small industry and the tertiary sector

In 1984 collective central heating served over 1 million families.

At distribution level, natural gas enjoys a virtual monopoly of the market either in its natural state or as a raw material for gasworks gas.

In the cities selected for this study the nature of supplies by the distribution companies was as follows :

Milan : 670 000 consumers supplied with gas manufactured from natural gas (94%) and petroleum products (6%), also 50 000 consumers supplied with natural gas;

Turin : natural gas (580 000 consumers);

Genoa : natural gas (300 000 consumers);

Rome : part of the urban area supplied with natural gas (750 000 consumers), and part suppied with gas manufactured from natural gas (150 000 consumers);

Naples : natural gas mixed with air (270 000 consumers).

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

The source of natural gas are as follows :

%

	1980	1981	1982	1983	1984	1985
National production	47	50	48	45	42.7	42.2
Imports from:						
Netherlands	24	23	19	18	14.2	14.0
USSR	24	27	33	29	23.7	17.9
Libya	5	-	-	-	0.1	1.0
Algeria	-	-	-	8	19.4	24.9
	100	100	100	100	100	100

Imports of liquid gas from Libya were suspended in August 1980, but a new contract was signed in March 1984 for further supplies during 1984 and 1985.

But the most significant factor is the supply of large quantities of gas from Algeria, which began to arrive by pipeline across the Mediterranean in August 1983 in accordance with the contract signed between the two countries. This has changed the pattern of supplies, increased availability and affected price levels.

b) Taxes

The tax system was amended by Law N° 853 of 19 December 1984, which took effect on 1 January 1985. VAT rates were amended and standardized. There are, however, many exemptions. VAT rates on the gas price net of VAT have developed as follows :

Periods	Households	Non-domestic
1.12.1977 - 31.12.1980	6	14
1.1.1981 - 30.9.1982	8	15
1.10.1982-31.12.1984	8	18
1.1.1985 - ...	9	9 or 18

The standard rate of 18% is applied to non-domestic consumption, except for the extractive and manufacturing industries (including printing and publishing), which enjoy the reduced rate of 9%. For the purpose of simplification, this study assumes a rate of 18% for standard consumers I_1 and I_2 and 9% for I_3, I_4 and I_5.
In addition, since February 1977 sales of natural gas for households use have been subject to a consumption tax (imposta consumo), as follows :

September 1979 - February 1980 = LIT 36.50/m^3; since March 1980 = LIT 30.00/m^3.

For natural gas LIT 30.00 m^3 is the equivalent of approximately LIT 788/GJ GCV. This tax is also applied to town gas, in proportion to the amount of natural gas used in its manufacture. Rates can therefore vary according to the composition of gases. This is illustrated by the following two examples :

YEAR	Milan		Rome	
	LIT/m3	LIT/GJ	LIT/m3	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
1985	12.55	608.3	10.21	610
1986	12.92	626.2	10.31	619

Since November 1980 (Law N° 784), domestic consumers in the South of Italy ('Cassa per il Mezzogiorno' zone) have been exempt from this tax. The same applies to Naples.
This tax is included in the basis of assessment to VAT.

c) Household prices - tariffs

An Interministerial Price Committee regulation (n° 33/84) laid down the new tariff structure to be applied to consumers supplied by the public distribution companies.

The tariff system comprises a standing charge and a commodity rate, each with three levels :

Level	Use	Standing charge	Commodity rate	Standard consumers
1	cooking hot water	lump sum	maximum	D_1 D_2
2	individual heating alone or combined	lump sum	lower	D_3 D_{3-b}
3	other uses	rate per "flame"	lower or equal to level 2	D_4 I_1 I_2

The standing charges are the same for all distributors, however the number of "flames" varies according to the meter capacity and therefore the daily offtake. The rates decided by the Interministerial Price Committee were as follows :

LIT/month

Level	1985	1986
1	2 300	2 300
2	4 600	4 900
3	400 x flames	430 x flames

The degressive commodity rates are decided for each distributor based on his costs. The table below shows the rates valid at the beginning of 1986, and until further notice.

City	LIT/m^3 Level 1	2	3	Gas type	GCV MJ/m^3	N flames for D_4
Turin	491,40	482,30	465,35	*	38,1	145
Genoa	521,41	490,44	415,00(3)	*	38,1	200
Milan	332,50	315,15	315,15	+	20,633	100
Milan	518,00	490,00	460,00	*	38,1	80
Rome	316,49	283,18	283,18	+	16,66	394
Rome	573,30	491,40	467,10	*	38,1	145
Naples(0)	316,08	307,12(1)	254,95	+	17,85	300
Naples(0)	678,32	654,60(2)	474,35	*	38,1	300

* Natural gas + Gasworks gas or methane/air mixture

(0) 1985 tariffs
(1) 569,22 for the block above 527 m^3/year
(2) 270,44 for the block above 1173 m^3/year
(3) 336,7 above 25 000 m^3/year.

This tariff structure is the first stage in the harmonisation of tariffs in Italy.

In compliance with a regulation (n° 42/1985), the Interministerial Price Committee is stuying, for July 1986 a new system of definition and application of tariffs for consumers supplied by the distribution network.

The changes will include :

. predetermined regional tariffs by the introduction of a limited number of rates to be applied to domestic users for cooking and hot water (level 1). These rates will be fixed annually by the CIP;

- the establishment, during the year of tariff variants for heating and other uses (levels 2 and 3) taking account of changes in the price of competing fuels;

- co-existence between decision and application of tariff changes;

- regrouping of users by tariff group;

- greater price transparency by means of the same billing criteria.

d) Household prices - analysis

The available prices are show in Tables 13 and 16 in the annex.

Despite a number of gaps resulting from survey difficulties, a relatively full analysis of the results is possible.

With few exceptions the last twelve month have been marked by inceases in current prices :

% 1986/1985

Standard consumers	D_1	D_2	D_3	D_{3b}	D_4
Turin *	+ 9	+ 10	+ 12	+ 12	+ 11
Genoa *	+ 7	+ 7	+ 12	+ 13	+ 8
Milan +	+ 5	+ 7	+ 8	+ 8	+ 8
Milan *	+ 11	+ 13	+ 14	+ 14	+ 14
Rome +	- 2	- 2	+ 3	- 1	0
Rome *	+ 4	+ 5	+ 10	+ 10	+ 9

* natural gas + gasworks gas

The three levels of the new tariff structure are evident :

- small increases for the small consumers (D_1, D_2) charged according to level 1

- larger increases for individual heating (D_3) charged according to level 2

- average increases for collective heating (D_4) charged according to level 3.

In general the increases are in line with inflation (7-8% in one year) particularly for the small consumers who are protected for social reasons.

The increases are lower for gasworks gas than for natural gas.

However since 1980 the increases ranged from 130-200 % depending on the city and level of consumption which nevertheless must be seen in the light of 105% inflation during the same period. In the past gas was more expensive in real terms but this trend appears to have been broken.

Regional price differences have also been reduced by the recent tariff changes. In 1986 the difference between extreme prices varies from 30-38% for cooking, hot water and individual heating and is largely due to the type of gas. Looking at natural gas only, the regional differences are between 2 and 14% according to the consumption level whilst prices in the principal Northern Italian cities (Milan, Turin, Genoa) are very similar in 1986.

Two conclusions can be drawn from this : 1) prices are lower in the North than in the Centre or South of Italy - 2) gasworks gas remains dearer than natural gas. The latter can clearly be seen by comparing prices in Milan and Rome where both gases are distributed. Gasworks gas is 13-24% dearer in Milan and 19-42% dearer in Rome. The lowest differences are seen for the small consumers (D_1 D_2).

Progressive tariffs no longer exist, prices are now degressive as consumption increases. In 1986 the reduction in unit price between level 1 (D_1) and level 3 (D_4) is between 14 and 30% depending on the city.

Despite the price rises natural gas remained competitive for central heating during the 1985/86 winter, heating gasoil being around 17000 LIT/GJ (NCV).

e) Industrial prices - tariffs

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

Small industrial and commercial users (I_1 I_2), supplied by the local distribution companies are charged according to level 3 of the system resulting from CIP regulation no 33/84 (see c) above. Without going into detail the following table summarises the current situation (valid at the beginning of 1986 and until further notice) :

City	LIT/M3 (level 3)			Gas type	GCV MJ/m^3	N flames (1) I_1	N flames (1) I_2
Turin		465,35		*	38,1	100	400
Genoa	415(2)	336,7(2)	300	*	38,1	80	1000
Milan		315,15		+	20,633	100	500
Milan		460,00		*	38,1	60	300
Rome		283,18		+	16,66	400	1200
Rome		567,10		*	38,1	100	400
Naples		254,95 (°)		+	17,85	200	.
Naples		474,35 (°)		*	38,1	200	.

* Natural gas + Gasworks gas or methane/air mixture (°) 1985 tariff

(1) Standing charge N x 400 LIT/month in 1985
N x 430 LIT/month in 1986

(2) limits of blocks, 25 000 and 100 000 m^3/year

The larger industrial users (I_3 I_4 I_5) are supplied directly by SNAM and charged according to a standard national tariff which was revised in July 1985. The 'high usage' variant which is by far the most common (1) can be summarised as follows for firm deliveries

- Monthly load factor charge (LIT/month)

$$PG \times 661{,}5 \times \left(0{,}6 \frac{SO}{116} + 0.4 \frac{PNA}{146{,}3}\right)$$

PG = m^3 of maximum daily offtake

SO = industrial workers hourly salary index published by ISTAT

116 = value of SO in July 1983

PNA = ISTAT index of wholesale prices of non agricultrual goods

146,3 = value of PNA in July 1983

The load factor charge is revised six monthly, in January and July.

- Commodity rate (LIT/m^3)

$$271.823 \times \frac{ATZ \times K}{275.917}$$

ATZ = Monthly average price excuding tax of 1 kg of ordinary heavy fuel oil (viscoscity 7' Engler at 50° C), freight paid by the purchaser, cash price ex refinery or coastal depot based on the quotations published by the Milan Chamber of Commerce during the month preceeding the delivery of the natural gas.

275.917 = value of ATZ in September 1983

K = reduction factor applied to blocks of monthly consumption

m^3/month	value of K
≤ 100 000	1.00
100 001 - 300 000	0.96
300 001 - 700 000	0.94
700 001 - 2 000 000	0.92
2 000 001 - 4 000 000	0.89
≥ 4 000 000	0.87

(1) 95 % of non interruptible sales

The price of low sulphur heavy fuel oil is no longer included in the calculation due to it's neglibable market share.

For January 1986 the values of these parameters are :

ATZ = 261.129 (December 1985)
SO = 145.4 (October 1985)
PNA = 176.0 (October 1985)

A seasonal rebate of 4% is given on the commodity rate during the period April-September inclusive. This is not included in our calculation of the price at the beginning of the year. In addition a rebate of 1% on the total price is given for regular payment during the calendar year which we have applied to the standard consumers in this study.

A different tariff exists for interruptable supplies, the application criteria for which were also changed in July 1985. To benefit from this tariff consumers must sign a contract for at least 5000 m^3/day and guarantee an annual consumption of over 1 million m^3. Furthermore their plant must be capable of using heavy fuel oil in place of natural gas. Interuptions are decided by SNAM with a minimum of 48 hours notice.

The simplified formula to calculate prices in LIT/m^3 is :

$$0.875\ (ATZ + T)\ \left(1 + \frac{PR}{12X100}\right)$$

ATZ = Same definitions as for firm deliveries except that it is the average price for the same month and the manufacruring tax for the use in question must be added (generally 10 LIT/kg).

T = the cost of transport to provincial zones fixed by CIP (2.5, 5, 7.5 or 10 LIT/kg according to the distance).

PR = prime rate detemined by the Italian Banking Association.

For interruptible supplies the seasonal discount is 1 % and the rebate for regular payment 0.5%.

The values of the parameters in January 1986 are :
ATZ = 240.565 (January 1986)
PR = 15.875

All the SNAM tariffs are based on a standard m^3 of 38.1 MJ (GCV).

f) Industrial prices - analysis

The available results are shown in tables 17 to 20 in annex.

Most striking is the divergent price trends seen for the small industrial and commercial consumers (I_1 I_2) and the larger industrial users (I_3 I_4 I_5). Prices for the former rose by up to 12% whilst those for the latter fell by 21 - 22% between the beginning of 1985 and 1986. This is due to the different tariff systems, the former being charged according to the distribution companies tariffs which are the same as for domestic uses (level 3) whilst the national SNAM tariff is applied to the latter, indexed in the short term to the price of heavy fuel oil. In the latter case the drop in prices results from two things 1) removal of the reference to low sulphur heavy fuel oil in the price formula, 2) the depression in the oil market meaning lower prices.

For the largest industrial consumers (I_5) the recent fall in price has brought the price of natural gas to its 1980 level in constant terms (excl. VAT).

The divergent trends of the two tariff systems has also served to widen the gap between the price paid by small and large consumers. A large industrial consumer (I_5) now pays half the price paid by a small industrial consumer (I_1).

For the small users there are also regional price differences which in 1986 reached 84% at the extreme though due for the most part to the different types of gas distributed. For natural gas the maximum regional difference is 22%. In other words gasworks gas is dearer than natural gas. The difference can be seen by looking at the cities where both gases are available (Milan and Rome). In Milan for example gasworks gas is 28% dearer under the same delivery conditions.

Regional price differences do not exist for the larger industrial consumers (I_3 I_4 I_5) but differences arise from the delivery conditions. Two factors have an effect - the consumption (degressivity) and the load factor (maximum offtake). Price degressivity resulting from the volume consumed is decided by the factor k of the SNAM tariff. Between extreme blocks the reduction in unit price reaches 13%. With the new tariffs load factor also has an effect. When the maximum daily offtake is lowered by 20-25% a rebate of around 3% is given (see standard consumers I_{3-1} I_{3-2} and I_{4-1} I_{4-2}).

This is intended to avoid peaks in demand. Another way is for the seller to conclude interruptible contracts (25% of SNAM's sales to industry in 1985). In this case the current price is 5714 LIT/GJ excl. tax (with T = 5) which is 15-25% lower than the price for firm deliveries (I_4 I_5).

Because of the short term indexation to heavy fuel oil prices natural gas sold directly by SNAM to industry follows closely the fluctuations of the oil market.

4. THE NETHERLANDS

a) Situation in the gas industry

The gas industry operates on three levels :

- natural gas production (NAM);
- transport, imports, exports and sales to very large customers connected to the main transmission grid (Gasunie);
- distribution (local firms or public enterprises at local level).

The distributors are organized in a national association (Vegin, whose functions include negociation of purchase prices with the supplier Gasunie and recommendation on tariffs for small consumers (up to 170 000 m^3 per year).

%

	1980	1981	1982	1983	1984[1]	Standard consumers
Distribution companies	59.0	58.8	56.4	52.3	50.5	
(small users	42.3	42.5	40.6	38.3	37.2	D_1 .. D_4
of which: (greenhouses	7.8	7.3	6.9	6.0	5.7	
(other	9.0	8.9	8.9	8.0	7.6	I_1 I_2
Direct sales by Gasunie	41.0	41.2	43.6	47.7	49.5	
(industry	26.0	26.8	25.6	25.5	26.8	I_3 I_4 I_5
of which: (power stations	15.0	14.4	18.0	22.1	22.7	
Total	100	100	100	100	100	

[1] Final figures

Gasunie supplies gas directly to 30 power stations, 370 large industrial companies and 146 gas distribution companies, which in turn re-sell the gas to 5.3 million customers, including 4 700 000 households, 10 000 collective heating units for buildings and 10 000 market gardeners (greenhouse heating). Of the households, 3 100 000 have gas central heating.

Despite the decentralized arrangements for distribution, tariffs are uniform and the prices shown for Rotterdam apply to the whole country, with reductions in certain cases in the provinces near the gas fields.The Netherlands' own gas fields remain the main source of natural gas consumed in the country. Since 1978, however, the Netherlands has imported gas from the Norwegian fields in the North Sea in accordance with a policy of conserving national resources. The requirements of the internal market are covered as follows :

%

	1980	1981	1982	1983	1984	1985
Netherlands gas production	90.6	91.2	90.6	91.8	91.2	95.1
Norwegian imports	9.4	8.8	9.4	8.2	8.8	4.9
Total	100	100	100	100	100	100

Home production is broken down as follows :

Groningen : 65%
Other on-shore fields: 12%
North Sea fields: 23%

Here, too, a policy of diversification has been pursued in order to keep the Groningen field in reserve for future contingencies.

b) Taxes

Sales of gas are subject to a special pollution tax (heffin brandstoffen luchtverontreiniging), which has been levied at the following rates :

up to 1981, 0.03 cents/m^3 i.e. 0.85 cents/GJ
from 1982, 0.05 cents/m^3 i.e. 1.42 cents/GJ

This tax is now applied to all prices, regardless of tariff and is included in the basis of assessment for value-added tax (VAT).

VAT is also levid on all gas sales at the rate of 19% of the VAT exclusive price since 1 January 1984, previously 18%.
VAT is deductible for industrial and commercial users.

c) Household prices - tariffs

All small users consuming 170 000 m^3 or less per year (6 000 GJ) are charged under a simple two-part tariff which is revised periodically. In 1986 the rates are :

standing charge	commodity rate
57 HFL/year	57.6 c/m^3 i.e. 16.38 HFL/GJ

The standing charge for collective central heating (standard consumer D4) is HFL 15 per year per apartment with a minimum of HFL 210 per year, the commodity rate being the same as above.
The tariff is based on a standard cubic metre of 35.17 MJ (GCV).

d) Household prices - analysis

Since the gas distributors association (VEGIN) and Gasunie could not agree on selling prices the Minister for Economic Affairs had to arbitrate and imposed a rise of 3 cents per cubic metre for 1984, 3 cents at the beginning of 1985 and 2 cents for 1986 whilst the standing charge remained the same.

During the past year this resulted in increases of 2.5-3% for cooking and hot water and 3.5-3.6% for central heating (see table 21 in annex). The increase in the commodity rate is felt more as consumption rises.

This has the effect of reducing degrassivity. In 1986 the unit price for collective heating (D_4) is 30% cheaper than for small users D_1 whilst in 1980 it was 40%.

The increases during the period studied were greater than inflation. The implicit gross domestic product price index grew by around 20% between 1980 and 1986 whilst the price of gas for cooking and hot water rose by 67-80% and that for heating almost doubled.

The difference in price between natural gas and gas oil (HBO 1) for heating has narrowed to the point where, at the beginning of 1986 both products have the same (22 HFL/GJ NCV) tax inclusive selling price.

e) Industrial prices - tariffs

Industrial and commercial users are subject to a block tariff linked to fuel oil prices (factor P).

As from January 1986, this tariff is as follows :

Blocks m^3	Standard charge HFL/year	Commodity rate cents/m^3
0 - 170 000	57	57.6
170 000 - 1 000 000	-	$\left(\frac{P}{500} \times 40.0\right) + 2.8$
1 000 000 - 10 000 000	-	$\frac{P}{500} \times 40.0$
10 000 000 - 50 000 000	-	$\frac{P}{500} \times 38.2$
over 50 000 000	-	$\left(\frac{P}{500} \times 38.2\right) - \left(\frac{P}{500} \times 1.9\right) + 0.75$

The first block is charged at the normal household tariff. The prices for the other blocks are degressive and are linked to the factor P, which is the average price of fuel oil with a sulphur content of 15 % in the half year preceding the quarter in question, plus specific taxes, transport and distribution costs (HFL 23 per tonne). This price is the arithmetic mean of the ceiling and floor prices of fuel oil 'FOB brges Rotterdam', published in Platt's 'Oilgram' in US dollars and converted to HFL per tonne. The conversion is carried out at the mean monthly exchange rate published by the ABN bank.

In the first quarter of 1986 the value of P was 480.95 (as compared with 620.70 for the first quarter of 1985).

Customers consuming over 1 million m^3 per year are charged a penalty if the load factor is low. If the load factor is less than 100 days, the penalty is calculated as follows :

$$1 - \frac{\text{load factor}}{150} \text{ cents/m}^3.$$

If the load factor is between 100 and 150 days, the penalty is 0.27 cents/m^3 (1) or is calculated using the above formula if this would give a lower figure.

This penalty does not affect the standard consumers considered in the study.

A rebate of 0.75 cents on the price per cubic metre is granted on deliveries in the provinces of Groningen; Frisia, Drenthe and part of Overijseel. This rebate must not exceed 5% of the price per cubic metre. It has not been applied to the prices shown in the study, which represent Rotterdam and the rest of the country.

All these tariffs are based on a standard cubic metre of 35.17 MJ (GCV).

f) Industrial prices - analysis

The prices are shown in table 22 in annex.

The price trend for small industrial consumers (I_1 I_2) has been the same as for the domestic sector (same tariff), namely a rise of 4% between the first quarter of 1985 and the first quarter of 1986.

This is in contrast with the prices for large industrial consumers (I_3 I_4 I_5) which are linked to the price of heavy fuel oil on the Rotterdam market and which fell by 18-22% during the same period. This is the effect of the factor P in the tariffs the value of which dropped by 22% between 1985 and 1986 (1st quarter). This latest decrease in prices has not compensated for previous price rises as prices almost doubled between 1980 and 1985.

(1) Addition of 0.26 cents/m^3 above 8.8 million m^3/year

Today natural gas is more expensive in real terms than in 1980 (inflation of about 21 % between 1980 and 986).

The different trends of the two tariff systems has widened the price differential between small and large non domestic consumers. In 1986 the unit price paid by a large industrial consumer (I_5) is 38% less than that paid by a small commercial or industrial consumer (I_1).

Nevertheless for large users charged according to the industrial tariff degressivity remains low, the unit price only falls by 16% when consumption is increased one hundredfold (I_5/I_3).If consumption has little effect on prices the regularity of off-take (load factor) has none (see prices for I_3, I_4). Also interruptable contracts do not exist, except for power stations. There is no incentive in the tariff system to reduce peak consumption which is met by increases in production or stocks.

Apart from the normal tariffs there is a contract tariff; similar to the large industrial tariffs, applied to consumption over 30 000 m^3/year for greenhouse heating. This was the subject of several court actions during 1985 by various parties including the Commission of the European Communities. As a result, in June 1985 the price was raised from 42.5 to 45 cents/m^3 (12.8 HFL/GJ).

Because of the indexation to oil prices, the price of gas to large industrial consumers remains very close to that of heavy fuel oil which fell to 11 HFL/GJ NCV at the beginning of 1986 (excl. VAT).

For small industrial or commercial consumers (I_1 I_2) natural gas is currently dearer than heavy fuel oil but cheaper than heating gasoil.

The competitive balance is maintained.

5. BELGIUM

a) Situation in the gas industry

Two levels may be distinguished in the structure of the gas industry :

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

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

The whole structure is supervised by the "Comité de contrôle de l'électricité et du gaz' whose status was altered in 1983. The committee was changed into an independent establishment serving the public interest, whose function is to promote rationalization, coordination and standardization in the management of the electricity and gas sectors. It opertes by means of recommendations, especially with regard to tariffs, which are our present concern.

