Autorità per l'Energia Elettrica e il Gas
(AEEG)

ANNUAL REPORT ON THE STATE OF SERVICES AND THE REGULATORY ACTIVITIES

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Autorità per l'Energia Elettrica e il Gas (AEEG)

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Crude Oil Price

After more than doubling from around 70 $/barrel in summer 2007 to a peak of nearly 150 $/barrel in July 2008, the price of oil dropped to under 40 $/barrel in just 3 months with the emergence of the global economic crisis in all its might. By way of comparison, the a similar fall of prices from the peak of 1981 occurred over a period ten times longer (Fig. 1.1). The 2008 low was reached in December with WTI crude oil at 30.3 $/barrel. However, at the beginning of the new year, the situation has not improved significantly with WTI falling beneath 40 $/barrel on various occasions in January and February. In March, the price initially grew back to 40$/barrel, then to around 50 $/barrel in April and later to significantly above 60 $/barrel.

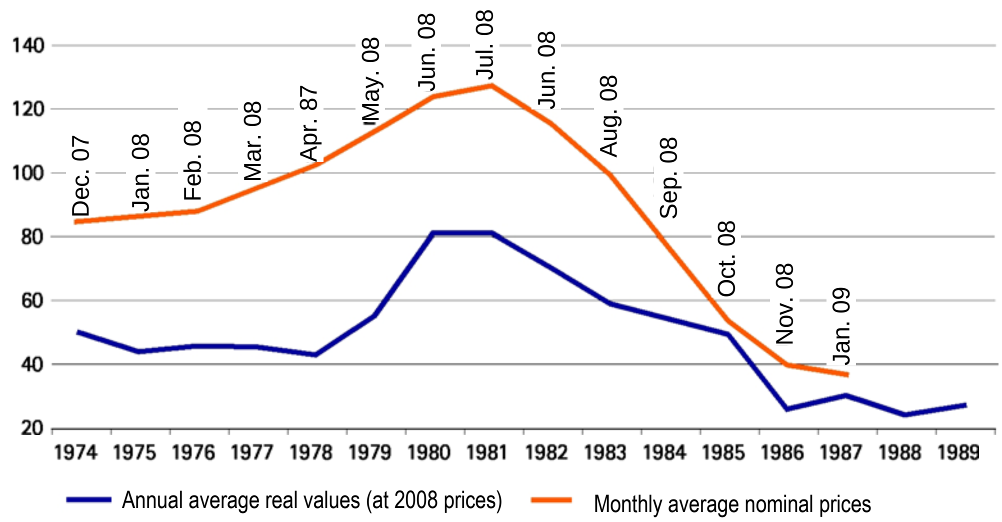
The degree of market anomaly during the first quarter of 2009 is evidenced by the price differential between WTI and Brent crude, normally in favour of the former. In the early months of the year, the price of Brent was most of the time (70% of trading days) above that of WTI, on many occasions more than 7 $/barrel greater and over (Fig. 1.2). Such behaviour is a consequence of the high level of crude stocks in the USA and of the strong differential in refining margins in February, greater than 10 $/barrel in the Gulf of Mexico compared to Northern Europe. A similar difference in margins was seen also in September 2008, but with commercial stocks close to the minimum, the differential remained positive.

The market sentiment remains highly uncertain. While in July futures markets had abruptly shifted from a prevalence of long to short-term positions, in December they had moved in the range of 40 and 50 $/barrel in continuous contango[1] with the day's quotations, suggesting that traders had more faith in recovery than in a continuing decline. But uncertainty, if not persistent pessimism were confirmed by the return from contango in the early months of 2009.

FIG. 1.1

The dynamics of oil price decline[A)]: comparison with the peak of the 1980s

$/barrel



(A) Average annual values for period 1974-1989; average monthly figures for period December 2007 – March 2009. Figures of the 1980s are revalued at 2008 prices.

Source: International Energy Agency.

The weakness of the fundamentals in the current year, particularly the strong slowdown in demand under conditions which make agreed OPEC productions cuts seemingly difficult to maintain – above all in a context of high stock levels – makes a rapid return to the crude oil price levels of early 2008 unlikely. In fact, such levels reflected an intensification of demand and supply conditions over the previous 2 years in the wake of strong world economic growth. A clear sign of the current uncertainty is the price rally in April-May 2009 in the presence of a continuing decline in consumption which may prelude to a revival of speculation related to the recovery of Exchanges.

Influence of Financial Markets

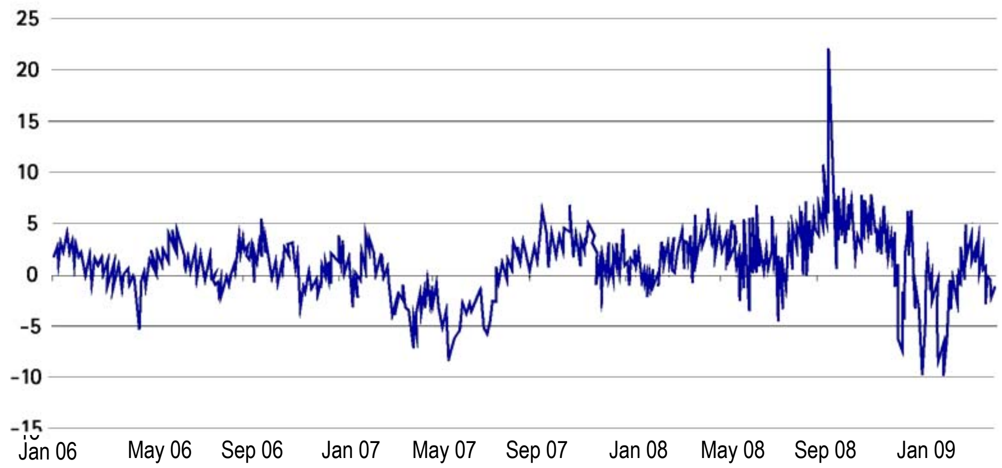
A key indicator is the trend of the euro/dollar exchange rate. The close correlation between dollar strength and oil price is shown in figure 1.3. The favourable trend of the euro/dollar exchange rate in the first part of 2008 had resulted in mitigating the oil price increase for European consumers, while the worsening context in the last months of the year slowed down the fall in prices. What is most striking is not so much the correlation between the oil price growth and the loss in dollar value until May 2008, which reflects the response to the loss of purchasing power in the producing countries, but rather the concurrence of

1 A condition whereby deferred deliveries are worth more than immediate deliveries, acting as a disincentive for traders who speculate on the difference between the stowage cost and the income of futures.

FIG. 1.2

Differential between WTI and Brent spot prices

$/barrel



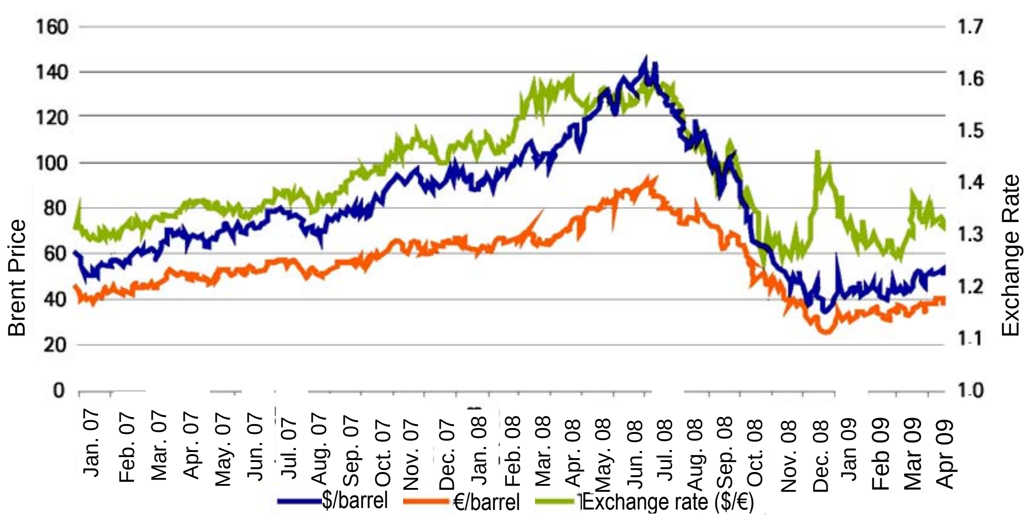
Source: *Icis Lor* for Brent and DOE prices, *Energy Information Administration* for WTI prices.

the dollar recovery against the euro and the oil price collapse in July, as well as the oil price sensitivity to the rise of the euro in August, September and October. This strong correlation, however disappeared in the following months and the escalation of the value of the euro against the dollar between mid-December and the early days of January had no apparent effect on the price of Brent. In any event, the parallelism between the slow oil price recovery and the worsening of the dollar/euro exchange rate in the early months of 2009 is quite evident.

The oil price trend in the first half of 2008 illustrates the capacity of financial markets to amplify even weak signals on the demand and supply sides. That the oil price response to the fundamentals was intensified by speculative finance is evident from the fact that 70% (occasionally as much as 90%) of sales contracts in the futures market were signed not by oil and gas related companies, but by investors whose profits derive from the repeated trading of paper barrels before the physical barrels eventually end up on the market. In the absence of an obligation to physically deliver the underlying commodities, derivatives have turned from useful expedients for price risk management to largely speculative instruments ultimately causing an increase in the cost of energy. Moreover, the effect of speculation on

FIG. 1.3

The price of Brent and the Dollar/Euro exchange rate



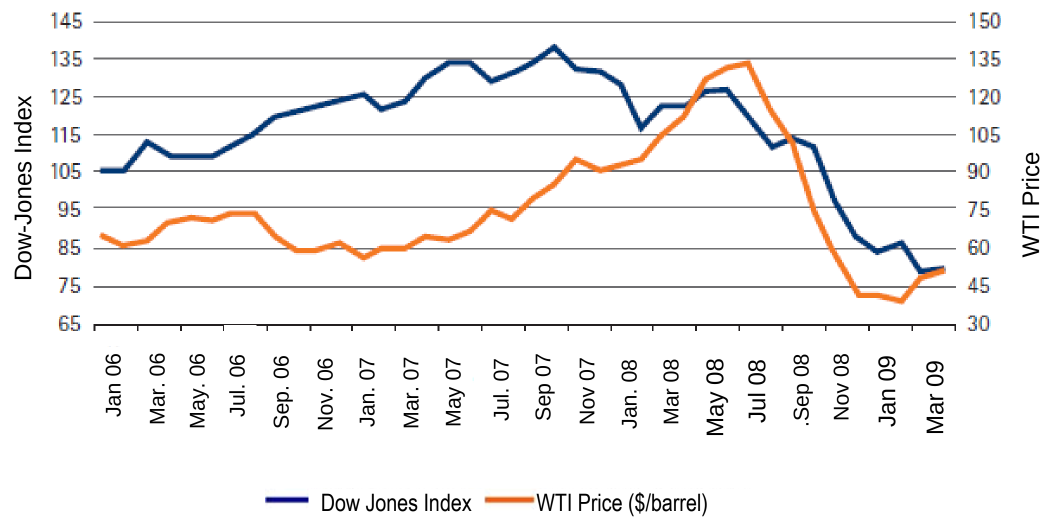
Source: Platt's and European Central Bank.

non-regulated markets should not be underestimated.

The oil price collapse since July 2008 has revealed the role played by financial speculation in the phenomenon as a whole. So short-lived a cycle as that of crude oil price in 2007 and 2008, marked by a tripling in prices in 18 months, abruptly followed by shrinking prices to values below the initial levels over the next 6 months, could not originate from the fundamentals of demand and supply, though these indeed provided support to the price increases. The turning point in July coincided with the dollar appreciation against the euro and the beginning of the worldwide meltdown of financial markets (Fig. 1.4).

FIG. 1.4

Dow Jones Index and crude oil price



Source: Dow Jones and Bloomberg.

OPEC Oil Supplies

OPEC's production strategies do not seem to have had any significant effect on oil prices. After the cut of 1.5 million barrels/day with effect from 1 November, the price of Brent further lost ground shrinking from values above 60 $/barrel to below 40 $/barrel in one month. The Oran agreement in December for a further cut of 2-2.5 million barrels/day also did not result in a significant oil price increase. Even the 1.3 million barrels/day reduction agreed in January 2009 failed to compensate for the increase in crude oil stocks of 0.7-0,.8 million barrels/day. In the March summit, OPEC did not opt for new cuts to production and declared its willingness "*not to cause harm to the health of world economy*", a position which was confirmed in the May meeting. As a whole, the production cuts amounting to 4.2 million barrels/day decided by OPEC between October 2008 and January 2009 were apparently not decisive in the determination of the oil price, as if supply were no longer a variable of the system. Yet, based on the estimates of the IEA (International Energy Agency), Member Countries were on average 83% compliant with their production quotas compared to a historic average closer to 60%. Despite the oil price collapse of mid 2008, the strong rise in the first half of the year resulted in a disproportionate increase of OPEC Member Countries' revenues in comparison with the previous years, which can be estimated at around 1,000 billion dollars against an average of 200 billion in the three years from 2000 to 2003. However, the situation for the single countries belonging to the cartel is extremely diversified in terms of population and economic and social development. While Saudi Arabia finds a price of 50-55 $/barrel sufficient, Iran targets prices of at least 70-80 $/barrel, and Venezuela 110 $/barrel.

Saudi Arabia, which accounts for one third of OPEC's output and is consequently in a position to influence it, has always declared its objection to extremely high prices of crude oil because they risk prolonging the world recession and making renewable sources of energy cost effective, consequently reducing margins for oil. However, current output, which has shrunk to 8 million barrels/day, has now reached a level that may be considered a lower technical limit of production for oil fields in this country.

World Oil Balance

The economic and financial crisis has spared no area or country. Oil demand in OECD countries, which was

TAB. 1.1

World Oil Demand and Supply from 2004 to 2009

Million barrels/day

	2004	2005	2006	2007	2008	2009
DEMAND						
OECD Countries	**49.4**	**49.8**	**49.6**	**49.2**	**47.5**	**45.9**
North America	25.4	25.6	25.4	25.5	24.3	23.5
Europe	15.5	15.7	15.7	15.3	15.2	14.7
Pacific	8.5	8.6	8.5	8.3	8.0	7.7
Non-OECD Countries	**33.1**	**34.2**	**35.5**	**36.9**	**38.2**	**38.5**
Russia and former USSR	3.9	3.9	4.1	4.1	4.2	4.1
Europe	0.7	0.7	0.7	0.8	0.8	0.8
China	6.4	6.7	7.2	7.5	7.9	7.9
Rest of Asia	8.7	8.8	9.0	9.3	9.4	9.3
Latin America	4.9	5.1	5.3	5.6	5.9	6.0
Middle East	5.7	6.0	6.2	6.5	6.9	7.2
Africa	2.8	2.9	3.0	3.1	3.1	3.2
Total World	**82.5**	**84.0**	**85.1**	**86.0**	**85.7**	**84.4**
SUPPLY						
OECD Countries	**21.2**	**20.3**	**20.0**	**19.8**	**19.3**	**19.0**
North America	14.6	14.1	14.2	14.3	13.9	14.0
Europe	6.1	5.6	5.2	5.0	4.7	4.2
Pacific	0.6	0.6	0.6	0.6	0.6	0.7
Non-OECD Countries	**25.6**	**27.3**	**27.9**	**28.4**	**28.5**	**28.7**
Russia and former USSR	11.4	11.8	12.2	12.8	12.8	12.5
Europe	0.2	0.2	0.1	0.1	0.1	0.1
China	3.5	3.6	3.7	3.7	3.8	3.9
Rest of Asia	2.7	3.8	3.8	3.7	3.7	3.7
Latin America	4.1	3.7	3.8	3.9	4.0	4.3
Middle East	1.9	1.8	1.8	1.7	1.6	1.6
Africa	1.9	2.4	2.5	2.5	2.6	2.6
Other non-OPEC Countries	**1.9**	**2.1**	**2.4**	**2.5**	**2.7**	**2.9**
Refining improvements	1.9	2.0	2.1	2.2	2.2	2.3
Biofuels (A)	0.1	0.1	0.2	0.3	0.5	0.6
Total non-OPEC	**48.8**	**49.8**	**50.3**	**50.7**	**50.6**	**50.6**
Total OPEC (B)	**34.6**	**34.9**	**35.2**	**34.9**	**35.9**	**33.8**
Total World	**83.4**	**84.7**	**85.5**	**85.5**	**86.5**	**84.4**
Stock variations (C)	**0.9**	**0.7**	**0.4**	**-0.5**	**0.8**	**0.0**

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

(B) Refers to Countries belonging to OPEC as on 1 January 2009. Includes gas liquids as well as crude oil. OPEC production in 2009 is calculated as the difference between world requirements and non-OPEC production assuming zero variation in stocks.

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

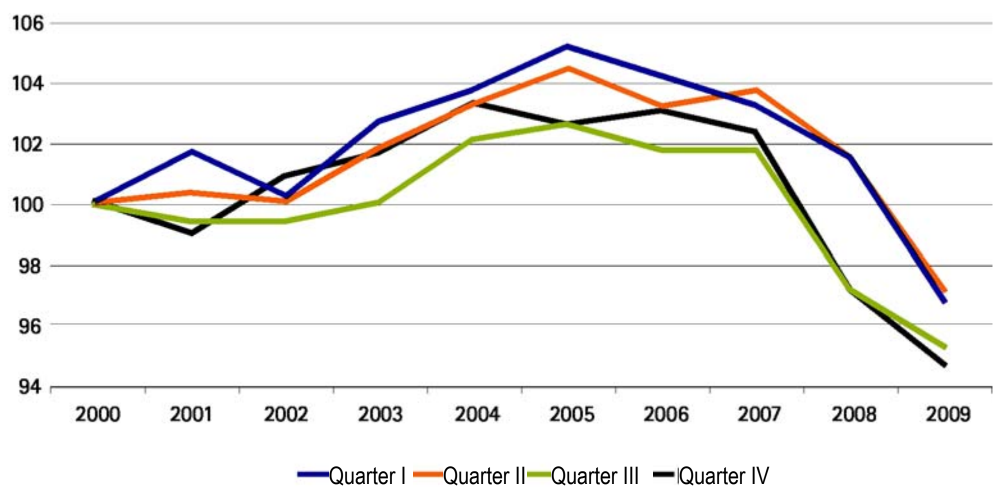
Source: International Energy Agency, *Oil Market Report*.

already falling in the past several years, accelerated its downward trend with a reduction of 2.3 million barrels/day in 2008 compared to 2005 (Tab. 1.1). The effect of the crisis on oil demand is less marked in non-OECD countries, where the increase in consumption in 2008 remained in line with the aggregate's historic trends over the period 2004 - 2007, albeit with significant differences between specific areas. However, a slowdown seems evident starting from the fourth quarter with a flattening of growth in consumption compared to the previous three years (Figures 1.5 - 1.6). In the OECD countries crude production continued to fall from that of previous years. In non-OECD countries, supplies increased only marginally. By contrast, despite the sizeable cuts decided in the second half of 2008, the average annual production of OPEC countries increased significantly: by 1.0 million barrels/day in 2008 compared to 2007 and by 0.7 million barrels/day compared to 2006. The significantly reduced requirements in the OECD area, chiefly in North America (–1.2 million barrels/day in 2008) was reflected almost entirely in increased stocks, which grew from a shortage of 0.5 barrels/day in late 2007 to a surplus of 0.8 million barrels/day in late 2008.

