1.
International and national context

Economic and energy framework

International oil market

Supply and demand

The economic and financial imbalances inherited from 2008 continued to act as a brake on oil consumption throughout 2009. In the OECD countries demand fell by 4.4% on average (from 47.6 to 45.5 million barrels/day), with Europe seeing the biggest fall (5.4%) (Tab. 1.1). In non-OECD countries growth was half the level of previous years (0.8 barrels/day against 1.6 million in 2006 and 2007). Levels were widely differentiated, however, ranging from sharply negative values in Russia and the other former USSR countries to strongly positive ones in China and other Asian countries. Global demand for oil settled out at 84.9 barrels/day, a fall of 1.3 million with respect to consumption in 2008, already 0.3% lower than the historic peak of 86.5 million barrels/day reached in 2006.

TAB. 1.1

World demand for oil, 2004-10

Million barrels/day

	2004	2005	2006	2007	2008	2009	2010
OECD countries	**49.4**	**49.8**	**49.5**	**49.2**	**47.6**	**45.5**	**45.4**
North America	25.4	25.6	25.4	25.5	24.2	23.3	23.4
Europe	15.5	15.7	15.7	15.3	15.2	14.7	14.4
Pacific	8.5	8.6	8.5	8.4	8.1	7.7	7.6
Non-OECD countries	**33.1**	**34.2**	**35.7**	**37.3**	**38.6**	**39.5**	**41.2**
Russia and other ex-USSR countries	3.9	3.9	4.0	4.1	4.2	3.9	4.1
Europe	0.7	0.7	0.7	0.8	0.7	0.7	0.7
China	6.4	6.7	7.2	7.6	7.9	8.5	9.1
Rest of Asia	8.7	8.8	9.0	9.5	9.7	10.0	10.3
Latin America	4.9	5.1	5.4	5.7	5.9	6.0	6.2
Middle East	5.7	6.0	6.3	6.5	7.1	7.2	7.6
Africa	2.8	2.9	3.0	3.1	3.2	3.2	3.3
World Total	**82.5**	**84.0**	**85.3**	**86.5**	**86.2**	**84.9**	**86.6**

Source: International Energy Agency.

In these conditions, supply was more than able to meet demand. In nearly all importing regions the degree of self-sufficiency increased, or the previous decline was abated (Tab. 1.2). in North America the level of self sufficiency actually increased, by 61%, returning to its 1990s levels. Only in China, the other Asian countries and Africa did the fall that began in 2004-05 continue. Diametrically opposed were the supply conditions found in OPEC producer countries. Their overall contribution to supply declined by two percentage points (from 41.3% to 39.3%), producing a marked reduction of 2.3 million barrels/day with respect to 2008. By contrast, the contribution of Russia and other former USSR producer countries rose slightly: from 14.8% to 15.6% of total supply in 2009.

TAB. 1.2

Global oil demand from 2004 to 2009 and outlook for 2010

Million barrels/day

	2004	2005	2006	2007	2008	2009	2010
OECD countries	**21.2**	**20.3**	**20.1**	**19.9**	**19.3**	**19.4**	**19.2**
North America	14.6	14.1	14.2	14.3	13.9	14.3	14.2
Europe	6.1	5.6	5.3	5.0	4.7	4.5	4.2
Pacific	0.6	0.6	0.6	0.6	0.6	0.6	0.7
Non OECD countries	**25.6**	**27.3**	**28.0**	**28.5**	**28.8**	**29.4**	**30.2**
Russia and other ex-USSR countries	11.4	11.8	12.3	12.8	12.8	13.3	13.6
Europe	0.2	0.2	0.2	0.2	0.1	0.1	0.1
China	3.5	3.6	3.7	3.7	3.8	3.8	3.9
Rest of Asia	2.7	3.8	3.7	3.6	3.6	3.6	3.7
Latin America	4.1	3.7	3.9	3.9	4.1	4.3	4.6
Middle East	1.9	1.8	1.7	1.7	1.6	1.7	1.7
Africa	1.9	2.4	2.6	2.6	2.6	2.6	2.6
Other non-OPEC countries	**1.9**	**2.1**	**2.3**	**2.4**	**2.6**	**2.7**	**2.7**
Refining improvements	1.9	2.0	2.1	2.2	2.2	2.3	2.2
Biofuels(A)	0.1	0.1	0.2	0.3	0.4	0.4	0.5
Total non OPEC	**48.8**	**49.8**	**50.4**	**50.9**	**50.7**	**51.5**	**52.0**
Total OPEC(B)	**34.6**	**34.9**	**35.0**	**34.6**	**35.6**	**33.3**	**34.6**
Total world	**83.4**	**84.7**	**85.4**	**85.5**	**86.4**	**84.8**	**86.6**
Stock changes(C)	**0.9**	**0.7**	**0.2**	**–1.0**	**0.2**	**–0.1**	**0.0**

(A) Biofuels produced in countries other than Brazil and the United States.

(B) Supply from OPEC countries on 1 January 2009. This includes liquid gas in addition to crude. Production for 2010 is not a forecast; it is calculated from the difference between world demand and non-OPEC production, taking changes in stocks to be zero.

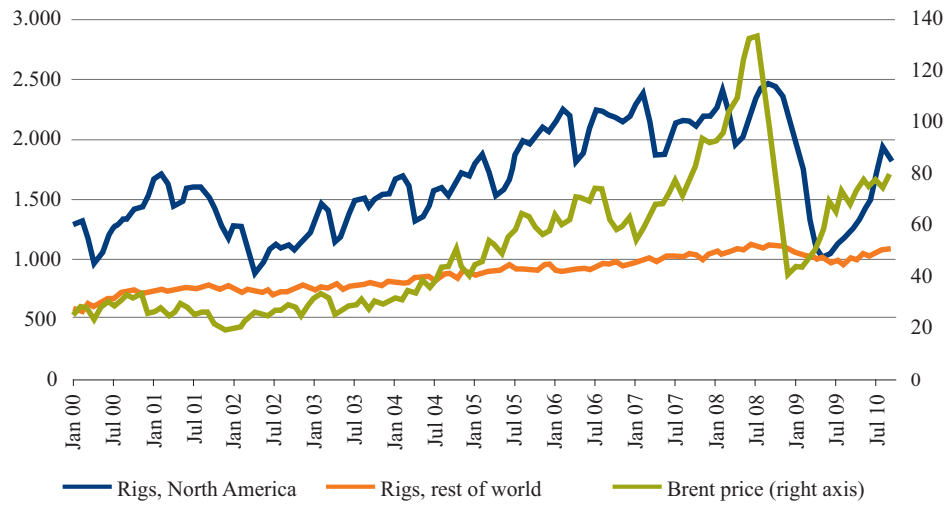
(C) Calculated as the difference between demand and supply, this includes industrial and strategic reserves of crude and oil derivatives, oil in transit or stored in tankers, and statistical differences.

Source: International Energy Agency.

The outlook for 2010 is mainly optimistic. In its monthly report for March 2010, the International Energy Agency (IEA) predicted annual global consumption as averaging out at 86.6 million barrels/day. This represents a slight increase with respect to 2008 and is very similar to the estimate produced by the US Energy Information Agency, of 86.5 million barrels/day. More prudent were the OPEC predictions, of 85.9 million barrels/day. Common to all three scenarios is the forecast of a slight recovery in the more advanced OECD countries, compensated by strong growth in the emerging markets. According to the IEA, the increase in oil consumption will be entirely attributable to non-OECD countries, with OECD countries as a whole seeing a slight fall. These projections are supported by the data on the increase in drilling in the United States and, to a greater extent, in the rest of the world, where the number of drilling rigs active in February 2010 was close to the historic peak of summer 2008 (Fig. 1.1).

FIG. 1.1

Number of active drilling rigs, 2004 to 2010



Source: *Baker Hughes International.*

In the longer term, the nature of the recovery will be affected by uncertainties over the possible consequences on demand for oil of the policies adopted to restrict demand and promote renewables in the main consumer countries. Indeed, many countries are taking a cautious approach to new investment in production capacity. On the supply side, new developments – such as Iraqi production and the exploitation of bituminous (tar) sands – will also play a role in coming years. For example, the contribution from Canadian tar sands alone is expected to grow from 0.9 million barrels/day in 2009 to 2.2 million barrels/day in 2015.

Brent price

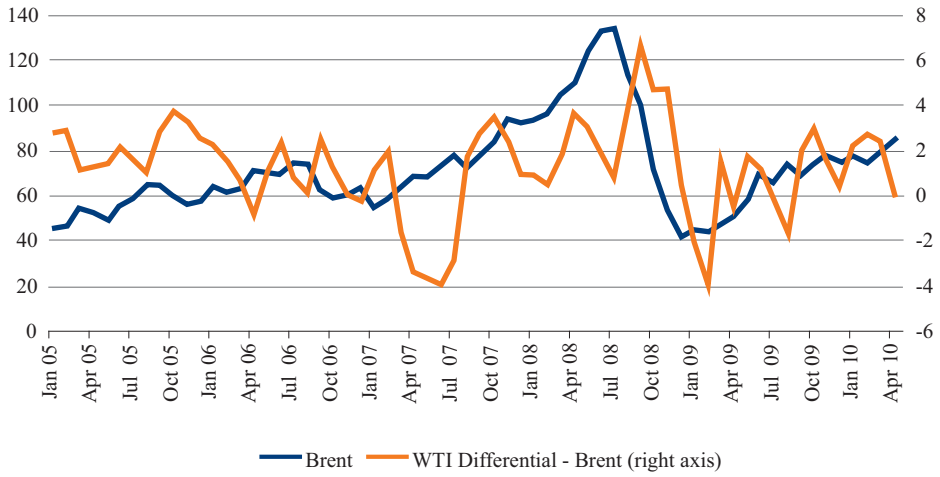
After the unprecedented collapse in the second half of 2008, the price of crude began to rise again right from the start of January 2009. Prices followed an upwards trend very similar to, or even more marked than, that seen after January 2007 – to the extent of arousing fears of repeating or even exceeding the peak of July 2008 (Fig. 1.2).

The rally in crude prices convinced many OPEC countries to exceed their quotas in order to extract as much value as possible. This probably had the effect of limiting price increases. In April 2009 the degree of quota compliance fell to 78%, compared with 83% at the start of the year. The increase in demand over the year in China, India and other emerging countries had a similar effect. As optimism about a recovery of the economy and demand increased, compliance with the OPEC production quotas declined, to 64% in September and 61% in October, to 56% in January 2010.

FIG. 1.2

Brent price and WTI differential

$/barrel



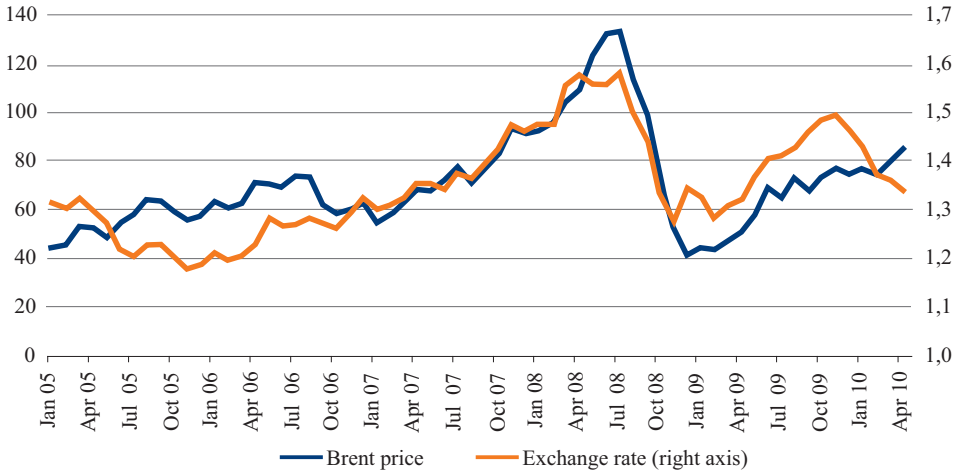
Source: Bloomberg.

The price rise in 2009 does not actually reflect the relationship between supply and demand since it occurred during a period of excess supply. Storage was full to overflowing, projected demand stable – if not in decline –, and OPEC production significantly below capacity, with Saudi Arabia stuck at two-thirds of its capacity (grown to over 12 million barrels/day).

The increase, as discussed below, was mainly linked to the positive performance of the stock markets and the weakening of the dollar, which led investors to channel their funds into oil derivatives (Fig. 1.3). Great uncertainty reigns, however, over price predictions for 2010, although most converge on an average of around 75-85$/barrel for the year. On more than one occasion the OPEC ministers have informally expressed a preference for an oil price of 70-80$/b, to promote investment without suppressing demand. However, OPEC's difficulty in imposing cuts on its members during a period of stagnation or scarce demand growth is clear. Moreover, the organisation's reserve capacity returned to its historic peak levels of 2002 (5.5 million barrels/day), despite the fact that nearly all its member countries exceeded their assigned quotas (Fig. 1.4).

FIG. 1.3

Brent price and euro/dollar exchange rate



Source: *Platt's* and European Central Bank.

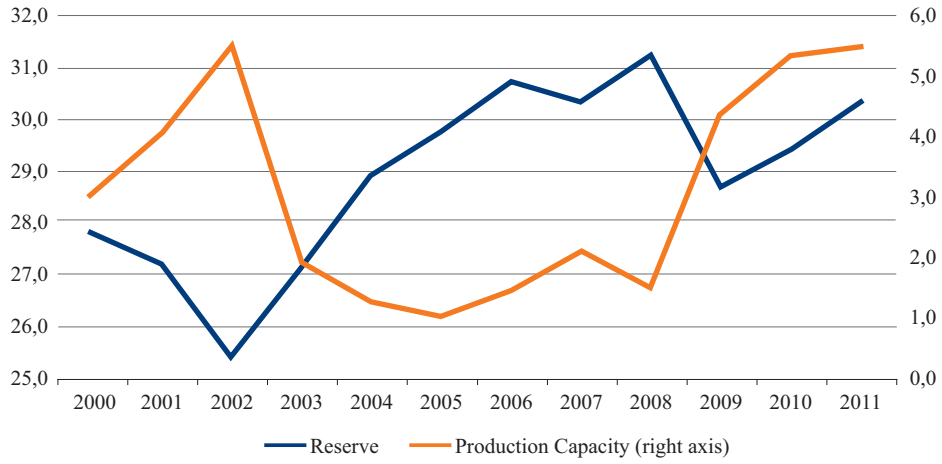


FIG. 1.4

OPEC reserve production capacity 2000-09 and outlook for 2011

Source: International Energy Agency for production; the US Government's Energy Information Administration for reserve capacity.