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

%

Users	1980	1981	1982	1983	1984	Standard consumers
. Distrigaz	58.8	52.2	47.2	50.0	50.7	
Industry, firm and curtaible supplies	34.0	34.7	35.4	31.7	34.4	I_3 I_4 I_5
Industry, inunterruptible supplies	13.3	10.2	6.7	9.0	10.0	
Public power stations	11.5	10.3	5.1	9.3	6.3	
. Public distribution	41.2	44.8	52.8	50.0	49.3	
Household uses	28.5	30.6	36.3	33.6	32.8	
(Heating tariff)	(26.8)	(29.0)	(34.5)	(31.5)	(31.3)	D_3 D_4

(Other tariffs)	(1.7)	(1.6)	(1.8)	(2.1)	(1.5)	D_1 D_2
Non-domestic uses	12.8	14.2	16.5	16.3	16.5	I_1 I_2
Total	100	100	100	100	100	

On 31 December 1984, the number of customers (meters in service) was as follows :

Households : 1 900 490
Non-domestic : 61 049
Total : 1 961 539

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

%

Country of origin	1980	1981	1982	1983	1984	1985
Netherlands	78.3	77.6	71.7	59.8	56.3	49.2
Norway	21.7	22.4	24.2	20.8	23.3	21.2
Algeria	-	-	4.1	19.4	20.3	29.6
	100	100	100	100	100	100

Since 17 November 1982, Algerian natural gas has been arriving through France via the port of Montoire until such time as the Zeegrugge terminal is completed.

A renegotiation of the supply contract with the Netherlands at the end of 1984 had the following results :

- a lowering of the import price
- greater freedom of offtake
- continuation of supplies until the year 2000
- greater account of competing product prices, principally heating gas oil.

Renegotiations of the contract with Algeria were opened at the end of 1985 with a view to adapting quantities and prices to the economic situation and energy needs.

This has affected the indexed tariff parameters.

b) Taxes

Sales of natural gas are liable to value-added tax (VAT). The rate levied on the price net of tax has varied as follows :

Until 30 September 1980 : 6%
From 1 October 1980 to 30 June 1981: 16%
Since 1 July 1981 : 17%.

VAT is deductible for those registered for the purposes of the tax as is the case with most non domestic consumers.

The distribution and delivery of natural gas to consumers of less than 33 500 GJ/year is carried out under the responsability of the minicipal authorities who have formed associations to provide the service.

Each authority receives a dividend based on his share capital in the association, paid in cash or in kind. This is not a fiscal tax and is included in the price net of tax.

c) Household prices-tariffs

The tariffs for the public distribution network are two part block tariffs with double indexation, as the following table shows :

Standard consumer	Tariff	Standard charge BFR	Commodity rate Centimes/MJ
D_1 D_2	A	35,2 x Igd/month	- 1st block (1) 5,9524 Iga + 23,0866 Igd (2) - 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) 1st block : 17 936 MJ/year or 15 474 MJ/year in the case of annual meter reading
(2) since 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 smaller (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.

Two indices affect the basic rates :

Iga which reflects the distributors purchase price of gas from the transport company, the frontier price of natural gas playing a large part;

Igd which partly reflects the distribution costs taking 30% of the evolution of wages in the gas industry.

	Iga	Igd		Iga	Igd
1980	1.3732	1.0152	1984	4.2599	1.1297
1981	1.9796	1.0490	1985	4.6306	1.1624
1982	3.2293	1.0947	1986	4.3087	1.1866
1983	3.7840	1.1161			

d) Household prices - analysis

The latest prices (see table 23 in annex) are noteworthy, breaking the upward trend which has been seen over the last twenty years.

This has been brought about by a drop in the frontier price of natural gas; the index reflecting the purchase price dropped by 7% between January 1985 and January 1986 while the salary index continued to rise slowly with a 1.5% rise in the same period.

In terms of the tariffs this resulted in a small rise in standing charges and a lowering of commodity rates. These opposing trends will produce different effects in a two part tariff according tho the part played by the standing charge. The effects vary according to consumption, we see the following between January 1985 and January 1986 :

a rise of 2 % for cooking and hot water (D_1 D_2)
a drop of 4 % for individual central heating (D_3)
a drop of 5 % for collective central heating (D_4)

The higher the consumption the lower the influence of the standing charge thus a greater drop in the consumer price. The drop in the import price of natural gas has therefore benefited larger consumers, for example heating.

The fall of the U.S. Dollar on the international market and the consequent fall in oil product prices, the main competitors of gas have been behind the decreases in gas prices.

Nevertheless the small drop in prices at the end of 1985 falls short of compensating for previous rises. In current terms gas is 60-65 % dearer than in 1980 for cooking and hot water, 120-130 % for individual central heating and 155 % for collective heating.

During the same 6 year period the implicit gross domestic product price index which measures the average rate of inflation in Belgium rose by 38 %. Gas has thus become considerably more expensive in real terms between 1980 and 1986.

Due to this large rise and the unfavourable position of gas relative to liquid fuels natural gas sales to the domestic sector have remained stagnant since 1980.

It is too early to say if the recent decrease in gas prices will change the situation, even if during 1985 gas prices decreased in real terms.

The above remarks are valid for the country as a whole as tariffs have been unified since 1982. Only the method of invoicing remains different in certain cities.

When invoicing is other than annual prices are slightly higher for certain small consumers e.g. + 1 % in Antwerp at the beginning of 1986 for D_2. However the annual billing system is being introduced in Antwerp and some consumers already pay the same price as Brussels. For this reason we only show the results for Brussels which amply demonstrate price levels and their trend in Belgium.

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	5 500 x Igd	Load factor $\geqslant$ 115 days 5.9524 Iga + 6.6695 Igd
	35- 879 GJ/year		$<$115 days 5.9524 Iga + 8.1677 Igd
	ND2	6 497 Igd	March-November 5.9524 Iga + 4.9837 Igd
	879-3 517 GJ/year		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, both firm and curtailable, who take more than 33 500 GJ a year (I_3,I_4,I_5) are subject to the national industrial tariff :

Firm supply : no interruption possible by the supplier except in case of "force majeure".

Curtailable : supply may be interrupted by the supplier between 15 November and 15 March. The total number of days of interruption per winter period may notxceed 35.

There are also interruptible deliveries whereby supply may be interrupted at any time, by either party.

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 ;

R_h : 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;

$$C_{ne} = \frac{SnF}{Sn}$$

P : coefficient which adjusts the commodity rate according to the use 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, for whom a weighted K (0.968) was calculated.

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. The value of G in January was :

	1980	79.2	1985	244.022
	1981	108.94	1986	222.001
G =	1982	178.053		
	1983	198.270		
	1984	222.323		

RDZ : monthly revision index, based on salaries and other costs. The value of RDZ in January was :

	1980	1.146352	1985	1.370953
	1981	1.175864	1986	1.397146
RDZ =	1982	1.245958		
	1983	1.299293		
	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_B). 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 habe been calculated, covering the range of industry prices, firm and erasable, by applying the following parameters :

firm deliveries for specific uses	Cne = 1	and P = 1.1
firm deliveries for non specific uses	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 - analysis

All non domestics tariffs are applied to the country as a whole, the results of which are given in tables 24 and 25 in annex.

Of particular note are the recent price decreases evident in January 1986.

Small industrial and commercial consumers (I_1 I_2) who are charged according to similar tariffs as the domestic sector have benefited from a drop of 5 % in their prices between January 1985 and 1986.

For the larger industrial consumers (I_3 I_4 I_5) supplied by Distrigaz reductions have been of the order of 7-9 %. At this level the drop in the border price of gas is more directly felt.

The price trends vary a little according to the delivery conditions. The following play a part in price formation under industrial tariffs :

- consumption
- load factor
- curtailment of deliveries
- the gas usage

These are the main factors affecting price determination for natural gas sales in Belgium.

In 1986 when consumption is increased one hundredfold the unit price is reduced by 3 % (coefficient K in the tariff). When the load factor goes up from 1 600 to 4 000 h unit prices fall by 10 % (I_{3-1} I_{3-2}). Regularisation of offtake thus strongly influences the amount paid. A further 1-2 % reduction in price can be gained by accepting a 50 % curtailment of supplies.

Finally the gas usage also plays a part, all other things being equal, a non specific usage - in competition with heavy fuel oil means a drop of around 3 %.

A consumer of 418 600 GJ/year with Cne=1 and P=1 would pay 10 % less under an interruptable supply contract compared with a firm contract, the former price being 232.50 BFR/GJ in January 1986.

These few examples give an idea of the end result of the relatively complex tariffs described under e) above. They favour consumers who can spread their offtake over time and, particularly for large consumers those who will accept a curtailment of supplies during peaks.

Nevertheless these allowances and the recent fall in prices remain insufficient to annul the rises experienced in earlier years. In real terms (deflated prices) natural gas is considerably more expensive in 1986 than in 1980.

We must also look at the strong competitive strength of oil products available at low prices. For this reason industries with polyvalent installations are turning to other fuels. This move from gas can be seen by looking at the "interruptable sales (a) above). However this trend has been reversed since 1983 by reducing "interruptable" prices to those of the competing oil products thanks to a freezing of the coefficient G at its October 1984 value until January 1985 and as a result of the new non indexed import and sales contracts.

The same holds true for all firm, curtailable and interruptable deliveries. Sales of gas to industry (I_3 I_4 I_5) which were declining until 1982/83 improved slightly in 1984 and 1985. Tariffs have been brought into line with the new competitive situation which explains the current price fall.

6. G.D. OF LUXEMBOURG

a) Situation in the gas industry

All natural gas is imported from the Netherlands gas fields 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.

Natural gas sales in recent years were broken down as follows :

Users	% of sales					Standard consumers
	1980	1981	1982	1983	1984	
Iron and steel group	74	60	44	36.5	35.7	
Other heavy industries	1	2.5	11	13.3	14.0	
Public distribution	25	37.5	45	50.2	50.3	
of which household tariffs	1.0	1.2	1.7	2.0	2.0	D_1 D_2
of which household tariffs with heating	15.0	22.1	25.5	28.5	28.6	D_3 D_{3b}
of which collective heating tariffs	7.8	12.1	15.7	17.1	17.0	D_4
of which small industry and craft trades	1.1	2.0	2.1	2.5	2.7	I_3
Total	100	100	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 25 % of its hourly and daily offtake, allowing the distribution companies to cover 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 load factor for the network, which allows the distribution companies to offer favourable terms of sale. Moreover, the reduction in consumtion by the iron and steel industry has left extra quantities of gas available for public distribution.

b) Taxes

VAT on supplies of gas was increased form 5 % to 6 % on 1 July 1983. It is deductible for commercial and industrial consumers.

c) Household prices - tariffs

The tariffs, described below are three part with double indexation :

Standard consumer	Tariff	Monthly meter rental	Monthly standing charge	Commodity rate per m3
D_1 D_2	TG 1	19	33 x E_1	10,74 + E_2
D_2	TG 2	19	110 x E_1	8,08 + E_2
D_3 D_{3b}	TMC 1	19	31 x E_1 (1) + 79 x N^1 x E_1	3,64 + E_2
-	TMC 2		16 x E_1 (1) + 79 x N^1 x E_1	3,64 + E_2
-	TC 1		31 x E_1 (1)	3,64 + E_2
D_4	TC 2	85	16 x E_1 (1)	3,64 + E_2

(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_{3b}, 30 blocks for D_4.

N = number of dwellings ($N \geqslant 10$ for TMC 2)

Gross calorific value 41 868 Kj/m^3 (rich gas)

The tariffs are updated every six months by the indices :

E_1 which represents the cost of living
E_2 which shows the purchase price of natural gas

Their values were as follows

1st half year	E_1	E_2
1985	3,324424	8,54007
1986	3,153	7,849

d) Household prices-analysis

Prices are shown in table 23 in annex.

In contrast to the appreciable rises in previous years (12-18 % between January 1984 and 1985 for example) prices at the beginning of 1986 show the following reduction compared with the first half of 1985 :

4 % for small consumers (D_1 D_2)
5-6 % for heating (D_3 D_4)

There are two reasons for this fall in prices firstly a slight fall in the standing costs and secondly a reduction in the frontier price of natural gas following the Netherlands' decision to reduce its selling price on the international market.

Following a period of continuosly rising prices this change of direction will bring prices closer to those of oil which has fallen recently on European markets.

The reduction is particularly felt by the large consumers as they bear a lower proportion of the fixed costs. Furthermore tariff degression remains marked, the more consumed, the lower the unit price. In 1986 the unit price for collective heating is half that paid by a small consumer, the reason being the distribution costs and the competition from oil in the heating market.

At the beginning of 1986 heating gas oil cost 380 LFR/GJ (NCV) excl. taxes against 390 LFR/GJ (NCV) for natural gas charged according to the individual central heating tariff (standard consumer D_3). Natural gas has however the advantage of greater efficiency and being cleaner and easier to use.

The recent decrease in price has not compensated for the rises in the past. In real terms (deflated prices) gas is considerably more expensive today than in 1980. Despite this sales of natural gas to the domestic sector continue to grow with peaks caused by the weather.

e) Industrial prices-tariffs

The tariffs, described below are three part and similar to those for domestic users :

(LFR)

Standard consumer	Tariff	Monthly meter rental	Delivery charge (monthly)	Monthly standing charge per m3 of maximum offtake		Commodity rate per m3
				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	-	8 671 in 1986 8 028 in 1985 5 000 before	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 households uses (see above).

Gross calorific value = 41 868 KJ/m^3 (rich gas).

The special tariffs (TS 1, 2, 3) do not have a meter rental 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 sent 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

Table N° 20 in annex shows the prices for consumers up to 41 860 GJ/year i.e. 1 million m^3/year. The few consumers above this level are supplied directly by the gas transport company SOTEG.

Industrial gas prices fell by up to 6 % at the beginning of 1986 compared with the first half of 1985 for the same reasons as for domestic users.

Despite this reduction natural gas is currently dearer than heavy fuel oil, the price of which has fallen to around 200 LFR/GJ (NCV) excl. tax.

Faced with this competition and the recession in industry sales of gas have shown little appreciable growth.

Even with the recent price reduction earlier rises have served to make gas more expensive today in real terms (deflated prices) than in 1980.

The prices derived from the application of the tariffs (see e) above) vary according to the consumption and the regularity of offtake. When consumption is multiplied one hundredfold the unit price falls by 7 % (I_{3-1}/I_1).

A change in offtake from 200 days 1 600 h to 250 days 4 000 h results in a further 7 % reduction in price (I_{3-2}/I_{3-1}).

7. UNITED KINGDOM

a) Situation in the gas industry

The public supply of gas is the responsibility of the State-owned British Gas Corporation, which :

(i) produces natural gas;
(ii) purchases gas extracted from the fields exploited by other companies (BP, Shell, Esso, Amoco, Phillips, Conoco, Mobil, etc.);
(iii) transports and distributies gas to the final consumers in Great Britain.

Recent legislation - "The oil and gas enterprise Act" - has eroded its monopoly of gas distribution in Great Britain. Under the terms of this law British Gas Corp. must reserve capacity on its transport and distribution network for the oil companies which produce natural gas in the North Sea to allow them to sell gas directly to industry. This possibility has been little exercised and British Gas Corp. continues to dominate the market.

Tariffs are also the responsibility of the British Gas Corporation, within the framework of financial targets laid down by the government. The territory covered by the British Gas Corporation does not extend to Northern Ireland, which has its own system. This study is therefore concerned with the British Gas Corporation and Great Britain only.

Sales via the public grid are broken down as follows :

	Natural Gas					% of sales
Users	1980	1981	1982	1983	1984	Standard consumers
Households	50.7	52.7	52.3	52.7	52.4	
Prepayment tariff	(2.4)	(2.3)	(2.2)	(2.4)	(2.2)	D_1
Credit tariff	(48.3)	(50.4)	(50.1)	(50.3)	(50.2)	$D_2 \ldots D_4$
Commerce and government	12.4	12.7	13.1	13.4	14.0	I_1 I_2
Industry	36.0	34.1	34.1	33.5	33.1	I_3 I_4 I_5
State-owned power stations	0.8	0.5	0.5	0.4	0.5	
Total	100	100	100	100	100	

The number of gas consumers can be estimated as follows :

(1000n)

		1979/80	1983/84
Households	(prepayment	2 117	1 645
	(credit	12 577	13 393
of whom with central heating			(9 000)
Commerce and government		492	494
Industry		78	82
Total		15 264	16 214

Almost all natural gas distributed in Great Britian comes from the North Sea fields. In the past Algeria supplied a certain amount of liquid gas.

%

	1980	1981	1982	1983	1984	1985
National production	77.4	76.4	78.1	77.3	74.5	75.6
Imports from Norway	20.9	22.6	21.7	22.7	25.5	24.4
Imports from Algeria	1.7	1.0	0.2	-	-	-
Total	100	100	100	100	100	100

b) Taxes

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

c) Household price - tariffs

There are three gas tariff zones in Great Britain :

(i) the General Zone, represented in this study by London;

(ii) the Northern Zone, represented by Leeds; and

(iii) the Midlands, represented by Birmingham.

Each zone offers two tariffs to dmestic consumers : the credit tariff the prepayment tariff.

The credit tariff is a simple two-part tariff with a quarterly standing charge and a single commodity rate. The standing charge varies from zone to zone whilst the commodity rate is standardized.

The rates are as follows :

	Quarterly standing charge UK£			Commodity rate p/therm
	General zone	Northern zone	Midlands zone	
January 1986	9.90	9.20	8.60	37.0

The prepayment tariff was modified in April 1981, when a standing charge was introduced. Coin meters are used for this system, which covers 11 % of consumers, but only 4 % of sales to households.

The rates are as follows :

	Quarterly standing charge UK£			Commodity rate p/therm			
				First block [1]			Excess
	General zone	Northern zone	Midlands zone	General zone	Northern zone	Midlands zone	
January 86	3.70	3.30	3.00	56.5	54.0	51.6	39.5

[1] 30 therms per quarter (1 therm = 1 055 gigajoule).

As from 28 February 1983, British Gas, at the request of the government, introduced a rebate for consumers (both household and non-domestic) on the credit and prepayment tariffs using small quantities of gas. Customers are eligible for a rebate if the standing charge is higher than the commodity rate. This rebate system affects the point at which it is worthwhile for consumers to change tariff. Since, 1 February 1985 the rebate o the credit tariff is limited to half the difference between the standing charge and the charge for therms supplied, whilst that for the prepayment tariff remains unchanged.

Thus D_1 was charged on the prepayment tariff until 1983 but from 1984 onwards the credit tariff was applied in London, as the rebate system makes it more advantageous to the consumer at this level. For 1986, the prepayment tariff was once again most advantageous for D_1.

Collective central heating by gas remains rare in Great Britain, and there is no special tariff. For this reason no prices have been shown for D_4.

The additional standard consumer D_{2b} corresponds to a consumer with a gas cooker, water heater and gas fire. A large number of British consumers are in this category.

d) Household prices - analysis

Tables 26 and 27 in annex give the prices recorded.

Prices rose by 3-5 % in February 1985 following the tariff revision. Under the terms of an agreement with the government, increases in domestic tariffs after 1984 were to be pegged below the rate of inflation, which has been the case. Current prices which doubled between 1980 and 1983 have now stabilised.

Rates of increase vary according to the volume consumed, with small users enjoying a measure of protection and also from zone to zone thus reducing regional price differences. In 1986 the price of gas for heating differs little (1-2 %) from one region to another whilst the difference for small users remains larger. The lowest prices are to be found in the Midlands (Birmingham).

Tariff degressivity, the reduction in unit price as a result of the volume consumed is not the same for all regions because of the tariff differences. In 1986 the reduction in unit price between cooking (D_1) and central heating users (D_{3-b}) ranges from 40 to 46 %.

Notwithstanding the small rise in gas prices and the recent fall in heating gasoil prices the latter remains 25-30 % dearer per gigajoule (NCV) at the beginning of 1986.

e) Industrial prices - tariffs

All consumers with an annual consumption of less than 25 000 therms (2 638 GJ) are charged according to the general tariff, the rates of which have been indentical to the domestic credit tariff since 1 October 1981 (see household tariffs). This tariff applies to standard consumer I_1.

Standard consumers I_2, I_3, I_4 and I_5 are now always supplied under contracts, the terms of which are not published. Contract prices are influenced mainly by the terms of delivery (firm or interruptible supplies). In the case of firm supplies, consumers are charged the commodity rate of the general credit tariff mentioned above for the first 25 000 therms (2 638 GJ) and the contract price thereafter.

The 1984-1986 prices quoted in this study for consumers I_2, I_3 and I_4 represent new and renewed contracts and take account of the tariff commodity rate for the first 25 000 therms, which has been in force since 1984.

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). For this reason the prices indicated for these consumers are for interruptible supplies and apply to their entire consumption.

Geographical location has no effect on gas prices for industry, except in 1986 where the price for I_1 is 1p lower in Birmingham and Leeds than in London.

f) Industrial prices - analysis

Table 28 in the annex gives the prices recorded. Analysis is more complex than for the domestic sector. Small industrial and commercial consumers (I_1), like domestic consumers, are charged according to tariffs. The other small industrial consumer (I_2) changed from the tariff system to a contract system in 1981. For larger industrial consumer (I_3), I_4, I_5), the prices given for 1980 corresponded to the new contracts; the prices for later years refer to new and renewed contracts. This means that there is an unavoidable break in the time series between 1980 and 1981. This should be kept in mind when looking at the trends and developments. The price levels given in this study for contract consumers (I_3, I_4, I_5) are guidelines only. The following table gives an idea of price differences :

Quarter	Average price for large consumer[1]	New and renewed contracts[2]	Selling price of gas (excl. VAT)				
			Tariffs			Contracts	
			I_1	I_2	I_3	I_4	I_5
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	2.41	2.68	3.43	3.17	2.91	2.87	2.51
2	2.48	2.72					
3	2.49	2.77					
4	2.59	2.84					
1985 1	2.64	2.87	3.43	3.25	3.08	3.08	2.71
2	2.66	2.93					
3	2.66	2.98					
4							
1986 1			3.60	3.42	3.26	3.26	2.88

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

[2] British Gas Corporation estimate of the average quarterly price for new and renewed contracts, both firm and interruptible supplies.

The Department of Energy selected these 900 consumers in such a way as to cover a large proportion of consumption with a relatively small number of respondents. The sample is therefore biased towards large consumers, who quite often have interruptible supply contracts, including some who had long-term contracts which expired in 1980, but who are still paying below-average prices. The above figures represent the average unit prices of gas invoiced during the period in question and are often based on contracts which had been in force for some time. This explains why the prices are lower than in the other columns. However, the average prices paid by these consumers are rising faster than the prices for new and renewed contracts, which means that the prices paid by long-term customers who had old contracts are catching up.