FIG. 1.5

Effect of the Recession on Quarterly Oil Demand in OECD Countries

Oil demand expressed as index numbers with 2000=100

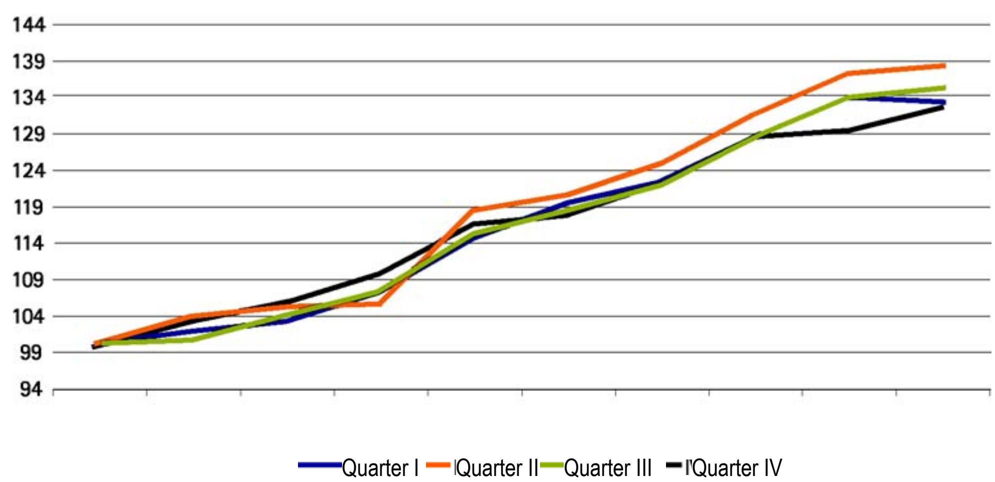


Source: International Energy Agency, *Oil Market Report*.

FIG. 1.6

Effect of the Recession on Quarterly Oil Demand in Non-OECD Countries

Oil demand expressed as index numbers with 2000=100



Source: International Energy Agency, *Oil Market Report*..

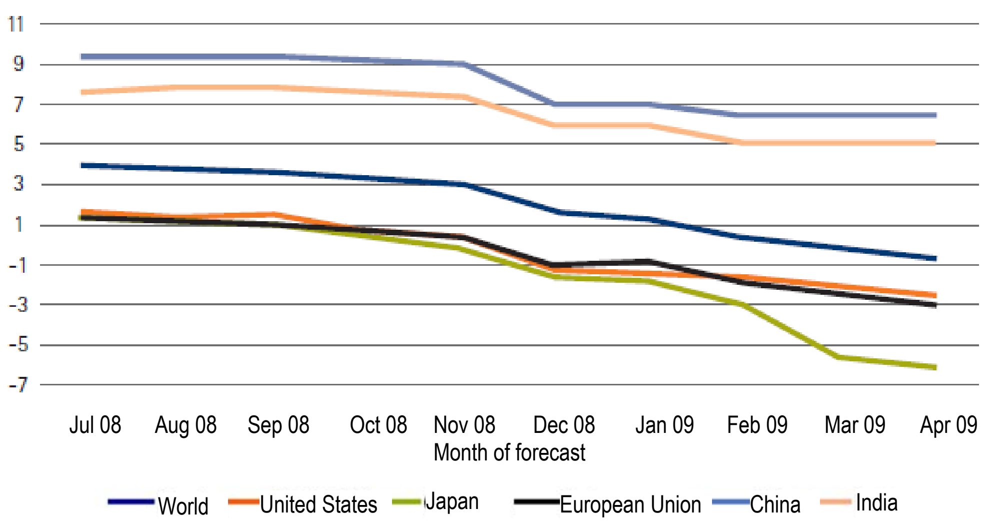
World Economic Trends and Oil Requirements in 2009

The slowness with which international institutions realised the gravity of the world economic situation, even after the Federal Reserve's admission in April 2008 that the US economy might be entering a recession, was somewhat surprising. The rest of the year saw a sequel of downward forecasts of world GDP performance in 2008 with the possibility of an unusually severe and long-term recession (Fig. 1.7). The crisis, dominated by a drastic setback in the growth of industrialised countries (United States, European Union and Japan) did not spare emerging economies whose rate of development did not exceed 4.5% in 2008, as compared with 8% in 2007. In a globalised world, whose economic growth depends fundamentally on foreign trade, it was hardly possible for emerging economies to continue to grow while more advanced countries underwent consistent decline.

FIG. 1.7

Forecasts of Global GDP Performance in 2009

Percent growth rate



Source: International Monetary Fund

Forecasts for 2009 were optimistic until the end of 2008, but subsequently fell abruptly in the early months of 2009 with the certainty of a world economic collapse at increasingly negative rates. From 4% in July 2008 and 2% in December foreseen rates of world growth dropped to 0.5% in February 2009 and to –0.8% in April. Among large areas, only China and India were spared, if only at levels well below their historic trends. Moreover, the quarter on quarter variations of Chinese GDP fell constantly from a maximum of 11.5% in the second quarter 2007 to little over 6% in the second quarter of 2009. The deterioration of Indian economy is even worse.

Chances of a rapid recovery of oil demand are remote according to the latest indications of the IEA, which is continually revising its projections downwards. Month after month and for 8 consecutive months, the IEA has reduced its demand estimates for 2009 and has now definitively given up the notion of a rebound in consumptions in the second half of 2009. The IEA March estimates for 2009 point to an overall contraction of world consumption by 1.3 million barrels/day, with world demand expected to stop at 84.4 million barrels/day, down 400,000 barrels/day from the estimates published in February (Tab. 1.1). In the USA, the economic crisis is expected to determine a contraction in consumption to 19 million barrels/day, a level similar to that of 1998.

Even China's growth in oil demand seems likely drop to below 1%, compared to 4% in 2008.

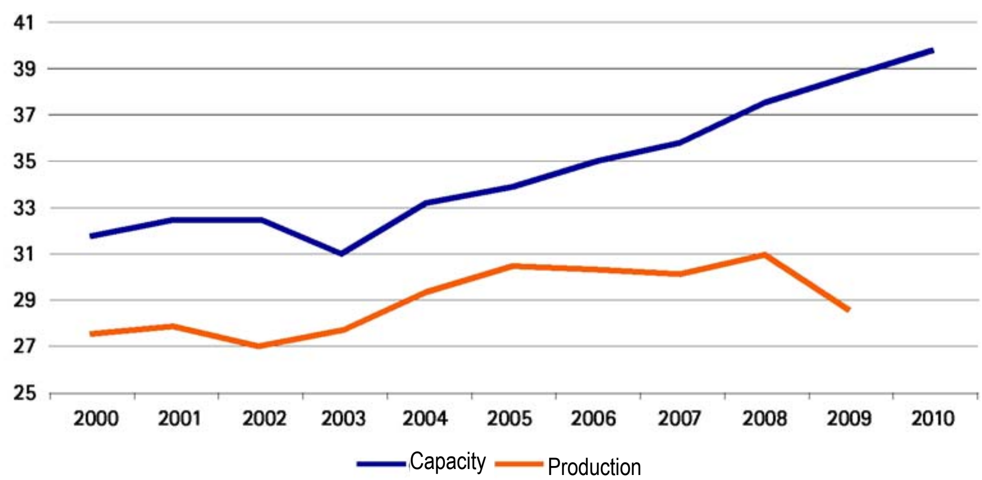
Supply Capacity

World oil production capacity is currently greater than 90 million barrels/day compared to requirements which are unlikely to exceed 84-85 million barrels/day in 2009. OPEC estimates its production capacity at nearly 39 million barrels/day, excluding gas liquids but including Iraq, which compares with the IEA estimate of demand for OPEC crude (call on OPEC) of no more than 29-30 million barrels/day in 2009. Consequently, compared to the situation in the first quarter of 2008 when problems of supply demand balance seemed imminent, production capacity in the first quarter of 2009 appears to be more than sufficient (Fig. 1.8). The problem is rather that of stimulating supply at suitable levels to meet demand, when this starts growing rapidly again.

FIG. 1.8

OPEC Production Capacity from 2000 to 2010

Million barrels/day



Source: OPEC, *Monthly Oil Market Report*, April 2009.

Investments

If in the short term low oil prices seem to favour consumers, in the longer term they can only impair the balance between demand and supply due to low levels of investment in new production capacity. The problem regards the oil sector as a whole, including investments in oil sands which at current crude prices are no longer cost-effective and which are unlikely to resume before 2013.

The price slump has had an immediate effect on the number of oil rigs in operation, which is a primary indicator of upstream investments. The number of operating rigs increased continuously as oil prices grew over the last few years, chiefly in the United States where it almost doubled from 1,119 in the first quarter of 2004 to 1,978 in the third quarter of 2008, before starting to fall rapidly later in the forth quarter and, to a greater extent, in the first quarter of 2009 (Fig. 1.9). The figure highlights the much faster response to falling oil price compared to rising prices, where uncertainty in the evaluation of investment risk plays a decisive role.

The IEA expects a fall in the exploration and development expenditure by 20% in 2009, a doubling compared to the previous forecast of late 2008. The cutback on investments is

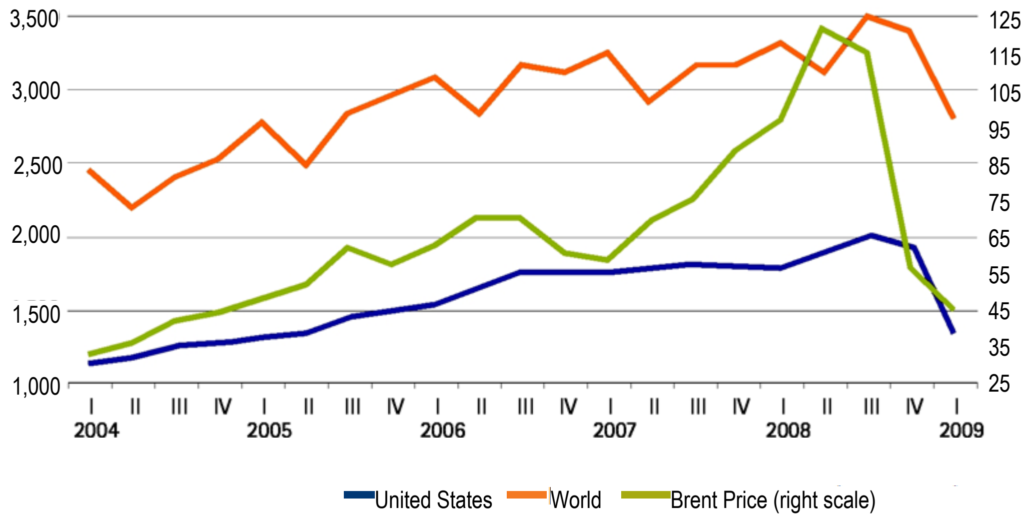


FIG. 1.9

Drilling Rigs operating in 2004 to 2009

Number of operating rigs and Brent price in $/barrel

Source: *Baker Hughes International*.

result in a production loss of 2.5 million barrels/day as early as in 2009 and of 3 million in 2010, chiefly in non-OPEC countries, where a reduction of at least one million barrels/day is envisaged. Delays in upstream production development projects also impact on investment in new refineries. The refinery capacity which is estimated to come on line over the next five years (mainly in the Middle East, China and other Asian countries) amounts to nearly 8 million barrels/day, but three quarters of this are considered at risk and will not be available when needed, unless the demand for distillates resumes within a short time. Significantly, in long-term forward contracts (2 to 5 years and beyond) oil prices tend to rise considerably to 80 $/barrel (for example in the case of WTI for delivery in December 2015). The power of forward contracts reflects the concern that, when the credit crisis is over and the world economy recovers, supply will no longer meet demand except at much higher prices.

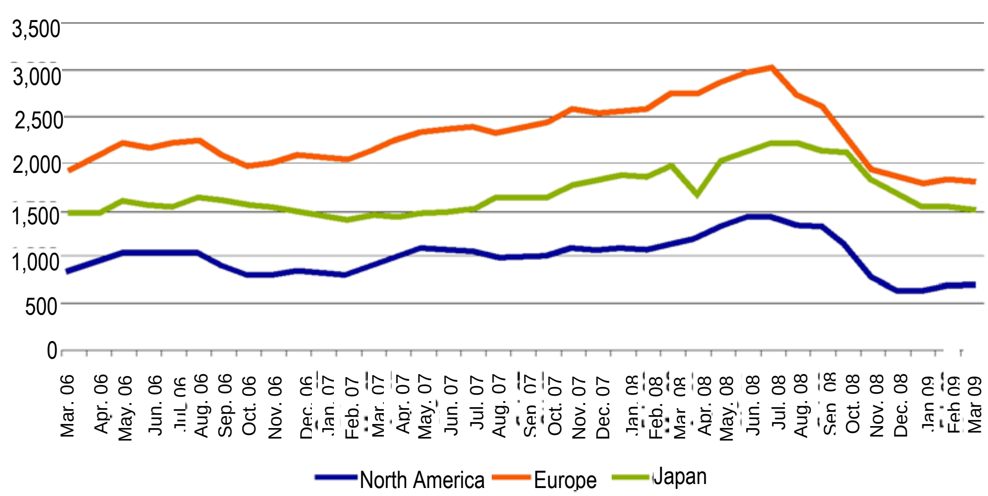


FIG. 1.10

Gasoline Consumer Price from 2006 to 2009

Retail prices in $/toe

Source: International Energy Agency.

Prices of Refined Products

International quotations of refined products followed crude oil price trends without significant delay but in highly diversified ways depending on distillate and geographical area. The differences between the three OECD areas (Fig. 1.10 shows the case of gasoline by way of example) are mainly due to a different tax treatment and much less to crude price and refining margins. The price profiles observed for the three areas is surprisingly similar with deviations from the monthly average usually below 57%. However, the ratio between the peak price of July 2008 and the price in March 2006 varies considerably between products depending on the different demand and supply characteristics: 1.6 for gasoline; 1.7 for automotive gas oil; 1.9 for heating gas oil; 2.1 for fuel oil. The time dependence is also influenced by the different tax policies implemented in the three areas considered, as can be seen in table 1.2 in which the tax component of the final price in April 2008 is compared to that of final price in March 2009.

TAB. 1.2

Percentage Share of Taxes in the retail Price of Oil Products between April 2008 and March 2009

PRODUCTS	APRIL 2008	MARCH 2009	AVERAGE	INCREASE (%)
Gasoline				
North America	19.9	28.1	23.1	41.3
Europe	58.1	67.4	61.3	16.0
Japan	28.3	54.6	43.0	92.9
Automotive gas oil				
North America	16.2	26.2	18.8	62.0
Europe	40.4	52.9	43.2	31.0
Japan	18.6	37.4	29.0	100.7
Heating gas oil				
North America	8.2	9.2	8.3	12.4
Europe	28.1	35.1	29.6	24.8
Japan	6.8	7.9	7.0	16.4
Fuel oil				
North America	0.0	0.0	0.0	-
Europe	5.6	8.7	6.3	54.4
Japan	4.8	4.8	4.8	0.0

Source: International Energy Agency.

Refinery Utilisation and Refining Margins

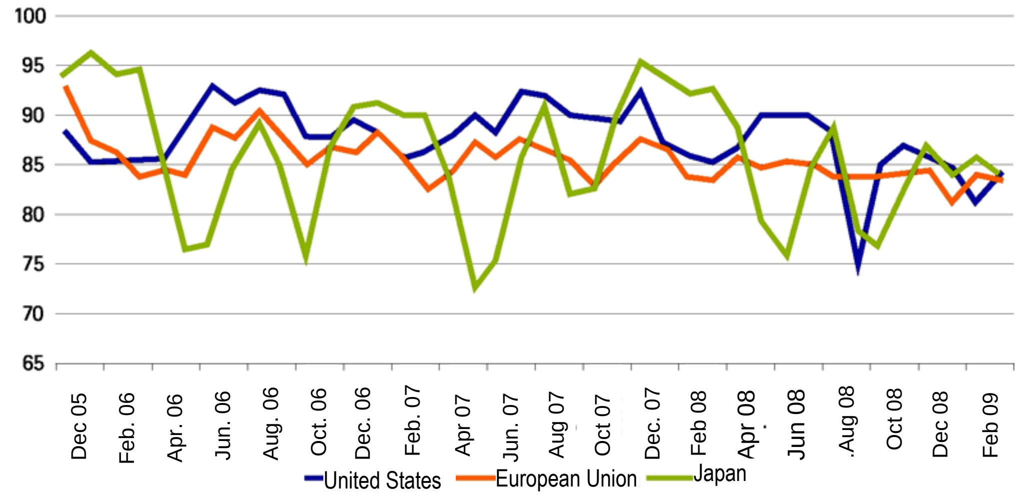
The long term decline in utilisation of refining capacity, which has characterised OECD countries for many years, continued throughout 2008 even if fluctuating in response to oil price changes, crude and distillate stocks and refining margins. From values of around 90% in late 2005, the rate of utilisation has decreased to values below 85% in the early months of 2009 with strong monthly variations chiefly in Japanese refineries, but also in US refineries (Fig. 1.11). Such performance is by no way surprising considering the stagnant consumption of oil products in OECD countries over the last 5 years.

Crude stocks in 2008 remained almost always below the average of the period 2005 to 2007 in the three OECD areas considered. With the exception of Japan, product stocks also remained lower than or close to the average of the previous 3 years. Crude and product stocks, however, started to rise again in 2009. Especially in the USA, the fall in products demand contributed to swell commercial stocks to levels above historical peaks, especially in the case of crude stocks, but also of gasoline and other distillates. The increase of stocks was also encouraged by imports of gasoline and other products from Europe.

FIG. 1.11

Utilisation of Refinery Capacity in 2006 to 2009

Percentage values



Source: International Energy Agency, *Oil Market Report.*

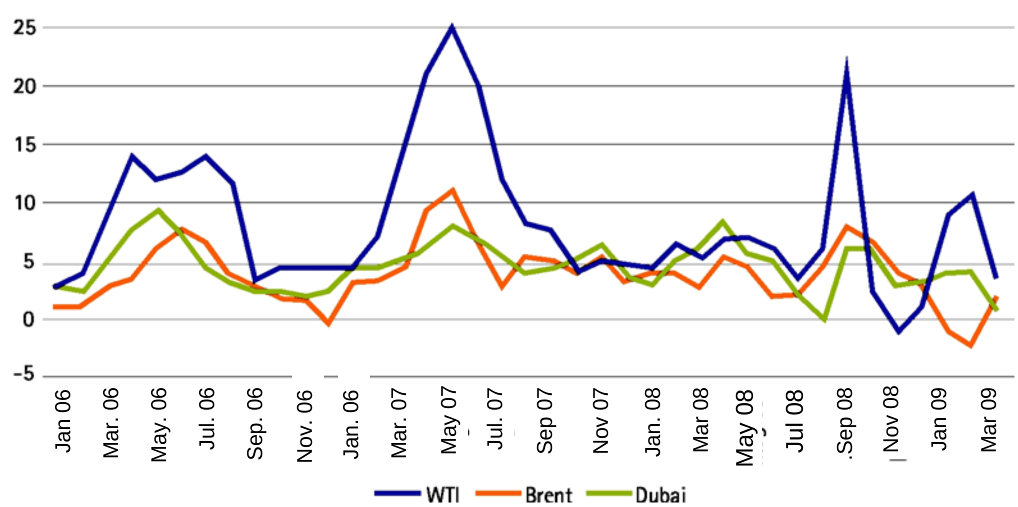
During the first part of 2008, margins remained moderate if not good, at least for the more complex refinery processes, albeit varying considerably in relation to crude oil and distillate prices (Fig. 1.12). Cracking and reforming provided highest margins, particularly in the case of heavier and consequently cheaper crudes. The fall in the price of oil in July initially caused a reduction in margins. Later, in August and September, the one-month delay between the collapse in crude and distillate prices caused a short lived surge in refining margins, which was particularly high for WTI (21 $/barrel), but also significant for Brent and Dubai crudes.