Also worthy of consideration is the expected production from Iraqi fields, as this could radically change the demand and supply picture in the not-too-distant future. If Iraqi production were to reach its real potential (of 5-8 million barrels/day) in the course of the decade, the OPEC's position as the crude oil swing producer would be undermined and price forecasts would need to be drastically reviewed.

Iraq is demanding a similar quota to that of Saudi Arabia to make up for three decades of under-production (as a result, in the 1980s, of the war with Iran, in the '90s of the moratorium imposed on Saddam Hussein's regime, and over the last decade, of the war and the state of guerrilla warfare). The negotiations for Iraq's inclusion in the OPEC quota system will begin in 2011; this will be a key moment for the future of oil prices.

Differential with the WTI price

In January 2009 the WTI crude price, which is normally 1-2$/barrel higher than that of Brent crude, tumbled on several occasions to 10$/barrel lower. The average discount with respect to Brent for the month as a whole was more than 4$/barrel.

Although the WTI price recovered in the following months, it was practically the same as Brent, over 2009 taken as a whole. This is not the first time WTI has shown such volatility. Equally negative values were seen from March to July 2007 (Fig. 1.2). This time, however, the growing volatility of the WTI price created severe uncertainties and problems for exports of Saudi oil to the United States; the Saudi oil price has been indexed to WTI since NYMEX began using it as the base for its sweet oil futures contracts.

The WTI price is no longer entirely satisfactory as a price indicator for logistical reasons linked to the saturation of the Cushing storage facilities in the state of Oklahoma, on which WTI prices on the New York Mercantile Exchange (NYMEX) are based. When purchasers are no longer able to store oil in overfull storage facilities the price collapses. This has been happening more and more frequently with the arrival of Canadian oil, since new pipelines from this country were opened in 20071.

At the end of October 2009 Saudi Arabia decided to abandon WTI as a price indicator for oil produced in the Gulf of Mexico. It opted instead for a new indicator based on a more stable basket of sour crudes, for reasons not linked solely to the volatility of the WTI indicator. Another factor is that this crude, which is highly prized for its lightness and low sulphur

1 WTI, Brent e Dubai/Oman crudes cover only a minimum part of the oil consumed worldwide but are used by stock exchanges as the basis for contract negotiations. Brent is used for about 50% of contracts (European and African crudes), WTI for about 25% (crudes from the Americas), and Dubai/Oman for the remaining 20-25% of contracts for the Asian markets.

content, is becoming less and less representative of the crudes sold in America.
This is especially true of the Saudi crudes, which tend to be heavy and fairly sour. The decision was also linked to the growing tendency for Saudi exports to shift from the American to the Asian markets. The latter require a more representative indicator of the type of crude, one that is of greater use to this region of emerging countries, where a barrel of refined oil is heavier than is typical of the Atlantic markets.

Volatility and speculation

More than a year on from the events of 2008, most observers agree that speculation played a key role in the steep increase and sudden collapse of the oil price. Although views do not fully converge as to the actual impact of speculation, it is difficult to ignore the sharp growth in recent years in contracts "speculating" on oil prices. These increased from a total of about 200,000 in 2004 to over 1,400,000 in the period leading up to the price collapse in 2008, of which a third in the hands of just eight investors.
The increase in the price of oil and other raw materials[2] in 2009, in a weak period for the fundamentals, can only be attributed to speculation. However, while the increase in raw material prices in 2008 was marked primarily by speculative hedge fund manoeuvres, in 2009 exchange-traded funds (ETFs) played a dominant role.
These funds are designed to follow specific stock exchange indices underpinned by raw materials and bought and sold like shares.
A number of observers trace the oil speculation back to the Commodity Futures Modernisation Act of 2000. This relaxed the regulations governing new risk-management products as applied to oil, from swap contracts to indexed investment funds and ETFs, thus enabling operators to trade on alternative non-regulated OTC circuits. In this way, oil futures grew rapidly, from barely 30% of the physical market to over seven times the value of that market in 2009. In such conditions, it is the expectations of those betting on further increases that drive the market, a spiral that can only be broken when the price becomes so high as to impose a collapse in demand. The forecasts made by a number of merchant banks in 2006 and 2007 should be remembered in this respect: they predicted that prices would double to 100$/barrel, a level which at the time seemed highly unlikely.
Limits have been proposed on the activity of stock exchange operators with respect to products that traditionally have not been particularly exposed to speculation on the oil and natural gas futures markets. Since 2009, the US Commodity Futures and Trading Commission (CFTC) has backed these proposals.
However, they are strongly opposed by merchant banks and speculative funds, their reason being that these products play a key role in the market, to the benefit of consumers, and are not the main cause of price volatility. They have not, however, provided an alternative explanation.

Refining

In the course of 2009 the prices of oil derivatives resumed growth in tandem with the rise in the oil price, showing a steep rise in gasoline and other light distillates with respect to heavier derivatives (Fig. 1.5). Distillate prices essentially followed the same path as the historic oil-price trend. Prices were most stable for the most highly prized products: gasoline and gasoil for engines, followed by gasoil for heating and, lastly, by fuel oil, which closely tracks the crude price (Fig. 1.6).
However, in 2009 and the early months of 2010, the prices of refined products were, unusually, less volatile than that of crude. This anomalous trend can be related to the decline in economic activity, which had heavy repercussions on demand for oil products for the transport sector and thus depressed their price.
With the recovery of the economy in the course of 2010, an upturn in demand is expected, especially demand for automotive gas oil and gasoline. This should lead to a re-balancing of prices.
It should be underscored, however, that the impact of the recession on refining was accentuated by the increased capacity in Asia and the Middle East. In 2009 alone, 7 refineries

2 In the first half of 2009, basic raw materials (iron, copper, zinc etc), like oil, also saw price gains in the order of 50%.

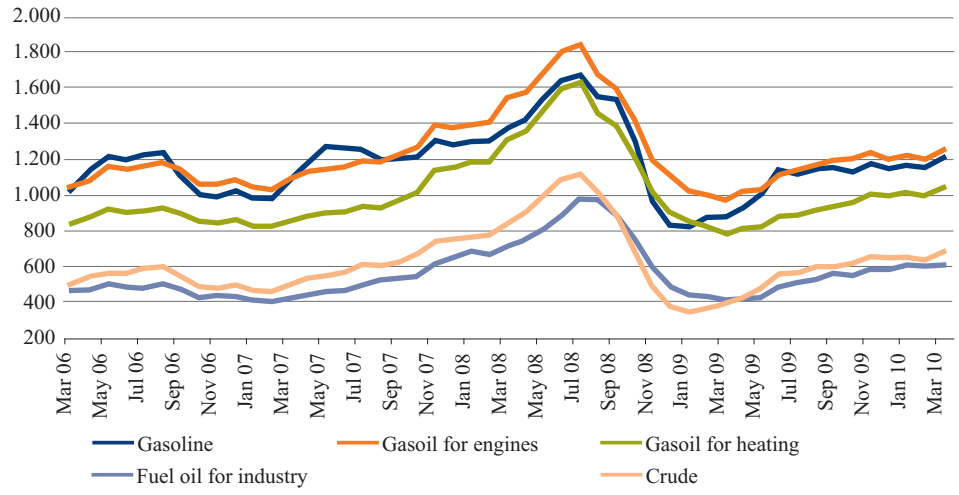


FIG. 1.5

Quarterly movements in prices of refined products and crude oil

$/toe; average prices weighted by consumption of main consumer countries (Canada, France, Germany, Japan, Italy, United Kingdom, Spain, United States)

Source: International Energy Agency.

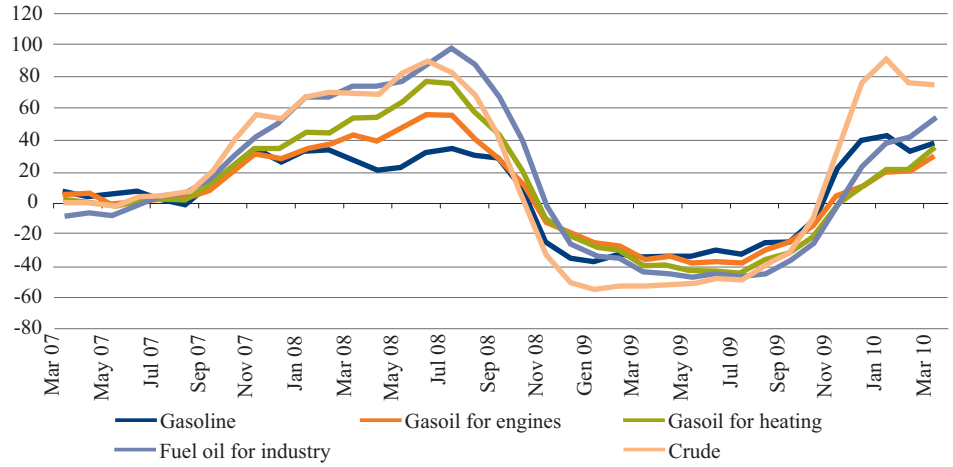


FIG. 1.6

Annual increase in price of oil products and crude

% values, 10-year moving average

Source: International Energy Agency.

were opened in China, India, Iraqi Kurdistan, Qatar, Pakistan and Vietnam.

This expansion, together with the deep recession, hit western refineries hard, especially in Europe, with refineries responding by closing or selling off their plants. According to some analysts, European multinationals will need to close down some 7-8 million barrels/day in refining capacity, about 10% of the worldwide total.

The increase in capacity in the face of a fall in demand led to a further price fall and consequently to a sharp reduction in margins (Tab. 1.3, Fig. 1.7). In absolute terms, European, Asian and Middle Eastern refineries suffered most, with refining margins of around 2$/barrel – not enough to provide industrialists with a profit. North American refineries experienced a smaller contraction, with margins still in the region of 5$/barrel. In relative terms, margins have halved since 2007 for Dubai crude, the principal marker for Asian refining.

Occurring at the same time as the reduction in demand, the increase in capacity inevitably produced a fall in refinery uti-

TAB. 1.3

Refining margins for principal crudes

$/barrel; annual averages

YEAR	WTI	BRENT	DUBAI
2006	7.8	3.1	4.1
2007	10.9	5.2	5.1
2008	5.6	4.1	4.2
2009	5.7	1.8	0.7
2010	5.5	2.4	1.6

Source: International Energy Agency.

TAB. 1.4

Refining capacity utilisation

V% values, annual averages

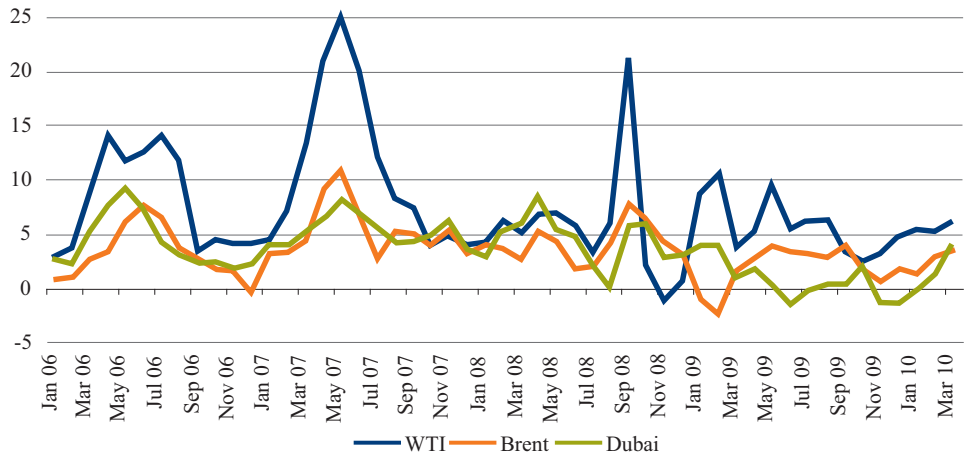
YEAR	UNITED STATES	EUROPE	JAPAN	SINGAPORE
2006	88.5	86.4	86.2	–
2007	89.1	85.5	85.7	–
2008	86.2	84.3	84.9	87.1
2009	83.0	81.4	82.1	86.6
2010	80.5	81.4	84.8	91.7

Source: International Energy Agency.

FIG. 1.7

Refining margins for the most representative crudes, 2007-10

$/barrel

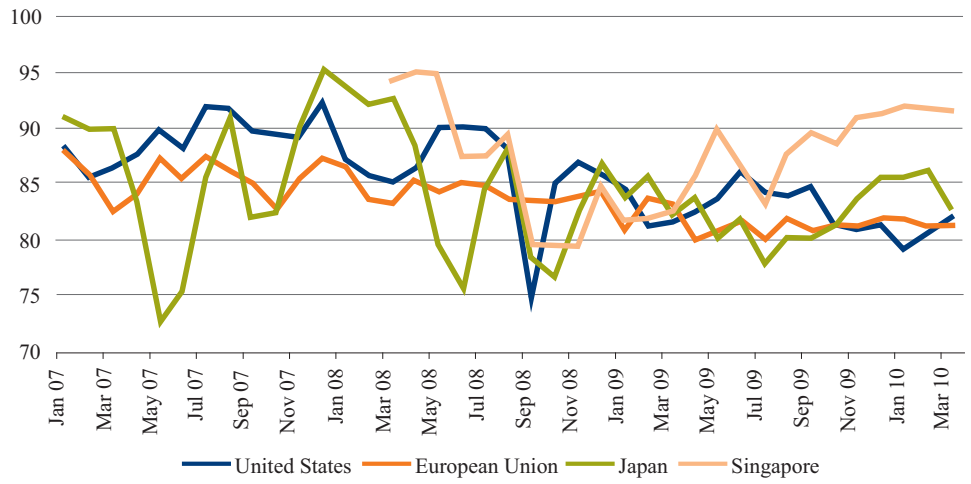


Source: International Energy Agency.

FIG. 1.8

Capacity use, 2007 to 2010

Percentage values



Source: International Energy Agency.

lisation (Tab. 1.4, Fig. 1.8). In European and North American refineries, refinery utilisation remained below 85%, the minimum deemed to be acceptable, also in 2009. Overall, the Asian refineries suffered a lesser decline, but their higher usage rate, as just indicated, was offset by a significantly lower margin.