Despite these uncertainties and the differences in industrial prices, the following remarks can be made :

- prices rose by 5-6 % between 1985 and 1986 ;

- consumption has very little effect on degressivity, the unit price is the same whether one consumes 41 860 GJ or ten times that ;

- load factor has no effect on prices ;

- prices for interruptable supplies are about 10 % lower ;

- in most cases the prices in new or renewed contracts match the effects of inflation thus prices have remained constant in real terms ;

- the drop in oil prices at the beginning of 1986 has brought the price of heavy fuel oil to around £3 - £3.10/GJ (NCV) very close to that of gas.

8. IRELAND

a) Situation in the gas industry

The use of natural gas from the Kinsale field off the Cork coast, which has been coming on shore since 1978, was boosted by the commisioning of the gas pipeline to Dublin by the gas board (Bórd Gáis Eireann). After a period in which use was limited to power stations and the chemical industry, supplies have been extended to household, commercial and industrial users, first in the city of Cork and then in the Dublin conurbation. Initially the natural gas was used in Dublin to produce town gas by reforming, and was subsequently distributed in the natural state as a suitable mains system was constructed and the appliances converted. These operations began in May 1984 with 225 000 appliances due for conversion. The half way stage was reached in October 1985 and completion is scheduled for July 1986 when production of town gas in Dublin will cease.

The prices shown in this study are those provided by the Dublin Gas Company. This is the largest gas company in Ireland serving the rapidly expanding city of Dublin where one third of Republic's population now live.

In recent years Dublin Gas has expanded its pipeline to the new suburbs being built on the city's fringes. Since the arrival of natural gas in Dublin the company has gained over 3 000 new domestic, 200 commercial and 20 industrial consumers.

The company has around 90 000 consumers with between 20 000 and 30 000 having central heating or gas fires. The majority use gas for cooking and hot water only. The average consumption in the domestic sector is around 122 therms/year (12.88 GJ/year).

The prices quoted in this study are those for :

- town gas produced from petroleum products until 1982 ;
- town gas produced from natural gas in 1983 and 1984 ;
- natural gas and town gas produced from natural gas (same prices) in 1985 and 1986.

b) Taxes

On 1 May 1983 value added tax (VAT), which had not been levied since 1975, was reintroduced on gas sales at a rate of 5 % of the price net of tax. This rate was increased to 10 % as from 1 March 1985. VAT is deductible for commercial and industrial consumers.

c) Households prices - tariffs

Following the arrival of natural gas a new tariff system was introduced in December 1982 (see EUROSTAT "Gas Prices 1978-1984" and "Gas Prices 1980-1985"). On the 11th May 1985 further changes and consumption blocks were introduced. This tariff which remained in force in January 1986 is as follows :

(excl. VAT)

Tariff	Two monthly standing charge	Commodity rate p/therm	Two monthly consumption blocks	Standard consumers
Coin meter	-	175.0	-	
Domestic reducing rate	£3,6363	130,9 99.0 71.8	0 - 20 therms 21 - 40 therms > 40 therms	D_1 D_2
Central heating economy rate	-	80.0	-	D_3 D_{3-b}

1 therm = 0.1055 gigajoule

The new "central heating economy rate" tariff is available on application and according to the following conditions :

- minimum payment for 550 therms/year (58 GJ)
- minimum monthly payment of £ 36.67 (excl. VAT) by Bankers Order i.e. one twelfth of the annual minimum payment
- final (sixth) bill will indicate consumption in excess of 550 therms, also charged at the same rate
- no credit for unused gas below 550 therms.

There is no special tariff or market for collective central heating (D_4).

All these tariffs apply equally to natural gas and to town gas manufactured from natural gas.

d) Household prices - analysis

As can be seen from table 27 in annex tariffs remained unchaged from the beginning of 1983 until May 1985 when some increases were introduced to compensate for a rise in fixed costs, mainly inflation (18 % since the beginning of 1983). The rise in consumer prices was due solely to VAT.

However the effect on prices has been less severe and varied according to the level of consumption. Between the beginning of 1985 and 1986 selling prices rose for two reasons : the tariff changes and a doubling of the VAT rate. This gave rise to two contrasting trends :

% 1986/1985

Standard consumer	Price incl. all taxes	Tax excl. price
D_1	+ 7	+ 1.8
D_2	+ 10	+ 4.5
D_3	+ 4	- 0.5
D_{3b}	+ 13	+ 7.4

The smallest consumers, on the one hand cooking (D_1) and on the other household heating (D_3) suffered the more moderate increases. They also constitute the bulk of the domestic market.

Because of the new tariff system "heating" consumers are now charged at the same rate regardless of their consumption. This should increase the market share of natural gas in the household heating sector where gains are possible. Several factors confirm this.

Price degressivity has increased, in 1986 the unit price for heating is half that for cooking (D_3/D_1). Gas prices for heating have risen slower than inflation, + 30 % since 1980 against + 80 % for inflation thus a decrease in real terms.

At the beginning of 1986 gas remains competitive against heating gas oil.

Sales of gas in Dublin have doubled every year since 1984.

e) Industrial prices - tariffs

As with the domestic tariffs the industrial and commercial tariff was changed on 11 May 1985, the present tariff being as follows :

(excl. VAT)

Two monthly standing charge	Commodity rate p/therm	Two monthly consumption blocks
£ 10	78	0 - 200 therms
	68	201 - 1 500 therms
	65	1 501 - 3 000 therms
	63	3 001 - 10 000 therms
	60	> 10 000 therms

1 therm = 0.1055 gigajoule

The above tariff is valid for both natural gas and gas manufactured from natural gas.

f) Industrial prices - analysis

As can be seen from table 28 in annex prices which fell by half in 1983 following the arrival of natural gas remained stable until the tarif revision of 11 May 1985 when tax excl. prices rose by 9-10 % (VAT is generally deductable for industrial and commercial consumers). Despite the recent increase prices have not evolved apace with inflation, on the contrary falling in real terms since 1980.

The tariffs take no account of the regularity of offtake (load factor) but prices decrease as consumption increases (two part block tariff).

In 1986 the rate for the last block, £ 5.69/GJ (GCV) is 23 % less than the first block.

Due to the depressed state of the energy market at the beginning of 1986 gas appears more expensive than other competing fuels. Heavy fuel oil and industrial coal range from £ 4 to £ 5.50 per gigajoule (NCV) excl. VAT. However gas is more efficient and less polluting.

9. DANEMARK

a) Situation in the gas industry

Following the coming on stream of the Danish North Sea natural gas fields in October 1984 the structure of the industry was completely changed.

- The consortium DONG (Dansk Olie og Natur Gas) created several subsidieries, one of which, Dansk Naturgas A.S. deals with the operation of the natural gas fields, transport within the country and exports.

- five regional companies were founded, these receive natural gas from the network and distribute it to the municipalities who have opted for this source of energy.

- A gas and heating price commission has been established, to which all tariffs and price calculations must be submitted in order to be legally valid. This commission can order changes in the terms of a tariff if it considers that prices are not in keeping with costs, cause energy to be used uneconomically, or are contrary to public interest.

  This commission consists of a chairman and 13 members appointed by the Minister for Energy. The chairman and seven of the members must be independant of the companies concerned and must represent the interests of the consumers. The other six members represent the commercial and administrative sectors concerned. The secretariat is provided by the Monopolies commission.

Natural gas is currently used as follows :

- exports to F.R Germany since October 1984 ;

- exports to Sweden since June 1985 ;

- deliveries to district heating stations, 55 of which have already been connected to the network ;

- deliveries to regional companies for resale where appliances have been converted (around 27 000 households) ;

- deliveries via the regional companies to former gasworks where natural gas is used as a raw material, replacing oil products.

Such is the case of Copenhagen where since September 1984 natural gas has been cracked in the municipal gasworks replacing the naphta and LPG previously used.

The prices in this study are those of the Copenhagen City Corporation, which is the largest supplier in Denmark, with 250 000 consumers out of a total for the country of 390 000.

b) Taxes

1. Value-added tax (VAT)
   The rate on the price net of VAT was 20.25 % before 1 July 1980, 22 % thereafter. VAT is deductable for industrial and commercial users.

2. Other taxes
   In August 1979 a consumption tax on piped with a gross calorific value (GCV) of less than 23 MJ/m^3 (which is the case in this study) was introduced at the rate of 20 øre per m^3 from 30 June 1980 and abolished on 1 January 1984.

   It was included in the basis of assessment ot VAT and was deductible when VAT was deductible.

c) Household prices - tariffs

The tariff system comprises a normal tariff and a heating tariff.

The normal tariff has three components : (rates excl. taxes valid in 1986)

- meter rental

meter capacity	DKR/year
< 5 m^3/h	132 (D_1 D_2 D_3)
5 - 15 m^3/h	288
15 - 25 m^3/h	495
25 - 50 m^3/h	633 (D_4)
50 - 100 m^3/h	843
> 100 m^3/h	1188

- a degressive commodity rate by blocks of consumption

	øre/m^3
0 - 12 000 m^3/year	121,5
12 001 - 120 000 m^3/year	79,5
120 001 - 720 000 m^3/year	65,5
Excess	62,5

The size of the blocks differs from the 1985 tariff.

- raw materials surcharge, added to the price per m^3 based on the cost of the raw materials used to manufacture the gas (oil products until 1984, natural gas from 1985 in Copenhagen). The rate at the beginning of 1986 was 89.1 øre/m^3.

The heating tariff is available on request where the gas is used mainly for space heating. It consists of four elements : (rates excl. taxes valid in 1986)

- meter rental
  same as the normal tariff (according to offtake)

- annual standing charge
  216 DKR/year

- single commodity rate
  69.5 øre/m^3

- raw materials surcharge, same as the normal tariff
  89.1 øre/m^3

Despite the substitution of natural gas as a raw material in Copenhagen in September 1984, the gas distributed has retained the same calorific value, i.e. 16.745 MJ (NCV) per m^3 to avoid the necessity of modifying consumers appliances.

d) Household prices - analysis

The results are shown in table n° 21 in annex. In comparison with the previous year, prices in 1986 are 0,3 - 1 % higher according to the level of consumption. This small price increase is due to a rise in the standing charge and commodity rate and a lowering of the raw materials surcharge. In other words the use of natural gas alleviated the full burden of increased costs.

Current prices have risen by 48 % for cooking and 37 % for heating since 1980. However this rise must be seen in the light of the general price trend, inflation having risen 49% in the same period. In constant terms therefore the price of gas for cooking and hot water has remained stable, whilst that for heating has fallen. Space heating has been boosted which is confirmed by the accentuation of tariff degressivity. In 1986 the unit price of gas for collective heating (standard consumer D_4) is 36 % cheaper than for cooking (D_1) whilst this discount for quantity consumed was 27 % in 1980.

The arrival of natural gas was welcomed for household heating. However during the 1985/86 winter the depression in the oil market brought the price of heating gasoil to around 100 DKR/GJ(NCV) incl. all taxes which is cheaper than gas in Copenhagen.

e) Industrial prices - tariffs

The tariff for industrial consumption, which in fact applies to only relatively modest levels of consumption, is calculated on the basis of the tariff for household consumers.

It consists of three components :
(rates excl. taxes valid in 1986)

- meter rental

  varies according to the meter capacity, same blocks and rates as the normal domestic tariff :

standard consumer I_1	5-13 m^3/h	288 DKR/year
standard consumer I_2	25-50 m^3/h	633 DKR/year

- degressive commodity rate by blocks of consumption as in the normal domestic tariff (see c) above).

- raw materials surcharge, 89.1 øre/m^3.

f) Industrial prices - analysis

The results are given in table 22 in the annex. Prices are given for standard consumers I_1 and I_2 only, as larger industrial consumers are rare.

Because of the tariff similarities the price trend for industrial and commercial consumers is the same as that observed in the domestic sector, with a small rise (0.2 %) in 1986 compared with the previous year.

Since 1980 prices rose by 35-40 %. With inflation of 49 % in the same period the price of gas has fallen in real terms, a positive effect of the arrival of natural gas.

The normal two part block tariff which is applied gives rise to a reduction in price as consumption increases. When consumption is increased tenfold the unit price drops by 14 % in 1986 against 10 % in 1980 (I_2/I_1). The tariff changes thus favour consumption with the aim of increasing the market penetration of indigenuous natural gas.

However the expansion of gas consumption has been checked by competition from liquid fuels where a depressed market has led to low prices.

10. SPAIN

a) Situation in the gas industry

The gas industry is decentralised as a result of the networks corresponding to the 3 types of gas distributed :
- natural gas
- gasworks gas manufactured from natural gas
- gasworks gas manufactured from petroleum products.

The company ENAGAS, founded in 1972 looks after the importation, transport and sale of natural gas.

It
1 - operates a methane terminal in Barcelona where imported Algerian liquid gas is regasified. In the process the butane and propane contained in the natural gas is extracted and sold seperately in liquid form, either in bulk or in cylinders.
2 - transports natural gas via a gas pipeline which extends for over 1000 km in the north and east of the country serving Barcelona,Tarragona, Valencia, Saragossa, Vittoria and the region of Bilbao. Since March 1984 the Serrablo gas field, at the base of the Pyrenees has been connected to this network.
3 - sells natural gas directly to 5 power stations and to large industrial consumers (about 320) directly connected to the pipeline.
4 - supplies natural gas to 9 local distribution companies for resale, either as natural gas or after cracking, to domestic, commercial or industrial users.

In those regions not served by this pipeline gasworks gas is produced from petroleum products (about 10 companies operating around 20 gasworks).

Tariffs and prices are influenced by this decentralisation. Lately however the Government has introduced some measure of harmonisation in the market.

To show this and to give a full picture of the range of prices in Spain the following have been taken in this study :

City or region	Company	Gas type	Consumers
Barcelona	distributor	natural or cracked natural gas	domestic, commercial and industrial
Valencia	distributor	cracked natural gas	idem
Madrid	independent gasworks	gas manufactured from petroleum products	idem
North East	transporter (ENAGAS)	natural gas	large industrial

The 1984 natural gas balance sheet is as follows :

	TJ (GCV)	%
Imports from Algeria	51 521	53.6
Imports from Libya	37 829	39,.
Total imports	89 350	(92.9)
National production	6 856	7.1
Availability	96 206	100
Stocks	3 165	3.3
Butane and propane seperated	9 845	10.2
Liquid natural gas sales	1 113	1.2
Pipeline deliveries by ENAGAS		
to power stations	19 762	20.5
direct to industry	22 257	23.1
to distributors	40 064	41.6
for (resale	33 859	(35.2)
for (resale after cracking	6 205	(6.4)
of which (households and commerce	14 030	(14.6)
of which (industry	26 034	27.0)

Furthermore in 1984 10 683 TJ of gasworks gas was produced from petroleum products.

b) Taxes

The various taxes applied to gas sales in Spain are as follows :

Special tax		PTA/kWh	PTA/GJ
on natural gas	(31.1.1980 - 14.7.1983	0,08	22
	(15.7.1983 - 31.12.1985	0,001	0.28
on gasworks gas	(31.1.1980 - 30.12.1983	0,08	22
	(31.12.1983 - 31.12.1985	0,04	11

From 1983 onwards the rate on natural gas was negligable. It was abolished on 1 January 1986.

- Municipal tax (Arbitrio)
  In force since 22.2.1982 at the rate of 1.5 % on the price excl. tax.

- Value added tax (VAT)
  This was introduced on 1 January 1986 at the rate of 12 % on the price before VAT but including the municipal tax.

c) Household prices - tariffs

Tariffs and dates of changes vary from one company to another. All tariffs are however simple two part tariffs with a two monthly standing charge and a commodity rate per m^3 or kWh. Several tariffs are available with different ratios between standing charge and commodity rate to cover all levels of consumption - cooking, hot water, individual central heating, collective heating. Up to 1985 there were five or six domestic tariffs.

An order by the Minister for Industry and Energy on the 17 January 1985 (BOE n° 17 of 19.1.1985) introduced a harmonised tariff structure for all types of gas distributed by pipeline. The distribution companies must bring their tariffs into line with this statute as they are revised. Thus 1985 and 1986 represent a period of transition as far as tariffs are concerned.

The new harmonised tariff structure is also of the simple two part type with 3 degressive price blocks :

Tariff code	Consumption limit kWh/year	GJ/year	Standard consumers
D1	≤ 5 810	≤ 21	D_1 D_2
D2	> 5 810	> 21	D_3 D_{3b}
D3	>116 300	> 418,6	D_4

Below are shown the most recent tariffs, in force in 1986 in the principal cities.

City	Tariff	Standing charge PTA/2 months	Commodity rate PTA/kWh	PTA/GJ
Madrid	D1	670	5.020	1 394
	D2	1 157	4.518	1 255
	D3	15 000	4.039	1 122
Barcelona	D1	562	5.580	1 550
	D2	1 548	4.563	1 267.5
	D3	20 949	3.892	1 081
Valencia	D1	664	5.475	1 521
	D2	1 548	4.563	1 267.5
	D3	20 949	3.892	1 081

Madrid - gasworks gas produced from naphta
Barcelona - natural gas and cracked natural gas are distributed side by side at the same price
Valencia - cracked natural gas

d) Household prices - analysis

The prices are shown in tables 29 and 30 in annex.

Our thanks to the gas companies, with whose help it was possible to reconstitute a time series going back to 1980. The prices and taxes shown for January 1980 are those valid on 31 January 1980. All prices have been rounded to the nearest peseta (PTA).

The collective heating market is extremely small and thus the prices for the standard consumer D_4 in Madrid and Barcelona in January 1986 are of little significance. Such consumer currently number 80 in Madrid and 300 in Barcelona.

The average consumption per domestic user ranges from 7-9 GJ/year according to the city, thus the standard consumer D_1 is most representative of the market.

All prices rose significantly during the period 1980-1986 with the small consumers suffering the largest increases.

City	Standard consumers			
	D_1	D_2	D_3	D_{3b}
Madrid	+ 192	+ 184	+ 167	+ 166
Barcelona	+ 109	+ 109	+ 87	+ 87
Valencia	+ 139	+ 111	+ 65	+ 61

As can be seen from the above, prices have evolved differently in the cities surveyed. This is to meet the government aim of standardising tariffs and therefore prices throughout the country. Price differences which ranged from 45 % for cooking and hot water and 70 % for heating in 1980 have fallen to 7 % and 2-3 % respectively. In 1986 some prices in Barcelona and Valencia are the same.

Gas type appears to have little influence on prices. In this study manufactured gas does not appear to be much more expensive than natural gas.

The two part tariffs applied throughout lead to a reduction in unit prices as consumption increases. In 1986 gas for central heating is 30 % cheaper than for cooking (reduction when consumption is 15 times greater).

During 1985 selling prices did not fall as seen in many other Community countries. Whilst tax exclusive prices remained stable or dropped slightly the introduction of value added tax served to increase domestic consumer prices.

This leads us to examine the part played by taxes. Until the end of 1985 taxes were both lump sum and proportioanl meaning the tax factor diminished as prices rose and increased as consumption grew (degressivity effect).

Without going into detail it can be said that taxation was very moderate, 2-4 % of the tax exclusive price until 1985. From 1986 onwards all taxes were proportional and the cumulative effect of the municipal tax and value added tax gave rise to a rate of 13.7 % for all consumers. This led to increases in consumer prices at the beginning of 1986.

The rise in prices since 1980 must however be viewed in the light of monetary depreciation. Between 1980 and 1985 the implicit gross domestic product price index rose by 76 %.

Looking, again at the table above it is obvious that for the vast majority of consumers gas has become more expensive in real terms.

e) Industrial prices - tariffs

A distinction must be made between the distribution company tariffs (Madrid, Barcelona, Valencia) suppling commerce and industry, and those of ENAGAS who supply industrial consumers directly from the gas pipeline (North and East).

- Distribution company tariffs
  They are simple two part tariffs with three levels of consumption

Tariff	Consumption limit kWh/year	Consumption limit GJ/year	Standard consumers
C1	$\leq$ 46 500	$\leq$ 167	-
C2	> 46 500	> 167	I_1
C3	> 290 600	>1 047	I_2 I_3

In 1986 the rates excl. taxes were as follows

City	Tariff	Standing charge PTA/ 2 months	Commodity rate PTA/kWh	PTA/GJ
Madrid	C1	2 259	5.807	1 613.0
	C2	4 400	5.531	1 536.0
	C3	6 951	5.492	1 525.5
Barcelona and Valencia	C1	1 327	5.475	1 520.8
	C2	8 400	4.563	1 267.5
	C3	52 762	3.892	1 081.0

In Barcelona there are some larger industrial consumers (I_3 I_4) who are supplied according to a firm industry tariff for I_3 and an interruptible tariff for I_4. There is no standing charge and all gas is billed at :

2.930 PTA/kWh i.e. 813.7 PTA/GJ for I_3
2.633 PTA/kWh i.e. 731.4 PTA/GJ for I_4

The interruptible tariff is only applied to consumers over 41 860 GJ/year or 125 GJ/day.

The minimum consumption to which the above firm rates apply is 16 times the subscribed maximum daily demand, which we considered to be the case for the standard consumers I_{3-1} and I_{3-2}

- Transport network tariffs

New tariffs for consumers directly connected to the transport network of ENAGAS were introduced on 13 April 1985 (BOE n° 89) and will remain in force until further notice.

Several tariffs are available :

i) Tariffs for firm deliveries with a maximum daily offtake greater than 52 GJ (12 500 calories).
It is a two part variable block tariff composed of :
  - a toll for the link to the gas pipeline
  - an energy price which varies according to the use and divided into two blocks.

Tolls

Subscribed daily demand GJ/day	Monthly charge PTA/metre (1)	(2)
< 84	5	5.40
84 - 209	8	8.60
210 - 523	12.50	13.50
524 - 942	19	20.50
943 - 1465	23.50	25.50
1466 - 2093	28	30.20
> 2093	32.60	25.20

The distance taken is that from the pipeline to the customer's measuring device.

Commodity rate based on five uses

Tariffs	Uses	PTA/GJ 1st block	remainder
A	Biscuit making, brick making, boilers, etc.	752.3	731.4
B	Glass, textile or paper works and other industrial uses, etc.	813.7	772.5
C	Drying, ceramics, etc.	865.7	827.5
D	Pottery kilns, special smelting, etc.	895.7	850.5
E	China, porcelain, thermochemical processes, smelting etc.	979.5	931.7

The size of the 1st block is calculated monthly as 16 times the subscribed maximum daily demand.

Where a customer uses gas for several different processes at the same premises the tariffs A, B, C, D, E are aplied proportionally.

A minimum price of 14 times the subscribed maximum demand taking the price of the 1st block has been set but does not concern the standard consumers of this study.

If a consumer charged according to tariffs A, B, C, D or E is supplied at low or medium pressure a supplement of 34.59 PTA/GJ is payable on the commodity rate of each block.

ii) Interruptible suply tariff (tariff I)
This is applied to industrial consumers (except power stations) consuming at least 41 860 GJ/year or having a maximum daily offtake greater than 125.5 GJ. It is a simple two part formula with :
- a toll as described above
- a single commodity rate, 731.4 PTA/GJ (= remainder tariff A).