In the last quarter, despite the plunge in crude and distillate prices, refining margins remained generally acceptable, although with significant differences depending on the quality of crudes and the type of processing. In this period, the price of products reflected the strong downward trend in demand and margins plummeted to values close to zero. Sensitivity to external conditions can be inferred from the brief yet very strong rise of the WTI margin in February 2009 in correspondence with the 81% drop in the rate of utilisation in US refineries as a result of earlier than normal maintenance ahead of the more usual spring period.

FIG. 1.12

Refining Margins in the OECD areas in 2008 and in 2009

$/barrel



Source: International Energy Agency, *Oil Market Report.*

The situation remains very uncertain with margins continuously under pressure and close to zero. The decline in economic prospects and in the demand for oil derivatives does not allow optimistic forecasts of refinery utilisation and margins for 2009. Moreover, the insignificance of refining margins, compounded with the slim recovery of crude oil prices in March 2009, restrains the use of refineries.

The International NaturalGas Market

In 2008, the stagnation or fall in oil and coal consumption (see below), experienced almost everywhere in the OECD area, did not take place for natural gas (Tab. 1.3). More specifically, gas consumption grew appreciably in the majority of OECD countries as a consequence of more severe weather than in the two previous years and of increased natural-gas fired electricity generation, in response to more favourable prices compared to coal and oil, at least in the first part of 2008. However, this varied widely with some countries experiencing strong increases (Japan, United Kingdom and Spain) and other countries comparably stromg declines (Australia, Canada and Germany). Nevertheless, the data available for the last few months, clearly indicate that the economic crisis is also reducing natural gas consumption in direct uses, in both manufacturing and power generation. In fact, despite the colder weather, consumption at the winter peak did not vary significantly from that of the previous year, while the gap between the winter and summer peaks either remained constant or diminished (Fig. 1.13).

In the European Union, the 2% increase in gas consumption from 2007 was concentrated in 4 countries (France, Holland, Spain and the United Kingdom) while in the majority of Member States (18 out of 27) the variation was close to zero or negative (Tab. 1.4). Consumption is currently concentrated in residential and services followed by industry; taken together these cover 75% of total demand. In the latest forecasts of the European Commission, the share of electricity generation in total demand is expected to peak at 30% between 2015 and 2020, even under the “20-20-20” objective[2]. Consumption in the generation sector (in both absolute and relative terms) is expected to take place in almost all countries but primarily in Italy, Germany and the Netherlands, while a strong decrease is expected in the United Kingdom and Spain. The high price of gas in international markets during most of the year has favoured domestic production compared to imports, particularly in North America, where the increase in demand was covered entirely by internal resources, accompanied a reduction in imports. The strong increase of production in the Netherlands and Denmark (10.9% and 9.4% respectively) was insufficient to compensate for the fall in production in the United Kingdom, Italy and Germany; as a result imports to Europe rose considerably to meet demand. Domestic production fell also in the Pacific area likewise resulting in strong import growth now covering 86% of consumption, compared to 59% in Europe and 16% in North America.

2 In December 2008 the European Parliament approved the climate-energy package in pursuit of the objectives fixed by the European Union for 2020: reduction of greenhouse gas emissions by 20%, increasing energy energy efficiency by 20% and renewable energy inputs by 20%.

TAB. 1.3

Natural Gas Balance in the OECD area

G(m^3)

	2004	2005	2006	2007	2008
OECD – North America					
Domestic production	759	745	762	782	818
Imports (A)	139	138	133	152	135
from OECD countries	*121*	*120*	*116*	*130*	*125*
from non-OECD countries	*18*	*18*	*17*	*22*	*9*
Exports	129	127	123	135	141
Availability	769	755	771	799	811
Stock variations	–2	–9	12	–15	–10
Consumption	771	764	760	814	821
OECD – Pacific					
Domestic production	42	44	46	48	47
Imports (A)	109	110	122	131	139
from OECD countries	*14*	*17*	*19*	*19*	*19*
from non-OECD countries	*95*	*93*	*103*	*113*	*121*
Exports	12	15	18	21	21
Availability	139	139	151	159	165
Stock variations	1	–1	2	–1	2
Consumption	138	140	149	160	163
OECD Europe					
Domestic production	326	315	308	294	307
Imports (A)	365	394	416	415	438
from OECD countries	*140*	*141*	*152*	*164*	*171*
from non-OECD countries	*225*	*253*	*264*	*251*	*267*
Exports	155	163	176	175	189
Availability	535	546	548	533	555
Stock variations	3	–1	9	–7	5
Consumption	533	547	539	540	550

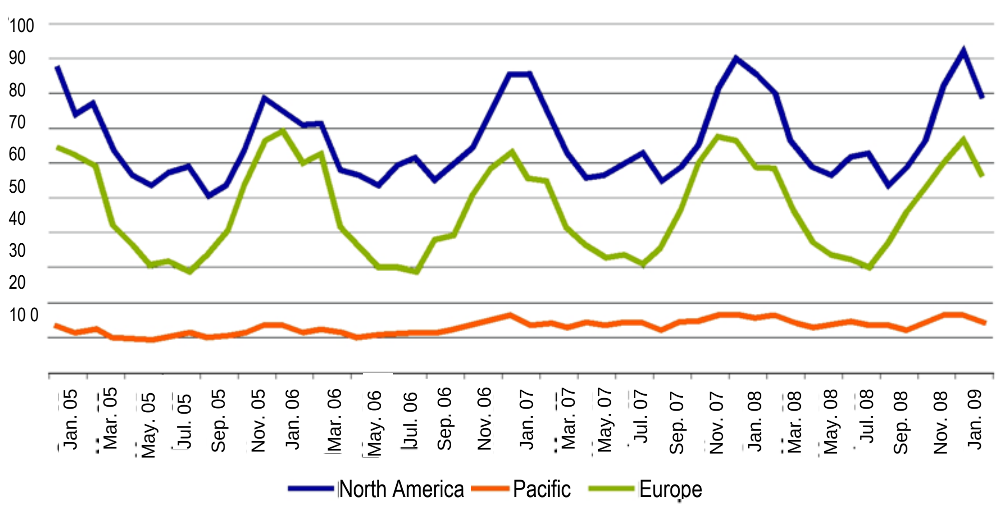
(A) Including imports through internal borders within each OECD area.

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

FIG. 1.13

Monthly Natural Gas Consumption in the OECD areas between 2006 and 2009

G(m3)



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

TAB. 1.4

Sector Gas Consumption in the EU Member Countries over the Last Two Years and Forecasts to 2030

G(m3)

COUNTRIES	YEAR 2007 INDUSTRY	ELECTRICITY GENERATION	RESIDENTIAL & OTHER (A)	TOTAL	YEAR 2008	YEAR 2030 TOTAL CONSUMPTION	ELECTRICITY GENERATION
Austria	3.1	2.9	2.1	8.1	8.6	11.4	2.9
Belgium	6.5	5.4	5.6	17.5	17.6	21.3	8.2
Bulgaria	1.1	0.9	1.4	3.4	3.3	4.5	1.0
Denmark	1.0	0.8	2.4	4.1	4.1	3.3	0.7
Estonia	0.5	0.1	0.5	1.0	1.0	1.1	0.2
Finland	2.3	0.9	1.3	4.4	4.6	5.0	3.0
France	16.7	0.5	28.6	45.8	47.4	53.0	3.6
Germany	37.0	9.8	39.2	86.0	85.1	107.1	24.3
Greece	0.7	2.9	0.3	4.0	4.2	7.7	5.4
Ireland	0.5	3.3	1.2	5.0	5.3	5.5	2.9
Italy	19.6	33.5	29.8	82.9	82.8	114.3	49.4
Latvia	0.3	0.9	0.3	1.6	1.6	2.9	1.2
Lithuania	1.8	1.3	0.3	3.4	3.1	5.0	2.4
Luxembourg	0.4	0.6	0.4	1.4	1.3	1.7	0.7
Holland	15.9	8.1	15.8	39.8	41.4	44.9	15.2
Poland	7.6	1.0	5.3	13.9	14.2	27.7	2.6
Portugal	1.4	1.1	1.8	4.2	4.6	6.9	3.9
United Kingdom	12.2	34.9	50.4	97.6	101.8	83.1	24.9
Czech Republic	4.9	0.0	3.8	8.7	8.7	10.7	1.0
Romania	5.0	4.0	6.5	15.5	14.4	23.1	3.1
Slovakia	2.9	0.0	2.6	5.5	5.5	10.1	2.3
Slovenia	0.7	0.0	0.3	1.1	1.0	1.9	0.4
Spain	19.3	13.1	5.2	37.6	41.4	39.6	10.1
Sweden	0.5	0.4	0.2	1.1	1.0	3.5	0.7
Hungary	1.9	4.5	6.4	12.8	12.7	18.1	5.6
European Union(B)	**163.9**	**130.9**	**211.6**	**506.4**	**516.7**	**613.5**	**175.5**

(A) Including district heating and transmission.

(B) Cyprus and Malta are not supplied with natural gas supplies and are therefore not included.

Source: Eurogas, March 2009.

The indexation to oil products, which governs the majority of natural gas imports in long-term contracts, delayed the price reduction at European borders by more than one quarter. Prices, expressed as the weighted average of major imports, reached their historical peak of nearly 16 \$/MBtu (45 €c/m³) in November 2008 before falling to 14 \$/MBtu in January and to less than 11 \$/MBtu in March 2009 (Fig. 1.14). The price of imports to Japan, which are likewise largely indexed to oil products, reacted similarly. In the USA, the situation is decidedly different with the wholesale price, defined at the New York Mercantile Exchange (NYMEX) in relation to Henry Hub, closely tracking the price of WTI crude oil through arbitrage mechanisms in the retail markets. In March 2009 the price at Henry Hub had dropped to less than 4 \$/MBtu, or one quarter of the price at the July peak.

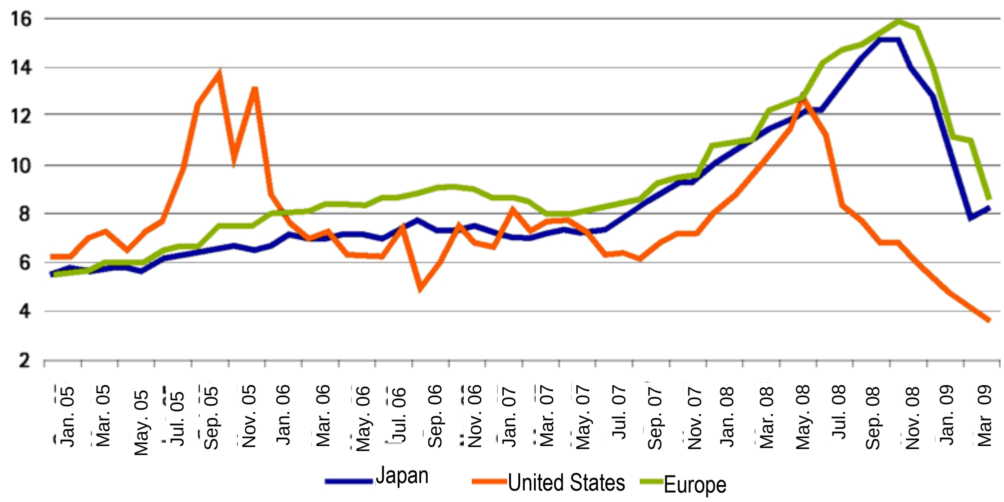
The prices of Russian, Norwegian and Dutch gas, accounting for around 75% of European imports remained very similar throughout 2008 (as also in 2007) almost always with a slight advantage for gas coming from Russia. As in previous years, the price of Algerian gas differed by nearly 20% upwards and downwards respectively for LNG and pipeline imports (Fig. 1.15).

At variance with the US reference price at Henry hub, prices in the European hubs of Bunde/TTF, NBP and Zeebrugge did not closely follow the price of oil, probably in relation to concern for such events as the war in Georgia, the military intervention in Gaza and the supply interruptions resulting from the Russian-Ukrainian dispute (Fig. 1.16). However, it seems quite plausible that traders also adopted a strategy of adhering to the much more favourable prices in long-term contracts linked to oil that still prevail in the European market. In this way, earnings linked to the oil bubble could be extended by several months. If trading exchanges had functioned perfectly, the price at the hubs would have fallen to less than 15 €c/m^3 as early as early as September 2008, while this value was attained only in March 2009, little more than one month in advance of average prices at European borders.

FIG. 1.14

International Gas Prices(A) from 2005 to 2009

$/MBtu



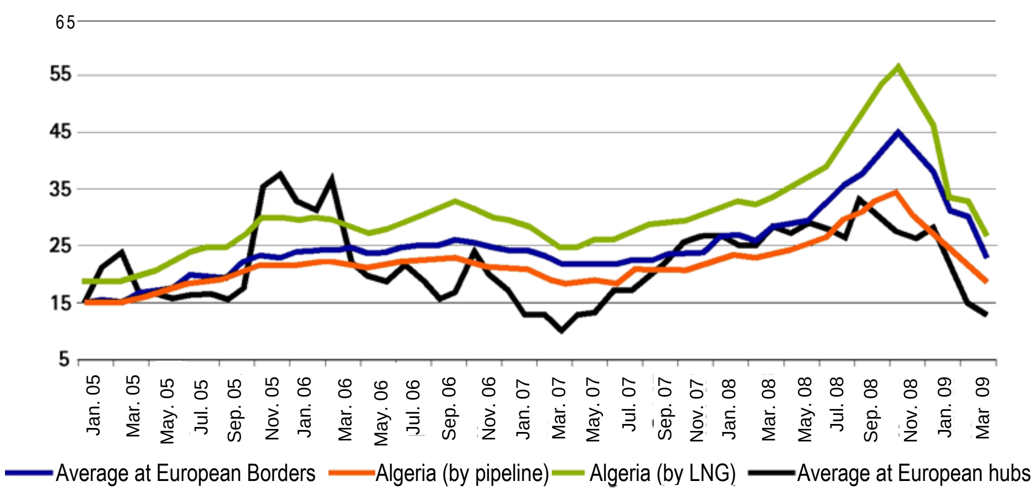
(A) The average price for Japan does not include the regasification charge, which is in any case below 1 $/MBtu. The price for the USA refers to Henry Hub. The price for Europe is calculated as the average of prices at borders.

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

FIG. 1.15

Natural Gas Prices in European Markets

c€/m^3



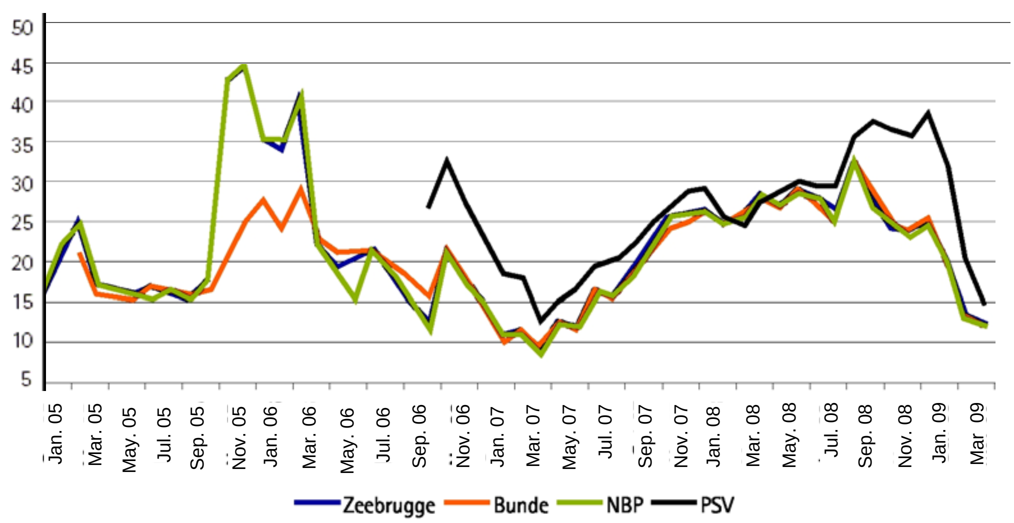
Source: *World Gas Intelligence* for prices at borders, Bloomberg for prices at hubs.

Price trends at the PSV (Punto di Scambio Virtuale or Virtual Trading Point) are fairly in line with those in other European hubs, although at somewhat higher values owing to the lack of competition in the Italian market, which this hub currently represents. In any case, the increase recorded in January 2009 is significant: it reflects the gas emergency triggered by the Russian-Ukrainian dispute which had little or no effect on the hubs of Northern Europe which are less influenced by Russian gas supplies.

On the other hand, the North European hubs proved much more sensitive to supply interruptions in the similar crisis of the winter of 2006, in which very cold weather (compared to the winter of 2008) played a key role with effects on supplies felt until March in many countries. However, the consequences of the 2008 emergency were no less disquieting on account of the longer duration of the interruption, which fell heavily on the countries of Eastern Europe, and of the implications for the balance sheet of Gazprom, on which the Russian government depends significantly for its income. Given the severe economic situation in Ukraine, the state of emergency seems set to extend to the winter of 2010, in an even more aggravated form. In fact the Ukrainian company Naftogas does not have the resources to buy the gas required to replenish its storage fields (now largely emptied) in preparation for the cold season, obliging the Ukrainian government to request help from the EU.

The expected decline in natural gas prices through most of 2009, combined with the collapse in oil prices has particularly severe consequences for Russia, the world's major exporter of both gas and oil.

Fig. 1.16
Natural Gas Prices at European Hubs
c€ / m^3



Source: Bloomberg.

The very rapid decline in oil prices compared to the slower index pricing mechanism contemplated in the majority of natural gas import contracts resulted in an unprecedented deviation between the prices of oil products and the price of gas which upset the normal competitive conditions between sources of energy in the industrial and power generation sectors. The effect was particularly felt in the European market, where the price of natural gas increased above that of fuel oil between September and October 2008, and was still as much as 140 $/toe greater in March 2009. In the Japanese market, the price of gas caught up with that of fuel oil in November but was only short-lived and in March 2009 the price of gas was already back at nearly half that of fuel oil. In the American market, despite greater correlation with oil prices, natural gas prices fell with some difficulty, so that here again the price difference between the two

Sources of energy was still not much over 90 $/toe in December and January.
In the Mediterranean market the relative convenience between fuels was affected additionally affected by the deflation of international coal prices, partly driven by the collapse in oil prices. Between July and November, as the price of fuel oil dropped from about 450€/toe to values close to and even below 200 €/toe, the price of natural gas continued to grow peaking at 490 €/toe before starting to fall. In the same period, the difference between fuel oil and steam coal prices, which stayed at around 200 €/toe during most of 2007, sunk almost to zero in December 2008.

The International Coal Market

In the course of 2008, international coal price trends were not significantly different from those of oil. For instance the ARA (Amsterdam-Rotterdam-Antwerp) CIF price increased from the 130 $/t average of the early weeks of January to a maximum of 224 $/t in the first weeks of July and then tumbled to less than 84 $/t in late December.

The average price trends in the Pacific market were no dissimilar, although at generally lower levels. Also in previous years coal prices in the Atlantic and Pacific markets appeared closely related to that of oil, pointing to a certain correlation between markets, although these fuels are only partially replaceable (Fig. 1.17).