International market for natural gas

Demand

The deep recession of 2009 drastically reduced demand for gas in practically all countries of the world, with few exceptions, and weakened the potential for consumption to recover in the short- and medium-term. In the OECD countries consumption fell by 1.9% overall; less, however, than imports (down 3.1%) as a result of the increased production in the North American and Pacific regions (Tab. 1.5). The fall in demand was concentrated in the European and Pacific OECD areas. This compares with a small increase (of 0.2%) in the North American OECD region, essentially attributable to the collapse in prices in the United States, to be discussed later. Essentially, only in China and a few other emerging Asian countries – which, however, contribute less than 10% to total global consumption – did consumption continue to grow at an appreciable pace, albeit more slowly than the previous year.

In the European Union, as the recession worsened, stagnation in consumption that was such a feature of 2008 turned into an outright collapse in 2009. Consumption fell by 6.3% in the EU as a whole, and in some cases by as much as 15% or more, especially in certain eastern European countries (Tab. 1.6). A contributing factor was the cut in Russian gas supplies

transiting Ukraine, which left a number of countries in the cold for nearly two weeks.

Following this new emergency most European countries stepped up their underground storage development plans (Tab. 1.7). These would result, if implemented in full, in capacity almost doubling by 2020. However, not all countries have the right geology to build enough underground storage facilities. It should also be noted here that to increase security of supply, cross-border connections also need to be strengthened and steps taken to promote the creation of more liquid markets.

For example, the pipelines linking the nine countries of eastern Europe most exposed to cuts in supply are not equipped for reverse flow, and therefore do not allow emergency supplies to be drawn from countries with sufficient storage capacity and therefore in a less difficult situation. Of the figures shown in Table 1.7, the planned development of gas storage in the United Kingdom showing an increase from 4,300 billion cubic metres (m^3) to nearly 25 billion, are particularly interesting. This development will not only provide greater security for the British market, but will probably reduce gas price volatility on the Northern European exchanges.

TAB. 1.5

Natural gas balance in the OECD area

G(m^3)

REGION OF ORIGIN	2004	2005	2006	2007	2008	2009
OECD North America						
Domestic production	758.7	744.6	761.6	786.8	809.2	820.3
Imports(A)	139.3	137.6	132.8	153.6	140.3	134.2
- from OECD countries	*121.3*	*119.7*	*116.3*	*129.4*	*127.9*	*119.1*
- from non-OECD countries	*18.0*	*17.9*	*16.5*	*24.3*	*12.3*	*15.1*
Exports	129.3	127.1	122.9	134.6	132.4	125.0
Availability	768.6	755.0	771.5	805.9	817.0	829.5
Stock changes	–2.0	–9.2	11.6	–15.4	–14.0	–3.2
Consumption	770.6	764.2	759.9	821.3	831.0	832.7
OECD Pacific						
Domestic production	42.4	44.3	46.2	48.4	46.5	50.7
Imports	108.7	110.3	122.4	131.2	139.4	129.5
- from OECD countries	*13.8*	*17.0*	*19.5*	*18.6*	*18.6*	*19.1*
- from non-OECD countries	*94.9*	*93.3*	*102.9*	*112.5*	*120.9*	*110.5*
Exports	12.5	15.3	17.9	20.6	21.1	22.3
Availability	138.6	139.4	150.7	159.0	164.9	157.9
Stock changes	0.5	-0.9	1.7	–0.7	2.3	–1.0
Consumption	138.1	140.2	149.0	159.8	162.6	158.9
OECD Europe						
Domestic production	325.7	315.4	307.9	293.6	306.8	289.3
Imports	364.8	394.2	416.1	414.9	437.9	431.5
- from OECD countries	*139.8*	*140.7*	*151.7*	*164.1*	*170.5*	*173.1*
- from non-OECD countries	*224.9*	*253.5*	*264.4*	*250.8*	*267.3*	*258.4*
Exports	155.1	163.4	175.9	175.1	188.9	191.1
Availability	535.4	546.3	548.1	533.4	555.7	529.7
Stock changes	2.6	-0.6	8.8	–6.7	4.1	5.2
Consumption	532.7	546.8	539.3	540.1	551.7	524.5
Total OECD						
Domestic production	1,126.8	1.104.3	1.115.7	1,128.8	1,162.5	1.160.3
Imports	612.8	642.2	671.3	699.7	717.6	695.2
- from OECD countries	*274.9*	*277.5*	*287.5*	*312.1*	*317.0*	*311.2*
- from non-OECD countries	*337.8*	*364.7*	*383.8*	*387.6*	*400.6*	*384.0*
Exports	296.9	305.8	316.7	330.3	342.4	338.4
Availability	1,442.7	1,440.7	1,470.3	1,498.2	1,537.7	1.517.1
Stock changes	1.2	–10.6	22.1	–22.9	–7.6	1.0
Consumption	1,441.5	1,451.3	1,448.2	1,521.2	1,545.3	1,516.1

(A) Including imports across internal borders in each OECD area.

Source: *International Energy Agency, Monthly Natural Gas Survey.*

TAB. 1.6

Natural gas consumption in the European Union

G(m^3)

	2007	2008	2009	VARIATION % 2008-2009
Austria	8.1	8.6	8.4	–2.3
Belgium	17.5	17.6	17.9	1.7
Bulgaria	3.4	2.8	2.2	–21.4
Denmark	4.1	4.1	4	–2.4
Estonia	1	1.0	0.9	–10.0
Finland	4.4	4.6	4.1	–10.9
France	45.8	47.8	46.3	–3.1
Germany	86	84.9	80.8	–4.8
Greece	4	4.2	3.5	–16.7
Ireland	5	5.3	5.1	–3.8
Italia	82.9	82.9	76.3	–8.0
Latvia	1.6	1.6	1.5	–6.3
Lithuania	3.4	3.1	2.6	–16.1
Luxembourg	1.4	1.3	1.4	7.7
Netherlands	39.8	41.4	41.1	–0.7
Poland	13.9	15.2	14.7	–3.3
Portugal	4.2	5.0	4.7	–6.0
United Kingdom	97.6	100.6	92.7	–7.9
Czech Republic	8.7	8.4	8	–4.8
Romania	15.5	15.0	12.8	–14.7
Slovakia	5.5	5.5	5	–9.1
Slovenia	1.1	1.0	0.9	–10.0
Spain	37.6	41.4	37.1	–10.4
Sweden	1.1	1.0	1.3	30.0
Hungary	12.8	12.6	10.9	–13.5
European Union (27)	**506.4**	**516.9**	**484.2**	**–6.3**

Source: Eurogas.

TAB. 1.7

Natural gas storage in the European Union – 2009, and projections to 2020

M(m^3)

	2009	UNDER CONSTRUCTION	AWAITING AUTHORISATION	PLANNED	TOTAL IN 2020
Austria	3,976	1,200	0	2,000	7,176
Belgium	644	100	0	0	744
Bulgaria	336	0	0	450	786
Denmark	980	0	30	0	1,010
Estonia	0	0	0	0	0
Finland	0	0	0	0	0
France	11,912	540	100	1,150	13,702
Germany	18,172	1,421	340	6,965	26,898
Greece	0	0	0	0	0
Ireland	198	0	0	0	198
Italia	14,134	4,150	1,115	5,740	25,139
Latvia	980	0	0	1,000	1,980
Lithuania	0	0	0	0	0
Luxembourg	0	0	0	0	0
Netherlands	5,012	180	0	4,280	9,472
Poland	1,568	450	1,255	0	3,273
Portugal	140	0	0	30	170
United Kingdom	4,284	1,040	0	19,645	24,969
Czech Republic	2,296	0	795	0	3,091
Romania	2,660	0	0	2,150	4,810
Slovakia	2,576	0	0	0	2,576
Slovenia					0
Spain	3,780	0	4,598	0	8,378
Sweden	0	0	0	0	0
Hungary	3,668	0	0	0	3,668
European Union (27)	**77,316**	**9,081**	**8,233**	**43,410**	**138,040**

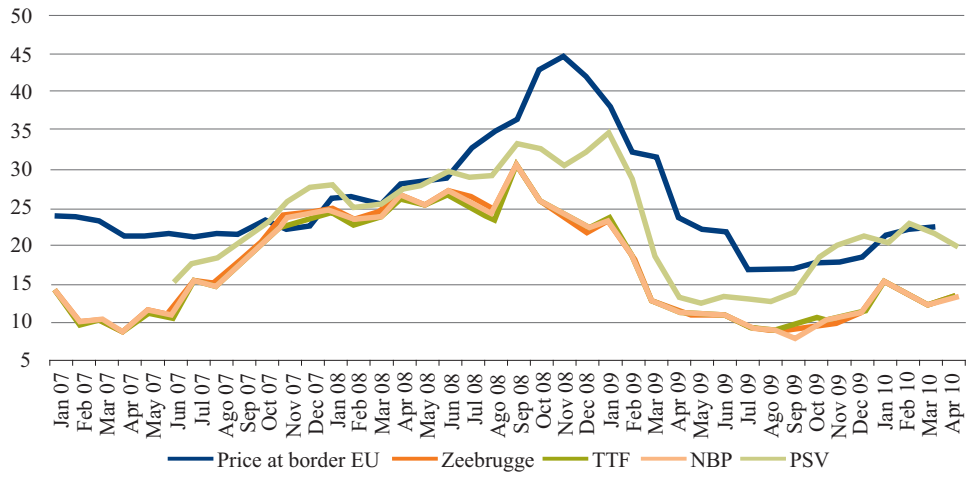
Source: *World Gas Intelligence.*

Price

Accompanied by a strong and unexpected increase in gas production in the United States, the economic recession had a disruptive, and negative, effect on prices. This rapidly spread to the rest of the world, through the liquefied natural gas (LNG) chain. The strong growth in shale gas production in 2009 led to a fall in demand for LNG imports; this in turn led to a diversion of liquid gas shipments to Europe, the effect of which was to depress spot prices there. The fall in European demand, combined with the excess supply on the spot markets, ended up by weakening the position of traditional take-or-pay contracts, as regards both quantities and the oil linked price. By July, spot prices in the northern European markets had fallen to 9c€/m^3, while the price at the border for indexed take-or-pay contracts was just under 18c€/m^3 (Fig. 1.9). The differential between indexed and spot prices stayed at 7-9c€/m3 in the following six months.

FIG. 1.9

Spot price for natural gas in European 45 hubs, 2007-10



Source: Bloomberg for Zeebrugge, TTF and NBP; *Platt's* for the PSV.

In these conditions, any gains from the lower spot market prices were matched by the losses caused by the application of the take-or-pay clauses. In February 2010 suppliers accepted a certain degree of flexibility and Gazprom ended up agreeing with the major European buyers (including Eni, E.On and GDF Suez) on a maximum amount – 15% – of take-or-pay contracts for purchase on the spot markets for a period of 3 years. In so doing Gazprom was banking on two factors. First, the limited amount of gas available on the spot markets, making purchases of volumes greater than 75 billion m3/year unlikely on those markets. And second, the probable narrowing of the differentials as a result of increasing demand.

As regards exports to Europe, Gazprom insisted that a renegotiation of the commercial formula was not an entirely new development, as it was envisaged in the 3-year contracts. Indeed, the agreements foresee that buyers have to buy any amounts not purchased at the end of the 3 years. The problem, therefore, has only been postponed. Gazprom, whose production fell by 16% to 462 G(m^3) in 2009, was also burdened by import contracts from the countries of central Asia. These were negotiated at prices of around 340$ per 1.000 m^3, while the sales price on the European market subsequently fell to less than 280$. As a result, Gazprom has been obliged to reduce production from its low-cost deposits to honour these contracts.

The prospect is for a glut of available gas on the world markets, at least until mid-December. This will necessarily have an impact on a price-formation mechanism based on an oil-indexation formula conceived in the 1960s, a period when the supply and demand framework was completely different. Significant in this regard is the failure of Algeria's attempt, in the context of the Gas Exporting Countries Forum, to persuade member countries to agree to base the gas price on oil prices.

The strength of this new and unexpected natural gas price regime is illustrated in Figure 1.10, which compares price trends in the 3 principal world markets with the price of crude. Particularly evident is the wide gap, starting in January 2009, between the gas price in the United States and the price of crude. Between January and September 2009 the price of WTI crude increased by 53%, while that of natural gas traded on the Henry Hub decreased by 43%. January 2010 saw an increase of 74% for crude, compared with just 11% for gas.

This behaviour differs markedly from that of previous years, when price trends on the Henry Hub were more aligned with the WTI price.

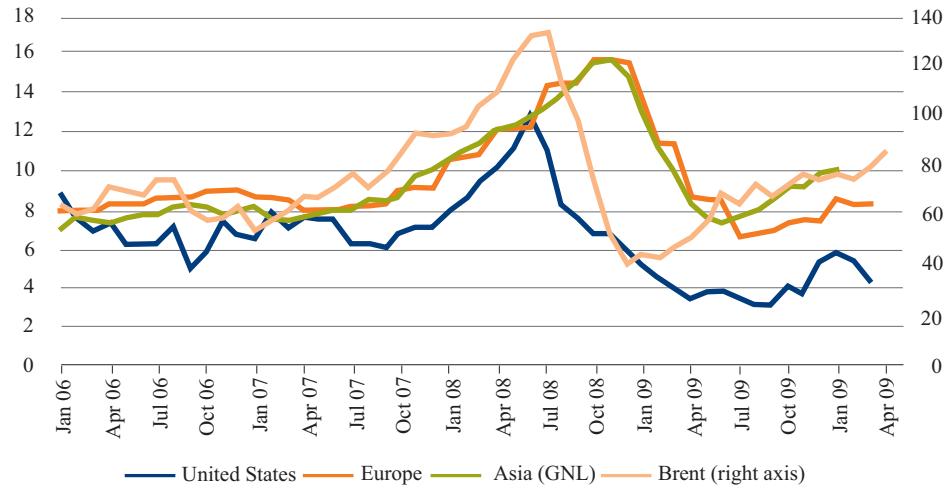


FIG. 1.10

International price for natural gas compared with the price of crude in 2005-10

$/MMBtu for gas and $/barrel for oil

Source: *World Gas Intelligence*, Bloomberg and Argus.