The user must have an alternative source of energy. The supplier gives at least 24 hours notice of interruption.

iii) Firm delivery tariff for maximum daily offtake less than 52 GJ.
In this case the following simple two part tariff is applied :

Tariff	Delivery pressure	Standing charge PTA/month (1) and (2)	Commodity rate PTA/GJ (1)	(2)
IP A	high	27 375	923.9	873.9
IP B	medium	27 375	995.6	945.5

There is a minimum price, calculated according to the 1st block commodity rate of tariff E.

If the maximum daily offtake is less than 8.4 GJ the user may opt for the commercial tariff described below, if this is cheaper.

iv) Commercial tariffs
These are simple two part tariffs :

Tariff	Consumption GJ/year	Standing charge PTA/year (1)	(2)	Commodity rate PTA/GJ (1)	(2)
C1	$\leq$ 167.4	7 958	7 536	1520.8	1439.1
C2	$>$ 167.4	50 398	51 348	1267.3	1177.5
C3	$>$ 1046.5	316 748	301 092	1081.0	1027.5

(1) January 1986 (2) February 1986

In the present study the following were considered most representative and advantageous for our standard consumers :

Standard consumer	Tariff	Pressure
I_1	C_2	/
I_2	IP B	medium
I_3 I_4 I_5	Average A...E	high

In the table in annex the prices shown for the North and East regions are those valid from February 1986.

f) Industrial prices - analysis

The results are shown in tables 31 and 32 in annex.

Prices are not shown for all standard consumers as there are very few consumers above a certain limit.

The times series going back to the end of January 1980 allows us to look at the trend in current prices. Between 1980 and 1986 in most cases gas prices rose by 100-165 % (excl. VAT) whilst inflation was around 90 %, thus gas has become dearer in real terms. The upward trend was broken at the end of 1985 with tariff rates falling during several months. The years 1985 and 1986 are difficult to analyse due to the reversal of the price trend and the tariff changes which will lead to the harmonisation of prices at a national level.

In such a period of instability care should be exercised in the interpretation and comparison of prices. Also for 1986 the prices for the North and East region are based on the tariffs of 12 February whilst all others are those of January.

Tariffs were changed again at the beginning of March but this was not taken into account. This will mean a drop in prices of around 4 % for commercial users and 15-20 % for industry.

Tariff degressivity, that is the reduction in unit price as the volume consumed increases results from the differences between the various tariffs applied to the small, medium or large industrial or commercial users. In 1986 the difference in unit price between a consumer of 418.6 GJ/year and one of 418 600 GJ/year is 43-47 % (comparison of prices for I_{4-1}/I_1 in Barcelona and the North and East region).

Contrary to what was seen in the domestic sector prices differ according to the type of gas, particularly in previous years. Since 1985 price differences have narrowed due to the efforts at tariff harmonisation. This can be seen by looking at the prices for Barcelona and the North and East region which are very close in 1986.

This also entails a reduction in regional price differences as these were mainly due to the type of gas distributed. In 1980 prices varied by a factor of one or two. However with the tariff changes underway these differences will become negligable.

Price levels are unaffected by the distance over which the gas must be transported. Therefore prices are the same at all points of the pipeline serving the North and East region which covers a large area stretching from Barcelona to Valencia and the Basque country.

Only the municipal tax (1.5 %) may give rise to small price differences because it is not payable by users linked directly to the pipeline.

This leads us to consider the part played by taxes in price formation. This were reduced to practically nil from 1983 on natural gas. For other types of gas the amount of the specific taxes was around 2 % in 1985. However the tax burden has decreased over the years for two reasons : reduction in the lump sum rate of tax, the burden of which lightens as tax exclusive prices increase.

The introduction of VAT in 1986 brought a halt to the tariff reductions though because it is deductable it is not sharply felt.

For the large industrial consumers (I_3 I_4) prices vary according the the use of the gas. In annex we show an average price for the various uses (close to B use tariff). Prices can vary by up to 33 % between uses.

Interruptible supplies are charged for at a different rate. The rate is 691 PTA/GJ under the tariff applicable in February 1986 regardless of the gas usage for all consumers at the level of I_3 or I_4, a reduction of 6-12 % on the price for firm deliveries. Interruptible supplies account for 28 % of ENAGAS's direct sales to industry.

11. PORTUGAL

a) Situation in the gas industry

In Portugal the only distribution of gas by pipeline is of gasworks gas in Lisbon. No natural gas is distributed.

Production of gasworks gas is carried out by the company PGP-Petroquimica e Gas de Portugal ; whilst distribution is the responsability of EDP-Electricidade de Portugal whose principal activity is the production and distribution of electricity.

The recent trend in gas sales has been as follows :

% of deliveries

Users	1980	1981	1982	1983	1984
Households	71,55	72,49	72,58	72,79	73,10
Commerce,administration	22,29	22,09	21,85	21,08	21,07
Industry	6,16	5,42	5,57	6,13	5,83
TOTAL	100	100	100	100	100

The number of subscribers connected to the network grew from 170 000 in 1980 to over 190 000 in 1985.

The gas is produced from naphta and refinery gas (47 % naphta, 53 % refinery gas in 1984 based on the energy content in Terajoules).

b) Taxes

Until the end of 1985 no taxes were levied on gas sales. On the 1st January 1986 value added tax was introduced in Portugal and applied at the rate of 8 % on the tax exclusive price. It is deductible from commercial and industrial users.

c) Household prices - tariffs

The tariffs are single part and do not take account of different uses.

The prices are fixed by the Government and published in the official journal (Diàrio da Repùblica).

The following table shows the changes since 1980:

Tariff valid from	Prices (esc./m^3) (1)	Prices (esc./GJ) (2)
08.09.1979	6.50	369.71
31.01.1980	7.20	409.52
18.12.1980	8.70	494.84
17.07.1981	9.50	540.34
19.06.1982	10.30	585.85
04.01.1983	12.50	710.98
03.07.1983	16.50	938.49
01.02.1984	20.00	1137.57
14.07.1984	22.30	1268.39
12.01.1985	24.50	1363.52
23.11.1985	25.80	1467.46

(1) official price
(2) the gross calorific value of the gas is 4200 kcal/m^3 i.e. 0.01758 GJ/m^3

Prices are revised according to the official formula

$$P = P_{ti} + M_d + D$$

where P_{ti} represents the price invoiced by PGP to EDP which itself encompasses primary material costs, other variable costs and fixed capital costs.
M_d is EDP's distribution margin
D represents the positive or negative support fund differential

d) Household prices - analysis

The results are shown in table 30 in annex.

The most striking feature is the continual price increases : + 297 % without tax and + 329 % including VAT between 1980 and 1986 due to the rising cost of oil products used to manufacture gas. However these increases must be looked at in the light of inflation, the implicit gross domestic product price index rose by 208 % during the same period. This does not disguise the fact that gas prices rose considerably in real terms, around 40 % since 1980. In effect between 1980 and 1985 gas prices rose by an average of 28 % per year against 22 % for inflation.

As can be seen from the table in annex the rises were not regular in time, with a succession of standstills and jumps. The rhythm has slowed down recently, in 1985 there was only one price rise : + 5 % in November . This was followed by the introduction of VAT at the rate of 8 % from 1 January 1986. The government had however hoped that the introduction of VAT would not have lead to an increase in prices to the final consumer.

Whilst prices are shown for all individual standard consumers (D_1 - D_{3-b}) gas central heating is rare.

The aprietrietverage annual household consumption is between D_1 and D_2 i.e. cooking and hot water. Because of the single part tariff degressivity is non existant, the price being the same regardless of consumption.

e) Industrial prices - tariffs

The tariff for commercial and industrial uses is the same as for domestic (see c).

There are no large industries using gasworks gas in Lisbon, hence prices are only shown for standard consumers I_1 and I_2.

f) Industrial prices - analysis

The prices for the only representative standard consumers (I_1 and I_2) are shown in table 33 in annex. Little gas is used by industry, the principal users being shops and offices. The prices are the same as for the domestic sector and thus the same conclusions can be drawn (see d) above). Here again no degressivity is seen which does not encourage consumption. The only difference in 1986 is that the VAT is generally deductible for commercial and industrial users.

VI. COMMUNITY COMPARISON AND CONCLUSIONS

The locations chosen for the international comparison are the most important cities or regions in economic terms, namely :

Düsseldorf	Rotterdam	London	Barcelona
Paris	Brussels	Dublin	North and East Spain
Milan	Luxembourg	Copenhagen	Lisbon

The findings are presented in tables 35 to 38 in the annex using two units of value, current ECU and deflated PPS (see chapter III). Table 34 gives the revised conversion rates between ECU, PPS and national currencies. It also shows the deflator used (GDP implicit price index). The prices used for households are inclusive of all taxes, whilst industrial prices are net of VAT.

The difficulties involved in international price level comparisons mean that any interpretations and conclusions drawn from these tables must be regarded with caution. Nevertheless, the results permit some comment and analysis, based in particular on prices in deflated PPS, the only unit allowing spatial and temporal comparisons.

1. The period 1985-1986 marks a turning point in the price trend

In almost all cases the upward trend in current prices spanning several decades was broken with many drops in prices from mid 1985 onwards. These were greater for industry than for households (e.g. Italy, Netherlands, Belgium). Calculated in "constant" terms, that is deflated prices, the reversal of the trend is clearer.

Two reasons, nevertheless connected are behind this change of trend :
- the renegociation of import contracts for gas, with a softening of conditions;
- the decline of oil prices, the principal competitors of gas.

2. Speed of adaptation to the new situation varies

The speed at which the price of gas adjusts to the new competitive situation, created by the depression in the oil markets depends on the tariff formulae and how they are revised.

In the case of short term indexed tariffs (e.g. Italy (SNAM), Netherlands, Belgium) the price of gas follows closely movements in the oil market. In other cases (e.g. F.R. Germany, France) adaptation is slower and thus price changes occur with a certain delay.

In general industrial tariffs respond quicker that those for households. This had led to a distortion of price levels between countries and users during the present period of trend reversal. Nevertheless, during 1986 further decreases are likely.

3. Previous increases are far from being cancelled out

With few exceptions the recent decreases in prices have not compensated for the price rises recorded in previous years. The following calculation, in deflated PPS gives an idea of the trend in real prices since 1980.

Real price trend for households

% 1986/80

	D_1	D_2	D_3	D_{3b}	D_4
Düsseldorf	+ 28	+ 26	+ 33	+ 41	+ 51
Paris	+ 9	+ 12	+ 18	+ 24	+ 34
Milan	+ 24	+ 21	+ 16	+ 14	+ 16
Rotterdam	+ 39	+ 52	+ 61	+ 63	+ 64
Brussels	+ 20	+ 23	+ 62	+ 68	+ 84
Luxembourg	+ 10	+ 9	+ 72	+ 72	+ 70
London	+ 63	+ 41	+ 46	+ 48	/
Dublin	+ 13	- 1	- 28	- 27	/
Copenhagen	0	- 1	- 8	- 8	- 8
Barcelona	+ 8	+ 8	- 3	- 3	/
Lisbon	+ 31	+ 31	+ 31	+ 31	/

Real price trend for industry

% 1986/80

	I_1	I_2	I_{3-1}	I_{3-2}	I_{4-1}	I_{4-2}	I_5
Düsseldorf	+ 27	+ 32	+ 35	+ 36	+ 36	+ 37	/
Paris	+ 24	+ 24	+ 26	+ 27	+ 34	+ 35	+ 35
Milan	+ 25	+ 21	+ 15	+ 11	+ 8	+ 5	+ 2
Rotterdam	+ 64	+ 65	+ 34	+ 34	+ 24	+ 24	+ 24
Brussels	+ 56	+ 70	+ 57	+ 70	+ 70	+ 76	+ 79
Luxembourg	+ 68	+ 95	+111	+115	/	/	/
London	+ 6	+ 3	- 21	- 21	- 9	- 9	+ 5
Dublin	- 39	- 41	/	/	/	/	/
Copenhagen	- 6	- 10	/	/	/	/	/
Spain (North & East)	+ 38	+ 10	- 3	- 3	- 2	- 1	/
Lisbon	+ 29	+ 29	/	/	/	/	/

The real price reductions in Ireland, Denmark and Spain are due to the arrival of natural gas.

The United Kingdom figures for industry must be treated with caution, owing to breaks in the time series. However, it is a fact that the price of gas in real terms has remained virtually unchanged since 1980.

Furthermore the table reveals the various tariff policies; for example, moderate increases for the smallest domestic consumers as a social protection measure (France, Netherlands, Belgium, Luxembourg); a lower rate of increase as consumption increases designed to increase sales (e.g. Italy).

4. International price differences remain large

The inclusion of Spain and Portugal adds a new dimension to price dispersion within the Community.

At present prices can differ by a factor of one, two or even three for small domestic, commercial or industrial consumers. The range is not as wide for large industry (50-70 % in 1986). Price dispersion is always greater for small users as a result of distribution costs which can differ considerably according to local conditions.

In all cases international dispersion has narrowed since 1908.

The price ranges were calculated on the basis of prices in deflated PPS in order to take account of the effective purchasing power of the currencies on the national market.

The prices in Spain and Portugal are the highest found amongst the Member States.
The Netherlands and United Kingdom offer the lowest prices due to their proximity to the natural gas fields.

Of note also are the favourable prices offered to French industry. We see also that prices in Luxembourg are often lower than in Belgium despite the greater transport distance.

5. Geographical price difference are diminishing within countries

With the exception of the F.R. Germany the recent tariff changes have served to standardise prices within countries. Tariffs are becoming uniform and regional price differences closing. This is due to both transport networks and the wish to treat all users equally regardless of their location. The most striking examples of this price convergence are found in France, Italy, the United Kingdom and Spain.

6. Tariffs are becoming more complicated

To meet the problems of demand and to counteract the growing seasonal fluctuations of deliveries due to the expansion of the small consumers market (mainly space heating) the sellers have tended to complicate tariffs notably by the introduction of seasonal parameters.

To encourage consumption in low season rebates are offered during the summer (e.g. France, Italy). In addition optional tariffs for interruptible supplies are available.

Tariffs are thus adapting to fluctuations in the short term energy market rendered more unsettled due to the instability of oil prices (main competitors of gas).

7. Median prices illustrate the general trend

Due to the dispersion of prices and their non paralell evolution it is difficult to find a representative central value in the Community. The method which is least affected by excessively high or low prices, exceptions and sudden changes is undoubtably the calcultion of the median. In the absence of a better solution, median prices in deflated PPS (base 1980) enable the trend to be shown.

Households deflated PPS/GJ

	1980	1981	1982	1983	1984	1985	1986
D_1	10.61	11.73	12.73	12.40	12.43	13.57	12.63
D_2	9.53	10.11	11.12	11.39	11.26	11.90	11.48
D_3	6.52	6.86	8.10	8.19	8.46	8.60	7.90
D_{3b}	5.80	6.22	7.63	7.91	8.18	8.33	7.63
D_4	4.07	5.01	6.55	6.49	6.11	6.81	6.31

Industry deflated PPS/GJ

	1980	1981	1982	1983	1984	1985	1986
I_1	4.87	6.22	7.52	7.26	6.68	6.81	6.22
I_2	4.20	4.66	6.16	6.50	6.09	6.24	5.66
I_{3-1}	3.47	4.06	5.25	5.08	4.98	5.37	4.77
I_{3-2}	3.35	3.83	4.80	4.74	4.73	5.03	4.51
I_{4-1}	3.48	4.14	4.61	4.49	4.92	4.82	4.24
I_{4-2}	3.34	4.01	4.44	4.40	4.74	4.64	4.11
I_5	2.80	3.04	3.72	3.66	4.19	4.38	3.83

The downward movement in 1986 is obvious with a return to 1981/82 price levels in deflated terms.

8. Taxes mainly affect household consumers

As a result of extensive differences between tax systems, the indirect tax rates on gas sales to household consumers vary widely among the Member States.

The tax burden can be ranked as follows :

	% of tax excl. price		
	1980	1985	1986
Denmark	37-45	22	22
Netherlands	18	19	19
France	17.6	18.6	18.6
Belgium	6	17	17
Italy Genoa*	25-32	14-17	14-16
Italy Milan +	16-18	13-14	12.5-13
FR Germany	13	14	14
Spain	2-4	1.5- 2.4	13.7
Ireland	0	5	10
Portugal	0	0	0
G.D. Luxembourg	5	6	6
United Kingdom	0	0	0

* Natural gas + Gasworks gas

These few figures show the trend towards increased taxation. There are however two exceptions; Denmark where a specific tax wasd abolished and Italy as a result of the degressive nature of a lump sum tax.

With the exception of VAT which is deductible no specific taxes are applied to non domestic consumers except in France where a new tax was introduced in 1986. Because it is a progressive lump sum tax the rate varies from 0 to 8 % according to the consumption.

Because of the low rate of the antipollution tax in the Netherlands it does not influence price levels.

In conclusion it can be said that taxes are more or less neutral for industrial users but for domestic consumers they are a factor in the dispersion of prices at final consumer level.

VII. ANNEXE STATISTIQUE

TABLEAUX

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Hamburg *			Hannover *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	30,93	27,37	27,37	24,87	22,01	22,01
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
8,37 GJ	1983	37,53	32,92	32,92	.	.	.
	1984	37,53	32,92	32,92	41,20	36,14	36,14
	1985	39,97	35,06	35,06	41,85	36,71	36,71
	1986	42,76	37,51	37,51	41,85	36,71	36,71
D_2	1980	24,35	21,55	21,55	22,85	20,22	20,22
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
16,74 GJ	1983	30,02	26,33	26,33	.	.	.
	1984	30,02	26,33	26,33	35,48	31,12	31,12
	1985	31,95	28,03	28,03	36,14	31,70	31,70
	1986	34,18	29,98	29,98	36,14	31,70	31,70
D_3	1980	15,71	13,90	13,90	11,48	10,16	10,16
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
83,7 GJ	1983	.	.	.	.	.	.
	1984	19,56	17,16	17,16	18,59	16,31	16,31
	1985	20,82	18,26	18,26	20,37	17,87	17,87
	1986	22,25	19,52	19,52	20,37	17,87	17,87
D_{3b}	1980	15,05	13,32	13,32	10,87	9,62	9,62
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
125,6 GJ	1983	.	.	.	.	.	.
	1984	18,73	16,43	16,43	17,73	15,55	15,55
	1985	19,94	17,49	17,49	19,47	17,08	17,08
	1986	21,30	18,68	18,68	19,47	17,08	17,08
D_4	1980	11,28	9,98	9,98	10,45	9,25	9,25
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
1 047 GJ	1983	.	.	.	.	.	.
	1984	16,14	14,16	14,16	15,31	13,43	13,43
	1985	16,27	14,27	14,27	18,83	16,52	16,52
	1986	18,53	16,25	16,25	18,83	16,52	16,52

* Natural gas

* Gaz naturel

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Düsseldorf *			Frankfurt/M *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	29,69	26,27	26,27	35,19	31,14	31,14
	1981	35,97	31,83	31,83	.	.	.
	1982	46,76	41,38	41,38	.	.	.
8,37 GJ	1983	.	.	.	.	.	.
	1984	45,24	39,68	39,68	42,40	37,19	37,19
	1985	45,24	39,68	39,68	42,40	37,19	37,19
	1986	45,24	39,68	39,68	42,40	37,19	37,19
D_2	1980	22,53	19,94	19,94	24,66	21,82	21,82
	1981	27,33	24,19	24,19	.	.	.
	1982	35,47	31,39	31,39	.	.	.
16,74 GJ	1983	.	.	.	.	.	.
	1984	33,85	29,69	29,69	31,07	27,25	27,25
	1985	33,85	29,69	29,69	31,07	27,25	27,25
	1986	33,85	29,69	29,69	31,07	27,25	27,25
D_3	1980	14,41	12,75	12,75	14,67	12,98	12,98
	1981	18,71	16,56	16,56	.	.	.
	1982	23,32	20,64	20,64	.	.	.
83,7 GJ	1983	.	.	.	.	.	.
	1984	21,60	18,95	18,95	19,79	17,36	17,36
	1985	22,88	20,07	20,07	19,79	17,36	17,36
	1986	22,88	20,07	20,07	19,78	17,35	17,35
D_{3b}	1980	12,85	11,37	11,37	12,75	11,28	11,28
	1981	17,14	15,17	15,17	.	.	.
	1982	21,97	19,44	19,44	.	.	.
125,6 GJ	1983	.	.	.	.	.	.
	1984	20,24	17,75	17,75	18,21	15,97	15,97
	1985	21,52	18,88	18,88	18,21	15,97	15,97
	1986	21,52	18,88	18,88	18,21	15,97	15,97
D_4	1980	10,79	9,55	9,55	10,99	9,73	9,73
	1981	15,83	14,01	14,01	.	.	.
	1982	19,41	17,18	17,18	.	.	.
1 047 GJ	1983	.	.	.	.	.	.
	1984	18,14	15,91	15,91	16,67	14,62	14,62
	1985	19,41	17,03	17,03	17,93	15,73	15,73
	1986	19,41	17,03	17,03	17,64	15,47	15,47

* Natural gas

* Gaz naturel

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Stuttgart *			München *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	31,70	28,05	28,05	23,22	20,55	20,55
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
8,37 GJ	1983	.	.	.	.	.	.
	1984	43,56	38,21	38,21	37,98	33,32	33,32
	1985	46,19	40,52	40,52	37,98	33,32	33,32
	1986	46,19	40,52	40,52	36,06	31,63	31,63
D_2	1980	25,88	22,90	22,90	19,18	16,97	16,97
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
16,74 GJ	1983	.	.	.	.	.	.
	1984	36,53	32,04	32,04	29,81	26,15	26,15
	1985	39,48	34,63	34,63	29,81	26,15	26,15
	1986	39,48	34,63	34,63	28,29	24,82	24,82
D_3	1980	15,00	13,27	13,27	12,88	11,40	11,40
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
83,7 GJ	1983	.	.	.	.	.	.
	1984	23,47	20,59	20,59	22,02	19,32	19,32
	1985	26,00	22,81	22,81	22,02	19,32	19,32
	1986	26,00	22,81	22,81	21,25	18,64	18,64
D_{3b}	1980	13,68	12,11	12,11	12,02	10,64	10,64
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
125,6 GJ	1983	.	.	.	.	.	.
	1984	21,91	19,22	19,22	20,77	18,22	18,22
	1985	24,35	21,36	21,36	20,77	18,22	18,22
	1986	24,35	21,36	21,36	19,74	17,32	17,32
D_4	1980	11,75	10,40	10,40	11,21	9,92	9,92
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
1 047 GJ	1983	.	.	.	.	.	.
	1984	18,94	16,61	16,61	16,39	14,38	14,38
	1985	20,99	18,41	18,41	18,96	16,63	16,63
	1986	20,99	18,41	18,41	19,53	17,13	17,13