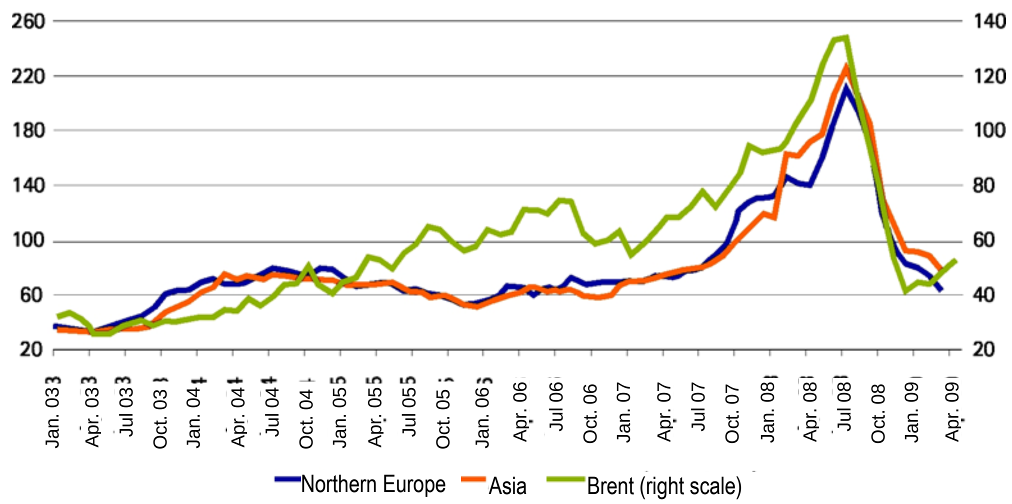


FIG. 1.17

Coal Prices in International Markets

$/Mtce for coal and $/barrel for Brent

Source: *Platt's* for coal, Icis Lor for Brent.

Neither the cold wave nor tensions on winter supplies of Russian gas, which affected the European continent significantly influenced coal consumption for power generation whose stocks continued to pile up in the ports of Amsterdam and Rotterdam. In both Europe and in Asia utilities remained extremely cautious and avoided purchasing coal that would ultimately end up in stocks. Prices fell again in the early months of 2009 to values below 70 $/t, a level not experienced since the summer 2007, even if double those of the previous year when prices began to increase. It is remarkable how all major coals converged to the same price level, at least on an equivalent heat basis. Utilities in importing countries, having lost faith in long-term contracts, bought coal under short-term agreements and by on the spot market. Traders fear that the price of coal could go back to the levels around 40 $/t, typical of the first half of 2006.

The strong decline in coal prices is mainly related to world recession, which hit the steel and cement industries as well as other coal-intensive industrial sector; the thermal power sector was also affected by the standstill (if not the fall) in electricity consumption in the residential and services sectors. In the second half of 2008, the crisis of the banking sector also contributed to aggravating the effects of world recession.

The negative impact on the international coal market is often attributed to the slowdown of the Chinese economy whose growth was one of the main factors behind the increase in coal prices over the last few years. In 2008 China reduced both its exports (from 51 to 42 million tons) as well as its imports (from 42 to 30 million tons), levels that are significant for international trade flows, but negligible compared to domestic production.

TAB. 1.5

Main Flows of Heating Coal in International Trade from 2000 to 2008

Million tons

IMPORTING COUNTRIES	EXPORTING COUNTRIES								
	AUSTRALIA	INDONESIA	RUSSIA	SOUTH AFRICA	CHINA	COLOMBIA	UNITED STATES	OTHERS	TOT.
Total exports									
2004	108.5	89.7	36.9	53.8	80.9	15.1	12.5	92.4	489.8
2005	108.7	107.0	49.9	57.8	66.4	18.6	11.6	103.7	523.5
Year 2006	**112.7**	**124.7**	**64.4**	**65.2**	**58.9**	**39.5**	**11.3**	**99.1**	**575.9**
European Union	3.7	18.6	49.3	45.8	0.4	23.3	4.9	11.8	157.9
India	1.1	13.0	0.0	0.7	4.7	0.0	0.1	15.9	35.5
Japan	57.4	26.2	8.7	0.0	18.6	0.0	0.0	51.2	162.1
Korea	17.6	16.9	4.1	0.0	17.6	0.0	0.1	0.2	56.5
Taiwan	14.9	21.0	1.3	0.0	13.3	0.0	0.0	11.3	61.7
Others	17.9	29.0	1.0	18.7	4.3	16.2	6.2	8.7	102.1
Year 2007	**112.1**	**132.0**	**67.8**	**66.2**	**50.5**	**41.6**	**15.2**	**130.9**	**616.4**
European Union	2.8	12.4	49.9	40.9	0.4	26.1	7.6	6.3	146.4
India	0.6	15.8	0.0	4.6	0.5	0.0	0.0	17.1	38.6
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	12.3	36.6	0.2	20.4	4.4	15.5	7.6	33.6	130.7
Year 2008	**125.4**	**126.8**	**65.3**	**59.2**	**41.8**	**34.5**	**21.8**	**59.6**	**534.4**
European Union	3.0	12.5	50.3	35.6	0.4	19.5	12.7	-3.3	130.7
India	0.9	15.5	0.0	2.8	0.8	0.0	0.1	15.7	35.8
Japan	68.0	25.5	6.6	0.1	11.5	0.0	0.1	7.6	119.5
Korea	24.1	18.3	6.9	0.2	15.4	0.0	0.1	6.6	71.6
Taiwan	20.1	17.7	1.2	0.1	10.6	0.0	0.0	15.0	64.6
Others	9.3	37.3	0.4	20.4	3.1	15.0	8.7	18.0	112.2

Source: *Platt's, International Coal Report.*

A decisive blow to coal trade was dealt by recession in Japan, the main world importer. The Japanese crisis resulted in a 30% drop in this country's imports and was the main cause behind the collapse (more than 80 million tons of coal, or nearly 13%) in imports on a global scale. However, Table 1.5 shows clearly that almost all areas, including the European Union, were affected by a fall in coal consumptions in 2008.

On the other hand, the crisis had a diversified impact on exporting countries with most of its effects felt by minor exporters and lower-grade coals. As a whole, the seven main exporters recorded a fall of only 2%. However, apart from Australia and the United States, whose exports actually increased, the remaining five countries reported a combined fall of 9%. Most of the reduction concerned about twenty exporting countries which in the last decade accounted consistently for about 20% of world trade and whose exports were cut by more than half in 2008.

The fall in consumption and the coal price collapse caused a profound crisis in freight markets, with the Capesize cargo tolls shrinking 60 foldin less than six months (from the all-time high of 240,000 $/day in the month of June). This situation in turn caused solvency problems for many contractors. The problem was aggravated by a slowdown in the international transport of dry bulk, chiefly iron from Brazil to China, which aggravated the fall of metallurgical and steam coal in world markets. In fact, due to the large quantities transported and distance travelled (greater than the South Africa-Europe and Australia-Asia routes), trade between Brazil and China strongly conditions the cargo market. The cost on the Richards Bay-Rotterdam route was reduced to values of around 10 $/t and is still declining from a sustainable minimum, which many traders believe to be in the order of 15 $/t. Many ships remained moored in the main ports of both producing and importing countries pending better times and the prospect of bankruptcy for many traders may be close unless business recovers soon.

Energy Demand and Supply in Italy

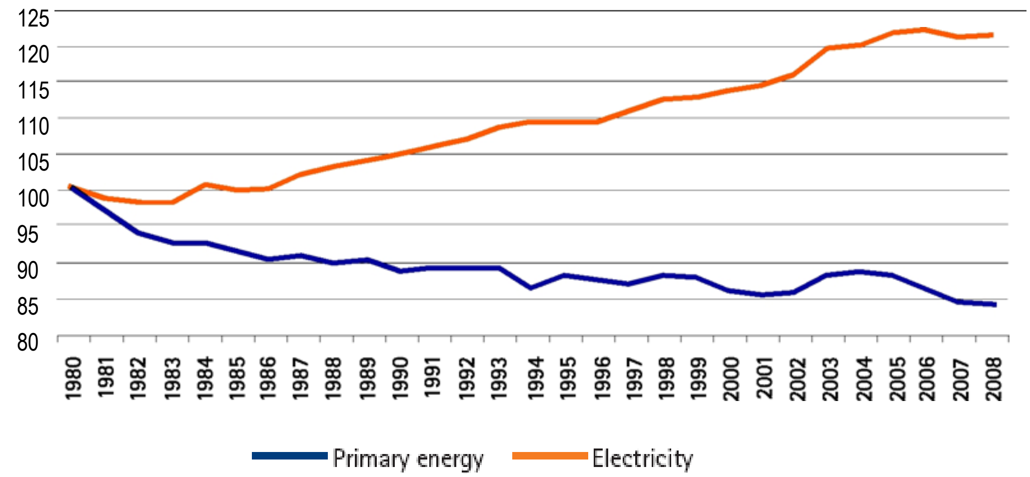
In 2008, for the fourth consecutive year, Italy saw a fall in primary energy consumption . After the maximum value of 196.7 Mtoe reached in 2004, internal demand for energy fell by 0.7 Mtoe in 2005 and 2006, and by 1.3 Mtoe in 2007. In 2008 it declined further by as much as 2.1 Mtoe to reach 192.1 Mtoe. Overall reduction amounted to 4.8 Mtoe in 5 years. The fall was only partially a result of the poor (or negative) economic growth, as evidenced in figure 1.18 showing the downward trend in the ratio of primary energy demand to GDP in the last three decades, correlated to improving efficiency of the energy system as a whole. Nevertheless, it is also apparent the electricity/GDP ratio of electricity to GDP continued to grow, even if discontinuously. In 2008, the fall of electricity demand was lower than that of GDP (–0.7% vs. –1.0%), so that the ratio grew marginally (Fig. 1.18).

Table 1.6, which compares the energy balance of 2008 to that of 2007, allows identifying the principal changes in the national energy system in the course of the last year. The availability of energy for internal consumption, referenced above, is the sum of internal production and imports minus exports and stock variations. Before being accessible for final uses, such energy needs to be converted into the final energy sources used in consumption processes and

FIG. 1.18

Energy Intensity of GDP from 1980 to 2008

Index numbers with 1980 = 100



Source: AEEG calculations based on data supplied from the Ministry for Economic Development and ISTAT.

TAB. 1.6

The Italian Energy Balance in 2007 and 2008

Mtoe

	SOLIDS	GAS	OIL	RENEWABLES	ELECTRICITY (A)	TOTAL
YEAR 2008						
Production	**0.56**	**8.01**	**5.86**	**13.55**	**0.00**	**27.98**
Imports	**16.76**	**63.42**	**101.62**	**0.73**	**9.46**	**191.98**
Exports	**0.14**	**0.17**	**28.41**	**0.10**	**0.76**	**29.57**
Stock variations	**0.13**	**0.85**	**-0.99**	**0.02**	**0.00**	**0.00**
Availability for domestic consumption (1+2-3-4)	**16.96**	**70.03**	**79.44**	**16.95**	**8.70**	**192.07**
Consumption and leakage in the energy sector	**–0.76**	**–1.23**	**–5.38**	**–0.10**	**–42.08**	**–49.55**
Conversion into electricity	**–11.69**	**–28.30**	**–5.91**	**–13.87**	**59.77**	**0.00**
Total final uses(5+6+7)	**4.50**	**40.50**	**68.14**	**2.98**	**26.40**	**142.52**
- industry	4.36	14.37	7.12	0.36	11.63	37.83
- transport	0.00	0.53	42.60	0.60	0.93	44.66
- civil uses	0.01	24.67	5.06	1.80	13.36	44.90
- agriculture	0.00	0.16	2.41	0.22	0.48	3.27
- chemical synthesis	0.13	0.78	7.20	0.00	0.00	8.11
- bunkering	0.00	0.00	3.76	0.00	0.00	3.76
YEAR 2007						
Production	**0.54**	**8.01**	**5.86**	**13.57**	**0.00**	**27.98**
Imports	**16.83**	**61.01**	**107.82**	**0.74**	**10.77**	**197.17**
Exports	**0.19**	**0.06**	**30.76**	**0.01**	**0.58**	**31.59**
Stock variations	**–0.02**	**–1.08**	**0.46**	**0.00**	**0.00**	**–0.65**
Availability for domestic consumption (1+2-3-4)	**17.21**	**70.04**	**82.46**	**14.30**	**10.18**	**194.20**
Consumption and leakage in the energy sector	**–0.77**	**–1.27**	**–6.08**	**–0.10**	**–42.76**	**–50.99**
Conversion into electricity	**–11.94**	**–28.29**	**–7.25**	**–11.70**	**59.18**	**0.00**
Total final uses(5+6+7)	**4.50**	**40.48**	**69.13**	**2.50**	**26.60**	**143.21**
- industry	4.36	15.81	7.15	0.37	12.00	39.68
- transport	0.00	0.49	43.39	0.16	0.90	44.93
- civil uses	0.01	23.25	5.11	1.76	13.22	43.34
- agriculture	0.00	0.16	2.46	0.22	0.49	3.32
- chemical synthesis	0.13	0.78	7.47	0.00	0.00	8.38
- bunkering	0.00	0.00	3.56	0.00	0.00	3.56

(A) Primary electricity (hydropower, geothermal power and wind power), imports/exports form abroad and losses appraised in terms of thermal power input.

Source: AEEG calculations of provisional data from the Ministry for Economic Development and Terna.

transported to the end user points. In the summary balance shown in the table, the energy required to pass from primary to final energy is grouped in two major sectors: *conversion into electricity* and *consumption and losses of the energy sector*, which includes refining and coking as well as energy consumed for transport and distribution to the final users.

Energy Demand in Final Uses

Energy sources consumed in final uses fell as a whole by 0.5%; mainly in the industrial sectors which experienced an overall 4.4% reduction. The sectors most exposed to the eeconomic crisis were the metals (–16%) and petrochemicals (–11%) sectors followed by cement; but virtually all manufacturing sectors significantly reduced their consumption. Figure 11.9 compares the monthly variations in final uses in the last several years to the historical average highlighting the exceptional nature of 2008, marked by the aggravation of the economic cycle in the second half of the year, and the difficult beginning of 2009.

The clear downward trend in the course of 2008 was enhanced by adverse climatic conditions in the early months, while the winter of 2007 had been very mild. Although the decline was generalised throughout the spectrum of final uses, the actual effect varied considerably by source and sector.

The effects of the economic cycle on electricity consumption, already felt in mid 2008, emerged clearly in the last quarter of the year when the drop in demand from the previous year exceeded 6% in both November and December. The fall was particularly strong in the northern regions but was also significant in the South. As a result, the winter peak in December was by far lower than the summer peak of July (52.2 GW vs. 55.3 GW respectively), while in 2007 the two peaks were very close (56.8 vs. 56.6 GW). Electricity consumption fell by 0.7% for the country as a whole, but the varfiation was highly differentiated between regions, being strongly negative in the North but actually somewhat positive in the South (Tab. 1.7). Not surprisingly, the strongest reduction occurred in the industrial sector (–3.1%) while consumption in the residential and services sector grew slightly, despite the fall in the public and commercial sectors which accounts for 50% of this sector's consumption.

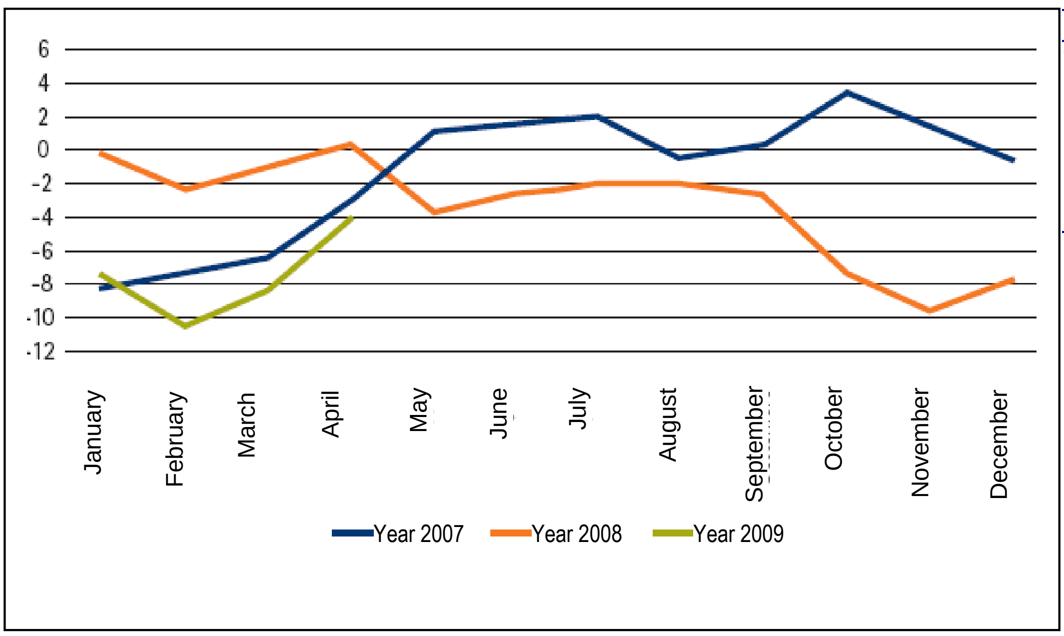


FIG. 1.19
Yearly Variation in Monthly Consumption in the End-Customer Energy Market in Years 2003-2007
Percentage values (A)

(A) Does not include final uses of coal and energy consumption and losses in electricity generation, refining and related processes and transport, which are not final uses.

Source: Ministry for Economic Development.

TAB. 1.7

Electricity Requirements by Geographical Areas in 2007 and 2008

GWh

MACRO-REGION	2007	2008	YEAR-ON-YEAR VARIATION	PERCENTAGE EXCLUDING 29/02/08
Liguria – Piedmont – Val d'Aosta	36.6	35.4	–3.3	–3.6
Lombardy	70.8	67.9	–4.1	–4.4
Friuli-Venezia Giulia – Trentino-Alto Adige – Veneto	49.8	49.5	–0.6	–0.9
Emilia-Romagna – Tuscany	50.8	50.7	–0.3	–0.6
Abruzzo – Latium – Marches & Molise – Umbria	48.8	48.5	–0.6	–0.9
Basilicata – Calabria – Campania – Apulia	48.7	50.2	3.0	2.7
Sicily	21.9	22.5	2.9	2.6
Sardinia	12.6	13.0	3.4	3.1
ITALY	**339.9**	**337.6**	**–0.7**	**–1.0**

Source: Terna.

After the relatively rigid climatic conditions and strong growth in natural gas consumptions at the year's beginning, the increase in prices, staggered by many months compared to oil, gained the upper hand and consumption fell in both relative and absolute terms in the course of the year, resulting ultimately in virtually no overall variation in comparison with the previous year. The plunge in consumption, caused by the negative impact of the economic crisis on industrial consumption, was particularly strong from November onwards and continued well into the early months of 2009, despite an unusually cold winter. The fall in consumption in the industrial sector as a whole in 2008 was equal to 9.1%, while consumption in the residential sector and services, mainly determined by space heating, increased 6.1%.

Oil recorded the highest decline among energy sources in final uses (–1.4%). Consumption was already falling in 2007 as a reaction to the growing price of crude oil and its further reduction merely accelerated in the course of 2008, worsening still in the early months of 2009 in the wake of the economic crisis. The drop in consumption was significant in all sectors, but chiefly in transport, which saw an absolute fall of little less than one million toe (–1.8%). The least affected sector was residential and services, where oil products contribute on a minority basis.

Energy Supply

Apart from renewables, which exceptionally grew 20%, generation from primary sources of energy in 2008 fell 4.6% for natural gas and 11% for oil. These results are probably attributable to stagnation in demand, but at least for natural gas a fall was in any case expected, given the weak investments in exploration and development activities made in the last decade.