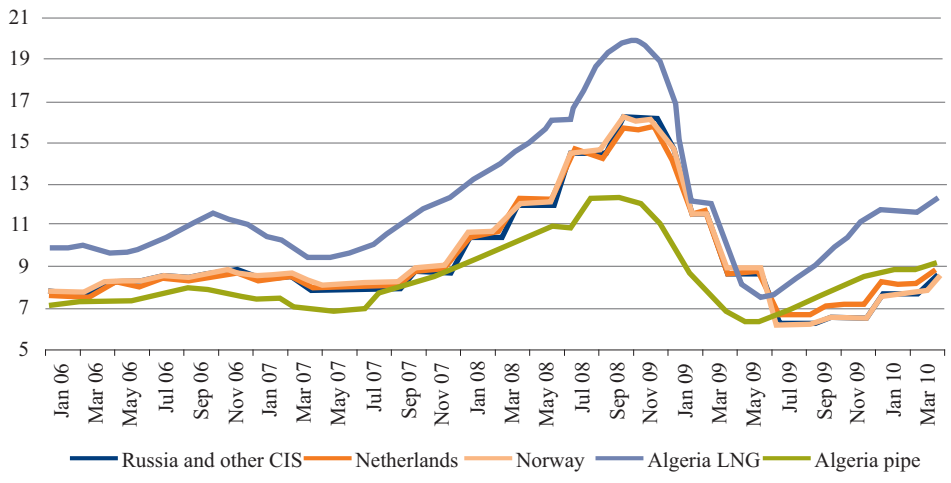


FIG. 1.11

Price at the border by source of supply, 2006-09

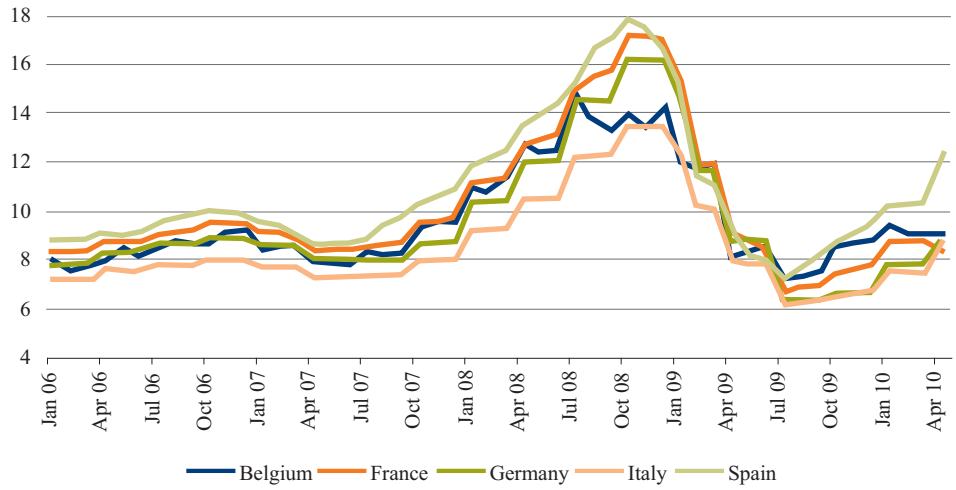
$/MMBtu

Source: *World Gas Intelligence.*

FIG. 1.12

Price at the border by importing country, 2006-2009

$/MMBtu



Source: *World Gas Intelligence.*

At present, about 70% of natural gas supply in Europe, and over 50% in the Asian-Pacific region, is indexed to oil products.

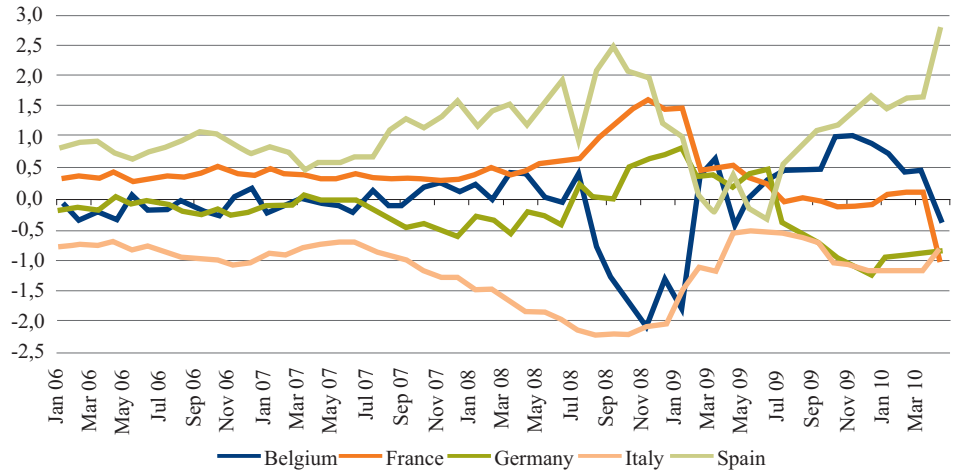
In the North American region, nearly all gas is traded independently on competing markets. These differences explain the different international price profiles of LNG headed for Asia and supplies in Europe. There are, however, significant differences even within the European market, as regards supplies for both exporter and importer countries, as shown in Figures 1.11 and 1.12.

Particularly indicative is the degrees of divergence from the average European price (Fig. 1.13), showing the negative differential between the average price at the Italian border and those of all the other consumer countries: on average, 1.2$/MMBtu lower in the last four years and 2.0$/MMBtu lower in 2008, a year of strong price rises.

FIG. 1.13

Difference from average price at the border. Importing country 2006-09

$/MMBtu



Source: AEEG, from *World Gas Intelligence data.*

The explanation is different for the gas price at the Italian Punto di scambio virtuale (PSV). This has remained substantially higher over the last 2 years compared to that of the main north European hubs, by 5c€/m3 on average (Fig. 1.9). Given the lower costs of gas supplied in Italy, the higher price is difficult to explain, unless as a consequence of the low liquidity of this hub. This is partly a result of the dominant operator's limited use of the hub, and partly of the strong constraints on import capacity on international pipelines and the absence of a true balancing market.

Development of unconventional gas

Begun on an experimental basis several decades ago, the development of gas from oil shales saw a sudden acceleration over the last decade, most notably in the last 2 years. This was a result of the work of a number of small companies specialising in horizontal drilling and hydraulic fracturing. Along with other types of unconventional gas (coal bed gas, sandstone gas), the production of shale gas now accounts for 50% of total gas production in the United States.

In this respect, the worldwide interest in buying concessions for the exploitation of unconventional gas fields, and in acquiring companies specialising in production from these fields, is significant. It is sufficient to cite the example of the Shell-PetroChina agreement on purchasing the rights to the most important Australian reserves of coal bed methane. In Europe, negotiations have recently begun between the American multinationals and the Polish authorities for the concession of the oil shale deposits in the Lublin and Podlaskie regions.

The principal obstacle to the development of these resources in Europe seems to be their environmental impact on underground waters. Another is state ownership of the land concerned, resulting in scarce benefits for local inhabitants. Moreover, their exploitation requires much more widespread drilling than is the case for conventional gas.

Gas resources from oil shale equate to several times the resources represented by conventional gas. According to the US Government's Department of Energy (DoE), by developing these resources it would be possible to cover half the demand for gas in the United States over two decades, transforming the country into a potential exporter. The implications of the development of unconventional gas resources are by no means insignificant with respect to the composition of global natural gas supply over the coming decade.

To give an example, the development of Gazprom's Shtokman fields, half the production of which was to go to the United States, has had to be postponed until sufficient guarantees of demand levels are available. These could arrive with the expected growth in demand in Asia, especially in China and India. However, the Shtokman project is not at present on the agenda – not just by reason of the massive investment required, but also as a result of the development of unconventional gas in Australia and in China itself, which has ample potential resources at its disposal.

International coal market

International prices

While in 2008 the trend in the international coal price was practically identical to that of oil prices in both the Asian and north European markets, developments in 2009 confirmed that the two energy sources follow different rationales and

dynamics. This has been apparent since 2003-06 and earlier (Fig. 1.14).

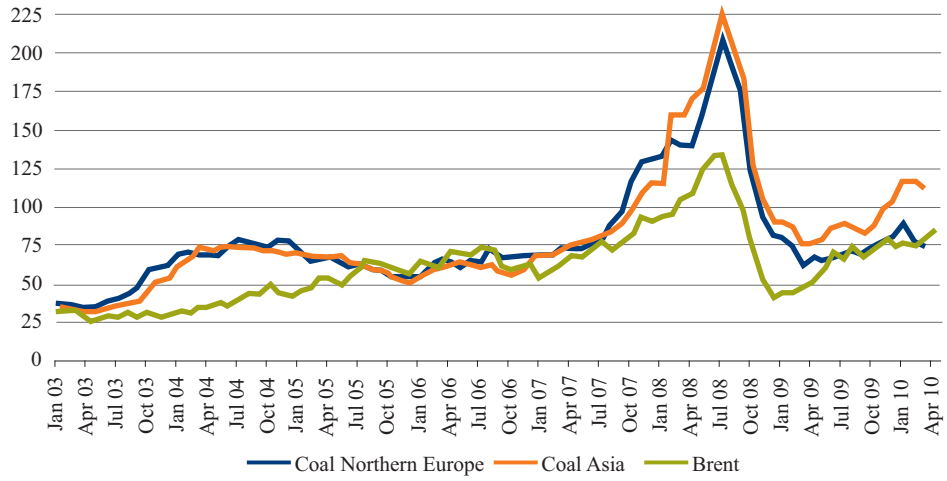
In early 2009 and up until April-May, the vertical fall in prices that began in summer 2008 began to ease off with the start of the worldwide recession. At least until September, prices remained fairly stable on both the Atlantic and Pacific markets, with swings that led investors and traders to fear a further drop in prices.

However, from October 2009 on, prices began rising again, especially in the Pacific market, where they have returned to the levels seen in early 2008 and seem set to increase further.

FIG. 1.14

International thermal coal price and comparison with Brent crude price

$/t



Source: *Platt's*.

Throughout 2009, prices on the Pacific market remained constantly higher than those of the Atlantic market, with a growing differential that widened from just a few euros/ton in January to 16€/t by year-end, and to 20€/t in March 2010. Prior to this, the higher prices were generally seen in the Atlantic market; in any case the differentials were never this wide.

Against this background, the different levels of, and trends in, coal prices are also significant. On the Atlantic market, a sharp increase was seen in the prices of Richards Bay South African and Polish coal beginningin September, while the Columbian Bolivar price remained stable. The Pacific market saw strong growth in the price of China's Qinhuangdao coal.

The price of Australian coal shipped from Newcastle and Gladstone, and of Russian coal, followed suit, while that of Indonesian coal from Kalimantan remained practically unchanged. Table 1.8 shows the prices of the principal coals traded throughout 2009 compared with the average December price.

TAB. 1.8

Average prices of the main coals traded internationally

$/t; fob prices at port of loading (except for ARA cif Europe)

	AVERAGE PRICE IN 2009	
	YEAR	DECEMBER
Atlantic Market		
ARA *cif* Europe	70.4	79
Richards Bay	64.6	77
Bolivar colombiano	59.0	59
Russian Baltic	62.4	59
Polish Baltic	62.8	60
Pacific market		
Australia Newcastle	71.8	88
Australia Gladstone	75.4	91
Chinese Qinhuangdao	87.1	110
Indonesian Kalimantan 1	64.6	67
Indonesian Kalimantan 2	51.3	54
Russian Pacific	75.7	87

No complete assessment can ignore freight, as it accounts for as much as 20-30% of the final cost of coal. 2009 saw freight prices on all the maritime routes more than halved with respect to the peak years of 2007 and 2008, and dipping below the already relatively low prices of 2005. Freight charges for Rotterdam fell, as an annual average, to about 20$/t for Australian and American coal, 16$/t for Colombian coal and less than 15$/t for South African coal. The collapse in freight costs is essentially a consequence of weak demand, which forced companies to delay deliveries and stockpile coal in ports.

International trade

With rare exceptions, all countries saw a fall in steam coal consumption in 2009, mainly as a result of reduced electricity generation and the economic recession.

However, the impact on international trade, which represents about 20% of consumption, was less serious. After the steep fall (of 10.4%) suffered in 2008, partly as a result of very high prices, in 2009 international trade in steam coal began to rise again, albeit to a small degree compared with the strong growth of previous years: 1.5% compared with 16% on average from 2005 to 2007 (Tab. 1.9).

This upturn was almost entirely the result of the increase in Chinese imports. This in turn was a result of the continuing strong growth in consumption for electricity generation and of the collapse in prices on the Asian markets: from an average of 160$/t in 2008, with a peak of 225$/t in July, to 85$/t as the average for 2009. If Chinese imports/exports were excluded, international trade in coal would have fallen by nearly 7% on the previous year. The European Union, as a whole, saw the continuation of the long-term decline also in 2009, as did Japan. Even Indian imports fell, to a not dissimilar degree.