* Natural gas

* Gaz naturel

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Dortmund *			Weser-Ems *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
8,37 GJ	1983	.	.	.	.	.	.
	1984	43,11	37,81	37,81	.	.	.
	1985	46,01	40,36	40,36	34,68	30,42	30,42
	1986	46,01	40,36	40,36	34,68	30,42	30,42
D_2	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
16,74 GJ	1983	.	.	.	.	.	.
	1984	32,47	28,47	28,47	.	.	.
	1985	34,56	30,32	30,32	27,14	23,81	23,81
	1986	34,56	30,32	30,32	27,14	23,81	23,81
D_3	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
83,7 GJ	1983	.	.	.	.	.	.
	1984	19,75	17,33	17,33	.	.	.
	1985	21,28	18,67	18,67	18,63	16,34	16,34
	1986	21,28	18,67	18,67	18,62	16,33	16,33
D_{3b}	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
125,6 GJ	1983	.	.	.	.	.	.
	1984	18,33	16,08	16,08	.	.	.
	1985	19,78	17,35	17,35	17,69	15,52	15,52
	1986	19,78	17,35	17,35	17,68	15,51	15,51
D_4	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
1 047 GJ	1983	.	.	.	.	.	.
	1984	17,50	15,33	15,33	.	.	.
	1985	18,87	16,55	16,55	16,05	14,08	14,08
	1986	18,87	16,55	16,55	16,05	14,08	14,08

* Natural gas

* Gaz naturel

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Hamburg *			Hannover *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	18,29	16,19	16,19	10,86	9,61	9,61
	1981	.	.	.	.	.	.
418,6 GJ	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,35	14,34	14,34	18,65	16,36	16,36
	1985	17,46	15,32	15,32	20,35	17,85	17,85
	1986	18,53	16,25	16,25	20,35	17,85	17,85
I_2	1980	10,87	9,62	9,62	8,97	7,94	7,94
	1981	.	.	.	.	.	.
4 186 GJ	1982	.	.	.	.	.	.
200 days/jours	1983	.	.	.	.	.	.
	1984	16,15	14,17	14,17	16,14	14,16	14,16
	1985	17,26	15,14	15,14	17,68	15,51	15,51
	1986	18,53	16,25	16,25	17,68	15,51	15,51
I_{3-1}	1980	10,31	9,12	9,12	8,61	7,62	7,62
	1981	.	.	.	.	.	.
41 860 GJ	1982	.	.	.	.	.	.
200 days/jours	1983	.	.	.	.	.	.
1 600 h	1984	16,06	14,09	14,09	15,16	13,30	13,30
	1985	17,13	15,03	15,03	16,60	14,56	14,56
	1986	17,61	15,45	15,45	16,60	14,56	14,56
I_{3-2}	1980	9,11	8,06	8,06	8,60	7,61	7,61
	1981	.	.	.	.	.	.
41 860 GJ	1982	.	.	.	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	15,01	13,17	13,17	14,59	12,80	12,80
	1985	15,96	14,00	14,00	15,98	14,02	14,02
	1986	16,19	14,20	14,20	15,98	14,02	14,02
I_{4-1}	1980	8,64	7,65	7,65	7,98	7,06	7,06
	1981	.	.	.	.	.	.
418 600 GJ	1982	.	.	.	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	13,81	12,11	12,11	13,70	12,02	12,02
	1985	15,55	13,64	13,64	.	.	.
	1986	15,87	13,92	13,92	.	.	.
I_{4-2}	1980	8,42	7,45	7,45			
	1981	.	.	.			
418 600 GJ	1982	.	.	.			
330 days/jours	1983	.	.	.			
8 000 h	1984	13,43	11,78	11,78			
	1985	15,14	13,28	13,28			
	1986	.	.	.			
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983						
8 000 h	1984						
	1985						
	1986						

* Natural gas

*. Gaz naturel

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Düsseldorf *			Frankfurt/M *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	14,58	12,90	12,90	11,83	10,47	10,47
	1981	19,36	17,13	17,13	.	.	.
418,6 GJ	1982	24,45	21,64	21,64	.	.	.
	1983	.	.	.	.	.	.
	1984	22,20	19,47	19,47	17,73	15,55	15,55
	1985	22,20	19,47	19,47	17,73	15,55	15,55
	1986	22,20	19,47	19,47	17,73	15,55	15,55
I_2	1980	11,91	10,54	10,54	11,46	10,14	10,14
	1981	14,50	12,83	12,83	.	.	.
4 186 GJ	1982	19,92	17,73	17,63	.	.	.
200 days/jours	1983	.	.	.	.	.	.
	1984	18,95	16,62	16,62	15,75	13,82	13,82
	1985	18,95	16,62	16,62	17,03	14,94	14,94
	1986	18,96	16,63	16,63	17,08	14,98	14,98
I_{3-1}	1980	10,96	9,70	9,70	10,57	9,35	9,35
	1981	13,42	11,88	11,88	.	.	.
41 860 GJ	1982	18,66	16,51	16,51	.	.	.
200 days/jours	1983	.	.	.	.	.	.
1 600 h	1984	17,73	15,55	15,55	15,05	13,20	13,20
	1985	17,73	15,55	15,55	15,70	13,77	13,77
	1986	17,73	15,55	15,55	16,05	14,08	14,08
I_{3-2}	1980	10,51	9,30	9,30	10,25	9,07	9,07
	1981	13,00	11,50	11,50	.	.	.
41 860 GJ	1982	17,99	15,92	15,92	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	17,09	14,99	14,99	14,12	12,39	12,39
	1985	17,09	14,99	14,99	15,32	13,44	13,44
	1986	17,09	14,99	14,99	15,77	13,83	13,83
I_{4-1}	1980	10,43	9,23	9,23	10,20	9,03	9,03
	1981	12,90	11,42	11,42	.	.	.
418 600 GJ	1982	17,90	15,84	15,84	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	17,00	14,91	14,91	14,12	12,39	12,39
	1985	17,00	14,91	14,91	15,28	13,40	13,40
	1986	17,00	14,91	14,91	15,72	13,79	13,79
I_{4-2}	1980	10,00	8,85	8,85	9,90	8,76	8,76
	1981	12,49	11,05	11,05	.	.	.
418 600 GJ	1982	17,26	15,27	15,27	.	.	.
330 days/jours	1983	.	.	.	.	.	.
8 000 h	1984	16,37	14,36	14,36	13,78	12,09	12,09
	1985	16,37	14,36	14,36	14,87	13,04	13,04
	1986	16,38	14,37	14,37	15,44	13,54	13,54
I_5	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
4 186 000 GJ	1982	.	.	.	.	.	.
330 days/jours	1983	.	.	.	.	.	.
8 000 h	1984	16,37	14,36	14,36	13,78	12,09	12,09
	1985	16,37	14,36	14,36	14,85	13,03	13,03
	1986	16,37	14,36	14,36	15,44	13,54	13,54

* Natural gas

* Gaz naturel

GAS PRICES FOR INDUSTRY

PRIX DU GAZ POUR USAGES INDUSTRIELS

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Stuttgart *			München *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	11,83	10,47	10,47	11,35	10,04	10,04
	1981	.	.	.	.	.	.
418,6 GJ	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	.	.	.	22,94	20,12	20,12
	1985	.	.	.	22,94	20,12	20,12
	1986	21,00	18,42	18,42	21,83	19,15	19,15
I_2	1980	12,92	11,43	11,43	12,25	10,84	10,84
	1981	.	.	.	.	.	.
4 186 GJ	1982	.	.	.	.	.	.
200 days/jours	1983	.	.	.	.	.	.
	1984	19,67	17,25	17,25	16,40	14,39	14,39
	1985	21,41	18,78	18,78	16,77	14,71	14,71
	1986	21,41	18,78	18,78	17,10	15,00	15,00
I_{3-1}	1980	12,84	11,36	11,36	12,25	10,84	10,84
	1981	.	.	.	.	.	.
41 860 GJ	1982	.	.	.	.	.	.
200 days/jours	1983	.	.	.	.	.	.
1 600 h	1984	.	.	.	14,89	13,06	13,06
	1985	21,32	18,70	18,70	16,06	14,09	14,09
	1986	21,32	18,70	18,70	15,55	13,64	13,64
I_{3-2}	1980	10,81	9,57	9,57	9,15	8,10	8,10
	1981	.	.	.	.	.	.
41 860 GJ	1982	.	.	.	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	10,06	14,61	14,61	14,89	13,06	13,06
	1985	18,37	16,11	16,11	16,06	14,09	14,09
	1986	18,37	16,11	16,11	15,55	13,64	13,64
I_{4-1}	1980	10,80	9,56	9,56	8,32	7,36	7,36
	1981	.	.	.	.	.	.
418 600 GJ	1982	.	.	.	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	16,63	14,59	14,59	14,89	13,06	13,06
	1985	18,34	16,09	16,09	16,06	14,09	14,09
	1986	18,34	16,09	16,09	15,55	13,64	13,64
I_{4-2}	1980	10,14	8,97	8,97	8,32	7,36	7,36
	1981	.	.	.	.	.	.
418 600 GJ	1982	.	.	.	.	.	.
330 days/jours	1983	.	.	.	.	.	.
8 000 h	1984	15,62	13,70	13,70	14,89	13,06	13,06
	1985	17,36	15,23	15,23	16,06	14,09	14,09
	1986	17,36	15,23	15,23	15,55	13,64	13,64
I_5	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
4 186 000 GJ	1982	.	.	.	.	.	.
330 days/jours	1983	.	.	.	.	.	.
8 000 h	1984	15,62	13,70	13,70	.	.	.
	1985	17,36	15,23	15,23	16,06	14,09	14,09
	1986	17,36	15,23	15,23	15,55	13,64	13,64

* Natural gas

* Gaz naturel

B.R. DEUTSCHLAND

DM/GJ

January Janvier		Dortmund *			Weser-Ems *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
418,6 GJ	1982	.	.	.	.	.	.
	1983	.	.	.	.	.	.
	1984	16,75	14,70	14,70	.	.	.
	1985	18,56	16,28	16,28	16,39	14,38	14,38
	1986	.	.	.	16,39	14,38	14,38
I_2	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
4 186 GJ	1982	.	.	.	.	.	.
200 days/jours	1983	.	.	.	.	.	.
	1984	16,53	14,47	14,47	.	.	.
	1985	18,27	16,03	16,03	15,89	13,94	13,94
	1986	19,13	16,78	16,78	15,89	13,94	13,94
I_{3-1}	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
41 860 GJ	1982	.	.	.	.	.	.
200 days/jours	1983	.	.	.	.	.	.
1 600 h	1984	16,20	14,20	14,20	.	.	.
	1985	17,93	15,73	15,73	14,73	12,92	12,92
	1986	18,81	16,50	16,50	15,05	13,20	13,20
I_{3-2}	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
41 860 GJ	1982	.	.	.	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	16,03	14,06	14,06	.	.	.
	1985	17,54	15,39	15,39	14,73	12,92	12,92
	1986	18,43	16,17	16,17	15,05	13,20	13,20
I_{4-1}	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
418 600 GJ	1982	.	.	.	.	.	.
250 days/jours	1983	.	.	.	.	.	.
4 000 h	1984	15,25	13,39	13,39	.	.	.
	1985	16,92	14,84	14,84	14,58	12,79	12,79
	1986	17,80	15,61	15,61	14,90	13,07	13,07
I_{4-2}	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
418 600 GJ	1982	.	.	.	.	.	.
330 days/jours	1983	.	.	.	.	.	.
8 000 h	1984	14,92	13,08	13,08	.	.	.
	1985	16,87	14,50	14,50	14,10	12,37	12,37
	1986	17,42	15,28	15,28	13,78	12,09	12,09
I_5	1980				.	.	.
	1981				.	.	.
4 186 000 GJ	1982				.	.	.
330 days/jours	1983				.	.	.
8 000 h	1984				.	.	.
	1985				14,00	12,28	12,28
	1986				13,68	12,00	12,00

* Natural gas

* Gaz naturel

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

FRANCE

FF/GJ

	January Janvier		Strasbourg *			Région parisienne *		
			Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1		1980	86,48	73,54	73,54	67,88	57,73	57,73
		1981	106,72	90,75	90,75	76,75	57,73	65,27
		1982	127,88	108,74	108,74	90,81	77,22	77,22
	8,37 GJ	1983	139,46	117,59	117,59	100,28	84,55	84,55
		1984	148,55	125,25	125,25	107,61	90,73	90,73
		1985	163,61	137,95	137,95	123,83	104,41	104,41
		1986	152,63	128,69	128,69	119,68	100,91	100,91
D_2		1980	63,68	54,15	54,15	57,77	49,13	49,13
		1981	79,73	67,80	67,80	66,11	56,22	56,22
		1982	96,07	81,69	81,69	79,00	67,18	67,18
	16,74 GJ	1983	106,06	89,43	89,43	87,70	73,94	73,94
		1984	112,80	95,11	95,11	94,47	79,66	79,66
		1985	127,70	107,67	107,67	108,61	91,58	91,58
		1986	120,38	101,50	101,50	104,70	88,28	88,28
D_3		1980	34,46	29,30	29,30	38,12	32,42	32,42
		1981	46,49	39,53	39,53	44,88	38,16	38,16
		1982	59,59	50,67	50,67	55,84	47,49	47,49
	83,7 GJ	1983	65,68	55,38	55,38	61,98	52,26	52,26
		1984	70,07	59,08	59,08	66,76	56,29	56,29
		1985	79,78	67,27	67,27	75,80	63,91	63,91
		1986	76,26	64,30	64,30	72,78	61,37	61,37
D_{3b}		1980	32,48	27,62	27,62	33,92	28,84	28,84
		1981	44,35	37,71	37,71	40,60	34,53	34,53
		1982	53,37	45,38	45,38	51,35	43,67	43,67
	125,6 GJ	1983	63,34	53,41	53,41	57,35	48,36	48,36
		1984	67,73	57,11	57,11	62,13	52,38	52,38
		1985	77,03	64,95	64,95	70,95	59,82	59,82
		1986	73,51	61,98	61,98	68,28	57,57	57,57
D_4		1980	27,04	22,99	22,99	27,55	23,42	23,42
		1981	36,39	30,94	30,94	32,75	27,85	27,85
		1982	48,43	41,18	41,18	43,30	36,82	36,82
	1 047 GJ	1983	53,80	45,36	45,36	48,36	40,77	40,77
		1984	58,84	49,61	49,61	52,87	44,58	44,58
		1985	67,90	57,25	57,25	62,12	52,38	52,38
		1986	65,88	55,55	55,55	59,82	50,44	50,44

* Natural gas

* Gaz naturel

FRANCE

FF/GJ

January Janvier		Lille *			Région parisienne *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	30,16	25,65	25,65	30,16	25,65	25,65
	1981	35,70	30,36	30,36	35,70	30,36	30,36
418,6 GJ	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
	1985	63,47	53,52	53,52	63,47	53,52	53,52
	1986	61,16	51,57	51,57	61,16	51,57	51,57
I_2	1980	26,25	22,32	22,32	26,25	22,32	22,32
	1981	31,27	26,59	26,59	31,27	26,59	26,59
4 186 GJ	1982	41,67	35,44	35,44	41,67	35,44	35,44
200 days/jours	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
	1985	55,11	46,47	46,47	55,11	46,47	46,47
	1986	53,07	44,75	44,75	53,07	44,75	44,75
I_{3-1}	1980	22,43	19,07	19,07	22,50	19,13	19,13
	1981	26,95	22,91	22,91	27,03	22,98	22,98
41 860 GJ	1982	35,35	30,06	30,06	35,45	30,14	30,14
200 days/jours	1983	38,97	32,86	32,86	39,08	32,95	32,95
1 600 h	1984	41,68	35,14	35,14	41,79	35,24	35,24
	1985	49,96	42,12	42,12	50,07	42,22	42,22
	1986	46,04	38,82	37,28	46,15	38,91	37,37
I_{3-2}	1980	21,77	18,51	18,51	21,86	18,59	18,59
	1981	26,20	22,28	22,28	26,29	22,35	22,35
41 860 GJ	1982	34,47	29,31	34,57	34,57	29,40	29,40
250 days/jours	1983	38,00	32,04	32,04	38,11	32,14	32,14
4 000 h	1984	40,68	34,30	34,30	40,80	34,40	34,40
	1985	48,84	41,18	41,18	48,97	41,29	41,29
	1986	45,33	38,22	36,68	45,45	38,32	36,78
I_{4-1}	1980	19,81	16,85	16,85	19,89	16,91	16,91
	1981	23,98	20,39	20,39	24,07	20,47	20,47
418 600 GJ	1982	31,84	27,08	27,08	31,95	27,17	27,17
250 days/jours	1983	35,10	29,60	29,60	35,22	29,70	29,70
4 000 h	1984	37,70	31,78	31,78	37,81	31,88	31,88
	1985	45,53	38,39	38,39	45,66	38,50	38,50
	1986	43,44	36,63	34,05	43,56	36,73	34,15
I_{4-2}	1980	19,33	16,44	16,44	19,40	16,50	16,50
	1981	23,41	19,91	19,91	23,51	19,99	19,99
418 600 GJ	1982	31,18	26,51	26,51	31,29	26,61	26,61
330 days/jours	1983	34,37	28,98	28,98	34,49	29,08	29,08
8 000 h	1984	36,94	31,15	31,15	37,07	31,25	31,25
	1985	44,69	37,68	37,68	44,83	37,80	37,80
	1986	42,70	36,00	33,42	42,83	36,11	33,53
I_5	1980	19,13	16,27	16,27	19,22	16,34	16,34
	1981	23,19	19,72	19,72	23,29	19,80	19,80
4 186 000 GJ	1982	30,92	26,29	26,29	31,03	26,39	26,39
330 days/jours	1983	34,08	28,74	28,74	34,20	28,84	28,84
8 000 h	1984	36,64	30,90	30,90	36,77	31,01	31,01
	1985	44,36	37,40	37,40	44,51	37,53	37,53
	1986	42,51	35,84	33,16	42,64	35,95	33,27

* Natural gas

* Gaz naturel

FRANCE

FF/GJ

January Janvier		Lyon *			Toulouse *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	30,16	25,65	25,65	30,16	25,65	25,65
	1981	35,70	30,36	30,36	35,70	30,36	30,36
418,6 GJ	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
	1985	63,47	53,52	53,52	63,47	53,52	53,52
	1986	61,16	51,57	51,57	61,16	51,57	51,57
I_2	1980	26,25	22,32	22,32	26,25	22,32	22,32
	1981	31,27	26,59	26,59	31,27	26,59	26,59
4 186 GJ	1982	41,67	35,44	35,44	41,67	35,44	35,44
200 days/jours	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
	1985	55,11	46,47	46,47	55,11	46,47	46,47
	1986	53,07	44,75	44,75	53,07	44,75	44,75
I_{3-1}	1980	22,17	18,85	18,85	21,60	18,37	18,37
	1981	26,65	22,66	22,66	26,01	22,12	22,12
41 860 GJ	1982	35,00	29,77	29,77	34,25	29,12	29,12
200 days/jours	1983	38,59	32,54	32,54	37,75	31,83	31,83
1 600 h	1984	41,28	34,81	34,81	40,42	34,08	34,08
	1985	49,52	41,75	41,75	48,42	40,83	40,83
	1986	45,61	38,46	36,92	45,21	38,12	36,58
I_{3-2}	1980	21,56	18,34	18,34	20,64	17,55	17,55
	1981	25,96	22,08	22,08	24,91	21,18	21,18
41 860 GJ	1982	34,19	29,08	29,08	32,95	28,02	28,02
250 days/jours	1983	37,69	31,78	31,78	36,32	30,62	30,62
4 000 h	1984	40,37	34,04	34,04	38,95	32,84	32,84
	1985	48,49	40,89	40,89	46,74	39,41	39,41
	1986	45,00	37,94	36,40	43,67	36,82	35,28
I_{4-1}	1980	19,62	16,68	16,68	18,87	16,05	16,05
	1981	23,74	20,19	20,19	22,92	19,49	19,49
418 600 GJ	1982	31,57	26,84	26,84	29,49	25,08	25,08
250 days/jours	1983	34,80	29,34	29,34	33,72	28,43	28,43
4 000 h	1984	37,38	31,52	31,52	36,27	30,58	30,58
	1985	45,18	38,09	38,09	43,94	37,05	37,05
	1986	43,11	36,35	33,77	43,19	36,42	33,84
I_{4-2}	1980	19,17	16,30	16,30	18,38	15,63	15,63
	1981	23,24	19,76	19,76	22,36	19,01	19,01
418 600 GJ	1982	30,97	26,33	26,33	27,68	23,54	23,54
330 days/jours	1983	34,14	28,78	28,78	32,98	27,81	27,81
8 000 h	1984	36,70	30,94	30,94	35,51	29,94	29,94
	1985	44,42	37,45	37,45	43,10	36,34	36,34
	1986	42,45	35,79	33,21	42,38	35,73	33,15
I_5	1980	18,96	16,13	16,13	18,26	15,53	15,53
	1981	23,02	19,57	19,57	22,21	18,89	18,89
4 186 000 GJ	1982	30,71	26,11	26,11	27,24	23,16	23,16
330 days/jours	1983	33,85	28,54	28,54	32,80	27,66	27,66
8 000 h	1984	36,40	30,70	30,70	35,32	29,78	29,78
	1985	44,09	37,18	37,18	42,89	36,16	36,16
	1986	42,26	35,63	32,95	42,29	35,66	32,98

* Natural gas

* Gaz naturel

FRANCE

FF/GJ

January Janvier		Strasbourg *			Marseille *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	32,99	28,05	28,05	30,16	25,65	25,65
	1981	43,91	37,34	37,34	35,70	30,36	30,36
418,6 GJ	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
	1985	75,65	63,79	63,79	63,47	53,52	53,52
	1986	72,65	61,26	61,26	61,16	51,57	51,57
I_2	1980	27,47	23,36	23,36	26,25	22,32	22,32
	1981	36,95	31,42	31,42	31,27	26,59	26,59
4 186 GJ	1982	46,72	39,73	39,73	41,67	35,44	35,44
200 days/jours	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
	1985	62,87	53,01	53,01	55,11	46,47	46,47
	1986	61,20	51,60	51,60	53,07	44,75	44,75
I_{3-1}	1980				22,48	19,11	19,11
	1981				27,00	22,96	22,96
41 860 GJ	1982				35,42	30,12	30,12
200 days/jours	1983				39,04	32,92	32,92
1 600 h	1984				41,76	35,21	35,21
	1985				50,04	42,19	42,19
	1986				46,11	38,88	37,34
I_{3-2}	1980	20,12	17,12	17,12	21,82	18,55	18,55
	1981	28,05	23,85	23,85	26,25	22,32	22,32
41 860 GJ	1982	36,66	31,17	31,17	34,53	29,36	29,36
250 days/jours	1983	40,41	34,07	34,07	38,07	32,10	32,10
4 000 h	1984	43,17	36,40	36,40	40,75	34,36	34,36
	1985	51,61	43,52	43,52	48,92	41,25	41,25
	1986	51,85	43,72	42,18	45,40	38,28	36,74
I_{4-1}	1980				19,87	16,90	16,90
	1981				24,03	20,44	20,44
418 600 GJ	1982				31,91	27,13	27,13
250 days/jours	1983				35,17	29,66	29,66
4 000 h	1984				37,77	31,84	31,84
	1985				45,61	38,46	38,46
	1986				43,51	36,69	34,11
I_{4-2}	1980				19,37	16,47	16,47
	1981				23,46	19,95	19,95
418 600 GJ	1982				31,23	26,56	26,56
330 days/jours	1983				34,43	29,03	29,03
8 000 h	1984				37,01	31,20	31,20
	1985				44,76	37,74	37,74
	1986				42,77	36,06	33,48
I_5	1980				19,18	16,31	16,31
	1981				23,24	19,77	19,77
4 186 000 GJ	1982				30,97	26,34	26,34
330 days/jours	1983				34,15	28,79	28,79
8 000 h	1984				36,71	30,95	30,95
	1985				44,43	37,46	37,46
	1986				42,58	35,90	33,22