Imports and export were highly diversified by source. The reduced demand and the weakness of international markets spared Italy a further increase of oil and gas imports, which as a whole fell by 3.8 Mtoe (or 1.2% vs. 2007). However, the reduction results from the combined effect of a sharp decline in imports of crude oil and half-finished products (–5.7%) and the significant increase of natural gas imports (3.9%). The drop of crude oil and half-finished product imports was caused by the collapse of international markets, which determined a reduction in exports of refined products, as well as by the internal market decline. The difference between low demand and high supply has ultimately swollen stocks of finished products (+1.0 Mtoe), as in other countries, chiefly the USA. Conversely, the increase in natural gas imports, in a context of virtually unchanged demand, is explained by the initial reduction of imports in 2007 as a result of heavy withdrawals from the stocks accumulated in the previous year, while the surplus imports of 2008 were injected into storage.

The upswing in hydropower generation, benefiting from lower costs in comparison with thermal power generation, significantly changed reference parameters for international trade in electricity, thereby determining a sizeable decrease in imports (–12%) and an even greater increase of exports (30%) from the previous year. The favourable import-to-export ratio for electricity was also facilitated by declining electricity demand.

Despite efficiency improvements in thermal power generation, due essentially due to the replacement of traditional thermal power plants by natural gas fired combined-cycle plants, resulting in a saving of nearly 4.5 Mtoe in 2008 compared to conditions in 2004, power generation and transmission remained by far the major components of energy sector consumption and losses (87%). Residual consumption and leakage fell noticeably in the course of 2008, mainly owing to the reduced refining activity (–6%).

Unlike electricity demand, electricity generation increased, driven by the strong recovery of hydropower generation (18%) after many years of decline due to low rainfall. Among renewable energy sources, wind power grew 59.5%, above the level of geothermal generation (6.4 against 5.2 TWh), while the contribution of photovoltaic power remained negligible (200 MWh), although its rate of growth was very high (almost ten time that of the previous year). The upsurge in generation from renewable sources of energy, unburdened by fuel costs, has resulted in limiting the use of thermal power generation, which fell 2.1% (from 265.8 to 260.2 TWh gross).

Generation from petroleum products continued its twenty-year decline (–20%) and only contributed 7% to total gross thermal power generation. Given the high price of coal in international markets, which remained high until after the summer of 2008, generation from this source declined by 2.1%. With prices now back to the levels of 2006 and the entry into operation of coal units of the Civitavecchia power plant, coal fired generation is expected to record an appreciable increase in 2009.

Electricity and Gas Prices in the European Union

Since 1985, the EU Statistical Office (Eurostat) has collected and published data on the prices paid by final consumers for using electricity and natural gas in the EU Member States.

Since 1 July 1991, the data on prices paid by industrial final consumers are collected and published pursuant to Directive 90/377/EEC with regard to a Community procedure to improve the transparency of gas and electricity prices charged to industrial consumers. This Directive widened the scope of the previous statistical survey method in relation to industrial users and defined a procedure for supplying Eurostat with the data of each Member State. Eurostat's data collection has been extended, on a gentlemen's agreement basis with Member States, to prices paid by households, albeit this was not contemplated in Directive 90/377/EEC. On 7 June 2007, in its Decision 2007/394/EC, the European Commission revised the Directive and updated the price survey methodology in order to make it more respondent to the new market structure created by the full liberalisation of sales to consumers with effect from

1 July 2007. Eurostat also updated the methodology for collecting prices paid by households, and confirmed the voluntary agreement signed by Member States. Following the substantial changes made to Directive 90/377/EEC, for the sake of clarity, on 22 October 2008, the European Parliament and the Council issued Directive 2008/92/EC on the transparency of gas and electricity prices charged to final consumers, which is a recast of previous provisions on the issue.

The new price collection and compilation methodology, as fully described in the *Annual Report* of 2008, replaced the former system of collecting exact prices by standard consumer types with the collection of average half-yearly prices structured by consumption class and weighted in relation to the market shares of gas and electricity suppliers. With the introduction of the new methodology, time series are seamlessly presented from January 2008. In particular, from that month onwards, the new methodology officially came into force although, ever since July 2007, Member States have been given the opportunity to notify their prices to Eurostat based on the new methodology in replacement of the old, and most Member States opted for such change. As far as Italy is concerned, please note that the data supplied with reference to the second half of 2007 for electricity and published in the *Annual Report* of 2008 were provisional, since the new collection methodology had yet to be fully approved by the Italian government. In particular, the new methodology, which relates to average prices, collects prices paid by consumers without making a distinction between free market, protected-tariff system and safeguarded system, while the previous survey methodology reflected supply tariffs in the captive market.

As a result, the tables and charts shown in the paragraphs below make reference to the prices notified to Eurostat based on the new methodology with reference to the first semester of 2008 and extracted from the Eurostat database as on 18 April 2009. Statistics also include the countries having entered the European Union in April 2004 and January 2007. Prices are expressed in euro cents per kWh for electricity consumptions and in euro cents per cubic metre for gas consumptions, with a conversion to euro of prices denominated in national currencies based on the current exchange rate (as on the date of collection) for Countries not belonging to the European Monetary Union. A more significant comparison would be that of values at a parity of purchasing power. As on today's date, however, these data are only available provisionally in the database managed by Eurostat only for some types of prices. Finally it should be noted that, based on the Eurostat definition, which has remained unchanged after the introduction of the new methodology, price net of taxes is to be intended not merely net of real taxes (such as excise duty or VAT), but also net of any other tax or general charge payable by final consumers and not included in the industrial price, such as environmental tax. In the case of Italy this means that Eurostat, with reference to electricity prices, classifies any general system charges among the tax components of gross price, while it excludes such charges from net price. In addition the prices collected by Eurostat do not include the cost of initial connection to the grid.

Electricity Prices

Prices for residential consumers

In the first half of 2008, domestic users belonging to the first consumption class (<1.000 kWh per year) paid electricity prices which were 10% higher than the European average both gross and net of taxes. Such discrepancy results from the introduction of the new survey methodology that makes no distinction between resident and non-resident consumers, typical of the Italian context. Thus, such difference is largely ascribable to the significant presence in the first consumption class of non-resident consumers (second homes). With reference to the second class of consumption (1,000-2,500 kWh per annum), in which non-resident consumers are less represented, the reverse result can be observed and Italian prices are respectively 10% and 4% lower – both gross and net of taxes - than the European average level. In sumaround t 60% of resident Italian households (i.e. excluding second homes), with an annual consumption of less than 2,500 kWh, pay lower electricity prices than the average of their European counterparts. For higher consumption classes, differences have remained unchanged from the past with positive deviations (i.e. higher than EU prices) between the Italian prices and the corresponding European average prices which varied, depending on user, class, between nearly 30% and more than 45% (Tab. 1.8). In particular, with reference to the consumption class from 2,500 to 5,000 kWh per annum, Italian gross prices were among the highest in Europe together with Danish, German and Belgian prices. On the other hand, prices below the European average were those of Portugal, United Kingdom, Spain, Finland and France while the lowest prices were those of a few East European countries (i.e. former Soviet Republics) (Fig. 1.20). These countries are characterised by very low electricity and gas prices, if expressed in euros, since the corresponding national currencies are largely undervalued against the euro. It should also be noted that while Denmark and Germany were penalised by high levels of taxation (even in excess of 50%), Portugal and the United Kingdom had an extremely contained tax burden (of around 5% vs. the European average of more than 20%).

The data of the first six months of 2008 confirmed, albeit with less clarity due to the changed survey methodology, the faulty character of the Italian progressive tariff structure (which is even compounded by a taxation system that fails to penalise very low consumption levels), so that the unit price of electricity increases as consumptions quantities grow, at least starting from a an annual consumption of more than 2,500 kWh. (Fig. 1.21).

TAB. 1.8

Electricity Prices for Domestic Consumers

Prices net and gross of taxes; January to June 2008; €c/kWh

kWh/year	< 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	18.12	26.50	14.10	20.05	12.71	17.79	11.80	16.38	10.95	15.14
Belgium	21.53	27.85	16.63	21.72	15.00	19.72	13.30	17.68	11.81	15.92
Bulgaria	6.19	7.41	6.08	7.31	5.93	7.11	5.88	7.06	5.88	7.06
Cyprus	16.51	19.21	15.09	17.57	15.28	17.80	15.33	17.85	15.39	17.92
Denmark	14.30	29.20	14.30	29.20	12.03	26.35	10.36	23.44	10.36	23.44
Estonia	6.59	8.38	6.52	8.30	6.39	8.14	6.07	7.77	5.15	6.69
Finland	16.73	21.49	11.18	14.72	9.15	12.23	7.79	10.58	6.41	8.89
France	18.69	23.37	10.81	14.15	9.14	12.13	7.92	10.62	7.36	9.95
Germany	23.49	34.15	14.97	23.89	12.99	21.48	11.76	19.88	11.31	19.07
Greece	11.18	12.22	8.28	9.06	9.57	10.47	11.39	12.45	12.45	13.60
Ireland	39.19	44.48	18.39	20.87	15.59	17.69	13.85	15.72	12.09	13.72
Italy (A)	*20.56*	*26.48*	*12.44*	*15.23*	*15.39*	*20.79*	*16.23*	*22.40*	*16.85*	*23.03*
Latvia	8.13	8.54	8.08	8.49	8.02	8.42	7.82	8.21	7.53	7.91
Lithuania	7.81	9.22	7.57	8.93	7.29	8.60	6.85	8.08	6.38	7.53
Luxembourg	19.72	21.75	15.81	17.60	14.21	15.91	13.06	14.69	9.09	10.49
Malta	4.44	4.66	5.90	6.19	9.45	9.93	12.46	13.09	13.50	14.17
Netherlandss(B)	23.60	n.a.	15.30	13.90	12.70	17.30	12.00	19.70	11.30	18.50
Poland	13.70	17.57	10.16	13.29	9.65	12.59	8.52	11.14	8.51	11.10
Portugal	31.81	33.40	16.11	16.91	14.10	14.80	12.64	13.26	11.81	12.40
United Kingdom	15.23	16.00	14.58	15.36	13.94	14.58	12.90	13.55	13.16	13.81
Czech Republic	22.22	26.59	16.67	19.96	10.60	12.74	8.69	10.48	7.50	9.05
Romania	8.95	10.73	8.97	10.75	8.85	10.61	8.70	10.43	8.78	10.52
Slovakia	19.79	23.55	14.05	16.72	11.94	14.21	10.02	11.91	7.91	9.40
Slovenia	14.64	18.58	10.27	12.96	9.11	11.47	8.49	10.66	8.02	10.06
Spain	24.55	30.09	12.99	15.83	11.24	13.66	10.21	12.41	9.81	11.88
Sweden	20.22	28.70	12.26	18.74	10.85	16.98	9.13	14.85	8.05	13.49
Hungary	13.33	16.16	13.27	16.08	12.77	15.48	12.71	15.41	13.11	15.89
Croatia	15.96	19.67	8.80	11.00	7.98	9.90	7.43	9.22	7.15	8.80
Norway	30.12	39.29	18.40	24.66	11.79	16.39	8.18	11.86	7.08	10.50
EU (C)	**18.68**	**23.93**	**12.97**	**16.91**	**12.11**	**16.33**	**11.01**	**15.08**	**10.66**	**14.58**

(A) For Italy, the Eurostat prices net of taxes and other charges are unavailable. The figures shown are therefore preliminary estimates of the Authority calculated from the first available data.

(B) InNetherlands, a discount on the final gross price is envisaged which, for the first consumption class, makes the price gross of taxes not statistically significant.

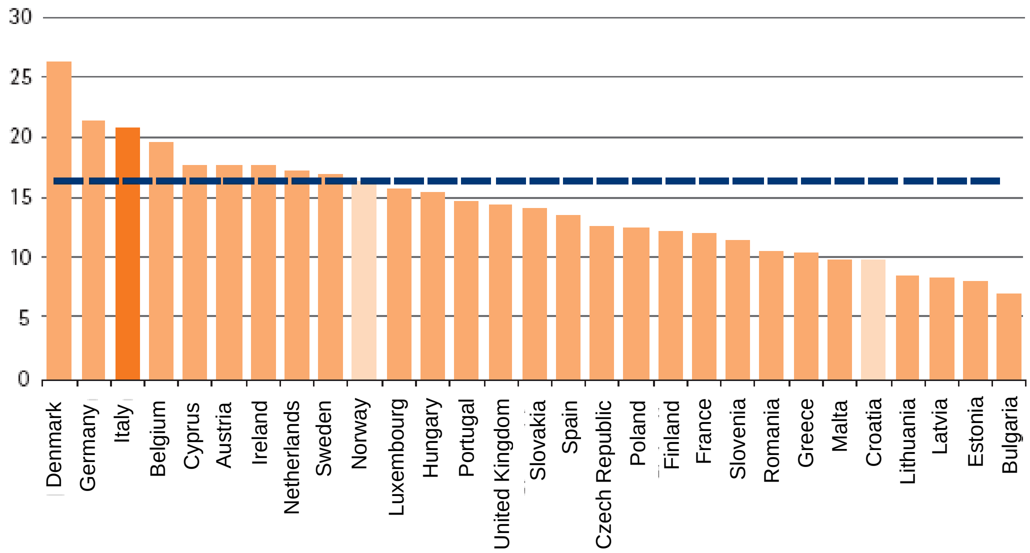
(C) Average price of the European Union calculated by Eurostat (27 Member Countries) weighted to more recent figures on national domestic consumptions. If any data on prices are unavailable or supplied belatedly, for the mere purpose of calculating the EU aggregate value, Eurostat estimates the unavailable figure based on the harmonised consumer price index.

Source: AEEG calculations on Eurostat data.

FIG. 1.20

Electricity Pricesfor Domestic Uses

Prices gross of taxes for annual consumptions between 2,500 and 5,000 kWh; January to June 2008(A); €c/kWh



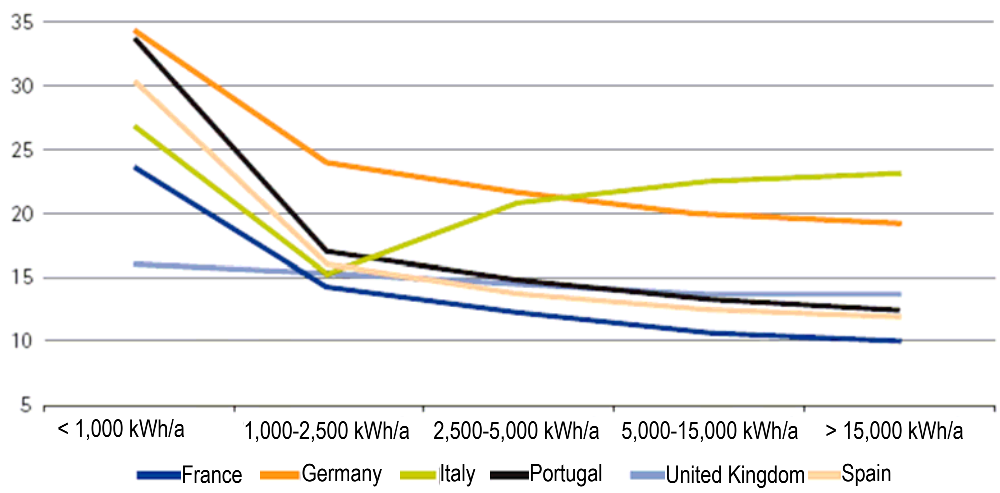
(A) The dotted line represents the average price weighted to domestic national consumptions for the European Union (aggregate value for the total of 27 Member Countries), as calculated by Eurostat. The chart is also representative of the prices of two non-members of the European Union: i.e. Norway and Croatia.

Source: AEEG calculations on Eurostat data.

FIG. 1.21

Electricity Prices for Domestic Uses in the Main European Countries

Prices net and gross of taxes; January to June 2008; €c/kWh



Source: AEEG calculations on Eurostat data.

Prices for Industrial Users

During the firtst six months of 2008, Italian industrial users paid higher electricity prices than the European average – both gross and net of taxes – in all consumption classes with deviations of more than 25%. Also gross prices paid by Danish, Greek, Irish and German industrial users were above the European average in the consumption class between 500 and 2,000 MWh per annum, i.e. one of the most representative consumption classes for the Italian market. It is worth noting, however, that Denmark, Germany and Italy also present particularly high tax burdens.

TAB. 1.9

Electricity Prices for Industrial Consumers

Prices net and gross of taxes; January to June 2008; €c/kWh

MWh/year	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	10.78	14.83	10.74	14.76	8.97	12.76	7.68	11.11	6.91	10.11	6.12	9.16
Belgium	15.50	20.31	13.03	17.06	9.88	12.93	8.56	11.30	7.27	9.75	6.66	8.77
Bulgaria	6.80	8.23	6.34	7.67	5.57	6.75	4.91	5.93	4.04	4.91	3.48	4.24
Cyprus	16.29	18.96	16.33	19.00	14.05	16.38	12.95	15.12	11.96	13.97	12.01	14.03
Denmark	10.36	24.10	8.61	22.08	7.85	21.13	7.83	21.11	7.34	20.49	7.34	20.49
Estonia	6.57	8.36	5.50	7.09	5.14	6.69	4.32	5.71	3.53	4.67	3.36	4.45
Finland	7.44	9.39	6.94	8.78	6.14	7.81	5.84	7.44	5.02	6.44	4.86	6.25
France	9.01	11.89	7.47	9.86	5.90	7.65	5.22	6.86	5.36	7.38	5.02	6.98
Germany	15.25	22.95	11.15	16.58	9.29	14.10	8.39	12.86	7.91	12.17	7.76	11.55
Greece	12.83	14.02	16.79	18.33	16.90	18.46	10.36	11.32	6.66	7.29	6.53	7.16
Ireland	14.77	16.76	13.90	15.76	13.02	14.89	12.01	13.17	11.91	13.26	n.a.	n.a.
Italy [(A)]	*16.34*	*23.87*	*12.90*	*17.92*	*11.56*	*15.84*	*10.64*	*14.31*	*10.14*	*13.29*	*9.70*	*12.22*
Latvia	8.89	10.49	7.65	9.03	6.60	7.79	5.85	6.91	5.20	6.14	5.19	6.13
Lithuania	10.18	12.01	9.43	11.13	8.29	9.78	7.01	8.27	6.68	7.88	6.30	7.44
Luxembourg	15.54	16.81	11.04	12.04	9.99	10.93	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Malta	13.07	13.72	12.90	13.54	12.21	12.82	9.18	9.63	5.81	6.10	n.a.	n.a.
Netherlands	15.30	22.10	10.10	16.00	8.60	11.80	8.60	11.40	7.50	9.60	8.50	10.80
Poland	13.09	16.90	9.66	12.61	8.14	10.75	7.68	10.18	6.69	9.02	6.11	8.15
Portugal	15.02	15.77	10.86	11.40	8.95	9.39	8.07	8.47	6.81	7.15	6.05	6.35
UK	12.66	15.32	10.67	13.09	9.37	11.47	8.44	10.34	8.30	10.03	8.57	10.34
Czech Rep.	16.35	19.61	13.06	15.64	10.95	13.18	9.13	10.99	8.10	9.76	8.25	9.96
Romania	10.81	12.90	10.00	11.93	8.86	10.57	7.83	9.33	6.99	8.33	6.17	7.34
Slovakia	17.22	20.47	14.24	16.94	11.97	14.24	10.83	12.87	9.68	11.51	8.81	10.49
Slovenia	13.74	16.94	12.00	14.77	9.04	11.18	7.42	9.21	6.19	7.74	6.24	7.74
Spain	13.05	15.92	11.12	13.50	9.15	11.08	7.99	9.68	6.82	8.25	5.68	6.88
Sweden	11.07	11.12	7.92	7.98	6.88	6.93	6.14	6.20	5.49	5.55	5.55	5.60
Hungary	14.63	17.84	13.29	16.23	11.19	13.71	9.76	11.99	8.65	10.66	7.58	9.37
Croatia	9.35	11.55	7.84	9.63	7.43	9.22	6.05	7.56	5.23	6.46	3.99	5.09
Norway	7.37	10.87	6.63	9.95	6.52	9.80	5.25	8.20	3.95	6.59	2.25	4.45
European Union [(B)]	**13.17**	**17.73**	**10.50**	**14.09**	**9.00**	**11.98**	**8.09**	**10.75**	**7.11**	**9.48**	**6.85**	**9.09**

(A) For Italy, the Eurostat prices net of taxes and other charges are unavailable. The figures shown are therefore preliminary estimates of the Authority calculated from the first available data.