TAV. 1.9

Principal international trade flows for thermal coal, 2004-09

Mt

PAESI IMPORTATORI	EXPORTS FROM								
	AUSTRALIA	INDONESIA	RUSSIA	SUD-AFRICA	CHINA	COLOMBIA	UNITED STATES	OTHERS	TOTALE
Total exports									
2004	99.5	89.7	32.2	44.9	80.9	15.1	12.5	59.4	434.1
2005	99.6	107.0	42.8	48.2	66.4	18.6	11.6	68.7	462.8
2006	112.7	124.7	64.4	59.8	58.9	39.5	11.3	100.9	572.2
2007	**112.1**	**132.0**	**67.8**	**66.2**	**50.5**	**41.6**	**15.2**	**140.1**	**625.6**
UE 27	2.8	8.5	49.9	40.9	0.4	26.1	7.6	0.5	136.6
China	1.5	8.3	0.2	0.0	0.0	0.0	0.0	31.6	41.7
India	0.6	15.8	0.0	4.6	0.5	0.0	0.0	24.0	45.5
Japan	63.3	26.2	10.8	0.2	14.4	0.0	0.0	57.1	172.0
Korea	15.4	22.1	5.6	0.1	18.2	0.0	0.0	1.7	63.1
Taiwan	17.7	18.9	1.3	0.0	12.7	0.0	0.0	15.0	65.6
Others	10.8	32.3	0.0	20.4	4.4	15.5	7.6	10.2	101.2
2008	**125.4**	**134.9**	**65.3**	**59.2**	**41.8**	**34.5**	**21.8**	**77.8**	**560.8**
UE 27	3.0	11.0	50.3	35.6	0.4	19.5	12.7	?12.1	120.6
China	2.1	8.7	0.4	0.2	0.0	0.0	0.1	18.3	29.7
India	0,9	16.0	0.0	2.8	0.8	0.0	0.1	32.4	53.0
Japan	68.0	27.4	6.6	0.1	11.5	0.0	0.1	5.7	119.5
Korea	24.1	19.4	6.9	0.2	15.4	0.0	0.1	5.5	71.6
Taiwan	20.1	19.4	1.2	0.1	10.6	0.0	0.0	13.3	64.6
Others	7.3	33.0	0.0	20.2	3.1	15.0	8.6	14.7	101.8
2009	**139.3**	**127.2**	**67,1**	**58.2**	**21.7**	**38.3**	**15.9**	**101.7**	**569.5**
UE 27	1.9	10.4	46.6	24.4	0.0	25.8	9.2	?6.6	111.7
China	16.2	0.0	8.2	0.8	0.0	0.0	0.1	47.7	73.0
India	0.6	22.5	0.0	8.5	0.0	0.0	0.0	17.6	49.2
Japan	60.7	23.6	6.3	0.2	6.2	0.0	0.1	9.3	106.5
Korea	29.0	22.6	4.1	0.5	9.5	0.0	0.1	11.8	77.5
Taiwan	20.1	18.4	2.0	0.9	4.9	0.0	0.0	12.9	59.1
Others	10.9	29.8	0.0	22.9	1.1	12.5	6.5	9.1	92.6

Source: *Platt's.*

Chinese imports grew from less than 2% of total imports in 2006 to almost 13% in 2009. They accounted for just over 5% of China's total consumption last year; indeed, it would perhaps not be difficult for China itself to produce the amounts it imports. However, as can be seen from the figures in Table 1.8, Chinese exports have been falling steeply since 2004. Excluding steam coal imports, net exports fell by 83 million tons in 2003, 48 million in 2006 and 8 million in 2007. China became a net importer, by 51 million tons, in 2009.

Considering the massive quantities of coal needed to fuel power stations, which are expected by grow by 7% a year, it seems likely that demand from China will turn increasingly to international markets, not least in view of the price. Given the quantities in play, China is in a position to exert a considerable influence on coal prices. The price increases that were already evident in the second half of 2009, and which intensified in the early months of 2010, can probably be attributed at least in part to this phenomenon.

Energy demand and supply in Italy

As was to be expected, the economic collapse in 2009 had heavy repercussions on the energy balance. It led to a general fall in consumption, production, imports and exports, albeit with significant differences between sources and sectors (Tab. 1.1). With respect to 2008, the consumption of primary energy diminished overall by 5.8%, transformation into electricity by 7.8%, imports by 8.6% and exports by 10.7%. Total production, on the other hand, rose slightly (by 0.7%), but only as a result of the considerable input of hydroelectric and other renewable sources. Production from fossil fuels fell by 13.4%, thus continuing the long term decline that began over a decade ago. In gross terms, hydro production grew by 9.6%, wind by 25.2% and photovoltaic by 28.9%. Compared with hydro, however, these last two sources continue to play a minor role: 6.1 TWh and 0.75 TWh respectively, against 51.7 TWh from hydro.

Turning to electricity generation, the renewables sector is one of the few energy segments that saw an increase – indeed a very significant increase (12.2%) – in 2009. This was thanks above all to the very high availability of hydro power, close to its historic peak levels in the first half of the year – and actually exceeding them in April. Thermoelectric production from coal fell considerably (by 10.8%). However, the fall in generation from natural gas was even steeper, at 15.7%, even with respect to oil (down 8.9%), which has been on its way out of the Italian electricity system for many years now.

This unusual situation can be attributed to the unprecedented situation in relative prices, which collapsed at uneven rates and in differing degrees from their highs of 2008. In the first quarter of 2009, the cost of generation (fuel cost alone) was an estimated 83€/MWh for natural gas, compared with 44€/MWh for BTZ fuel oil and 24€/MWh for coal.

By the last quarter of 2009, oil's advantage relative to natural gas had been eliminated, with average costs of 70€/MWh compared with 41€/MWh for natural gas and 23€/MWh for coal. For the year as a whole, however, generation from natural gas remained slightly more expensive than from oil (61€/MWh compared with 59€/MWh).

Consumption in final uses fell by 5.6% overall. The most notable collapse was for coal (down 49.7%), followed at some distance by electricity and oil (6.5% and 5.5%) and, lastly, natural gas (down 2.8%). The fall in consumption came primarily from the industrial sector (down 18.8%). Bunkers declined by 10.1%, reflecting the fall in international trade and air transport.

Domestic transport also saw a decrease, of 1.8% – not, therefore as dramatic as for industry. This reflects the continuing strength of private transport; in this sector, the increased use of natural gas (up 9.3%) is significant, albeit less so in absolute terms. Only the residential and commercial/public sectors and, to a lesser extent, agriculture saw an increase in consumption, the former fairly robust (3.5%) as a result of the relatively cold winter. This sector saw a significant increase for both natural gas and for electricity.

On closer inspection, the fall in consumption in 2009, while much sharper than that of 2008 (5.8% against 1.5%), can actually be traced back for several years. Indeed, with a few notable exceptions, of which the production and consumption of renewable energy stands out, most of the national energy indicators have been falling since 2005-06 (Tab. 1.10 and 1.11). The energy intensity of Italy's gross domestic product (GDP) also seems to indicate a break with the historic trend, especially as regards electricity (Fig. 1.5).

It remains to be seen if the containment of the energy uses witnessed in recent years is the result of more efficient energy use, perhaps in combination with a restructuring of the industrial and energy system that will continue into the future, or if it more simply corresponds to a pause before a recovery that may well prove to be vigorous, as often happens after a period of stagnation.

TAB. 1.10

Italian energy balance in 2008 and 2009

Mtoe

	SOLID	GAS	OIL	RENEW-ABLES	ELECTRICITY(A)	TOTAL
2009						
Production	**0.42**	**6.57**	**4.57**	**18.34**	**0.00**	**29.90**
Imports	**12.68**	**56.74**	**94.61**	**1.05**	**10.25**	**175.32**
Exports	**0.22**	**0.10**	**25.83**	**0.09**	**0.47**	**26.70**
Change in stocks	**-0.46**	**-0.73**	**-0.53**	**-0.01**	**0.00**	**-1.73**
Available for domestic consumption (1+2-3-4)	**13.35**	**63.92**	**73.88**	**19.32**	**9.78**	**180.25**
Energy sector consumption and losses	**-0.66**	**-1.11**	**-5.14**	**-0.10**	**-40.08**	**-47.09**
Transformation into electricity	**-10.61**	**-23.40**	**-5.66**	**-15.48**	**55.16**	**0.00**
Total final uses (5+6+7)	**2.07**	**39.41**	**63.08**	**3.73**	**24.86**	**133.16**
- industry	1.99	12.25	5.99	0.39	9.46	30.07
- transport	0.00	0.60	40.29	1.09	0.93	42.92
- civil uses	0.00	25.85	5.00	2.01	13.99	46.86
- agricolture	0.00	0.14	2.43	0.24	0.49	3.30
- chemical synthesis	0.08	0.57	5.98	0.00	0.00	6.62
- bunkering	0.00	0.00	3.39	0.00	0.00	3.39
2008						
Production	**0.55**	**7.58**	**5.22**	**16.33**	**0.00**	**29.68**
Imports	**16.77**	**62.95**	**101.73**	**0.81**	**9.56**	**191.82**
Exports	**0.20**	**0.17**	**28.67**	**0.10**	**0.75**	**29.89**
Change in stocks	**0.38**	**0.84**	**-0.97**	**0,05**	**0.00**	**0.30**
Available for domestic consumption (1+2-3-4)	**16.74**	**69.52**	**79.24**	**16.99**	**8.81**	**191.30**
Energy sector consumption and losses	**-0.74**	**-1.22**	**-6.25**	**-0.09**	**-41.89**	**-50.18**
Transformation into electricity	**-11.89**	**-27.77**	**-6.22**	**-13.80**	**59.68**	**0.00**
Total final uses (5+6+7)	**4.11**	**40.53**	**66.78**	**3.10**	**26.60**	**141.12**
- industry	3.98	14.43	7.02	0.37	11.61	37.41
- transport	0.00	0.55	41.54	0.66	0.93	43.68
- civil uses	0.01	24.72	5.13	1.84	13.57	45.26
- agricolture	0.00	0.14	2.39	0.23	0.49	3.24
- chemical synthesis	0.13	0.70	6.94	0.00	0.00	7.76
- bunkering	0.00	0.00	3.77	0.00	0.00	3.77

(A) Primary electricity (hydroelectric, geothermal, wind), imports/exports from abroad and losses calculated in terms of thermoelectric input.

Source: AEEG, from provisional data from the Ministry for Economic Development.

TAB. 1.11

Performance of national energy system indicators, 2004-09

Mtoe

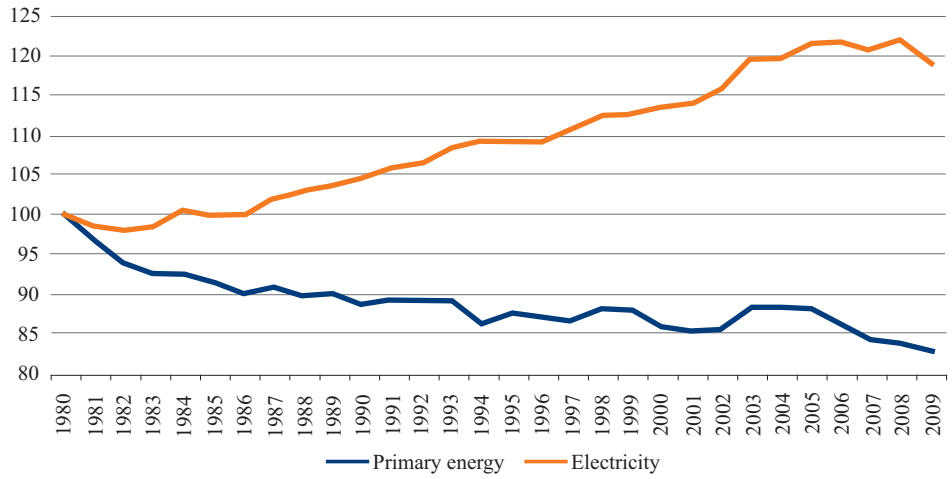
	2004	2005	2006	2007	2008	2009
Total primary energy	195.5	197.8	196.2	194.2	191.3	180.2
Total final uses	143.4	146.6	145.7	143.2	141.1	133.2
Oil imports	107.6	108.4	107.0	107.8	101.7	94.6
Domestic natural gas production	66.2	71.2	69.7	70.0	69.5	63.9
Natural gas imports	55.5	60.6	63.9	61.0	63.0	56.7
Total input to electricity generation	59.3	58.2	59.5	59.2	59.7	55.2
Transport sector consumption	44.4	44.0	44.5	44.9	43.7	42.9
Gas input to electricity generation	23.1	25.3	26.0	28.3	27.8	23.4
Renewable energy production	13.5	12.7	13.4	13.6	16.3	18.3
Coal imports	17.1	17.0	17.2	17.2	16.7	13.3

Source: Ministry for Economic Development.

FIG. 1.15

Energy intensity of GDP from 1980 to 2008

Index 1980 = 100



Source: AEEG, from data from the Ministry for Economic Development and ISTAT.

Electricity and gas prices in the European Union

The European Union's statistics institute (Eurostat) has collected and published data since 1985 on the prices paid by consumers for the use of electricity and gas in the various member states. Over the years, and especially with full market liberalisation, a number of changes to the data collection methods have been necessary. Since 1 July 1991, the data on the final prices paid by industrial customers have been collected and published in accordance with Directive 90/377/EEC, concerning a Community procedure to improve the transparency of gas and electricity prices charged to industrial end-users.

The information on the prices paid by domestic users, although not regulated by Directive 90/377/EEC, was collected by Eurostat on the basis of a gentleman's agreement with member states. With Decision 2007/394/EC, the European Commission reviewed the Directive by up-dating the price-survey methodology. This brought it more closely into line with the new market structure envisaged by the complete liberalisation of sales to end-users with effect from 1 July 2007. Eurostat also up-dated the methodology used to collect the final prices paid by domestic customers, confirming the voluntary agreement signed by member states. Following the substantive changes introduced by Directive 90/377/EEC, for greater clarity the European Parliament and Council issued Directive 2008/92/EC on 22 October 2008. This recasts the provisions governing the transparency of gas and electricity prices charged to industrial end-users.

The price survey methodology in force since 2008 replaced the collection of precise prices by standard consumer category with the collection of average six-monthly prices broken down by consumption class.
These are weighted on the basis of electricity and gas suppliers' market shares. It should be noted that, with the new survey methodology based on average prices, the prices collected are those paid by end-users without distinction, in the case of Italy, between customers on the free market and those enjoying greater protection or safeguard conditions. The previous survey method reflected supply tariffs in the captive market.
The tables and figures shown in the following sections refer, therefore, to the prices notified to Eurostat under the new methodology, with reference to 2009 and extracted from the Eurostat database on 4 May 2010. It should be noted that for some countries the data for the second half of the year under consideration are provisional.
The Eurostat definition of the price net of taxes has remained the same under the new methodology. This price should therefore be understood as being net not just of true taxes (such as excise or VAT) but also of any tax or other general cost payable by end-users and not included in the industrial tax, such as an environmental tax. In the Italian case, and with reference to electricity, this means that Eurostat includes general system costs in the fiscal elements of the gross price. The prices considered by Eurostat do not include the cost of the initial connection to the grid.

Electricity prices

Prices for domestic users

In 2009, domestic consumers belonging to the first consumption band (<1,000 kWh per year) paid over 20% more than the average European price for their electricity, both including and net of taxes. This is a consequence of the new data-collection method, which does not distinguish between resident and non-resident consumers, a distinction which is typical of the Italian context. The result for Italy can therefore be largely attributed to the significant presence of non-resident consumers (for example, those with second homes) in this category. Indeed, with reference to the second consumption band (1,000-2,500 kWh per year), where this presence is less significant, the picture is very different. In this case, Italian prices (including taxes) are 4% lower than the European average, and prices net of taxes somewhat higher (by 2%).