* Natural gas

* Gaz naturel

ITALIA

LIT/GJ

January Janvier		Torino *			Genova *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	5 996	5 657	4 697	7 193	6 786	5 748
	1981	8 083	7 484	6 696	.	.	.
	1982	8 835	8 181	7 392	.	.	.
8,37 GJ	1983	13 227	12 247	11 458	12 415	11 495	10 707
	1984	16 037	14 849	14 061	16 319	15 111	14 332
	1985	16 968	15 567	14 779	18 167	16 667	15 879
	1986	18 532	17 002	16 214	19 392	17 791	17 002
D_2	1980	5 661	5 341	4 381	6 509	6 141	5 103
	1981	7 577	7 016	6 228	.	.	.
	1982	8 330	7 713	6 924	.	.	.
16,74 GJ	1983	11 637	10 775	9 987	11 822	10 946	10 157
	1984	14 215	13 162	12 374	14 539	13 462	12 673
	1985	15 171	13 918	13 130	16 371	15 019	14 230
	1986	16 735	15 353	14 565	17 595	16 142	15 354
D_3	1980	5 369	5 065	4 106	6 055	5 712	4 674
	1981	7 072	6 548	5 760	.	.	.
	1982	7 824	7 244	6 456	.	.	.
83,7 GJ	1983	10 265	9 504	8 716	11 347	10 506	9 718
	1984	12 657	11 720	10 931	13 114	12 143	11 354
	1985	13 832	12 690	11 901	13 937	12 786	11 997
	1986	15 443	14 168	13 379	15 676	14 382	13 593
D_{3b}	1980	5 321	5 020	4 061	6 123	5 776	4 739
	1981	7 048	6 526	5 738	.	.	.
	1982	7 800	7 222	6 434	.	.	.
125,6 GJ	1983	10 167	9 414	8 626	11 516	10 663	9 875
	1984	12 543	11 614	10 826	13 630	12 620	11 832
	1985	13 587	12 465	11 677	13 691	12 561	11 772
	1986	15 182	13 928	13 140	15 415	14 142	13 354
D_4	1980	5 293	4 994	4 036	5 524	5 211	4 174
	1981	7 089	6 564	5 776	.	.	.
	1982	7 840	7 259	6 462	.	.	.
1 047 GJ	1983	10 245	9 486	8 699	10 065	9 320	8 532
	1984	12 624	11 689	10 902	12 292	10 417	9 629
	1985	13 442	12 332	11 544	12 697	11 649	10 861
	1986	14 958	13 723	12 935	13 607	12 483	11 696

* Natural gas

* Gaz naturel

ITALIA

LIT/GJ

January Janvier		Roma *			Roma +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	6 763	6 380	5 421	9 470	8 934	8 168
	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
8,37 GJ	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
	1985	20 037	18 383	17 595	25 419	23 320	22 710
	1986	20 879	19 155	18 366	24 874	22 820	22 204
D_2	1980	6 408	6 045	5 086	9 040	8 528	7 762
	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
16,74 GJ	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
	1985	18 241	16 735	15 946	23 621	21 671	21 062
	1986	19 082	17 506	16 718	23 076	21 171	20 555
D_3	1980	6 177	5 827	4 868	8 756	8 260	7 494
	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
83,7 GJ	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
	1985	14 294	13 114	12 326	20 009	18 357	17 747
	1986	15 703	14 406	13 618	20 548	18 851	17 619
D_{3b}	1980	6 130	5 783	4 824	8 704	8 211	7 445
	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
125,6 GJ	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
	1985	14 049	12 889	12 101	19 864	18 224	17 611
	1986	15 442	14 167	13 379	19 715	18 087	17 468
D_4	1980	5 855	5 524	4 566	8 139	7 678	6 909
	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
1 047 GJ	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
	1985	13 772	12 635	11 847	21 351	19 588	18 976
	1986	15 008	13 769	12 981	21 318	19 558	18 939

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

ITALIA

LIT/GJ

January Janvier		Milano +			Milano *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	8 599	8 112	7 410	-	-	-
	1981	10 360	9 593	9 003	-	-	-
	1982	11 098	10 276	9 679	-	-	-
8,37 GJ	1983	16 775	15 532	14 924	-	-	-
	1984	18 550	17 176	16 566	-	-	-
	1985	20 707	18 997	18 269	17 342	15 910	15 122
	1986	21 839	20 036	19 410	19 294	17 700	16 913
D_2	1980	8 068	7 611	6 909	-	-	-
	1981	10 050	9 306	8 716	-	-	-
	1982	10 788	9 989	9 392	-	-	-
16,74 GJ	1983	15 382	14 243	13 635	-	-	-
	1984	16 924	15 670	15 060	-	-	-
	1985	18 779	17 228	16 620	15 545	14 261	13 474
	1986	20 038	21 841	17 757	17 497	16 052	15 264
D_3	1980	7 636	7 204	6 501	-	-	-
	1981	9 804	9 078	8 488	-	-	-
	1982	10 542	9 761	9 164	-	-	-
83,7 GJ	1983	14 269	13 212	12 604	-	-	-
	1984	16 585	15 356	14 747	-	-	-
	1985	16 707	15 327	14 719	13 743	12 608	11 820
	1986	18 099	16 605	15 978	15 643	14 351	13 564
D_{3b}	1980	7 642	7 209	6 507	-	-	-
	1981	9 778	9 053	8 464	-	-	-
	1982	10 515	9 737	9 140	-	-	-
125,6 GJ	1983	14 168	13 119	12 511	-	-	-
	1984	16 148	14 952	14 342	-	-	-
	1985	16 459	15 100	14 492	13 494	12 380	11 592
	1986	17 841	16 368	15 741	15 389	14 118	13 331
D_4	1980	7 547	7 120	6 418	-	-	-
	1981	9 771	9 048	8 458	-	-	-
	1982	10 508	9 730	9 133	-	-	-
1 047 GJ	1983	14 164	13 115	12 507	-	-	-
	1984	15 498	14 350	13 740	-	-	-
	1985	16 475	15 115	14 507	12 698	11 650	10 862
	1986	17 868	16 393	15 767	14 448	13 255	12 468

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

ITALIA

LIT/GJ

January Janvier		Napoli +					
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	10 812	10 200	9 383			
	1981	14 899	13 795	13 107			
	1982	14 953	13 845	13 845			
8,37 GJ	1983	20 604	19 078	19 078			
	1984	22 661	20 982	20 982			
	1985	22 900	21 009	21 009			
	1986	.	.	.			
D_2	1980	10 743	10 135	9 317			
	1981	14 352	13 289	12 601			
	1982	14 407	13 340	13 340			
16,74 GJ	1983	18 956	17 552	17 552			
	1984	20 771	19 232	19 232			
	1985	21 102	19 360	19 360			
	1986	.	.	.			
D_3	1980	7 227	6 818	6 000			
	1981	10 997	10 182	9 424			
	1982	11 051	10 232	10 232			
83,7 GJ	1983	14 794	13 698	13 698			
	1984	16 114	14 920	14 920			
	1985	17 793	16 324	16 324			
	1986	.	.	.			
D_{3b}	1980	7 024	6 626	5 809			
	1981	10 708	9 915	9 227			
	1982	10 767	9 969	9 969			
125,6 GJ	1983	14 454	13 383	13 383			
	1984	15 913	14 734	14 734			
	1985	17 366	15 932	15 932			
	1986	.	.	.			
D_4	1980	6 649	6 273	5 455			
	1981	10 169	9 416	8 728			
	1982	10 230	9 472	9 472			
1 047 GJ	1983	13 865	12 838	12 838			
	1984	15 089	13 971	13 971			
	1985	17 067	15 658	15 658			
	1986	.	.	.			

+ Gasworks gas

+ Gaz d'usines

ITALIA

LIT/GJ

January Janvier		Torino *			Genova *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	5 078	4 454	4 454	4 435	3 891	3 891
	1981	7 297	6 345	6 345	.	.	.
418,6 GJ	1982	8 098	7 042	7 042	.	.	.
	1983	11 120	9 424	9 424	8 551	7 247	7 247
	1984	13 751	11 653	11 653	9 355	7 928	7 928
	1985	14 184	12 020	12 020	12 942	10 968	10 968
	1986	15 867	13 447	13 447	14 033	11 892	11 892
I_2	1980	4 999	4 385	4 385	4 293	3 766	3 766
	1981	7 198	6 259	6 259	.	.	.
4 186 GJ	1982	7 999	6 956	6 956	.	.	.
200 days/jours	1983	10 816	9 166	9 166	8 590	7 280	7 280
	1984	13 406	11 361	11 361	9 470	8 026	8 026
	1985	13 372	11 332	11 332	12 107	10 260	10 260
	1986	14 994	12 707	12 707	12 343	10 460	10 460
I_{3-1}	1980	3 858	3 384	3 384			
	1981	5 929	5 156	5 156			
41 860 GJ	1982	7 543	6 559	6 559			
200 days/jours	1983	8 554	7 249	7 249		= TORINO	
1 600 h	1984	9 411	7 975	7 975			
	1985	10 991	10 083	10 083			
	1986	8 672	7 956	7 956			
I_{3-2}	1980	3 858	3 384	3 384			
	1981	5 929	5 156	5 156			
41 860 GJ	1982	7 543	6 559	6 559			
250 days/jours	1983	8 554	7 249	7 249		= TORINO	
4 000 h	1984	9 411	7 975	7 975			
	1985	10 735	9 849	9 849			
	1986	8 395	7 702	7 702			
I_{4-1}	1980	3 776	3 312	3 312			
	1981	5 689	4 947	4 947			
418 600 GJ	1982	7 236	6 292	6 292			
250 days/jours	1983	8 193	6 943	6 943		= TORINO	
4 000 h	1984	8 944	7 580	7 580			
	1985	10 213	9 370	9 370			
	1986	8 004	7 343	7 343			
I_{4-2}	1980	3 776	3 312	3 312			
	1981	5 689	4 947	4 947			
418 600 GJ	1982	7 236	6 292	6 292			
330 days/jours	1983	8 193	6 943	6 943		= TORINO	
8 000 h	1984	8 944	7 580	7 580			
	1985	9 967	9 144	9 144			
	1986	7 735	7 096	7 096			
I_5	1980	3 653	3 204	3 204			
	1981	5 382	4 680	4 680			
4 186 000 GJ	1982	6 846	5 953	5 953			
330 days/jours	1983	7 750	6 568	6 568		= TORINO	
8 000 h	1984	8 441	7 153	7 153			
	1985	9 400	8 624	8 624			
	1986	7 310	6 706	6 706			

* Natural gas

* Gaz naturel

ITALIA

LIT/GJ

January Janvier		Roma *			Roma +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	6 134	5 381	5 381	9 350	8 202	8 202
	1981	9 034	7 856	7 856	13 916	12 101	12 101
418,6 GJ	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
	1985	14 541	12 323	12 323	25 672	21 756	21 756
	1986	15 921	13 492	13 492	25 875	21 928	21 928
I_2	1980	6 056	5 312	5 312	8 958	7 858	7 858
	1981	8 935	7 770	7 770	13 422	11 671	11 671
4 186 GJ	1982	9 745	8 474	8 474	14 306	12 440	12 440
200 days/jours	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
	1985	13 729	11 635	11 635	21 883	18 545	18 545
	1986	15 049	12 753	12 753	21 803	18 477	18 477
I_{3-1}	1980						
	1981						
41 860 GJ	1982						
200 days/jours	1983		= TORINO				
1 600 h	1984						
	1985						
	1986						
I_{3-2}	1980						
	1981						
41 860 GJ	1982						
250 days/jours	1983		= TORINO				
4 000 h	1984						
	1985						
	1986						
I_{4-1}	1980						
	1981						
418 600 GJ	1982						
250 days/jours	1983		= TORINO				
4 000 h	1984						
	1985						
	1986						
I_{4-2}	1980						
	1981						
418 600 GJ	1982						
330 days/jours	1983		= TORINO				
8 000 h	1984						
	1985						
	1986						
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983		= TORINO				
8 000 h	1984						
	1985						
	1986						

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

ITALIA

LIT/GJ

January Janvier		Milano +			Milano *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	7 343	6 441	6 441	-	-	-
	1981	9 790	8 513	8 513	-	-	-
418,6 GJ	1982	10 568	9 190	9 190	-	-	-
	1983	15 070	12 771	12 771	-	-	-
	1984	16 564	14 040	14 040	-	-	-
	1985	17 938	15 202	15 202	13 203	11 189	11 189
	1986	19 478	16 507	16 507	15 120	12 814	12 814
I_2	1980	7 321	6 422	6 422	-	-	-
	1981	9 741	8 470	8 470	-	-	-
4 186 GJ	1982	10 518	9 146	9 146	-	-	-
200 days/jours	1983	14 817	12 557	12 557	-	-	-
	1984	16 279	13 796	13 796	-	-	-
	1985	17 262	14 629	14 629	12 797	10 845	10 845
	1986	18 751	15 891	15 891	14 683	12 443	12 443
I_{3-1}	1980						
	1981						
41 860 GJ	1982						
200 days/jours	1983				= TORINO		
1 600 h	1984						
	1985						
	1986						
I_{3-2}	1980						
	1981						
41 860 GJ	1982						
250 days/jours	1983				= TORINO		
4 000 h	1984						
	1985						
	1986						
I_{4-1}	1980						
	1981						
418 600 GJ	1982						
250 days/jours	1983				= TORINO		
4 000 h	1984						
	1985						
	1986						
I_{4-2}	1980						
	1981						
418 600 GJ	1982						
330 days/jours	1983				= TORINO		
8 000 h	1984						
	1985						
	1986						
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983				= TORINO		
8 000 h	1984						
	1985						
	1986						

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR INDUSTRY

PRIX DU GAZ POUR USAGES INDUSTRIELS

ITALIA

GRAND–DUCHE DE LUXEMBOURG

January Janvier		LIT/GJ			LFR/GJ		
		Napoli +			Luxembourg *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	-	-	-	133,0	126,7	126,7
	1981	10 175	8 848	8 848	193,4	184,2	184,2
418,6 GJ	1982	11 024	9 586	9 586	283,0	269,5	269,5
	1983	15 423	13 070	13 070	290,2	276,4	276,4
	1984	16 814	14 249	14 249	296,3	279,5	279,5
	1985	19 560	16 576	16 576	348,5	328,8	328,8
	1986	.	.		329,1	310,5	310,5
I_2	1980				111,3	106,0	106,0
	1981				177,7	169,3	169,3
4 186 GJ	1982				272,1	259,1	259,1
200 days/jours	1983				279,6	266,3	266,3
	1984				285,9	269,7	269,7
	1985				340,9	321,6	321,6
	1986				320,4	302,3	302,3
I_{3-1}	1980				98,8	94,1	94,1
	1981				164,5	156,7	156,7
41 860 GJ	1982				257,8	245,5	245,5
200 days/jours	1983	= TORINO			265,0	252,4	252,4
1 600 h	1984				271,1	255,8	255,8
	1985				326,5	308,0	308,0
	1986				306,6	289,2	289,2
I_{3-2}	1980				90,3	86,0	86,0
	1981				152,6	145,3	145,3
41 860 GJ	1982				240,2	228,8	228,8
250 days/jours	1983	= TORINO			247,2	235,4	235,4
4 000 h	1984				252,7	238,4	238,4
	1985				304,8	287,5	287,5
	1986				285,9	269,7	269,7
I_{4-1}	1980						
	1981						
418 600 GJ	1982						
250 days/jours	1983	= TORINO					
4 000 h	1984						
	1985						
	1986						
I_{4-2}	1980						
	1981						
418 600 GJ	1982						
330 days/jours	1983	= TORINO					
8 000 h	1984						
	1985						
	1986						
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983	= TORINO					
8 000 h	1984						
	1985						
	1986						

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

	January Janvier	NEDERLAND HFL/GJ			DANMARK DKR/GJ		
		Rotterdam *			København +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	16,51	13,99	13,98	116,37	96,77	84,83
	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
8,37 GJ	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
	1985	26,93	22,63	22,62	170,76	139,96	139,96
	1986	27,61	23,20	23,19	172,73	141,58	141,58
D_2	1980	13,12	11,12	11,11	111,20	92,47	80,53
	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
16,74 GJ	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
	1985	22,88	19,23	19,22	162,01	132,80	132,80
	1986	23,55	19,79	19,78	163,10	133,69	133,69
D_3	1980	10,42	8,83	8,82	88,10	73,26	61,31
	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
83,7 GJ	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
	1985	19,64	16,50	16,49	120,09	98,43	98,43
	1986	20,31	17,07	17,06	120,66	98,90	98,90
D_{3b}	1980	10,20	8,64	8,63	86,86	72,23	60,29
	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
125,6 GJ	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
	1985	19,36	16,27	16,26	118,47	97,11	97,11
	1986	20,04	16,84	16,83	118,93	97,48	97,48
D_4	1980	9,95	8,43	8,42	84,82	70,53	58,61
	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
1 047 GJ	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
	1985	19,06	16,02	16,01	116,19	95,24	95,24
	1986	19,74	16,59	16,58	116,50	95,49	95,49

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR INDUSTRY

PRIX DU GAZ POUR USAGES INDUSTRIELS

January Janvier		NEDERLAND HFL/GJ			DANMARK DKR/GJ		
		Rotterdam *			København +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	9,87	8,37	8,36	97,56	81,13	69,18
	1981	13,53	11,47	11,46	119,02	97,56	88,01
418,6 GJ	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
	1985	18,98	15,95	15,94	138,08	113,18	113,18
	1986	19,66	16,52	16,51	138,37	113,42	113,42
I_2	1980	9,76	8,27	8,26	87,12	72,44	60,51
	1981	13,41	11,37	11,36	106,43	87,24	77,68
4 186 GJ	1982	15,77	13,36	13,35	115,09	94,34	84,79
200 days/jours	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
	1985	18,84	15,83	15,82	118,96	97,51	97,51
	1986	19,52	16,40	16,39	119,19	97,07	97,07
I_{3-1}	1980	8,96	7,59	7,59			
	1981	11,53	9,77	9,77			
41 860 GJ	1982	15,51	13,14	13,14			
200 days/jours	1983	15,10	12,80	12,80			
1 600 h	1984	16,21	13,62	13,62			
	1985	17,75	14,92	14,92			
	1986	14,61	12,28	12,27			
I_{3-2}	1980	8,96	7,59	7,59			
	1981	11,53	9,77	9,77			
41 860 GJ	1982	15,51	13,14	13,14			
250 days/jours	1983	15,10	12,80	12,80			
4 000 h	1984	16,21	13,62	13,62			
	1985	17,75	14,92	14,92			
	1986	14,61	12,28	12,27			
I_{4-1}	1980	8,64	7,32	7,32			
	1981	11,06	9,37	9,37			
418 600 GJ	1982	14,68	12,44	12,44			
250 days/jours	1983	14,08	11,93	11,93			
4 000 h	1984	15,16	12,74	12,74			
	1985	16,78	14,10	14,10			
	1986	13,09	11,00	10,99			
I_{4-2}	1980	8,64	7,32	7,32			
	1981	11,06	9,37	9,37			
418 600 GJ	1982	14,68	12,44	12,44			
330 days/jours	1983	14,08	11,93	11,93			
8 000 h	1984	15,16	12,74	12,74			
	1985	16,78	14,10	14,10			
	1986	13,09	11,00	10,99			
I_5	1980	8,14	6,90	6,90			
	1981	10,54	8,93	8,93			
4 186 000 GJ	1982	13,85	11,74	11,74			
330 days/jours	1983	13,26	11,24	11,24			
8 000 h	1984	14,26	11,98	11,98			
	1985	15,80	13,28	13,28			
	1986	12,29	10,33	10,32			

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

		BELGIQUE/BELGIE			GRAND–DUCHE DE LUXEMBOURG		
		BFR/GJ			LFR/GJ		
		Bruxelles *			Luxembourg *		
January Janvier		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	418,1	394,4	394,4	409,5	390,0	390,0
	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
8,37 GJ	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
	1985	705,1	602,7	602,7	683,9	645,2	645,2
	1986	690,6	590,3	590,3	657,6	620,4	620,4
D_2	1980	383,4	361,7	361,7	354,9	338,0	338,0
	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
16,74 GJ	1983	591,3	505,4	505,4	518,2	493,5	493,5
	1984	628,5	537,2	537,2	527,0	497,2	497,2
	1985	663,9	567,5	567,5	586,2	553,0	553,0
	1986	648,6	554,4	554,4	564,1	532,2	532,2
D_3	1980	199,7	188,4	188,4	149,9	142,8	142,8
	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
83,7 GJ	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
	1985	465,5	397,9	397,9	398,2	375,7	375,7
	1986	446,0	381,2	381,2	376,2	354,9	354,9
D_{3b}	1980	188,0	177,4	177,4	142,7	135,9	135,9
	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
125,6 GJ	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
	1985	450,7	385,3	385,3	375,7	354,4	354,4
	1986	431,0	368,4	368,4	357,6	337,4	337,4
D_4	1980	150,8	142,3	142,3	125,4	119,4	119,4
	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
1 047 GJ	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
	1985	403,6	345,0	345,0	328,7	310,1	310,1
	1986	382,9	327,3	327,3	310,3	292,7	292,7