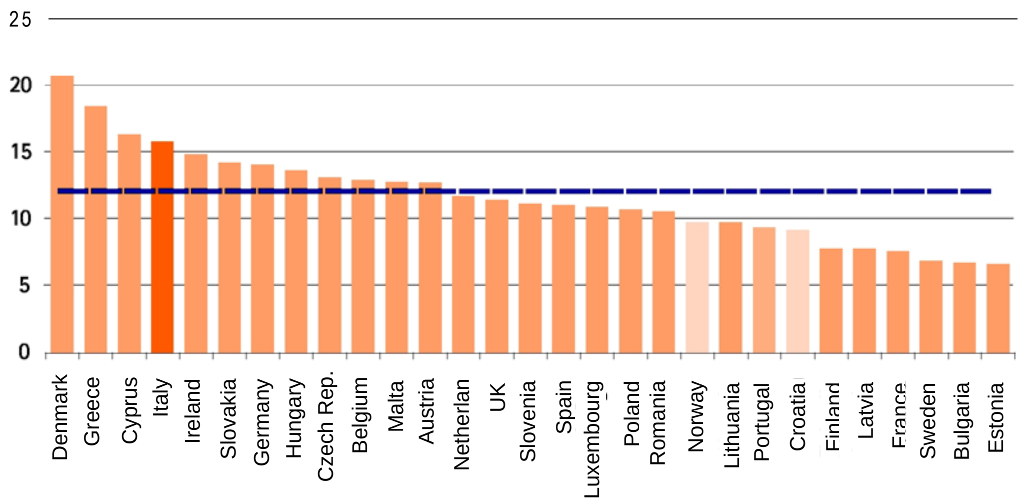
(B) Average price of the European Union calculated by Eurostat (27 Member Countries) weighted to more recent figures on national industrial consumptions. If any data on prices are unavailable or supplied belatedly, for the mere purpose of calculating the EU aggregate value, Eurostat estimates the unavailable figure based on the harmonised consumer price index.

Source: AEEG calculations on Eurostat data.

FIG. 1.22

Electricity Prices for Industrial Uses

Prices gross of taxes for annual consumptions between 500 and 2,000 MWh; January to June 2008(A); €c/kWh



(A) The dotted line represents the average price weighted to national industrial consumptions for the European Union (aggregate value for the total of 27 Member Countries), as calculated by Eurostat. The chart is also representative of the prices of two non-members of the European Union: i.e. Norway and Croatia.

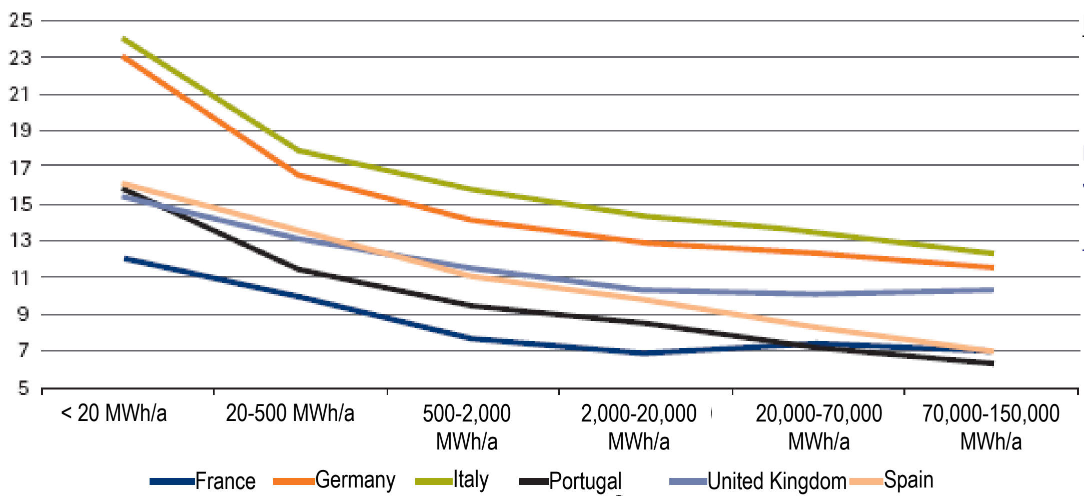
Source: AEEG calculations on Eurostat data.

Figure 1.23 highlights the high level of Italian prices paid by undertakings in comparison with the prevailing prices paid in main European countries. In particular, while deviations from German prices were quite contained, deviations from French prices were particularly high.

FIG. 1.23

Electricity Prices for Industrial Uses in the Main European Countries

Prices gross of taxes; January to June 2008; €c/kWh



Source: AEEG calculations on Eurostat data.

Natural Gas Prices

Pricesfor Domestic Users

In the first half of 2008 the Italian prices of gas charged to a domestic user were lower than the European average, both gross and net of taxes, for the lowest consumption class (cooking and sanitary water heating, with annual consumption less than 525 m^3), while for higher consumption classes (use of gas extended to domestic heating systems), prices were in line with the European average, if calculated net of taxes, and above the average, if calculated gross of taxes (with a positive deviation of over 15%) (Tab. 1.10). It is worth observing that in Italy, about

TAB. 1.10

Natural Gas Prices for Domestic Consumers

Prices net and gross of taxes; January to June 2008; €c/m3

m^3/year	< 525.36		525.36-5,253.60		>= 5,253.60	
	GROSS	NET	GROSS	NET	GROSS	NET
Austria	76.82	109.22	63.99	87.52	52.04	74.20
Belgium	73.85	90.91	49.53	61.90	46.56	57.98
Bulgaria	28.54	34.24	31.22	37.49	31.67	38.00
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	34.05	41.47	28.13	35.40	28.28	35.30
Finland	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
France	84.13	95.78	46.79	55.05	42.33	50.29
Germany	74.73	99.82	50.71	67.80	46.03	62.24
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	63.80	72.41	50.59	57.45	48.27	54.82
Italy	*53.10*	*70.60*	*45.80*	*66.50*	*40.60*	*67.20*
Latvia	33.35	35.10	31.50	33.14	31.39	32.97
Lithuania	45.68	53.90	29.51	34.82	28.75	33.92
Luxembourg	60.19	63.77	60.19	63.77	44.08	46.71
Malta	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Netherlands	69.56	102.79	45.72	73.74	43.51	70.63
Poland	48.00	58.55	36.08	44.02	33.93	41.39
Portugal	81.65	85.73	62.96	66.11	56.56	59.38
United Kingdom	44.65	46.88	39.84	41.83	39.19	41.15
Czech Republic	58.39	69.48	39.03	46.45	39.07	46.49
Romania	22.63	35.20	22.65	35.07	22.67	34.69
Slovakia	82.63	98.33	38.03	45.26	35.57	42.32
Slovenia	56.99	71.99	46.22	59.05	42.94	55.12
Spain	64.49	74.81	52.45	60.84	43.68	50.67
Sweden	69.19	117.18	56.24	100.98	53.56	97.61
Hungary	36.27	43.53	35.65	42.78	35.19	42.23
Croatia	22.50	28.90	22.50	28.90	22.50	28.90
Norway	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
European Union (A)	**61.40**	**77.43**	**44.59**	**57.67**	**41.29**	**54.78**

(A) Average price of European Union Members calculated by Eurostat (22 countries) weighted to more recent available figures on national domestic consumptions. If any data on prices are unavailable or supplied belatedly, for the mere purpose of calculating the EU aggregate value, Eurostat estimates the unavailable figure based on the harmonised consumer price index.

Source: AEEG calculations on Eurostat data.

23% of households belong to the lowest consumption class (i.e. use of gas limited to cooking and sanitary water heating) and largely pay for gas prices based on the reference prices imposed by the Regulatory Authority for Electricity and Gas.

Also Sweden, Austria, Netherlands, Germany and Portugal are among the countries with the highest prices gross of taxes in comparison with the European average, for the medium consumption class (with annual consumptions between 525 and 5.254 m^3) . For Sweden, Netherlands, Austria and Italy, these price levels are also the consequence of significantly high tax rates (Fig. 1.24).

In comparison with the main European countries, Italian net prices were in any case lower, in all domestic consumption classes, than those of France, Germany, Spain and Portugal (Fig. 1.25).

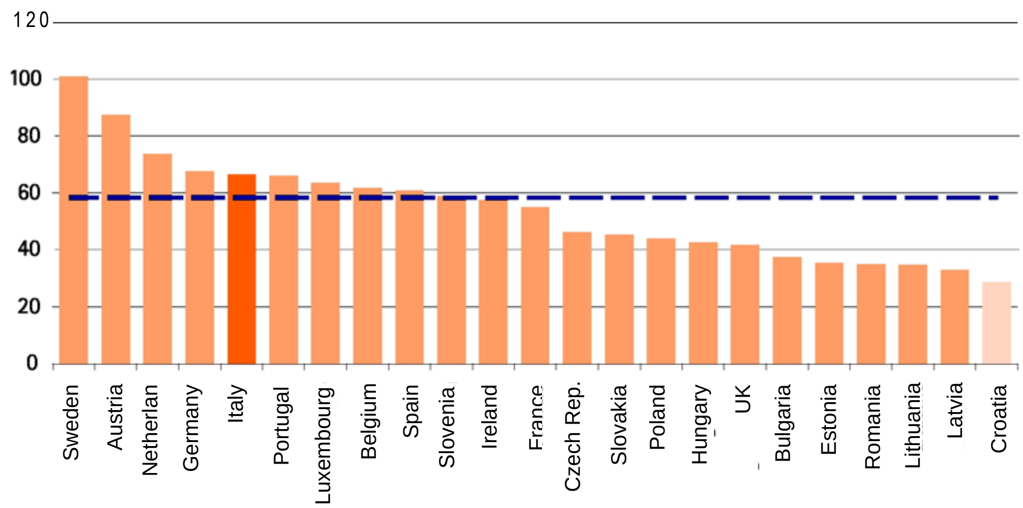


FIG. 1.24

Natural Gas Prices for Domestic Uses

Prices gross of taxes for annual consumptions between 525.36 and 5,253.60 m^3; January to June 2008[(A)]; €c/m^3

(A) The dotted line represents the average price weighted to national domestic consumptions for the European Union (the aggregate value only includes 22 countries since the figures of Cyprus, Denmark, Finland, Greece and Malta were unavailable/irrelevant). The chart also shows the price of a non-EU country, Croatia.

Source: AEEG calculations on Eurostat data.

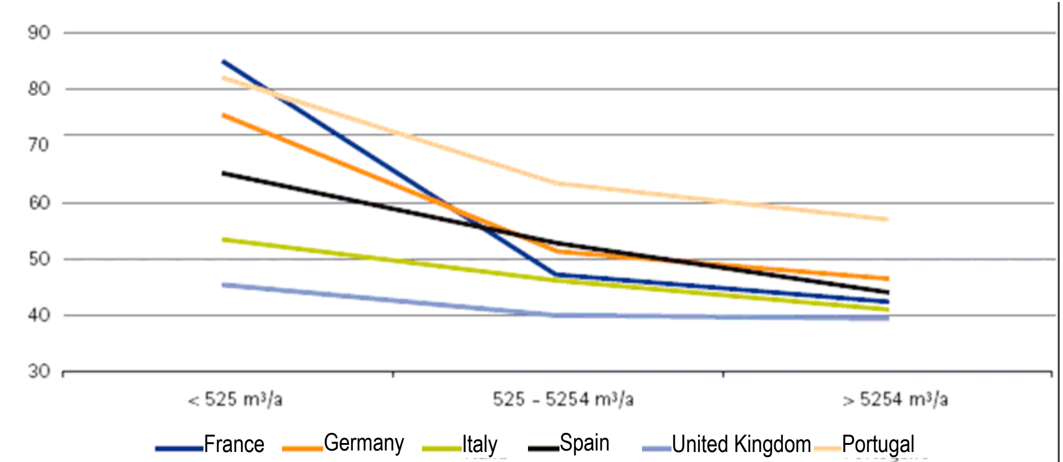


FIG. 1.25

Natural Gas Prices for Domestic Uses in the Main European Countries

Prices net of taxes; January to June 2008; €c/m^3

Source: AEEG calculations on Eurostat data.

Prices forIndustrial Users

With reference to the 2008 January-June period, both gross and net prices paid by Italian undertakings for using gas (excluding non-energy uses and electricity generation) were around levels quite close to the European average in all consumption classes, with positive or negative deviations of nearly 5%.

As a result of the high level of taxation, Sweden and Germany exhibited gross prices in excess of the European average in the consumption class of 2.63-26,27 million cubic metres per annum, while Ireland, United Kingdom, Spain, Portugal and a few East European countries recorded lower levels (Fig. 1.26).

Of special interest is a comparison with countries (e.g. Spain) where liberalisation developed in a way similar to Italy and with which Italian exporters directly compete (at least in gas-intensive sectors). In this comparison, Italian prices, net of taxes, were higher – in some cases with deviations of more than 20%.

TAB. 1.11

Natural Gas Prices for Industrial Consumers

Prices net and gross of taxes; January to June 2008; €c/m3

k(m³)/year	<26			26-263	263–2.,627		2,.627-26.,268		26,.268-105.,072	
	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET
Austria	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Belgium	48.16	59.81	40.62	50.37	34.19	42.10	32.93	40.01	33.54	40.73
Bulgaria	23.77	28.54	22.97	27.56	21.76	26.10	20.57	24.70	20.26	24.31
Cyprus	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Denmark	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Estonia	28.16	34.73	28.09	34.26	25.80	31.32	23.49	28.63	23.28	28.06
Finland	n.a.	n.a.	n.a.	n.a.	28.17	36.93	26.65	34.64	24.74	32.36
France	41.50	49.30	37.95	45.38	34.38	41.57	30.15	36.28	29.92	34.95
Germany	49.19	63.61	46.71	60.64	42.94	56.19	35.29	47.05	29.62	40.32
Greece	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Ireland	47.36	53.72	41.42	46.98	42.07	47.51	30.65	33.35	n.a.	n.a.
Italy	*38.60*	*50.60*	*38.80*	*48.00*	*33.40*	*39.10*	*31.50*	*34.90*	*31.10*	*34.20*
Latvia	31.23	36.90	31.07	36.68	30.08	35.53	29.65	35.04	27.09	31.99
Lithuania	33.85	39.95	33.49	39.52	33.45	39.47	30.77	36.31	27.66	32.63
Luxembourg	44.08	46.71	43.02	45.57	43.02	45.57	37.31	39.55	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	42.58	69.46	35.69	60.41	30.93	43.55	29.91	37.52	29.73	36.55
Poland	36.60	44.66	34.75	42.40	31.84	38.85	28.27	34.50	26.05	31.78
Portugal	55.53	58.31	42.18	44.29	33.08	34.74	25.10	26.36	24.07	25.27
United Kingdom	40.04	48.49	32.18	39.69	27.76	34.54	26.58	32.57	25.64	30.61
Czech Republic	37.56	46.23	34.28	42.33	32.50	40.20	30.04	37.28	29.35	36.45
Romania	22.56	34.86	22.61	34.27	23.73	35.29	22.06	30.59	20.31	27.71
Slovakia	40.06	47.67	35.93	42.76	35.32	42.03	32.74	38.96	31.53	37.52
Slovenia	43.36	55.62	41.08	52.88	35.52	46.22	32.02	42.03	n.a.	n.a.
Spain	35.02	40.62	30.58	35.48	29.09	33.74	27.17	31.52	25.14	29.16
Sweden	60.83	84.94	53.68	76.01	47.55	68.34	42.63	62.25	44.30	64.32
Hungary	45.44	55.88	40.49	49.96	35.74	44.25	27.75	34.66	27.31	34.13
Croatia	23.22	29.40	23.22	29.40	23.22	29.40	n.a.	n.a.	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.
European Union (A)	**41.12**	**52.43**	**37.46**	**47.64**	**33.47**	**41.71**	**30.11**	**36.89**	**n.a.**	**n.a.**

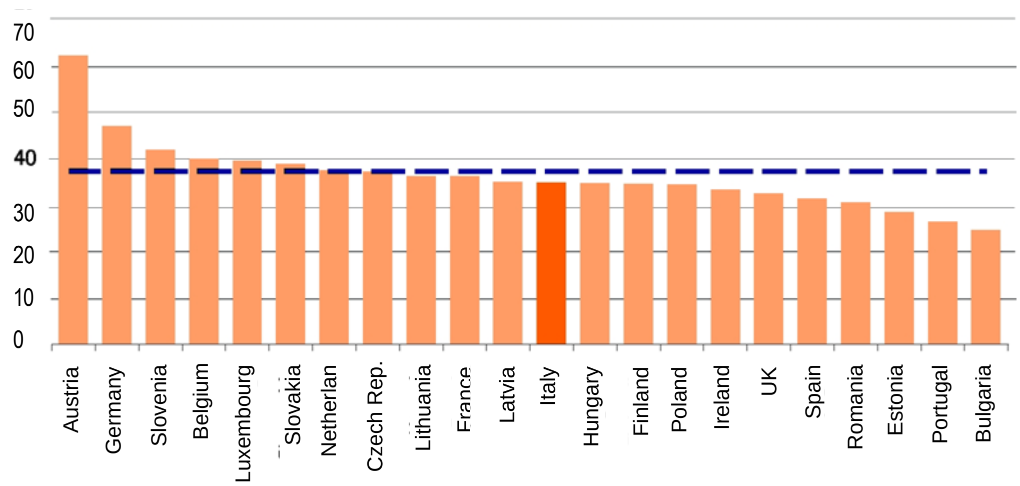
(A) Average price of European Union Members calculated by Eurostat (22 countries) weighted to more recent available figures on national industrial consumptions. If any data on prices are unavailable or supplied belatedly, for the mere purpose of calculating the EU aggregate value, Eurostat estimates the unavailable figure based on the harmonised consumer price index.

Source: AEEG calculations on Eurostat data.