It can be estimated that 60% of resident Italian households (therefore excluding second homes), with annual consumption of less than 2,500 kWh, pay prices in line with the European average for their electricity. For higher consumption, Italian prices are higher than the corresponding average European prices (Tab. 1.12).
With reference, in particular, to the 2,500-5,000 kWh annual consumption category, Italian gross prices are amongst the highest in Europe, along with those of Denmark, Germany, Ireland and Austria. Prices in Portugal, the United Kingdom, Finland and France, on the other hand, are lower than the European average. The lowest prices are found in some of the eastern European (former Soviet Republic) countries. In actual fact, electricity and gas prices are very low in these countries, when expressed in euros, because their national currencies are largely undervalued with respect to the euro.

It should also be noted that, while Denmark and Germany are penalised by their high energy tax levels (which can exceed 50%), the United Kingdom has a very low tax rate (of around 5%, well below the European average of over 20%). The comparison with the previous year, for the same consumption class, shows a fall in electricity prices for domestic uses in Italy (down 4%), Denmark (3%), Sweden (6%) and the United Kingdom (down 6%). Spain saw an increase of 12%, against an average increase in European prices of around 1% (Fig. 1.16).

TAB. 1.12

Electricity prices for domestic consumers in 2009

Prices net of and including tax; c€/kWh

	CONSUMERS BY CONSUMPTION BAND ANNUAL (kWh)									
	< 1,000		1,000-2,500		2,500-5,000		5,000-15,000		>= 15,000	
	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS
Austria	18.74	27.27	14.81	20.95	13.80	19.09	12.69	17.46	11.54	15.86
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	6.96	8.34	6.85	8.23	6.85	8.21	6.83	8.18	6.78	8.13
Cyprus	12.83	14.97	12.08	14.11	13.73	16.00	14.00	16.32	14.21	16.55
Denmark	14.14	29.18	14.14	29.18	11.81	26.26	10.10	23.30	10.10	23.30
Estonia	7.25	9.46	7.18	9.39	7.04	9.21	6.79	8.92	5.98	7.95
Finland	19.18	24.47	12.55	16.39	9.71	12.93	8.51	11.45	6.96	9.56
France	12.15	15.65	10.80	14.14	9.25	12.27	8.06	10.82	7.73	10.44
Germany	24.56	35.83	15.85	25.31	13.80	22.88	12.53	21.30	12.24	20.63
Greece	9.81	10.74	8.63	9.46	9.99	10.93	11.75	12.85	14.20	15.52
Ireland	37.41	42.46	19.74	22.41	17.12	19.43	15.53	17.63	13.57	15.40
Italy(A)	**23.10**	**28.37**	**13.85**	**16.91**	**15.24**	**20.50**	**19.61**	**26.12**	**23.32**	**30.22**
Latvia	9.58	10.54	9.58	10.53	9.58	10.53	9.57	10.53	9.54	10.49
Lithuania	8.32	9.98	8.09	9.69	7.84	9.39	7.44	8.91	6.80	8.15
Luxembourg	23.90	26.84	17.97	20.52	16.36	18.82	14.79	17.00	11.92	13.93
Malta	22.65	23.78	17.23	18.09	15.34	16.11	15.98	16.78	20.27	21.28
Netherlands(B)	24.95	n.d.	16.25	11.45	14.15	18.75	13.10	22.65	12.10	18.90
Poland	12.00	15.20	9.85	12.58	9.47	12.11	8.74	11.22	8.65	11.12
Portugal	28.71	32.83	15.13	17.60	13.24	15.51	11.90	14.01	11.07	13.09
United Kingdom	15.77	16.62	14.65	15.38	13.70	14.37	12.23	12.80	11.90	12.51
Czech Republic	23.12	27.66	17.48	20.93	11.32	13.59	9.39	11.32	8.18	9.88
Romania	8.11	9.73	8.16	9.79	8.15	9.78	7.85	9.43	7.62	9.16
Slovakia	19.68	23.42	14.48	17.23	13.03	15.50	12.78	15.21	10.64	12.66
Slovenia	19.90	27.54	12.07	15.81	10.60	13.53	10.10	12.64	10.17	12.53
Spain	25.76	31.41	15.15	18.48	13.38	16.31	12.35	15.06	11.58	14.12
Sweden	18.65	26.47	11.91	18.07	10.50	16.24	8.67	13.99	7.86	12.95
Hungary	13.05	15.78	13.26	16.02	12.74	15.40	11.76	14.23	11.91	14.40
Croatia	*16.07*	*19.68*	*9.74*	*11.85*	*9.34*	*11.58*	*8.92*	*11.04*	*8.52*	*10.63*
Norway	*28.77*	*37.51*	*17.59*	*23.54*	*11.28*	*15.64*	*7.82*	*11.33*	*6.78*	*10.03*
EU(C)	**18.59**	**24.06**	**13.52**	**17.59**	**12.24**	**16.48**	**11.49**	**15.81**	**11.30**	**15.51**

(A) For Italy, the Eurostat prices net of taxes and any other charges are not available. The figures shown in the table are therefore a preliminary estimate by the Authority, based on the initial data available.

(B) In the Netherlands, a discount on the gross final price is envisaged. For the first consumption category, this means that the price including taxes is not statistically significant.

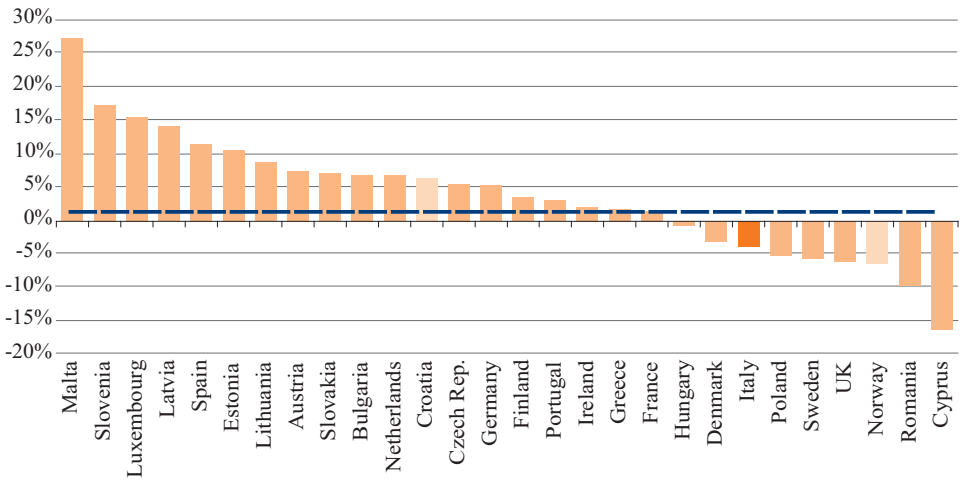
(C) Average price for the European Union (27 member countries) calculated by Eurostat, weighted by the most recent figures available on national domestic consumption. If any price is not available or is published late, Eurostat, for the sole purpose of calculating the EU aggregate value, estimates the missing price using the harmonised consumer price index.

Source: AEEG, from Eurostat data.

FIG. 1.16

Change in prices of electricity for domestic use

Percentage change 2009-08 in prices including taxes for annual consumption of 2,500-5,000 kWh(A)



(A)The dotted line represents the percentage change in the average price weighted by national domestic consumption for the European Union (aggregate for 27 countries) calculated by Eurostat. The chart also shows price changes for two non-EU countries: Norway and Croatia.

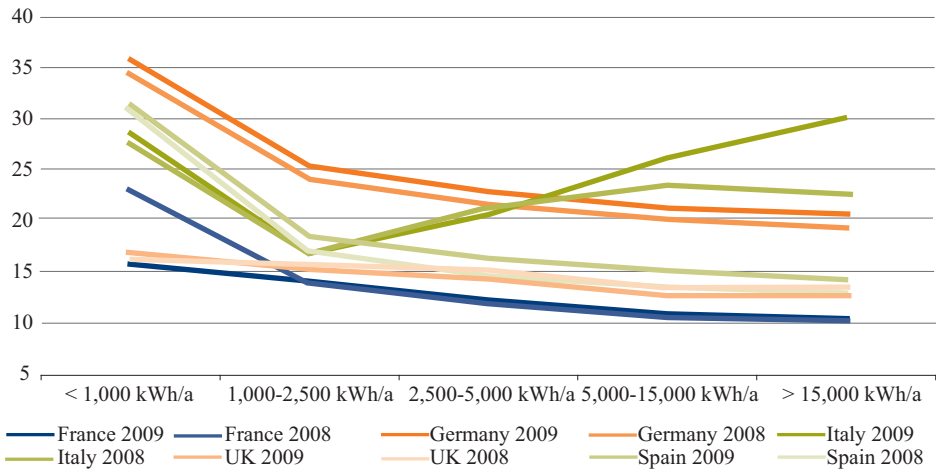
Source: AEEG, from Eurostat data.

With reference to consumption bands of over 5,000 kWh per year, in 2009 Italian gross prices increased by between 10% and 30% on the previous year, taking them to over 60% above the corresponding European average. This trend can in part be attributed to the reform of the tariff system for domestic consumers. The reform came into force in June 2009 and resulted in a penalisation of very high consumption categories, which are marginal in terms of the number of households concerned, to the benefit of lower consumption bands. The effect seen in 2009 should become less accentuated from 2010 onwards, following the review decided by the AEEG. With resolution ARG/elt 56/10 of 19 April 2010, the Authority also introduced new provisions governing connections to fuel electric vehicles and heat pumps for domestic use. The aim here is to avoid penalising users as a result of a progressive tariff structure (the effects of which would be augmented by a taxation system that does not hit very low consumption levels). In this way, the unit electricity price increases in line with consumption, at least starting from an annual consumption level of over 2,500 kWh.

FIG. 1.17

Electricity prices for domestic use in the main European countries

Prices incl. taxes; c€/kWh



Source: AEEG, from Eurostat data.

Prices for industrial users

In 2009, Italian enterprises paid higher prices, both including and net of taxes, than the European average – for all consumption categories.

The differences were generally over 25% for lower consumption levels, and fell progressively for consumption of over 20 MWh per year (Tab. 1.13). The gross prices paid by Danish and German firms were also higher than the European average for the 500-2,000 MWh/year band, one of the most representative categories for the Italian market. It should be underscored, however, that Denmark, Germany and Italy also have particularly high tax levels. With respect to the prices recorded in 2008 for the same consumption category, the countries showing the greatest reductions in percentage terms were Ireland, Sweden and Denmark, while Latvia, Luxembourg, Slovakia and Spain saw increases. Italian prices also rose, but by a lower percentage (1.6%) than the European average of 4.5% (Fig. 1.18).

TAB. 1.13

Electricity prices for industrial consumers in 2009

Prices net of and including taxes; c€/kWh

	CONSUMERS BY CONSUMPTION BAND (ANNUAL) (MWh)											
	< 20		20-500		500-2,000		2,000-20,000		20,000-70,000		70,000-150,000	
	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS
Austria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belgium	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Bulgaria	7.67	9.28	7.21	8.72	6.37	7.72	5.83	7.08	5.19	6.34	4.68	5.73
Cyprus	15.19	17.69	15.06	17.54	13.18	15.38	12.01	14.03	10.91	12.77	10.90	12.76
Denmark	10.14	23.70	8.19	21.69	7.66	21.02	7.59	21.02	6.92	20.15	6.92	20.15
Estonia	7.49	9.66	6.28	8.22	5.81	7.67	5.04	6.75	4.08	5.52	3.98	5.40
Finland	8.12	10.23	7.50	9.47	6.60	8.37	6.35	8.06	5.23	6.71	5.08	6.52
France	10.10	13.28	7.87	10.39	6.33	8.25	5.90	7.81	5.90	8.01	4.90	6.81
Germany	16.31	23.47	11.48	17.46	9.67	15.10	8.38	13.49	7.71	12.33	7.59	11.94
Greece	14.51	16.50	11.18	12.80	9.01	10.29	7.80	8.95	6.95	8.02	6.01	6.90
Ireland	17.30	19.64	14.50	16.45	11.88	13.46	10.18	11.48	9.20	10.12	8.21	9.34
Italy[A]	**20.11**	**28.16**	**13.33**	**18.73**	**11.90**	**16.67**	**10.71**	**14.30**	**9.52**	**12.15**	**8.29**	**10.07**
Latvia	11.55	13.97	9.64	11.66	8.95	10.84	8.42	10.23	7.95	9.61	7.21	8.72
Lithuania	10.91	13.07	9.74	11.66	8.57	10.27	7.24	8.67	6.82	8.17	n.a.	n.a.
Luxembourg	18.13	21.06	12.63	13.91	11.07	12.28	9.10	9.92	6.54	6.94	n.a.	n.a.
Malta	15.68	16.46	15.33	16.09	13.99	14.69	10.45	10.98	10.45	10.98	10.45	10.98
Netherlands	16.30	24.05	10.65	17.40	9.35	13.30	8.80	12.05	8.70	11.30	8.65	11.35
Poland	13.52	17.06	10.34	13.18	8.72	11.20	7.78	10.05	7.33	9.50	6.87	8.94
Portugal	14.15	16.57	10.44	11.95	9.26	9.87	8.26	8.72	6.76	7.18	5.76	6.07
UK	13.33	15.73	11.27	13.43	10.25	12.24	9.26	11.03	9.09	10.73	8.97	10.62
Czech Rep	16.65	19.94	13.53	16.21	10.84	13.03	9.48	11.41	8.82	10.61	8.82	10.63
Romania	10.13	12.11	9.70	11.58	8.20	9.80	7.24	8.66	6.44	7.71	5.82	6.97
Slovakia	21.67	25.87	16.68	19.93	14.06	16.82	12.60	15.07	10.92	13.08	9.75	11.68
Slovenia	16.04	20.37	13.04	16.15	9.92	12.49	8.01	10.18	6.56	8.20	7.21	9.00
Spain	16.30	19.87	12.61	15.38	10.82	13.19	8.98	10.95	7.89	9.62	6.84	8.34
Sweden	11.48	14.40	7.67	9.63	6.73	8.47	5.92	7.44	5.39	6.78	4.94	6.22
Hungary	11.84	14.43	12.41	15.11	12.49	15.21	11.04	13.47	10.71	13.08	9.06	11.10
Croatia	*11.11*	*13.76*	*9.95*	*12.33*	*8.72*	*10.84*	*7.43*	*9.27*	*6.07*	*7.56*	*5.38*	*6.75*
Norway	*7.04*	*10.34*	*6.74*	*9.97*	*6.69*	*9.91*	*5.56*	*8.50*	*4.56*	*7.25*	*3.06*	*5.37*
EU[B]	**14.35**	**19.40**	**10.82**	**14.81**	**9.36**	**12.79**	**8.30**	**11.34**	**7.69**	**10.37**	**7.08**	**9.56**

(A) For Italy, the price net of taxes and any other charges is not available. The figures shown in the table is therefore a preliminary estimate by the Authority, based on the initial data available.