* Natural gas

* Gaz naturel

BELGIQUE/BELGIE *

BFR/GJ

January Janvier		Cne=0; P=0,9 (1)			Cne=1,0; P=1 (1)		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980				172,6	162,8	162,8
	1981				233,9	201,6	201,6
418,6 GJ	1982				327,1	279,6	279,6
	1983				367,7	314,3	314,3
	1984				402,3	343,8	343,8
	1985				431,1	368,4	368,4
	1986				410,9	351,2	351,2
I_2	1980				143,8	135,7	135,7
	1981				201,4	173,6	173,6
4 186 GJ	1982				293,0	250,4	250,4
200 days/jours	1983				333,0	284,6	284,6
	1984				366,9	313,6	313,6
	1985				394,8	337,4	337,4
	1986				373,9	319,6	319,6
I_{3-1}	1980	125,1	118,1	118,1	140,6	132,6	132,6
	1981	173,1	149,2	149,2	190,1	163,9	163,9
41 860 GJ	1982	259,3	221,6	221,6	276,9	236,7	236,7
200 days/jours	1983	285,1	243,7	243,7	303,2	259,1	259,1
1 600 h	1984	314,7	269,0	269,0	333,0	284,6	284,6
	1985	342,0	292,3	292,3	360,5	308,2	308,2
	1986	316,7	270,7	270,7	335,4	286,7	286,7
I_{3-2}	1980	101,2	95,5	95,5	116,6	110,0	110,0
	1981	146,3	126,1	126,1	163,2	140,7	140,7
41 860 GJ	1982	230,5	197,0	197,0	248,2	212,1	212,1
250 days/jours	1983	255,3	218,2	218,2	273,3	233,6	233,6
4 000 h	1984	284,2	242,9	242,9	302,5	258,5	258,5
	1985	310,4	265,3	265,3	329,0	281,2	281,2
	1986	283,9	242,7	242,7	302,6	258,7	258,7
I_{4-1}	1980	101,2	95,5	95,5	116,6	110,0	110,0
	1981	146,3	126,1	126,1	163,2	140,7	140,7
418 600 GJ	1982	230,5	197,0	197,0	248,2	212,1	212,1
250 days/jours	1983	255,3	218,2	218,2	273,3	233,6	233,6
4 000 h	1984	284,2	242,9	242,9	302,5	258,5	258,5
	1985	310,4	265,3	265,3	329,0	281,2	281,2
	1986	283,9	242,7	242,7	302,6	258,7	258,7
I_{4-2}	1980	93,3	88,0	88,0	108,7	102,5	102,5
	1981	137,2	118,3	118,3	154,3	133,0	133,0
418 600 GJ	1982	221,0	188,9	188,9	238,7	204,0	204,0
330 days/jours	1983	245,2	209,6	209,6	263,3	225,0	225,0
8 000 h	1984	274,0	234,2	234,2	292,3	249,8	249,8
	1985	299,9	256,3	256,3	318,5	272,2	272,2
	1986	273,0	233,3	233,3	291,7	249,3	249,3
I_5	1980	90,9	85,8	85,8	105,8	99,8	99,8
	1981	134,8	116,2	116,2	151,3	130,4	130,4
4 186 000 GJ	1982	218,4	186,7	186,7	235,5	201,3	201,3
330 days/jours	1983	242,7	207,4	207,4	260,1	222,3	222,3
8 000 h	1984	271,4	232,0	232,0	289,1	247,1	247,1
	1985	297,3	254,1	254,1	315,3	269,5	269,5
	1986	270,4	231,1	231,1	288,5	246,6	246,6

* Natural gas

(1) See text/Voir texte

* Gaz naturel

BELGIQUE/BELGIE *

BFR/GJ

January Janvier		Cne=0,5; P=1(1)			Cne=1; P=1,1 (1)		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980						
	1981						
418,6 GJ	1982						
	1983						
	1984						
	1985						
	1986						
I_2	1980						
	1981						
4 186 GJ	1982						
200 days/jours	1983						
	1984						
	1985						
	1986						
I_{3-1}	1980	136,8	129,1	129,1	149,4	140,9	140,9
	1981	185,9	160,3	160,3	199,8	172,2	172,2
41 860 GJ	1982	272,5	232,9	232,9	286,7	245,0	245,0
200 days/jours	1983	298,6	255,2	255,2	313,0	267,5	267,5
1 600 h	1984	328,3	280,6	280,6	342,8	293,0	293,0
	1985	355,7	304,0	304,0	370,4	316,6	316,6
	1986	330,5	282,5	282,5	345,3	295,2	295,2
I_{3-2}	1980	113,0	106,6	106,6	125,4	118,3	118,3
	1981	159,2	137,2	137,2	173,0	149,1	149,1
41 860 GJ	1982	243,8	208,4	208,4	258,0	220,5	220,5
250 days/jours	1983	268,8	229,7	229,7	283,1	242,0	242,0
4 000 h	1984	297,8	254,5	254,5	312,3	266,9	266,9
	1985	324,2	277,1	277,1	338,9	289,6	289,6
	1986	297,7	254,5	254,5	312,5	267,1	267,1
I_{4-1}	1980	113,0	106,6	106,6	125,4	118,3	118,3
	1981	159,2	137,2	137,2	173,0	149,1	149,1
418 600 GJ	1982	243,8	208,4	208,4	258,0	220,5	220,5
250 days/jours	1983	268,8	229,7	229,7	283,1	242,0	242,0
4 000 h	1984	297,8	254,5	254,5	312,3	266,9	266,9
	1985	324,2	277,1	277,1	338,9	289,6	289,6
	1986	297,7	254,5	254,5	312,5	267,1	267,1
I_{4-2}	1980	105,0	99,1	99,1	117,4	110,8	110,8
	1981	150,2	129,5	129,5	164,0	141,4	141,4
418 600 GJ	1982	234,2	200,2	200,2	248,5	212,4	212,4
330 days/jours	1983	258,8	221,2	221,2	273,2	233,5	233,5
8 000 h	1984	287,6	245,8	245,8	302,1	258,2	258,2
	1985	313,6	268,1	268,1	328,4	280,6	280,6
	1986	286,8	245,1	245,1	301,6	257,8	257,8
I_5	1980	102,3	96,5	96,5	114,4	107,9	107,9
	1981	147,2	126,9	126,9	160,5	138,4	138,4
4 186 000 GJ	1982	231,3	197,7	197,7	245,0	209,4	209,4
330 days/jours	1983	255,8	218,6	218,6	269,7	230,5	230,5
8 000 h	1984	284,5	243,2	243,2	298,6	255,2	255,2
	1985	310,6	265,5	265,5	324,9	277,7	277,7
	1986	283,8	242,5	242,5	298,1	254,8	254,8

* Natural gas

(1) See text/Voir texte

* Gaz naturel

UNITED KINGDOM

UK£/GJ

January Janvier		Leeds *			Birmingham *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	2,64	2,64	2,64	2,44	2,44	2,44
	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
8,37 GJ	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
	1985	6,52	6,52	6,52	6,15	6,15	6,15
	1986	6,70	6,70	6,70	6,32	6,32	6,32
D_2	1980	2,46	2,46	2,46	2,36	2,36	2,36
	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
16,74 GJ	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
	1985	5,53	5,53	5,53	5,39	5,39	5,39
	1986	5,71	5,71	5,71	5,56	5,56	5,56
D_{2b} (1)	1980	2,09	2,09	2,09	2,02	2,02	2,02
	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
33,5 GJ	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
	1985	4,43	4,43	4,43	4,36	4,36	4,36
	1986	4,61	4,61	4,61	4,53	4,53	4,53
D_3	1980	1,78	1,78	1,78	1,75	1,75	1,75
	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
83,7 GJ	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
	1985	3,78	3,78	3,78	3,75	3,75	3,75
	1986	3,95	3,95	3,95	3,92	3,92	3,92
D_{3b}	1980	1,70	1,70	1,70	1,69	1,69	1,69
	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
125,6 GJ	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
	1985	3,63	3,63	3,63	3,61	3,61	3,61
	1986	3,80	3,80	3,80	3,78	3,78	3,78

* Natural gas

* Gaz naturel

(1) Extra standard consumer for United Kingdom only

(1) Consommateur–type supplémentaire, Royaume–Uni seulement

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

January Janvier		UNITED KINGDOM London * UK£/GJ			IRELAND Dublin + IR£/GJ		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	3,00	3,00	3,00	8,13	8,13	8,13
	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
8,37 GJ	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
	1985	6,67	6,67	6,67	15,48	14,74	14,74
	1986	7,12	7,12	7,12	16,51	15,01	15,01
D_2	1980	2,85	2,85	2,85	8,02	8,02	8,02
	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
16,74 GJ	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
	1985	5,70	5,70	5,70	13,04	12,42	12,42
	1986	5,87	5,87	5,87	14,28	12,98	12,98
D_{2b} (1)	1980	2,32	2,32	2,32			
	1981	2,94	2,94	2,94			
	1982	3,53	3,53	3,53			
33,5 GJ	1983	4,36	4,36	4,36			
	1984	4,52	4,52	4,52			
	1985	4,52	4,52	4,52			
	1986	4,49	4,69	4,69			
D_3	1980	1,87	1,87	1,87	6,46	6,46	6,46
	1981	2,28	2,28	2,28	10,30	10,30	10,30
	1982	2,96	2,96	2,96	12,86	12,86	12,86
83,7 GJ	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
	1985	3,81	3,81	3,81	7,99	7,61	7,61
	1986	3,98	3,98	3,98	9,13	8,34	8,34
D_{3b}	1980	1,77	1,77	1,77	6,39	6,39	6,39
	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
125,6 GJ	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
	1985	3,65	3,65	3,65	7,41	7,06	7,06
	1986	3,82	3,82	3,82	9,13	8,34	8,34

* Natural gas

\+ Gasworks gas

(1) Extra standard consumer for United Kingdom only

* Gaz naturel

\+ Gaz d'usines

(1) Consommateur–type supplémentaire, Royaume–Uni seulement

GAS PRICES FOR INDUSTRY

PRIX DU GAZ POUR USAGES INDUSTRIELS

		UNITED KINGDOM			IRELAND		
		UK£/GJ			IR£/GJ		
		London * - Leeds * - Birmingham *			Dublin +		
January Janvier		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	2,32	2,32	2,32	6,33	6,33	6,33
	1981	2,55	2,55	2,55	10,18	10,18	10,18
418,6 GJ	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
	1985	3,43	3,43	3,43	6,62	6,30	6,30
	1986	3,60	3,60	3,60	7,57	6,88	6,88
I_2	1980	2,28	2,28	2,28	5,78	5,78	5,78
	1981	2,47	2,47	2,47	9,25	9,25	9,25
4 186 GJ	1982	2,78	2,78	2,78	11,81	11,81	11,81
200 days/jours	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
	1985	3,25	3,25	3,25	5,87	5,59	5,59
	1986	3,42	3,42	3,42	6,78	6,16	6,16
I_{3-1}	1980	2,83	2,83	2,83			
	1981	2,68	2,68	2,68			
41 860 GJ	1982	2,78	2,78	2,78			
200 days/jours	1983	2,89	2,89	2,89			
1 600 h	1984	2,91	2,91	2,91			
	1985	3,08	3,08	3,08			
	1986	3,26	3,26	3,26			
I_{3-2}	1980	2,83	2,83	2,83			
	1981	2,68	2,68	2,68			
41 860 GJ	1982	2,78	2,78	2,78			
250 days/jours	1983	2,89	2,89	2,89			
4 000 h	1984	2,91	2,91	2,91			
	1985	3,08	3,08	3,08			
	1986	3,26	3,26	3,26			
I_{4-1}	1980	2,45	2,45	2,45			
	1981	2,68	2,68	2,68			
418 600 GJ	1982	2,78	2,78	2,78			
250 days/jours	1983	2,87	2,87	2,87			
4 000 h	1984	2,87	2,87	2,87			
	1985	3,08	3,08	3,08			
	1986	3,26	3,26	3,26			
I_{4-2}	1980	2,45	2,45	2,45			
	1981	2,68	2,68	2,68			
418 600 GJ	1982	2,78	2,78	2,78			
330 days/jours	1983	2,87	2,87	2,87			
8 000 h	1984	2,87	2,87	2,87			
	1985	3,08	3,08	3,08			
	1986	3,26	3,26	3,26			
I_5	1980	1,89	1,89	1,89			
	1981	2,32	2,32	2,32			
4 186 000 GJ	1982	2,42	2,42	2,42			
330 days/jours	1983	2,51	2,51	2,51			
8 000 h	1984	2,51	2,51	2,51			
	1985	2,71	2,71	2,71			
	1986	2,88	2,88	2,88			

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

ESPAÑA

PTA/GJ

January Janvier		Barcelona * +			Valencia +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	1 064	1 064	1 042	963	963	927
	1981	1 064	1 064	1 042	963	963	927
	1982	1 210	1 210	1 188	1 113	1 113	1 075
8,37 GJ	1983	1 364	1 364	1 322	1 514	1 514	1 470
	1984	1 618	1 618	1 594	1 786	1 786	1 749
	1985	1 740	1 740	1 714	1 936	1 936	1 897
	1986	2 221	1 983	1 954	2 270	2 027	1 997
D_2	1980	953	953	931	963	963	927
	1981	953	953	931	963	963	927
	1982	1 102	1 102	1 080	1 113	1 113	1 075
16,74 GJ	1983	1 236	1 236	1 196	1 391	1 391	1 349
	1984	1 454	1 454	1 433	1 593	1 593	1 559
	1985	1 558	1 558	1 535	1 696	1 696	1 660
	1986	1 991	1 778	1 752	1 999	1 785	1 759
D_3	1980	838	838	816	963	963	927
	1981	838	838	816	963	963	927
	1982	987	987	965	1 113	1 113	1 075
83,7 GJ	1983	1 117	1 117	1 079	1 256	1 256	1 216
	1984	1 303	1 303	1 284	1 400	1 400	1 368
	1985	1 375	1 375	1 355	1 460	1 460	1 428
	1986	1 568	1 400	1 379	1 568	1 400	1 379
D_{3b}	1980	817	817	795	963	963	927
	1981	817	817	795	963	963	927
	1982	966	966	944	1 113	1 113	1 075
125,6 GJ	1983	1 092	1 092	1 054	1 245	1 245	1 205
	1984	1 274	1 274	1 255	1 383	1 383	1 352
	1985	1 334	1 334	1 314	1 441	1 441	1 409
	1986	1 524	1 361	1 341	1 524	1 361	1 341
D_4	1980	.	.	.	.	.	.
	1981	.	.	.	.	.	.
	1982	.	.	.	.	.	.
1 047 GJ	1983	.	.	.	.	.	.
	1984	.	.	.	.	.	.
	1985	.	.	.	.	.	.
	1986	1 365	1 219	1 201	1 365	1 219	1 201

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

January Janvier		ESPAÑA PTA/GJ Madrid +			PORTUGAL ESC/GJ Lisboa +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
D_1	1980	731	731	709	369,71	369,71	369,71
	1981	1 018	1 018	996	494,84	494,84	494,84
	1982	1 166	1 166	1 144	540,34	540,34	540,34
8,37 GJ	1983	1 311	1 311	12 70	710,98	710,98	710,98
	1984	1 570	1 570	1 536	938,49	938,49	938,49
	1985	1 727	1 727	1 691	1 393,52	1 393,52	1 393,52
	1986	2 131	1 903	1 875	1 584,99	1467,58	1 467,58
D_2	1980	655	655	633	369,71	369,71	369,71
	1981	911	911	889	494,84	494,84	494,84
	1982	1 060	1 060	1 038	540,34	540,34	540,34
16,74 GJ	1983	1 190	1 190	1 151	710,98	710,98	710,98
	1984	1 396	1 396	1 365	938,49	938,49	938,49
	1985	1 509	1 509	1 476	1 393,52	1 393,52	1 393,52
	1986	1 860	1 661	1 635	1 584,99	1 467,58	1 467,58
D_3	1980	570	570	548	369,71	369,71	369,71
	1981	791	791	769	494,84	494,84	494,84
	1982	940	940	918	540,34	540,34	540,34
83,7 GJ	1983	1 055	1 055	1 018	710,98	710,98	710,98
	1984	1 218	1 218	1 189	938,49	938,49	938,49
	1985	1 296	1 296	1 266	1 393,52	1 393,52	1 393,52
	1986	1 521	1 358	1 338	1 584,99	1 467,58	1 467,58
D_{3b}	1980	560	560	538	369,71	369,71	369,71
	1981	780	780	758	494,84	494,84	494,84
	1982	926	926	904	540,34	540,34	540,34
125,6 GJ	1983	1 041	1 041	1 004	710,98	710,98	710,98
	1984	1 199	1 199	1 170	938,49	938,49	938,49
	1985	1 274	1 274	1 244	1 393,52	1 393,52	1 393,52
	1986	1 490	1 330	1 310	1 584,99	1 467,58	1 467,58
D_4	1980	718	718	696			
	1981	999	999	977			
	1982	1 148	1 148	1 126			
1 047 GJ	1983	1 290	1 290	1 249			
	1984	1 528	1 528	1 495			
	1985	1 599	1 599	1 565			
	1986	1 373	1 226	1 208			

+ Gasworks gas

+ Gaz d'usines

ESPAÑA

PTA/GJ

January Janvier		Barcelona **			Valencia +		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	858	858	836	1 029	1 029	992
	1981	858	858	836	1 029	1 029	992
418,6 GJ	1982	1 013	1 013	991	1 179	1 179	1 140
	1983	1 147	1 147	1 108	1 180	1 180	1 141
	1984	1 370	1 370	1 350	1 311	1 311	1 281
	1985	1 481	1 481	1 459	1 361	1 361	1 330
	1986	1 578	1 409	1 388	1 578	1 409	1 388
I_2	1980	619	619	597	1 029	1 029	992
	1981	619	619	597	1 029	1 029	992
4 186 GJ	1982	794	794	772	1 179	1 179	1 140
200 days/jours	1983	877	877	842	1 155	1 155	1 116
	1984	989	989	974	1 284	1 284	1 254
	1985	1 042	1 042	1 027	1 331	1 331	1 300
	1986	1 315	1 174	1 157	1 315	1 174	1 157
I_{3-1}	1980	313	313	291			
	1981	338	338	316			
41 860 GJ	1982	585	585	563			
200 days/jours	1983	593	593	563			
1 600 h	1984	680	680	670			
	1985	752	752	741			
	1986	925	826	814			
I_{3-2}	1980	313	313	291			
	1981	338	338	316			
41 860 GJ	1982	585	585	563			
250 days/jours	1983	593	593	563			
4 000 h	1984	680	680	670			
	1985	752	752	741			
	1986	925	826	814			
I_{4-1}	1980	286	286	264			
	1981	311	311	289			
418 600 GJ	1982	539	539	517			
250 days/jours	1983	547	547	517			
4 000 h	1984	619	619	610			
	1985	672	672	662			
	1986	832	743	732			
I_{4-2}	1980	286	286	264			
	1981	311	311	289			
418 600 GJ	1982	539	539	517			
330 days/jours	1983	547	547	517			
8 000 h	1984	619	619	610			
	1985	672	672	662			
	1986	832	743	732			
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983						
8 000 h	1984						
	1985						
	1986						

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

ESPAÑA

PTA/GJ

January Janvier		Madrid +			Norte & Este *		
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	735	735	713	490	490	468
	1981	1 024	1 024	1 002	555	555	533
418,6 GJ	1982	1 172	1 172	1 150	780	780	758
	1983	1 317	1 317	1 276	892	892	870
	1984	1 560	1 560	1 526	965	965	965
	1985	1 639	1 639	1 604	1 709	1 709	1 709
	1986	1 819	1 624	1 600	1 456	1 300	1 300
I_2	1980	703	703	681	449	449	427
	1981	978	978	956	514	514	492
4 186 GJ	1982	1 127	1 127	1 105	739	739	717
200 days/jours	1983	1 266	1 266	1 266	850	850	828
	1984	1 503	1 503	1 470	914	914	914
	1985	1 570	1 570	1 536	1 002	1 002	1 002
	1986	1 746	1 559	1 536	1 067	952	952
I_{3-1}	1980	698	698	676	417	417	395
	1981	972	972	950	527	527	505
41 860 GJ	1982	1 120	1 120	1 098	683	683	661
200 days/jours	1983	1 259	1 259	1 219	698	698	676
1 600 h	1984	1 495	1 495	1 462	695	695	695
	1985	1 561	1 561	1 527	825	825	825
	1986	1 736	1 550	1 527	874	780	780
I_{3-2}	1980	698	698	676	414	414	392
	1981	972	972	950	523	523	501
41 860 GJ	1982	1 120	1 120	1 098	665	665	643
250 days/jours	1983	1 259	1 259	1 219	686	686	664
4 000 h	1984	1 495	1 495	1 462	688	688	688
	1985	1 561	1 561	1 527	819	819	819
	1986	1 736	1 550	1 527	869	774	774
I_{4-1}	1980				391	391	369
	1981				520	520	498
418 600 GJ	1982				621	621	599
250 days/jours	1983				647	647	625
4 000 h	1984				662	662	662
	1985				790	790	790
	1986				829	742	742
I_{4-2}	1980				388	388	366
	1981				516	516	494
418 600 GJ	1982				613	613	591
330 days/jours	1983				647	647	625
8 000 h	1984				657	657	657
	1985				786	786	786
	1986				827	738	738
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983						
8 000 h	1984						
	1985						
	1986						

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

PORTUGAL

ESC/GJ

January Janvier		Lisboa +					
		Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes	Price incl. all taxes Prix TTC	Price excl. VAT Prix hors TVA	Price excl. all taxes Prix hors taxes
I_1	1980	369,71	369,71	369,71			
	1981	494,84	494,84	494,84			
418,6 GJ	1982	540,34	540,34	540,34			
	1983	710,98	710,98	710,98			
	1984	938,49	938,49	938,49			
	1985	1 393,52	1 393,52	1 393,52			
	1986	1 584,99	1 467,58	1 467,58			
I_2	1980	369,71	369,71	369,71			
	1981	494,84	494,84	494,84			
4 186 GJ	1982	540,34	540,34	540,34			
200 days/jours	1983	710,98	710,98	710,98			
	1984	938,49	938,49	938,49			
	1985	1 393,52	1 393,52	1 393,52			
	1986	1 584,99	1 467,58	1 467,58			
I_{3-1}	1980						
	1981						
41 860 GJ	1982						
200 days/jours	1983						
1 600 h	1984						
	1985						
	1986						
I_{3-2}	1980						
	1981						
41 860 GJ	1982						
250 days/jours	1983						
4 000 h	1984						
	1985						
	1986						
I_{4-1}	1980						
	1981						
418 600 GJ	1982						
250 days/jours	1983						
4 000 h	1984						
	1985						
	1986						
I_{4-2}	1980						
	1981						
418 600 GJ	1982						
330 days/jours	1983						
8 000 h	1984						
	1985						
	1986						
I_5	1980						
	1981						
4 186 000 GJ	1982						
330 days/jours	1983						
8 000 h	1984						
	1985						
	1986						

+ Gasworks gas

+ Gaz d'usines

CONVERSION TABLE FOR THE PURCHASING POWER STANDARD (PPS)

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

1 PPS =

1 SPA =

	BR DEUTSCHL.	FRANCE	ITALIA	NEDER-LAND	BELGIË BELGIQUE	LUXEM-BOURG	UNITED KINGDOM	IRELAND	DANMARK	ESPAÑA	PORTUGAL
	DM	FF	LIT	HFL	BFR	LFR	UKL	IRL	DKR	PTA	ESC
1980 (1)	2,65	5,85	847	2,82	40,9	38,6	0,543	0,515	8,29	71,0	35,3 (2)
1981	2,49	5,92	907	2,69	38,8	37,8	0,549	0,550	8,25	73,0	37,2 (2)
1982	2,36	6,05	970	2,59	37,7	37,8	0,536	0,579	8,33	75,3	41,2 (2)
1983	2,26	6,15	1036	2,45	37,3	38,1	0,523	0,594	8,36	82,5	47,4 (2)
1984	2,18	6,24	1084	2,37	37,1	37,6	0,516	0,598	8,36	82,5	56,3 (2)
1985 (2)	2,12	6,26	1115	2,31	37,1	38,3	0,518	0,603	8,27	85,3	65,2
1986 (2)	2,07	6,24	1142	2,24	37,2	38,2	0,521	0,609	8,11	90,3	74,6