FIG. 1.26

Natural Gas pricesfor Industrial Uses

Prices gross of taxes for annual consumptions between 2.63 and 26.27 million cubic metres; January to June 2008(A); €c/m3



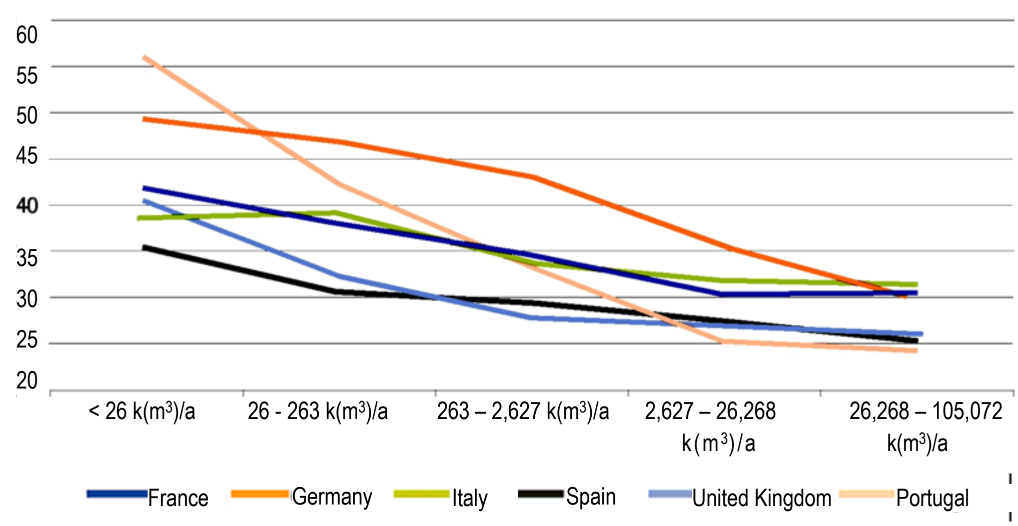
(A) Average price of European Union Members calculated by Eurostat (22 countries) weighted to more recent available figures on national industrial consumptions. If any data on prices are unavailable or supplied belatedly, for the mere purpose of calculating the EU aggregate value, Eurostat estimates the unavailable figure based on the harmonised consumer price index

Source: AEEG calculations on Eurostat data.

FIG. 1.27

Natural Gas Pricesfor Industrial Uses in the Main European Countries

Prices net of taxes; January to June 2008; €c/m3



Source: AEEG calculations on Eurostat data.

European Emission Trading System

From1 January 2005 the European Emission Trading Scheme (ETS) introduced by Directive 2003/87/EC become effective.

The aim of the Scheme is to create a European market of greenhouse gas emissions, mainly carbon dioxide emissions, define their price and encourage the operators of the energy sectos and energy-intensive industrial sectors to reduce their cost to lower level . Subject to a prior authorisation, the emissions of plants listed in the the Directive are regulated through the allocation of allowances in compliance with National Allocation Plans.

The Emission Trading Scheme is part of the measures adopted to fullfillwith the Kyoto Protocol, and includes a first phase of implementation considered as a testing one for the years 2005 to 2007 (Phase 1); this will be followed by a second phase between 2008 and 2012, during which the emission reduction targets set forth in the Protocol must be achieved(i.e. -8% from the 1990 levels for the European Union with 15 Member Countries and–6.5% for Italy).

On 17 December 2008 ,the European Parliament adopted a Commission's proposal designed to change the current emission trading system, as defined by Directive 2003/87/EC, for the years after 2012. The new Directive was definitively adopted at the end of May by the European Parliament and the Council.

Italian National Allocation Plan 2008-2012

By resolution no. 1/09 of the Italian Ministry for the Environment and the Protection of the Land and Sea, following approval by the European Commission, the implementation of the National Allocation Plan was completed in relation to the second phase of the EU ETS, in order to take ino account of the allocation of allowances to supplementary combustion plants or supplementary parts of combustion plants[3], for a total amount of 7.1 $MtCO_2$ which add up to the allowances meant for existing installations (177.6 $MtCO_2$ per annum) and to the reserve for new entrants (16.9 million $MtCO_2$ p.a.). In the period 2008 to 2012 total allowances were allocated for 201.6 $MtCO_2$ on average. In the thermal power sector (including co-generation plants) 46% of total average annual allowances were allocated to existing plants with with an amount decreasing in time.

These types of plants are used for such combustion processes as cracking, carbon black production, flaring, furnace manufacturing processes and integrated steel manufacture.

TAB. 1.12

Italian Plan for the Allocation of CO_2 Allowances for the 2008-2012 Period

$MtCO_2$

PRODUCTION SECTOR	2008	2009	2010	2011	2012	AVERAGE 2008-2012
Thermal power plants with or without co-generation	98.09	90.25	83.30	78.88	75.93	85.29
Other combustion plants	17.89	17.89	17.89	17.89	17.89	17.89
Refining plants	19.06	19.06	19.06	19.06	19.06	19.06
Steel manufacture plants	22.72	22.72	22.72	22.72	22.72	22.72
Lime manufacture plants	3.07	3.07	3.07	3.07	3.07	3.07
Cement manufacture plants	27.63	27.63	27.63	27.63	27.63	27.63
Glass manufacture plants	3.15	3.15	3.15	3.15	3.15	3.15
Ceramic and brick production plants	0.80	0.80	0.80	0.80	0.80	0.80
Cardboard and paper pulp production plants	5.09	5.09	5.09	5.09	5.09	5.09
Total existing plants	**197.50**	**189.66**	**182.71**	**178.29**	**175.34**	**184.70**
New entrants reserve	*16.93*	*16.93*	*16.93*	*16.93*	*16.93*	*16.93*
Total plants (including new entrants reserve)	**214.43**	**206.58**	**199.64**	**195.22**	**192.27**	**201.63**

Source: AEEG calculation on the data of resolutions no. 20/08 and no. 1/09 of the Italian Ministry for the Environment and the Protection of the Land and Sea.

Allocations and Actual Emissions in 2008

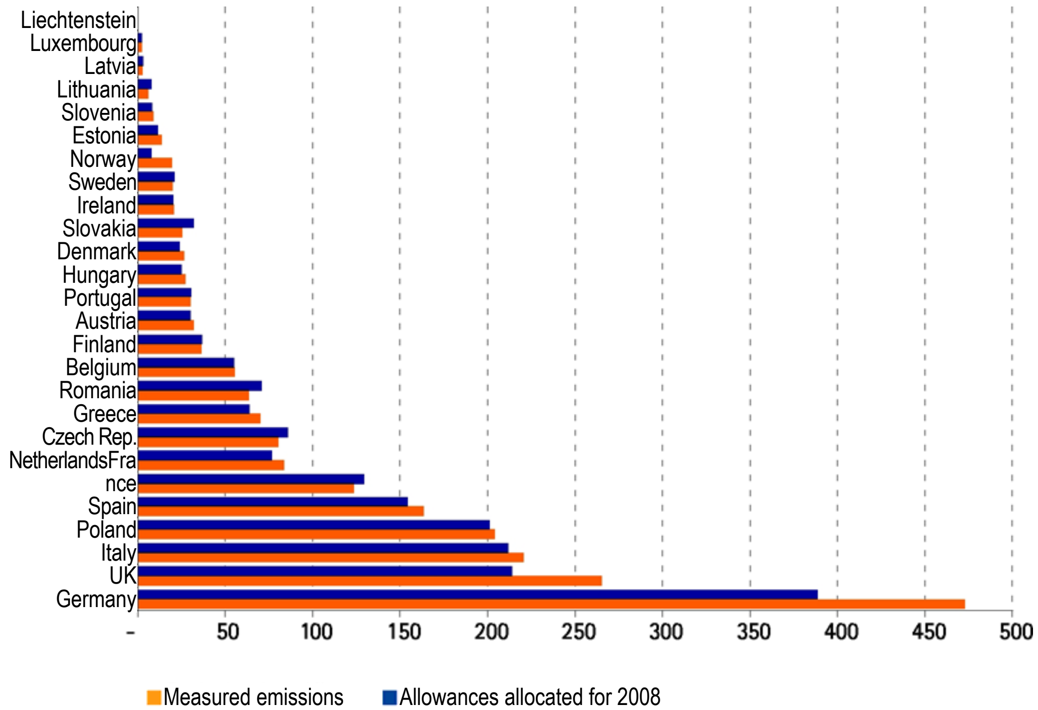
The calendar of formalities required to operators subject to EU ETS envisages that, by the end of March, the effective actual emissions related to the previous year be notified and that by April their corresponding allowances begiven back. As a result a comparison can be made between actual emissions of 2008 with those of 2007 as well as with allocated allowances for 2008. Data from the Community Independent Transaction Log (CITL) as on 11 May 2009 pointed to a 4.3% reduction of emissions at European level in 2008 vs. 2007 while, in relation to 2008, a underallocation of allowances was observed in the order of 161 $MtCO_2$ in aggregate, half of which was attributable to Germany, and nearly one third to the United Kingdom. Among European countries, only France recorded actual emissions below the allocated allowances. The CITL is updated on a daily basis and reflects all variations in allowances (for instance, any changes in allocations following the opening and/or expansion of plants or the closing of existing plants, or any data adjustments).

As regards Italy, for the group of industries subject to EU ETS, an amount of emissions equal to 221 $MtCO_2$, or nearly 9 $MtCO_2$ in excess of allocated allowances, was assessed.

FIG. 1.28

Allocations and Actual Emissions in 2008(A)

$MtCO_2$



(A) The second phase of EU ETS equally involves Norway, Iceland and Liechtenstein.

Source: AEEG calculations on data Extracted from the European CITL log on 11 May 2009.

TAB. 1.13

Actual Emissions and Allocations for 2008

Italy; $MtCO_2$

PRODUCTION SECTOR	MEASURED EMISSIONS	ALLOCATIONS	DIFFERENCE
Combustion plants	143.1	132.8	10.3
Refining plant	24.7	19.7	5.1
Steel manufacture plants	15.5	18.8	–3.3
Lime and cement manufacture plants	28.7	31.0	–2.4
Glass manufacture plants	2.9	3.1	–0.1
Ceramic and brick productions plants	0.5	0.8	–0.3
Cardboard and paper pulp production plants	4.8	5.2	–0.4
Other plants	0.4	0.4	–0.0
Total plants	**220.7**	**211.8**	**8.9**

Source: AEEG calculations on data excerpted from the European CITL Log on 11 May 2009.

Price of a CO_2 in 2008

In the EUA (European Union Allowance) permit market, trading in 2008 exceeded 3 billion tonnes of CO_2, for an overall value of 67 billion euros. 38% of volumes were traded in regulated platforms.

In the course of 2008 the price of a future contract due in December 2008 for EUA permits fluctuated between 13 €/tCO_2 and 29 €/tCO_2. The maximum price was achieved on 1 July 2008. In the following month of August, the price fell and then stabilised around 25 €/tCO_2. At the beginning of autumn, concurrently with the oil price slump and the worsening of the European economic cycle, the CO_2 price collapsed and, at contract maturity, stabilised around 14-15 €/tCO_2.

Future contracts due in December 2009 followed a bearish trend until mid February 2009.

Subsequently the contract price continued to grow back to values close to 15 €/tCO_2. The performance of the contract price was also influenced by the 2008 publication of data on actual emissions.

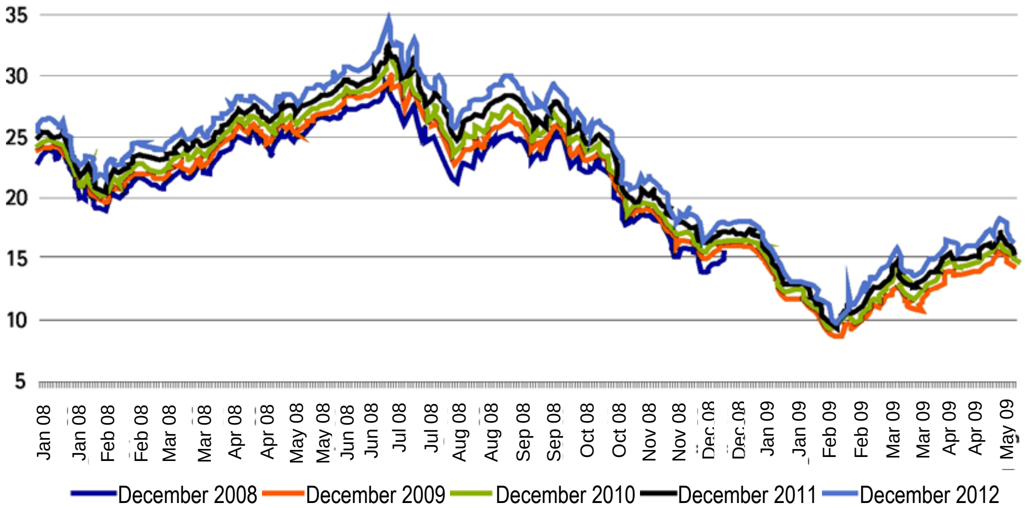


FIG. 1.29

Prices of CO2 Future Dealings in the ECX Exchange

€/tCO_2

Source: AEEG calculations on ECX data.

Revision of the EU ETS Directive Coming into Effect on 2013

As from 2013, a new EU ETS Directive included in the Climate Package approved by the European Parliament last December 2008 and formally adopted by the European Parliament and the Council at the end of March 2009 (see also Chapter 1, Volume II) will come into effect. The Directive incorporates a number of significant amendments proposed by the European Commission in the light of considerations emerged from the first two years of the Scheme operation.

More specifically the new post-2012 Directive provides for the following:

- a cap defined at European level that will replace national emission-permit allocation plans and contribute by 2020 to reduce emissions by 20% as opposed to the levels of 2005[4]; such cap will be reduced annually by 1.74% starting from 2010 and will imply on average an 11% reduction on the cap prescribed for the second phase of the EU ETS;
- the allocation of 100% of emission permits by competitive bidding procedures to the thermal power sector (with some derogation for transition economies, i.e. the countries of Eastern Europe);
- the allocation of at least 20% of emission permits by competitive bidding procedures to industrial sectors not subject to carbon leakage[5] in 2013; this percentage will increase gradually to 70% in 2020 and 100% in 2027;
- the allocation of 100% of permits at no charge to sectors subject to carbon leakage – to be identified by the European Commission at the end of 2009;

4 The dual target of reducing emissions (–21% over the 2005 levels for the EU ETS system and –10% over the 2005 levels for other sectors not subject to the EU ETS system, such as construction, transport and agriculture) corresponds to an overall EU target reduction of 14% over 2005, or 20% over 1990.

5 Sectors not subject to carbon leakage are those for which there is a high risk of production plant relocation to non-member countries not subject to emission reduction obligations.

- the opportunity to use credits (i.e. allowances) arising from projects envisaged by the flexible mechanism of the Kyoto protocol (whereby investments can be made in the reduction of emissions in developing countries or in countries with transition economies) up to 50% maximum of the overall emission reduction at EU level in the period 2008 to 2020;
- the opportunity to exclude from the scope of the Directive small sized combustion plants (with emissions below 25,000 tCO_2 per annum).

With regard to the distribution, between the various States subject to the Directive, of permits to be allocated to individual plants with competitive mechanisms, it was decided to adopt the following criteria:

- 88% of permits will be distributed on the basis of 2005 emissions or of the average value of the 2005-2007emissions;
- 10% of permits will be distributed by taking account the per capita GDP in 2005 and the individual countries' development prospects; for Italy, this will imply a 2% increase of its share;
- the remaining 2% will be assigned to Countries having reduced their emissions in 2005 by at least 20%against the reference year levels prescribed by the Kyoto protocol, i.e. Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia.

For permits to be distributed free of charge to energy-intensive sectors, the new Directive prescribes the adoption of rules defined at European level and the use of ex ante reference parameters suitably defined to promote the use of the best available technologies in order to increase energy efficiency and encourage emission-abatement projects. The new rules of assignment will be fixed by the European Commission by 31 December 2010.

In addition, 300 million permits will be assigned from the new entrants reserve in order to co-finance up to 12 demonstration projects for the use of CO_2 capture and storage technologies and to promote the adoption of other innovative technologies for electricity generation from renewables.

From phase three, the Directive provisions will equally apply to other production sectors (specifically the aviation[6] and the petrochemical industries) on top of those already targeted in the first two phases of implementation and will be extended to other greenhouse gases (over and above carbon dioxide), i.e. nitrous oxide and perfluorocarbons (PFCs).

Finally, should the European Union sing an international agreement on climate change implying the achievement of a greenhouse gas emission reduction target higher than 20% on the 1990 levels by 2020, the Commission will prepare a report designed to assess any additional efforts required for moving on to the more ambitious objective of a 30% reduction (by 2020 over 1990 levels), which was already approved by the European Council in March 2007. The target revision could imply a new legislative proposal by the European Commission to be submitted to the European Parliament and the Council.

6 The extension of EU ETS to aviation was planned from 2012 i.e. the last year of phase 2 by Directive 2008/101/EC of the European Parliament and the Council of 19 November 2008, which amended Directive 2003/87/EC accordingly.

2

Structure, Prices and Quality in the Electricity Sector

Electricity Demand and Supply in 2008

During 2008 the demand for electricity declined from the level recorded in 2007, in line with the slowdown of Italian economy. Based on the first (provisional) data published by the national transmission system operator, in 2008 electricity demand was equal to 337.6 TWh, down 0.7% over the previous year. In the same period, the Gross Domestic Product (GDP) fell by 1.0%, with a particularly significant downturn in the last quarter of 2008, concurrently with the aggravation of the international economic crisis. The negative dynamics of electricity demand breaks with a past marked by continuous growth since 1981.

Table 2.1 presents the balance of electricity with an indication of availability and uses of electricity in 2008, compared to the corresponding values of 2007. In 2008, national production meant for consumption covered nearly 88,3% of overall demand (against 86.4% in 2007), while the remaining part was met by net imports from foreign suppliers to the extent of 39.6 TWh. With reference to uses, despite the overall contraction of consumptions recorded in 2008 (-0.7%), a differentiated analysis distinguishing between protected and free market (including safeguarded service) shows extremely differentiated results. More specifically, while consumption in the protected market dropped by 19.4%, consumption in the free market, driven by the full liberalisation of the market on 1 July 2007 among other factors, increased decisively (10,5%) from the previous year to 206 TWh.

TAB. 2.1

Electricity Balance in Italy
GWh

	2008(A)	2007	%
Availability			
Gross production	317,894	313,888	1.3%
Ancillary services	12,354	12,589	-1.9%
Net production	305,540	301,299	1.4%
Imports from foreign suppliers	42,997	48,931	-12.1%
Exports to foreign suppliers	3,431	2,648	29.6%
Allocated to pumped storage	7,464	7,654	-2.5%
Availability for consumption	337,642	339,928	-0.7%
Protected market	90,000	111,606	-19.4%
Free market (including safeguarded uses)	206,400	186,729	10.5%
Self-consumption	20,300	20,617	-1.5%
Total consumption	316,700	318,952	-0.7%
Losses	20,942	20,976	-0.2%
- as percentage incidence on demand	(6.2%)	(6.2%)	

(A) 2008 figures are provisional. By way of comparison, safeguarded consumption for years 2007 and 2008 are included in the free market.

Source: AEEG calculations on provisional Terna data.

Market and Competition

Electricity Supply Structure

National Production

In the course of 2008 total gross production of electricity amounted to 317.9 TWh, up 1,3% from the level of 2007. A breakdown by source shows a reduction of thermal power generation of 2.2%, to nearly 253 TWh (Tab. 2.2). Natural gas fired power generation remained substantially stable from the previous year, while the contraction of production from petroleum products after the 2007 fall of 32.4% continued throughout 2008 (-20.2%). Production from renewable sources increased by 19.9%. On top of the strong rise of hydropower generation from natural sources (+21.8%), a considerable growth rate was recorded in wind power (+59.6%) and photovoltaic power generation (nearly 200 GWh in 2008 against 40 GWh in the previous year).

Figure 2.1 shows a breakdown of generation by main suppliers in 2008 compared to the values of 2007. In comparison with the previous year, the contraction of the Enel group market share came to an end at 31.8%, a substantially unchanged value from the 2007 level of 31.7%. By contrast, the four main competitors, Edison, Eni, Edipower and E.On saw their market shares shrink to the advantage of other middle-sized competitors (e.g. EGL AG) or small sized producers.