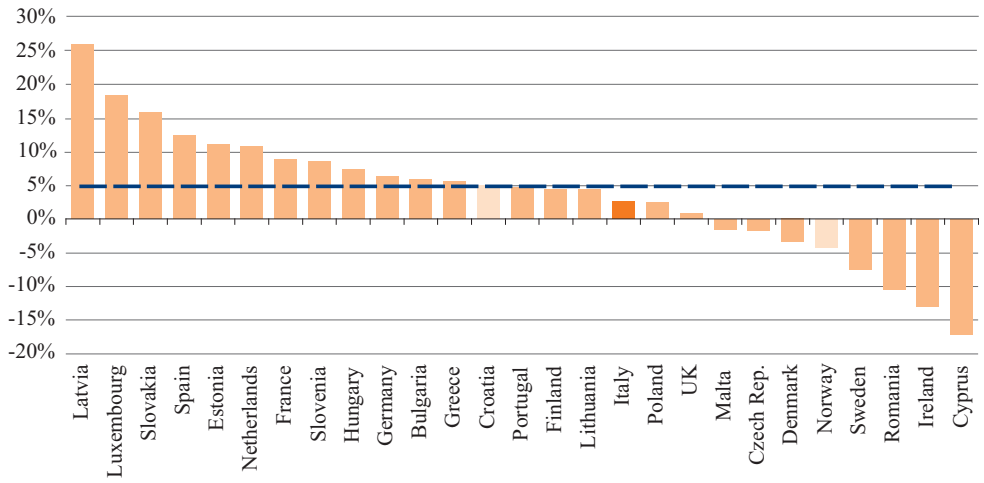
(B) Average price for the European Union (27 countries) calculated by Eurostat, weighted by the most recent figures available on national industrial consumption. If any price is not available or is published late, Eurostat, for the sole purpose of calculating the EU aggregate value, estimates the missing price using the harmonised consumer price index.

Source: AEEG, from Eurostat data.

FIG. 1.18

Change in electricity prices for domestic/industrial use

Percentage change 2009-08 in prices including taxes for annual consumption of 500-2000 MWh(A)



(A)The dotted line represents the percentage change in the average price weighted by national consumption (27-country aggregate), calculated by Eurostat. The chart also shows the price variations of two non-EU countries: Norway and Croatia.

Source: AEEG, from Eurostat data.

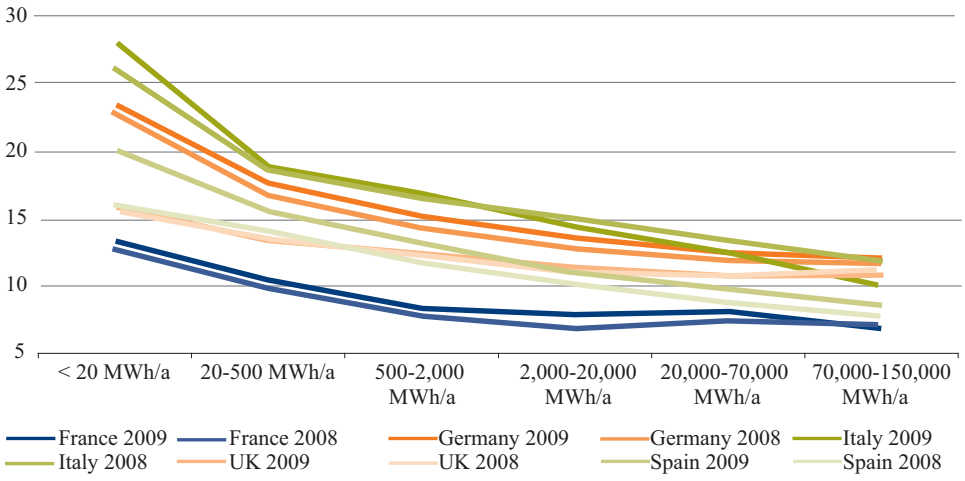
Figure 1.19 illustrates the high level of prices paid by Italian companies compared with the prices prevailing in the main European countries, especially for lower consumption levels.

For higher consumption levels, however, Italy's position showed a moderate improvement in 2009 compared with 2008, with industrial users paying lower prices than, for example, their German counterparts.

FIG. 1.19

Electricity prices for industrial uses for the main European countries

Prices incl. taxes; c€/kWh



Source: AEEG, from Eurostat data.

Natural gas prices

Prices for domestic users

In 2009, the Italian gas price for domestic users was lower than the European average, both gross and net of taxes, for lower consumption categories (cooking and water heating, annual consumption less than 525m^3). For higher consumption bands, however (use of gas for heating also), the price remained in line with the European average if calculated net of tax, but was higher (by over 15%) if tax was included (Tab. 1.14). It should be noted that in Italy about 23% of households belong to the lowest consumption band (use of gas for cooking and hot water only). To a large extent, these households pay for their gas under economic conditions determined by the Authority.

TAB. 1.14

Natural gas prices for domestic consumers in 2009

Prices net of and including taxes; c€/m^3

	CONSUMERS BROKEN DOWN BY ANNUAL					
	< 525.36		525.36-5,253.60		> 5,253.60	
	NET	GROSS	NET	GROSS	NET	GROSS
Austria	59.81	81.60	48.73	67.12	42.75	59.46
Belgium	71.40	88.24	47.57	59.29	43.68	54.63
Bulgaria	35.88	43.07	36.18	43.42	37.15	44.58
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	48.87	99.60	48.87	99.60	48.87	99.60
Estonia	33.53	41.34	32.39	40.03	32.26	39.81
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
France	100.01	113.16	51.13	59.94	44.86	53.33
Germany	77.60	103.03	48.67	65.38	43.17	58.85
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	61.65	69.97	55.64	63.16	52.54	59.62
Italy	**54.40**	**74.00**	**45.40**	**68.30**	**43.30**	**70.65**
Latvia	69.90	76.97	43.36	47.71	42.61	46.95
Lithuania	58.22	69.33	36.88	43.94	33.44	39.81
Luxembourg	71.30	78.42	44.03	50.44	39.12	46.86
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	73.55	113.25	47.85	79.63	44.54	74.90
Poland	46.44	56.66	36.79	44.89	33.86	41.31
Portugal	78.82	82.75	59.79	63.38	52.17	54.79
United Kingdom	47.95	50.35	42.94	45.07	37.89	39.77
Czech Rep.	63.35	75.38	42.97	51.13	42.11	50.12
Romania	17.85	29.86	17.77	29.63	17.64	29.00
Slovakia	88.58	105.42	41.66	49.57	41.74	49.66
Slovenia	66.26	83.10	49.72	63.27	48.14	61.39
Spain	64.83	75.20	52.28	60.64	43.12	50.01
Sweden	93.38	145.23	55.96	98.27	51.44	92.67
Hungary	43.10	52.81	41.37	50.65	40.92	50.12
Croatia	27.94	34.19	27.94	34.19	27.94	34.19
Norway	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
European Union(A)	**65.31**	**81.50**	**45.90**	**58.85**	**41.45**	**54.47**

(A) Average price for the European Union (22 countries) calculated by Eurostat, weighted by the most recent figures available on national domestic consumption. If any price is not available or is published late, Eurostat, for the sole purpose of calculating the EU aggregate value, estimates the missing price using the harmonised consumer price index.

Source: AEEG, from Eurostat data.

Countries with higher prices (tax included) than the European average for the middle consumption band (annual consumption between 525 and 5,254 m3) include Denmark, Sweden, the Netherlands, Austria, Germany, Portugal, Ireland, Spain and France. For Sweden, the Netherlands, Denmark and Italy these price levels are also a result of significantly high tax rates.

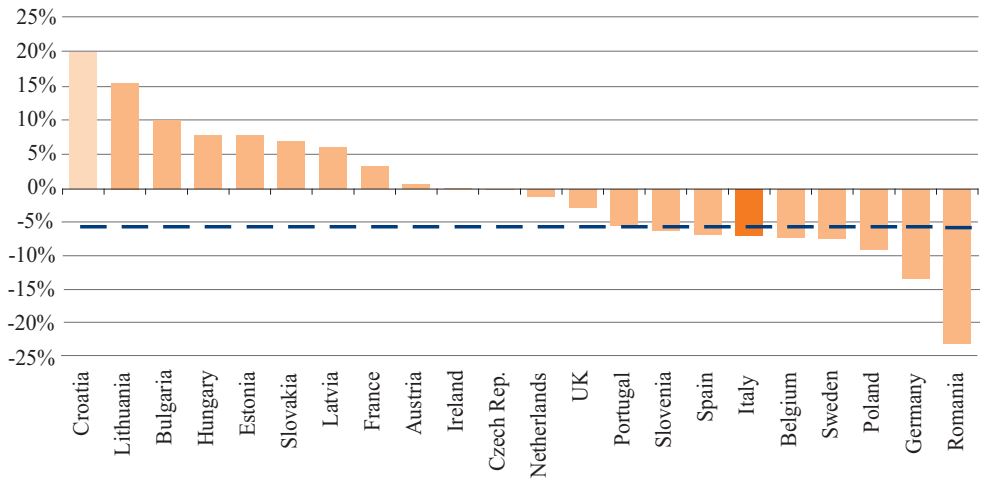
Again for this same consumption category, the average European price net of taxes fell by 5.9% with respect to 2008. At the national level, the countries with the most significant reductions are Germany (down 13.2%), Sweden (down 7.3%), Italy (down 6.8%) and Spain (down 6.6%). Increases are seen mainly in the countries of Eastern Europe and, to a lesser degree, in Austria and France (Fig. 1.20).

Compared with the principal European countries, net Italian prices for the first two domestic consumption bands were higher than those of the United Kingdom and lower than those of France, Germany and Spain. For consumption of more than 5,254 m^3 per year, the Italian price is in line with those of Germany and Spain, and higher than the price paid in the United Kingdom (Fig. 1.21).

FIG. 1.20

Change in natural gas prices for domestic users

Percentage change in prices(A) net of taxes for annual consumption of between 525.36 and 5,253.60 m^3; 2009-08



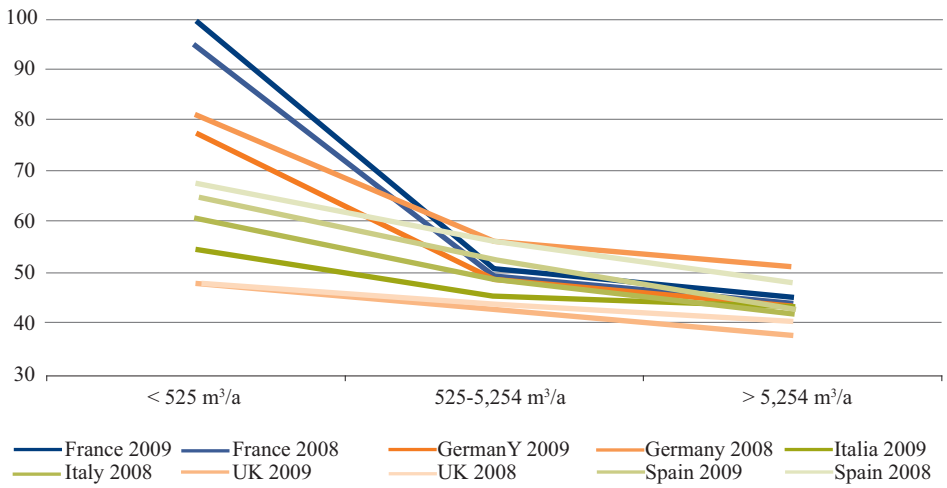
(A)The dotted line represents the change in the average price weighted by national consumption for domestic uses in the European Union, calculated by Eurostat. The chart also shows the price change for Croatia, which is not a member of the EU.

Source: AEEG, from Eurostat data.

FIG. 1.21

Natural gas prices for domestic use for the main European countries

Prices net of taxes;
c€/m³



Source: AEEG, from Eurostat data.

Prices for industrial users

In 2009, the gross prices paid by Italian enterprises for the use of gas (excluding non-energy and electricity generation uses) were around 10% higher than the European average for consumption bands up to 263 k(m3)/year. For higher consumption levels, prices were moderately lower.

As for prices net of taxes, Italian prices were 4% to 10% higher than the European average for all consumption categories (Tab. 1.15). For the 2.63-26.27 M(m3)/year consumption band, gross prices in Denmark, Sweden, Germany and Belgium, penalised by their high tax levels, were higher than the European average. Portugal, the United Kingdom, Ireland and Spain, on the other hand, together with Italy and some Eastern European countries, had relatively lower prices. Compared with the previous year, final prices net of taxes for the same consumption class were 14.3% lower in Italy. This reduction was greater than the average European fall, of 13.2%. With the exception of Bulgaria, natural gas prices fell in all the countries of the European Union for which figures are available for the years under comparison, as shown in Fig. 1.22.