(1) base year/année de base
(2) provisional/provisoire

CONVERSION TABLE FOR THE EUROPEAN CURRENCY UNIT (ECU)

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

1 ECU =

1 ECU =

January/Janvier	BR DEUTSCHL.	FRANCE	ITALIA	NEDER-LAND	BELGIË BELGIQUE	LUXEM-BOURG	UNITED KINGDOM	IRELAND	DANMARK	ESPAÑA	PORTUGAL
	DM	FF	LIT	HFL	BFR	LFR	UKL	IRL	DKR	PTA	ESC
1980	2,4885	5,8302	1161,3	2,7474	40,4260	40,4260	0,6373	0,6734	7,7713	95,4266	71,9021
1981	2,5806	5,9657	1225,8	2,8047	41,4920	41,4920	0,5346	0,6919	7,9395	103,5850	69,0901
1982	2,4442	6,2102	1308,9	2,6790	41,6068	41,6068	0,5653	0,6922	7,9886	104,8940	70,8809
1983	2,2967	6,5095	1320,9	2,5287	45,0461	45,0461	0,6103	0,6909	8,0884	121,9240	89,7922
1984	2,2580	6,9034	1371,2	2,5379	46,0675	46,0675	0,5706	0,7288	8,1769	128,4850	109,2830
1985	2,2242	6,8083	1367,8	2,5126	44,5188	44,5188	0,6220	0,7140	7,9483	122,9570	120,8140
1986	2,1777	6,6816	1484,5	2,4543	44,5101	44,5101	0,6258	0,7154	7,9826	136,2850	140,5430

GDP PRICE INDICES

INDICES DE PRIX DU PIB

1980 = 100

	BR DEUTSCHL.	FRANCE	ITALIA	NEDER-LAND	BELGIË BELGIQUE	LUXEM-BOURG	UNITED KINGDOM	IRELAND	DANMARK	ESPAÑA	PORTUGAL
1981	104,0	111,8	118,3	105,5	105,0	108,1	111,8	118,2	110,1	113,6	116,5 (1)
1982	108,6	125,9	139,4	111,9	112,4	118,8	120,2	137,0	122,5	129,1	141,9 (1)
1983	112,2	137,9	160,3	113,7	119,6	128,6	126,2	151,3	132,4	144,4	176,1 (1)
1984	114,3	148,0	177,5	116,7	125,9	137,2	131,7	161,2	140,0	161,2	221,1 (1)
1985 (1)	116,7	156,0	192,0	119,4	132,3	138,9	139,0	171,0	145,6	175,2	267,7
1986 (1)	118,9	162,0	204,7	120,6	138,1	145,9	145,8	179,6	148,7	193,0	307,8

(1) provisional/provisoire

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

EUR 12

Deflated PPS/GJ

SPA déflaté/GJ

January/Janvier		DÜSSEL-DORF *	PARIS *	MILANO +	ROTTER-DAM *	BRU-XELLES *	LUXEM-BOURG *	LONDON *	DUBLIN +	KØBEN-HAVN +	BARCE-LONA * +	LISBOA +
D_1	1980	11,20	11,60	10,15	5,85	10,22	10,61	5,52	15,79	14,04	14,99	10,47
	1981	13,05	11,73	10,34	6,78	11,56	11,24	6,24	20,07	15,30	13,19	12,03
8,37 GJ	1982	16,25	12,33	9,40	7,13	12,73	12,90	8,44	20,95	14,61	13,20	10,79
	1983	.	12,43	12,36	7,70	12,90	12,12	9,91	18,92	16,35	13,30	11,44
	1984	14,94	12,43	12,34	7,87	12,98	11,57	9,33	18,65	15,37	14,14	12,02
	1985	14,63	13,57	12,73	8,00	13,03	12,76	8,84	17,58	14,15	13,99	14,77
	1986	14,36	12,63	12,60	8,12	12,23	11,68	8,99	17,85	14,01	16,21	13,67
D_2	1980	8,50	9,88	9,53	4,65	9,37	9,19	5,25	15,57	13,41	13,42	10,47
	1981	9,92	10,11	10,03	5,64	10,67	9,80	6,21	19,91	14,73	11,82	12,03
16,74 GJ	1982	12,32	10,73	9,14	6,06	11,89	11,12	6,88	20,81	14,09	12,02	10,79
	1983	.	10,87	11,33	6,45	12,09	10,44	8,08	15,94	15,70	12,06	11,44
	1984	11,18	10,91	11,26	6,64	12,21	9,95	7,97	15,71	14,71	12,70	12,02
	1985	10,95	11,90	11,55	6,80	12,27	10,93	7,55	14,81	13,42	12,52	14,77
	1986	10,74	11,05	11,56	6,92	11,48	10,02	7,41	15,44	13,23	14,53	13,67
D_3	1980	5,44	6,52	9,02	3,70	4,88	3,88	3,44	12,54	10,63	11,80	10,47
	1981	6,79	6,86	9,78	4,73	6,16	5,30	3,76	16,92	11,76	10,39	12,03
83,7 GJ	1982	8,10	7,58	8,93	5,21	7,82	7,10	4,54	18,23	11,42	10,77	10,79
	1983	.	7,68	10,51	5,45	8,19	6,68	5,33	9,77	12,36	10,90	11,44
	1984	7,13	7,71	11,03	5,65	8,46	6,40	5,33	9,62	11,34	11,38	12,02
	1985	7,40	8,31	10,27	5,83	8,60	7,43	5,05	9,07	9,95	11,05	14,77
	1986	7,26	7,68	10,44	5,97	7,90	6,68	5,02	9,02	9,79	11,44	13,67
D_{3b}	1980	4,85	5,80	9,02	3,62	4,60	3,70	3,26	12,41	10,48	11,51	10,47
	1981	6,22	6,21	9,76	4,66	5,86	5,03	3,72	16,79	11,62	10,13	12,03
125,6 GJ	1982	7,63	6,97	8,91	5,13	7,52	6,70	4,34	18,11	11,30	10,54	10,79
	1983	.	7,11	10,43	5,36	7,91	6,35	5,09	9,06	12,23	10,65	11,44
	1984	6,68	7,18	10,74	5,57	8,18	6,03	5,10	8,93	11,21	11,13	12,02
	1985	6,96	7,77	10,12	5,75	8,33	7,01	4,84	8,41	9,82	10,72	14,77
	1986	6,83	7,20	10,29	5,89	7,63	6,35	4,82	9,02	9,65	11,12	13,67
D_4	1980	4,07	4,71	8,91	3,53	3,69	3,25			10,23	.	
	1981	5,74	5,01	9,75	4,57	4,87	4,36			11,38	.	
1 047 GJ	1982	6,74	5,88	8,90	5,06	6,55	5,82			11,08	.	
	1983	.	5,99	10,43	5,27	6,98	5,51			12,01	.	
	1984	5,99	6,11	10,31	5,48	7,29	5,27			10,99		
	1985	6,28	6,81	10,13	5,66	7,46	6,13			9,63	.	
	1986	6,16	6,31	10,31	5,80	6,78	5,51			9,45	9,96	

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES FOR HOUSEHOLDS

PRIX DU GAZ POUR USAGES DOMESTIQUES

EUR 12

ECU/GJ

January/Janvier		DÜSSEL-DORF *	PARIS *	MILANO * +	ROTTER-DAM *	BRU-XELLES *	LUXEM-BOURG *	LONDON *	DUBLIN +	KØBEN-HAVN +	BARCE-LONA * +	LISBOA +
D_1	1980	11,93	11,64	7,40	6,01	10,34	10,12	4,71	12,07	14,97	11,15	5,14
	1981	13,94	12,87	8,45	7,19	11,97	11,31	7,09	17,66	17,59	10,27	7,16
8,37 GJ	1982	19,13	14,62	8,48	8,40	14,06	14,22	9,75	21,35	18,57	11,54	7,62
	1983	.	15,41	12,70	9,76	14,01	13,36	11,13	21,33	22,18	11,19	7,92
	1984	20,04	15,59	13,53	10,21	14,51	13,30	11,69	21,24	21,82	12,59	8,59
	1985	20,34	18,19	15,14	10,72	15,84	15,36	10,72	21,68	21,48	14,15	11,53
	1986	20,77	17,91	14,71	11,25	15,52	14,77	11,38	23,08	21,64	16,30	11,28
D_2	1980	9,05	9,91	6,95	4,78	9,48	8,78	4,47	11,91	14,31	9,99	5,14
	1981	11,18	11,08	8,20	5,98	11,05	9,85	7,05	17,52	16,93	9,20	7,16
16,74 GJ	1982	15,44	12,72	8,24	7,14	13,13	12,26	7,94	21,21	17,91	10,51	7,62
	1983	.	13,37	11,65	8,17	13,13	11,50	9,08	17,98	21,30	10,14	7,92
	1984	14,99	13,68	12,34	8,61	13,64	11,44	9,99	17,89	20,87	11,32	8,59
	1985	15,22	15,95	13,73	9,11	14,91	13,17	9,16	18,26	20,38	12,67	11,53
	1986	15,54	15,67	13,50	9,51	14,57	12,67	9,38	19,96	20,43	14,61	11,28
D_3	1980	5,79	6,54	6,58	3,79	4,94	3,71	2,93	9,59	11,34	8,78	5,14
	1981	7,25	7,52	8,00	5,02	6,38	5,33	4,45	14,89	13,52	8,09	7,16
83,7 GJ	1982	9,54	8,99	8,05	6,13	8,65	7,82	5,24	18,58	14,52	9,41	7,62
	1983	.	9,52	10,73	6,90	8,90	7,36	5,98	11,01	16,77	9,16	7,92
	1984	9,57	9,61	12,10	7,33	9,46	7,35	6,68	10,96	16,10	10,14	8,59
	1985	10,29	11,13	12,21	7,82	10,46	8,94	6,13	11,19	15,11	11,18	11,53
	1986	10,51	10,89	12,19	8,28	10,02	8,45	6,36	11,66	15,12	11,51	11,28
D_{3b}	1980	5,16	5,82	6,58	3,71	4,65	3,53	2,78	9,49	11,18	8,56	5,14
	1981	6,64	6,81	7,98	4,94	6,06	5,06	4,23	14,77	13,36	7,89	7,16
125,6 GJ	1982	8,99	8,27	8,03	6,05	8,31	7,39	5,01	18,46	14,36	9,21	7,62
	1983	.	8,81	10,73	6,80	8,58	7,00	5,72	10,22	16,60	8,96	7,92
	1984	8,96	9,00	11,78	7,23	9,15	6,93	6,40	10,17	15,92	9,92	8,59
	1985	9,68	10,42	12,03	7,71	10,12	8,44	5,87	10,38	14,91	10,85	11,53
	1986	9,88	10,22	12,02	8,17	9,68	8,03	6,10	11,66	14,90	11,18	11,28
D_4	1980	4,34	4,73	6,50	3,62	3,75	3,10			10,91	.	
	1981	6,13	5,49	7,97	4,85	5,04	4,38			13,08	.	
1 047 GJ	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	.	
	1985	8,73	9,12	12,04	7,59	9,07	7,38			14,62	.	
	1986	8,91	8,95	12,04	8,04	8,60	6,97			14,59	10,02	

* Natural gas

\+ Gasworks gas

* Gaz naturel

\+ Gaz d'usines

GAS PRICES [1] FOR INDUSTRY

PRIX DU GAZ [1] POUR USAGES INDUSTRIELS

EUR 12

Deflated PPS/GJ

SPA déflaté/GJ

January/Janvier		DÜSSEL-DORF *	PARIS *	MILANO * +	ROTTER-DAM *	BRU-XELLES *	LUXEM-BOURG *	LONDON *	DUBLIN +	KØBEN-HAVN +	NORTE & ESTE *	LISBOA +
				+								
I_1	1980	4,87	4,38	7,60	2,97	3,98	3,28	4,27	12,29	9,79	6,90	10,47
	1981	6,22	4,64	8,50	3,86	4,69	4,41	4,20	16,72	10,69	6,88	12,03
418,6 GJ	1982	7,52	5,38	7,78	4,27	6,08	5,88	4,06	18,06	10,31	8,51	10,79
	1983	.	5,42	9,41	4,44	6,43	5,57	4,77	8,09	11,31	8,70	11,44
	1984	6,43	5,50	9,34	4,59	6,68	5,28	4,60	7,59	10,49	8,43	12,02
	1985	6,30	5,86	9,35	4,74	6,81	6,13	4,54	7,15	9,38	13,74	14,77
	1986	6,18	5,44	9,52	4,86	6,22	5,51	4,54	7,44	9,20	9,49	13,51
				+								
I_2	1980	3,98	3,82	7,58	2,93	3,32	2,75	4,20	11,22	8,74	6,32	10,47
	1981	4,66	4,07	8,45	3,82	4,04	4,06	4,07	15,20	9,56	6,37	12,03
4186 GJ	1982	6,16	4,81	7,75	4,23	5,45	5,65	4,26	16,74	9,29	8,06	10,79
	1983	.	4,87	9,25	4,40	5,82	5,36	4,47	7,17	10,03	8,29	11,44
200 days/jours	1984	5,49	4,97	9,18	4,55	6,09	5,09	4,26	6,73	9,21	7,99	12,02
	1985	5,37	5,09	9,00	4,70	6,24	6,00	4,31	6,35	8,08	8,06	14,77
	1986	5,27	4,72	9,17	4,82	5,66	5,37	4,32	6,66	7,88	6,95	13,51
				*								
I_{3-1}	1980	3,66	3,27	4,00	2,69	3,24	2,44	5,21			5,87	
	1981	4,31	3,51	5,15	3,28	3,82	3,76	4,41			6,53	
41 860 GJ	1982	5,74	4,09	5,56	4,16	5,15	5,35	4,26			7,45	
	1983	.	4,08	5,34	3,99	5,30	5,08	4,22			6,81	
200 days/jours	1984	5,13	4,07	5,30	4,14	5,53	4,83	3,91			6,07	
	1985	5,03	4,63	6,20	4,43	5,70	5,74	4,08			6,63	
	1986	4,94	4,11	4,59	3,61	5,08	5,14	4,11			5,69	
				*								
I_{3-2}	1980	3,51	3,18	4,00	2,69	2,69	2,23	5,21			5,83	
	1981	4,17	3,42	5,15	3,28	3,28	3,48	4,41			6,48	
41 860 GJ	1982	5,53	3,99	5,56	4,16	4,61	4,99	4,26			7,25	
	1983	.	3,98	5,34	3,99	4,78	4,74	4,22			6,69	
250 days/jours	1984	4,95	3,97	5,30	4,14	5,02	4,50	3,91			6,01	
	1985	4,85	4,52	6,06	4,43	5,20	5,36	4,08			6,58	
	1986	4,76	4,04	4,44	3,61	4,58	4,79	4,11			5,65	
				*								
I_{4-1}	1980	3,48	2,89	3,91	2,60	2,69		4,51			5,51	
	1981	4,14	3,13	4,94	3,15	3,28		4,41			6,45	
418 600 GJ	1982	5,50	3,69	5,33	3,94	4,61		4,26			6,77	
	1983	.	3,68	5,11	3,72	4,78		4,19			6,31	
250 days/jours	1984	4,92	3,68	5,04	3,87	5,02		3,85			5,78	
	1985	4,82	4,22	5,76	4,19	5,20		4,08			6,35	
	1986	4,73	3,88	4,24	3,23	4,58		4,11			5,41	
				*								
I_{4-2}	1980	3,34	2,82	3,91	2,60	2,51		4,51			5,46	
	1981	4,01	3,06	4,94	3,15	3,10		4,41			6,40	
418 600 GJ	1982	5,31	3,61	5,33	3,94	4,44		4,26			6,69	
	1983	.	3,60	5,11	3,72	4,60		4,19			6,31	
330 days/jours	1984	4,74	3,61	5,04	3,87	4,85		3,85			5,74	
	1985	4,64	4,14	5,62	4,19	5,03		4,08			6,32	
	1986	4,56	3,81	4,09	3,23	4,41		4,11			5,39	
				*								
I_5	1980	.	2,80	3,78	2,45	2,44		3,48				
	1981	.	3,03	4,67	3,00	3,04		3,82				
4186 000 GJ	1982	.	3,58	5,04	3,72	4,38		3,71				
	1983	.	3,57	4,84	3,51	4,54		3,66				
330 days/jours	1984	4,74	3,58	4,76	3,64	4,80		3,37				
	1985	4,64	4,11	5,30	3,93	4,98		3,59				
	1986	4,56	3,79	3,87	3,04	4,37		3,64				

* Natural gas

\+ Gasworks gas

(1) Excluding VAT/Hors TVA

* Gaz naturel

\+ Gaz d'usines

GAS PRICES [1] FOR INDUSTRY

PRIX DU GAZ [1] POUR USAGES INDUSTRIELS

EUR 12

ECU/GJ

January/Janvier		DÜSSELDORF *	PARIS *	MILANO * +	ROTTERDAM *	BRUXELLES *	LUXEMBOURG *	LONDON *	DUBLIN +	KØBENHAVN +	NORTE & ESTE *	LISBOA +
I_1	1980	5,18	4,40	5,55	3,05	4,03	3,13	3,64	9,40	10,44	5,13	5,14
	1981	6,64	5,09	6,94	4,09	4,86	4,44	4,77	14,71	12,29	5,36	7,16
418,6 GJ	1982	8,85	6,38	7,02	5,02	6,72	6,48	4,69	18,41	13,10	7,44	7,62
	1983	.	6,72	9,67	5,63	6,98	6,14	5,36	9,12	15,34	7,32	7,92
	1984	8,62	6,90	10,24	5,95	7,46	6,07	6,01	8,64	14,89	7,51	8,59
	1985	8,75	7,87	11,11	6,35	8,28	7,39	5,51	8,82	14,24	13,90	11,53
	1986	8,94	7,72	11,12	6,73	7,89	6,98	5,75	9,62	14,21	9,54	10,44
I_2	1980	4,24	3,83	5,53	3,01	3,36	2,62	3,58	8,58	9,32	4,71	5,14
	1981	4,97	4,46	6,91	4,05	4,18	4,08	4,62	13,37	10,99	4,96	7,16
4186 GJ	1982	7,25	5,71	6,99	4,99	6,02	6,23	4,92	17,06	11,81	7,05	7,62
	1983	.	6,04	9,51	5,58	6,32	5,91	5,01	8,09	13,61	6,97	7,92
200 days/jours	1984	7,36	6,24	10,06	5,89	6,81	5,85	5,56	7,67	13,08	7,11	8,59
	1985	7,47	6,84	10,70	6,30	7,58	7,22	5,23	7,83	12,27	8,15	11,53
	1986	7,63	6,70	10,70	6,68	7,18	6,79	5,47	8,61	12,24	6,99	10,44
I_{3-1}	1980	3,90	3,28	3,32	2,77	3,28	2,33	4,44			4,37	
	1981	4,60	3,85	4,21	3,48	3,95	3,78	5,01			5,09	
41 860 GJ	1982	6,75	4,85	5,01	4,90	5,69	5,90	4,02			6,51	
	1983	.	5,06	5,49	5,06	5,75	5,60	4,74			5,72	
200 days/jours	1984	6,89	5,10	5,82	5,37	6,18	5,55	5,10			5,41	
	1985	6,99	6,20	7,36	5,94	6,92	6,92	4,95			6,71	
	1986	7,14	5,82	5,36	5,00	6,44	6,50	5,21			5,72	
I_{3-2}	1980	3,74	3,19	2,91	2,77	2,72	2,13	4,44			4,34	
	1981	4,46	3,75	4,21	3,48	3,39	3,50	5,01			5,05	
41 860 GJ	1982	6,51	4,73	5,01	4,90	5,10	5,50	4,92			6,34	
	1983	.	4,94	5,49	5,06	5,19	5,23	4,74			5,63	
250 days/jours	1984	6,64	4,98	5,82	5,37	5,61	5,18	5,10			5,35	
	1985	6,74	6,06	7,20	5,94	6,32	6,46	4,95			6,66	
	1986	6,88	5,74	5,19	5,00	5,81	6,06	5,21			5,68	
I_{4-1}	1980	3,71	2,90	2,85	2,67	2,72		3,84			4,10	
	1981	4,43	3,43	4,04	3,34	3,39		5,01			5,02	
418 600 GJ	1982	6,48	4,38	4,81	4,64	5,10		4,92			5,92	
	1983	.	4,56	5,26	4,72	5,19		4,70			5,31	
250 days/jours	1984	6,60	4,62	5,53	5,02	5,61		5,03			5,15	
	1985	6,70	5,65	6,85	5,61	6,32		4,95			6,43	
	1986	6,85	5,50	4,96	4,48	5,81		5,21			5,44	
I_{4-2}	1980	3,56	2,83	2,85	2,52	2,54		3,84			4,07	
	1981	4,28	3,35	4,04	3,18	3,21		5,01			4,98	
418 600 GJ	1982	6,25	4,28	4,81	4,38	4,90		4,92			5,84	
	1983	.	4,47	5,26	4,44	4,99		4,70			5,31	
330 days/jours	1984	6,36	4,53	5,53	5,02	5,42		5,03			5,11	
	1985	6,46	5,55	6,69	5,61	6,11		4,95			6,39	
	1986	6,59	5,40	4,78	4,48	5,60		5,21			5,42	
I_5	1980	.	2,80	2,76	2,51	2,47		2,97				
	1981	.	3,32	3,82	3,18	3,14		4,34				
4186 000 GJ	1982	.	4,25	4,55	4,38	4,84		4,28				
	1983	.	4,43	4,97	4,44	4,93		4,11				
330 days/jours	1984	6,36	4,49	5,22	4,72	5,36		4,42				
	1985	6,46	5,51	6,31	5,29	6,05		4,36				
	1986	6,59	5,38	4,52	4,21	5,54		4,60				

* Natural gas

\+ Gasworks gas

(1) Excluding VAT/Hors TVA

* Gaz naturel

\+ Gaz d'usines

Clasificación de las publicaciones del Eurostat
Klassifikation af Eurostats publikationer
Gliederung der Veröffentlichung des Eurostat
Ταξινόμηση των δημοσιεύσεων του Eurostat
Classification of Eurostat publications
Classification des publications de l'Eurostat
Classificazione delle pubblicazioni dell'Eurostat
Classificatie van de publikaties van Eurostat
Classificação das publicações do Eurostat

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THEME [1] General statistics (midnight blue) [2] Economy and finances (violet) [3] Population and social conditions (yellow) [4] Energy and industry (blue) [5] Agriculture, forestry and fisheries (green) [6] Foreign trade (red) [7] Services and transport (orange) [9] Miscellaneous (brown)

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