TAB. 1.15

Natural gas prices for industrial consumers, 2009

Prices net of taxes; c€/m³

	CONSUMERS BROKEN DOWN BY ANNUAL CONSUMPTION (m3)									
	< 26		26-263		263-2,627		2,627-26,268		26,268-105,072	
	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS
Austria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belgium	44.08	55.11	38.77	48.29	31.98	40.05	30.02	39.46	24.55	32.57
Bulgaria	30.99	37.18	30.33	36.39	27.98	33.58	25.45	30.53	24.88	29.86
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	48.86	99.60	48.86	99.60	24.43	68.96	22.59	66.67	n.a.	n.a.
Estonia	29.44	37.34	27.30	34.23	24.88	31.43	23.83	29.98	23.65	29.46
Finland	n.a.	n.a.	n.a.	n.a.	29.31	38.26	28.55	37.12	26.46	34.83
France	45.40	55.01	39.14	47.47	34.76	42.28	29.43	34.76	26.21	30.42
Germany	42.68	55.87	40.83	53.66	36.83	48.92	32.09	43.27	27.01	37.23
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	51.81	58.80	38.15	43.25	31.62	34.95	28.82	30.89	n.a.	n.a.
Italy	**44.45**	**62.20**	**41.35**	**52.85**	**33.90**	**39.60**	**30.15**	**33.35**	**29.40**	**31.75**
Latvia	43.61	52.86	39.05	47.30	35.30	42.74	32.77	39.70	30.01	36.38
Lithuania	34.30	40.85	33.13	39.46	31.00	36.92	25.84	30.85	n.a.	n.a.
Luxembourg	48.39	52.33	43.38	47.34	40.05	42.96	27.14	29.28	n.a.	n.a.
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	46.48	77.93	41.09	65.08	33.86	47.63	29.99	38.95	24.67	30.23
Poland	37.03	45.18	34.34	41.90	30.63	37.36	26.69	32.56	23.85	29.10
Portugal	53.33	56.01	39.76	41.75	32.42	34.04	25.66	26.93	28.60	30.03
United Kingdom	40.90	48.55	29.98	36.24	25.73	31.02	23.34	27.78	17.65	20.73
Czech Rep.	42.34	51.84	34.44	42.44	30.86	38.18	27.58	34.28	26.43	32.91
Romania	17.71	29.42	17.54	28.86	17.07	28.11	15.98	24.81	16.27	24.07
Slovakia	48.02	57.98	42.22	51.08	37.78	45.78	34.03	41.33	32.03	38.95
Slovenia	53.03	67.25	50.21	63.86	38.39	49.66	n.a.	n.a.	n.a.	n.a.
Spain	46.97	54.48	35.70	41.42	30.89	35.84	26.62	30.88	24.40	28.30
Sweden	51.87	73.04	46.68	66.77	38.41	56.17	31.96	48.11	30.86	47.00
Hungary	42.76	53.65	41.24	51.76	33.42	42.08	28.44	35.99	27.53	34.90
Croatia	28.09	34.38	28.09	34.38	28.09	34.38	28.09	34.38	n.a.	n.a.
Norway	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
EU(A)	**42.68**	**56.14**	**37.73**	**48.60**	**32.27**	**40.63**	**28.38**	**35.32**	**n.a.**	**n.a.**

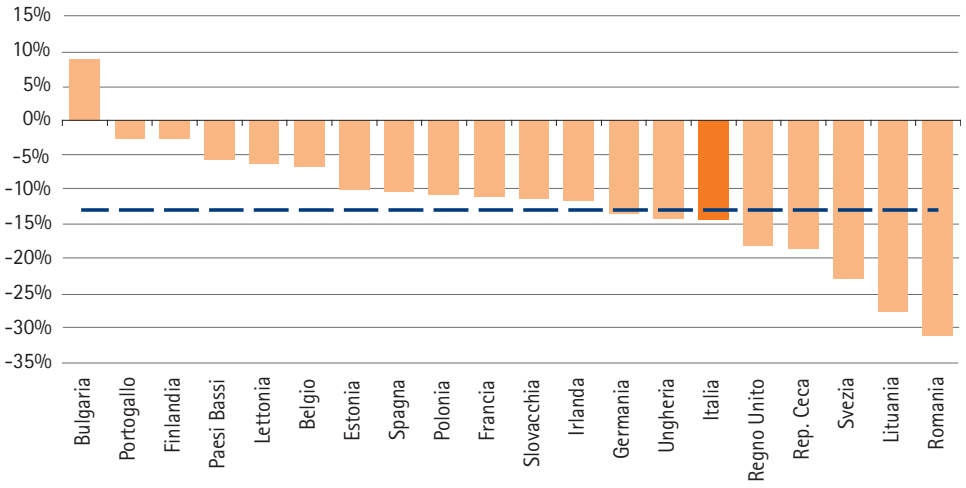
(A)Average price for the European Union (22 countries) calculated by Eurostat, weighted by the most recent figures available on national industrial consumption. If any price is not available or is published late, Eurostat, for the sole purpose of calculating the EU aggregate value, estimates the missing price using the harmonised consumer price index.

Source: AEEG, from Eurostat data.

FIG. 1.22

Change in natural gas prices for industrial uses

Percentage change in prices(A) al net of taxes for annual consumption of 2,63 e 26,27 M(m^3); 2009-2008



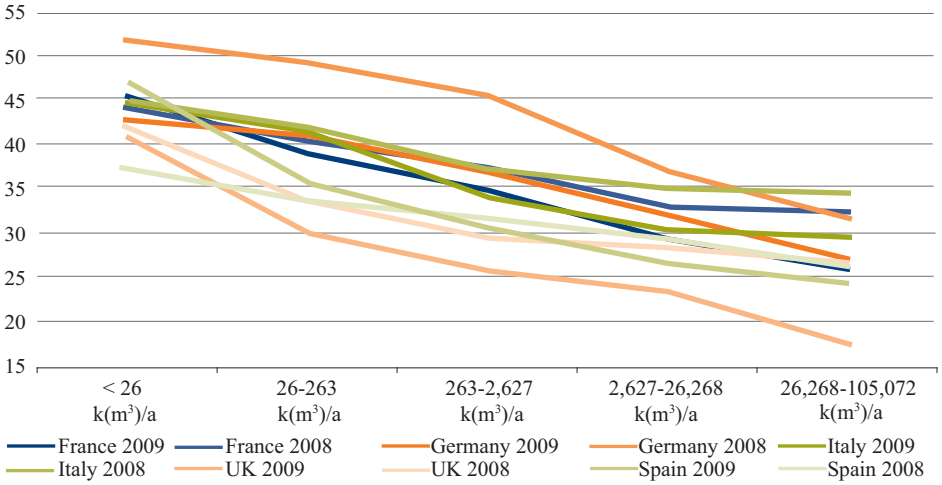
(A)The dotted line represents the change in the average price weighted by national industrial consumption for the European Union calculated by Eurostat.

Source: AEEG, from Eurostat data.

FIG. 1.23

Natural gas prices for industrial uses for the principal European countries

Prices net of taxes; 2008-2009; c€/m^3



Source: AEEG, from Eurostat data.

European Emission Trading System

The European Emission Trading System (EU ETS) introduced with Directive 2003/87/EC, entered into force on 1 January 2005.

Emissions trading, which is one of the measures adopted to meet the Kyoto Protocol commitments, envisaged an initial "running-in" period in 2005-07 (Stage 1). This is viewed as a lead-up to Stage 2 (2008-12), during which the emissions reduction targets envisaged by the Protocol (of 8% with respect to 1990 for the European Union (15 countries) and of 6.5% for Italy) should be achieved.

On 17 December 2008 the European Parliament approved the Commission's proposal to amend the current trading scheme, as defined by Directive 2003/87/EC, for the years following 2012. The new Directive was formally adopted at the end of March 2009. For more detail on the review of the EU ETS with effect from 2013, see the Annual Report for 2008 and Chapter 1 of this volume.

Quotas and actual emissions in 2008-09

The compliance schedule for enterprises subject to the EU ETS requires them, by the end of March of each year, to submit their actual emissions for the previous year. By the end of April, they must surrender the corresponding quotas.

It is therefore possible to compare actual emissions in 2008-09 with the allocated quotas. The data from the Community Independent Transaction Log (CITL) at 16 April 2010 show a 13.6% reduction in emissions at the European level in 2009 with respect to the previous year[3].

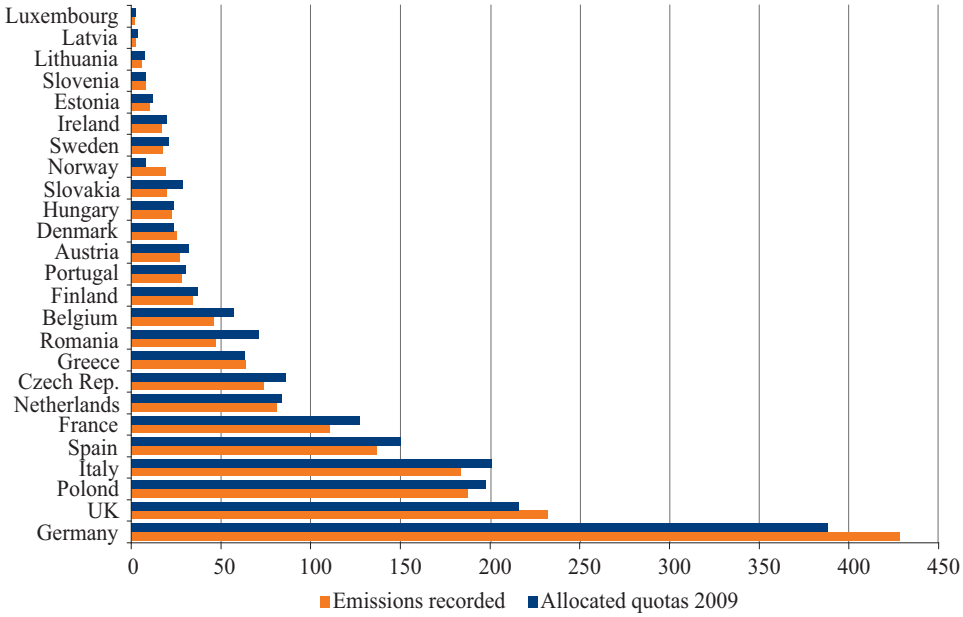
The data for plants that have sent in their emissions data for 2009 show an over-allocation of quotas of just under 69 MtCO2. The countries contributing to this outcome are above all Romania (about 24 $MtCO_2$), Italy (18 $MtCO_2$) and France (17 $MtCO_2$). Other countries, including Germany (40 $MtCO_2$) and the United Kingdom (16 $MtCO_2$), recorded an under-allo-

3 At this date, the emissions coverage quota, calculated as the percentage of the quotas allocated to compliant installations with respect to total allocations, was 100% in 2008 and 98.6% in 2009. .

FIG. 1.24

Allocations and actual emissions in 2009(A)

$MtCO_2$



(A)The chart does not include countries where no installations submitted emissions data

Source: AEEG, from data extracted from the European CITL at 26 April 2010.

cation. It should be noted that the log is up-dated daily and reflects all permit changes (for example, changes in allocations for the opening of new installations and/or expansions or closure of existing plants, as well as data adjustments).
For Italy, in particular, for the sectors subject to the EU ETS, emissions amounted to 183.5 MtCO2 in 2009. If we also consider allocations to installations that did not submit their emissions data, the figures show an over-allocation of more than 20 MtCO2. Trends in the production of steel and of lime and cement made a decisive contribution to this result. Of less significance was the over-allocation in the combustion plant sector.

TAB. 1.16

Actual emissions and quotas for Italy, 2008-09

$MtCO_2$

PRODUCTION SECTOR	2008			2009		
	EMISSIONS VERIFIED	ALLOCATIONS	DIFFERENCE	EMISSIONS VERIFIED	ALLOCATIONS	DIFFERENCE
Combustion plants	143.1	132.7	10.4	122.1	123.8	–1.7
refineries	24.7	19.7	5.1	22.0	18.6	3.4
Steel production	15.5	18.8	–3.3	8.6	18.8	–10.2
Lime and cement production	28.7	31.0	–2.4	23.3	30.8	–7.5
Glass production	2.9	3.1	–0.1	2.6	3.0	–0.4
Ceramics production	0.5	0.8	–0.3	0.4	0.8	–0.4
Cardboard and paper pulp	4.8	5.1	–0.4	4.3	4.9	–0.6
Other plants	0.4	0.4	0.0	0.3	0.4	–0.1
Plants that did not submit emissions data	–	0.1	–0.1	–	2.8	–2.8
All sectors - Total	**220.7**	**211.8**	**8.9**	**183.5**	**204.0**	**–20.5**

Source: AEEG, from data extracted from the European CITL at 16 April 2010.

Price per ton of CO_2 in 2009

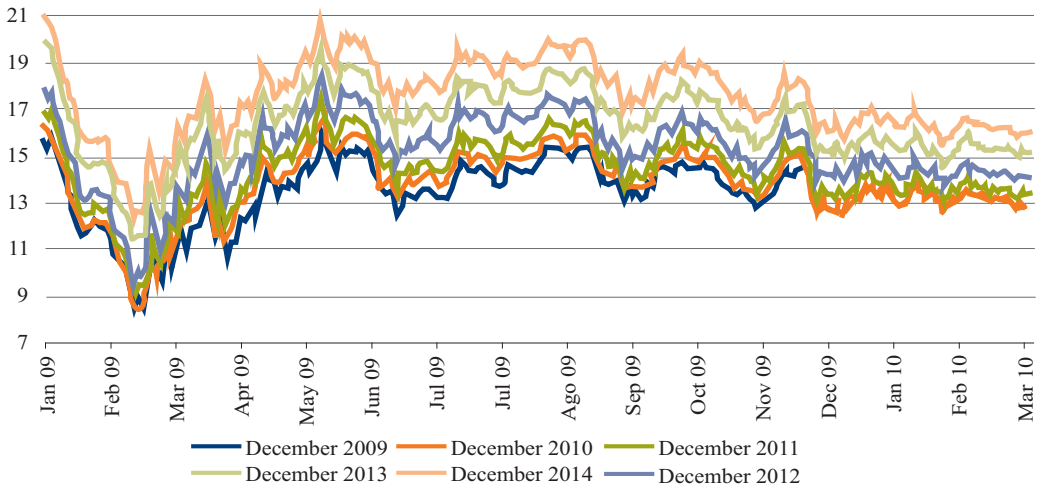
In the European Union Allowance (EUA) Emission Trading market, trading in 2009 exceeded 6 billion tons of CO_2, for a total value of about 89 billion euros.

The price of the emissions futures contract due in December 2009 fell sharply in February 2009 to just over 8€/tCO_2. In the course of the year the price oscillated between 12€/tCO_2 and 16€/tCO_2.

FIG. 1.25

CO_2 Future price trends on the ECX exchange

€/tCO_2



Fonte: Elaborazione AEEG su dati ECX.