The calculation of the Herfindahl-Hirschman Index (HHI) for gross generation shows a further reduction of market concentration. For 2008 the index totalled 1,380 against 1,440 in 2007.

With regard to installed production capacity, since 2002 authorisations have been issued for the construction or conversion of thermal power plants for a total of 21,402 MWe, as opposed to applications awaiting authorisation for a total of 22,186 MWe (Tab. 2.3).

TAB. 2.2

Gross Production by Source of Energy from 2001 to 2008

GWh

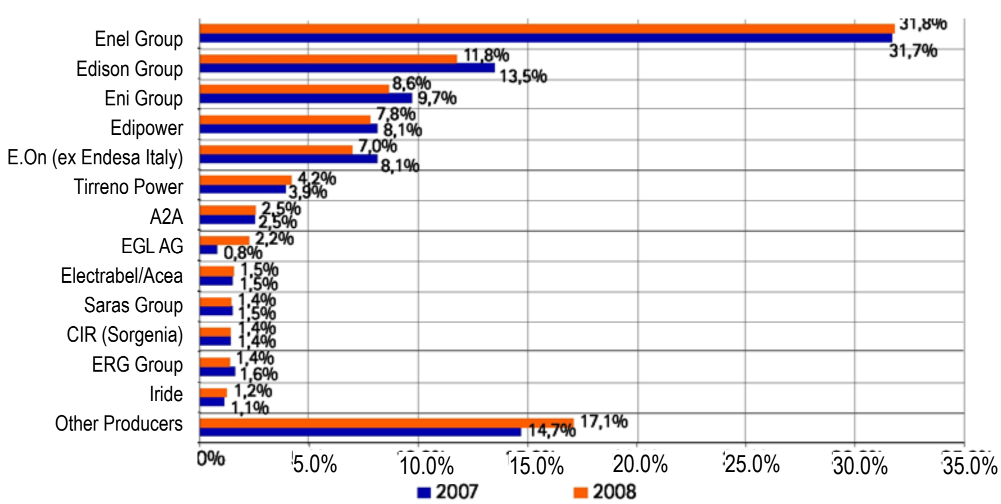
	2001	2002	2003	2004	2005	2006	2007	2008
Thermal power generation	**216,792**	**227,646**	**238,291**	**240,488**	**246,918**	**255,420**	**258,811**	**253,119**
Solids	31,730	35,447	38,813	45,518	43,606	44,207	44,112	43,700
Natural gas	95,906	99,414	117,301	129,772	149,259	158,079	172,646	173,000
Petroleum products	75,009	76,997	65,771	47,253	35,846	33,830	22,865	18,250
Others	14,147	15,788	16,406	17,945	18,207	19,304	19,187	18,169
Generation from renewable energy sources	**55,087**	**49,013**	**47,971**	**55,669**	**49,863**	**52,239**	**49,411**	**59,244**
Biomass and waste	2,587	3,423	4,493	5,637	6,155	6,745	6,954	7,109
Wind	1,179	1,404	1,458	1,847	2,343	2,971	4,034	6,437
Photovoltaic power	5	4	5	4	4	2	39	200
Geothermal power	4,507	4,662	5,341	5,437	5,325	5,527	5,569	5,518
Hydropower generation from natural sources	46,810	39,519	36,674	42,744	36,067	36,994	32,815	39,980
Hydropower generation from pumped storage	**70115**	**7,743**	**7,603**	**7,164**	**6,860**	**6,431**	**5,666**	**5,531**
Total production	**278,995**	**284,401**	**293,865**	**303,321**	**303,672**	**314,090**	**313,888**	**317,894**
Total hydropower production	*53,926*	*47,262*	*44,277*	*49,908*	*42,927*	*43,425*	*38,481*	*145,511*

Source: AEEG calculations on Terna data. Data for 2008 are provisional.

FIG. 2.1

Major Suppliers' Contribution to National Gross Production

2007 vs. 2008; percentage data



(A) The percentage of ERG's 2008 production does not include the group's minor companies.

Source: AEEG calculations on suppliers' declarations.

TAB. 2.3

Authorisations for Thermal Power Plants (with a capacity of above 300 MWt)

State as on June 2008; withdrawn and dismissed initiatives are excluded

	APPLICATIONS AWAITING AUTHORISATION		AUTHORISATIONS ISSUED SINCE 2002	
REGION	INITIATIVES	CAPACITY (MWe)	PLANTS	CAPACITY (MWe)
Val d'Aosta	-			
Piedmont	4	2,150	4	2,200
Liguria	1	460	1(A)	
Lombardy	9(A)	2,806	8(A)	3,660
Trentino-Alto Adige	-		-	
Veneto	7(A)	2,330	1(A)	
Friuli-Venezia Giulia	1(A)		1	800
Emilia-Romagna	4(A)	1,790	4	1,712
Tuscany	1	250	3(A)	790
Latium	3(A)	800	2(A)	750
Marches	2	950	-	
Umbria	1	800	-	
Abruzzo	1	980	2	830
Molise	2	1,180	1	750
Campania	4	1,380	5	3,160
Apulia	4	2,250	4	4,900
Basilicata	3	1,550	-	
Calabria	4(A)	2,510	5	4,000
Sicily(B)	-		-	
Sardinia	1(A)		1	80
TOTAL FOR ITALY		22,186		21,402

(A) Figure includes changes to plants.

(B) Pursuant to law no. 290 of 27 December 2003, monitoring does not include Sicily.

Source: Ministry for Economic Development.

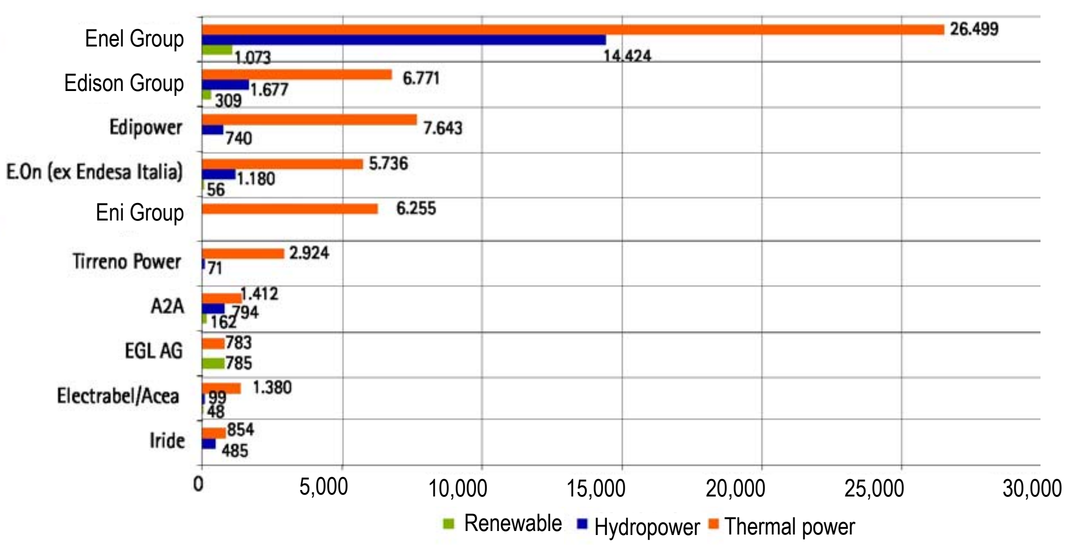
In the course of 2008, new efficient capacity came into operation for nearly 5,000 MW, almost half of which consisted of thermal power plants and, for the remaining part, renewable and hydropower plants (Fig. 2.2).

In 2008, thermal power plants of the main six producers provided available generation capacity, for at least 50% of hours, equal to nearly 92% of relative installed capacity (Fig. 2.3).

FIG. 2.2

Gross Capacity Availability associated with Major Groups

MW; year 2008



Source: AEEG calculations on suppliers' declarations.

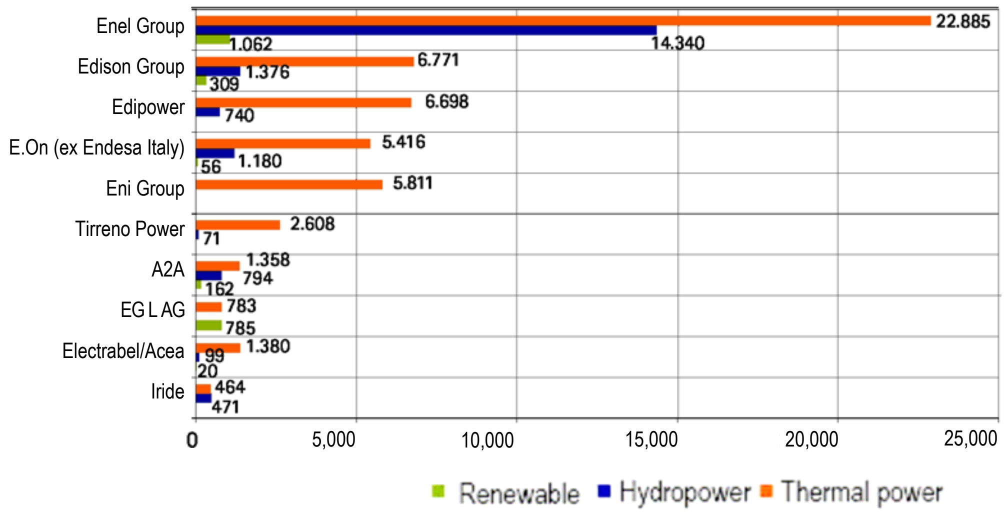


FIG. 2.3

Available Power (for at least 50% of hours) associated with Major Groups

MW; year 2008

Source: AEEG calculations on suppliers' declarations.

Figure 2.4 shows the percentages of energy reserved for consumption produced by major national suppliers. The calculation of shares was made net of the CIP6 energy sold by the Gestore dei Servizi Elettrici (GSE) – i.e. the public entity promoting renewables in Italy – on the market, and net of electricity allocated to pumped storage and exports. In comparison with the previous year, the Enel group's position remained substantially stable, while Eni and E.On saw their market shares shrink by more than 1% to the advantage of other suppliers among which, in particular, EGL AG, whose market share in 2008 was equal to 2.8%.

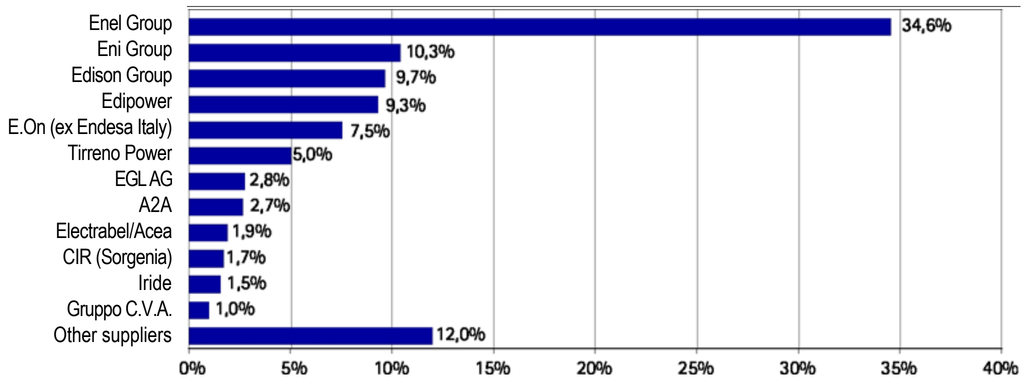
As a whole, the degree of market concentration for generation designed for consumption reduced from the 2007 level, in line with the developments of the last few years. More specifically, the 2008 HHI index was equal to 1,590, down from the 2007 value of 1,639.

Table 2.4 shows the percentage contribution of major groups to national thermal power generation with regard to main conventional fuels. Enel is the leading company in generation from conventional sources, with a particularly strong focus on coal fired generation (70.3% of total) and with significant shares in generation from natural gas and petroleum products. It is followed by the Edison and Eni groups, which confirmed their position as the main competitors of Enel, with an appreciably high market share in generation from derived gases. In the sector of renewable sources, Enel confirmed its position as the first producer in hydropower (50.3%), and geothermal power (100%). In wind power generation, International Power was the main producer, with a market share of 24.7%, slightly growing from the previous year (24%), while A2A was confirmed as the leading national producer in generation from biomass, biogas and solid waste (tab. 2.5).

Table 2.6 shows a regional breakdown of the 1,110 electricity producers having participated in the survey of the Regulatory Authority for Electricity and Gas, in terms of producers number, shares of electricity generation, and installed capacity for the three major producers. Valle d'Aosta and Trentino-Alto Adige were the regions with the highest number of suppliers commensurately with the number of inhabitants, most of which were small hydropower producers. Lombardy was the region with the lowest rate of concentration in electricity generation, with a market share of the three major producers slightly above 50%, followed by Piedmont and Trentino-Alto Adige with shares of around 64%. The regions with shares in excess of 90% were, in decreasing order of importance, Liguria, Molise, Valle d'Aosta, the Marches, Latium, Calabria and Umbria. In terms of installed capacity, Basilicata and Lombardy had the

FIG. 2.4

Major Suppliers' Contribution to Electricity Generation meant for Consumption



Source: AEEG calculations on suppliers' declarations.

TAB. 2.4

Main Domestic Producers' Contribution to Thermal Power Generation by Source

Percentage data; year 2008

	COAL	PETROLEUM PRODUCTS (A)	NATURAL GAS	OTHER SOURCES (B)
Enel Group	70.3	24.9	19.4	0.0
Edison Group	0.0	2.9	16.9	39.2
Eni Group	0.0	11.0	13.1	23.3
Edipower	6.8	18.1	9.1	0.0
E.On (ex Endesa Italy)	12.8	7.9	8.0	0.0
Tirreno Power	9.3	0.3	5.4	0.0
EGL AG	0.0	0.0	4.3	0.0
A2A	0.8	0.0	2.9	0.0
Electrabel/Acea	0.0	0.0	2.7	0.0
CIR (Sorgenia)	0.0	0.0	2.7	0.0
Gruppo Saras	0.0	18.4	0.0	0.0
Iride	0.0	0.2	1.8	0.0
Other suppliers	0.0	16.2	13.7	37.1
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**

(A) Figure includes BTZ and STZ fuel oil, light distillates, diesel oil, petroleum coke, ATZ and MTZ fuel oil, low-grade products and other oil refining residues.

(B) Figure includes derived gases, heat recoveries and expansion of compressed gas.

Source: AEEG calculations on suppliers' declarations.

TAB. 2.5

Main Domestic Producers' Contribution to Renewable Generation by Energy Source

Percentage data; year 2008

	HYDROPOWER	GEOTHERMAL	WIND POWER	BIOMASS, BIOGAS & WASTE
Enel Group	50.3	100.0	11.3	3.6
Edison Group	8.6	0.0	12.9	0.6
A2A	5.2	0.0	0.0	22.3
C.V.A. Group	7.3	0.0	0.0	0.0
Edipower	6.5	0.0	0.0	0.0
E.On (ex Endesa Italy)	3.6	0.0	2.7	0.0
International Power	0.0	0.0	24.7	0.0
Ital Green Energy Holding	0.0	0.0	0.0	14.3
Sel Edison	1.7	0.0	0.0	0.0
Iride	1.6	0.0	0.0	0.0
I.V.P.C.	0.0	0.0	13.6	0.0
Api	0.0	0.0	0.0	10.6
Other producers	15.2	0.0	34.8	48.6
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**

Source: AEEG calculations on suppliers' declarations.

lowest rate of concentration (equally measured as share of the three major producers), while Liguria, Latium, Valle d'Aosta and Umbria had shares exceeding 90%.

The Marches and Apulia marked by a significant incidence of self-producers (i.e. companies producing electricity for self-consumption).

TAB. 2.6

Location of Producers in the National Territory

REGION	NUMBER OF SUPPLIERS IN THE REGION	OF WHICH SELF-PRODUCERS	% CONTRIBUTION OF MAIN PRODUCERS TO REGIONAL GENERATION	% CONTRIBUTION OF THE 3 MAJOR PRODUCERS TO INSTALLED CAPACITY IN THE REGION
Val d'Aosta	18	0	92.4	92.5
Piedmont	157	30	63.8	69.8
Liguria	16	2	99.0	99.0
Lombardy	200	41	51.0	59.1
Trentino-Alto Adige	135	9	63.7	62.5
Veneto	84	32	87.2	89.3
Friuli-Venezia Giulia	47	8	75.5	77.1
Emilia-Romagna	72	27	82.0	67.5
Tuscany	61	12	77.4	67.1
Latium	36	10	91.5	94.3
Marches	32	3	92.4	88.7
Umbria	17	3	90.4	92.2
Abruzzo	28	4	66.7	65.6
Molise	20	1	93.0	72.8
Campania	43	5	71.8	70.0
Apulia	38	1	87.3	78.0
Basilicata	15	3	71.2	54.8
Calabria	25	2	90.4	80.3
Sicily	44	2	79.8	72.8
Sardinia	22	3	89.6	75.0

Source: AEEG calculations on suppliers' declarations.

Incentivised Production: Photovoltaic Power Generation

Since September 2005, a photovoltaic generation incentive scheme has been in place (*Conto Energia*). The Legislative Decree dated 19 February 2007 of the Ministry for Economic Development and the Ministry for the Environment and the Protection of the Land and Sea, which came into effect after the publication of the Authority's resolution no. 90/07 of 11 April 2007, introduced key changes and simplifications to the original scheme.

The most significant changes are as follows:

- abolition of the preliminary investigation for assessing eligibility for incentive tariffs; in particular, pursuant to the new decree, application for incentives are to be sent to the GSE only when photovoltaic installations enter into operation;
- abolition of the annual limit to power capacity eligible for the incentive, replaced by a maximum cumulative limit of capacity to be incentivised equal to 1,200 MW;
- a better tariff structure designed to favour small sized installations architecturally integrated in buildings or infrastructures;
- introduction of a bonus for photovoltaic plants combined with an efficient use of energy.

In addition, the decree of 2007 is designed to overcome the two technical constraints introduced by the previous decrees, such as the maximum limit of power capacity eligible for incentive for a single installation and the restrictions on the use of thin-film photovoltaic technology, which is widely used for the purpose of architectural integration. Further elements that made the overall incentive mechanism more flexible were introduced by resolution no. 161/08 of 17 November 2008 (see Chapter 2, Volume II). More specifically, each installation section can be commissioned separately as if it were a stand-alone installation and multiple sections of the same installation can be connected to a single internal user network provided that the constraint prescribed by the ministerial Decree of 19 February 2007 is observed, i.e. a single photovoltaic installation is not to share its connection point to the network with other photovoltaic installations. The new *Conto Energia* envisages the opportunity for the electricity generated by photovoltaic installations commissioned after 13 April 2007 and before 31 December 2008 to be sold at an incentive tariff structured in accordance with the values shown in table 2.7. Tariffs are applicable for a 20-year period from the date of the entry into operation of the installation and will remain applied on a constant currency basis (i.e. without being indexed to the rate of inflation) for the full incentive period.

Installations eligible for a higher incentive are household installations of up to 3 kW, provided they are architecturally integrated. For installations commissioned from 1 January 2009 to 31 December 2010, the values shown in table 2.7 will be reduced by 2% for each of the calendar years after 2008, which values will remain constant for the 20-year incentive period. The Ministry for Economic Development and the Ministry for the Environment and the Protection of the Land and Sea will redefine the incentive tariffs for installations commissioned after 2010 by subsequent decrees.

In addition, for installations of up to 20 kW operating under the on-the-spot trading system, a bonus is envisaged, which consists in an increase of the recognised base tariff, equal to half the rate of reduction of primary energy requirements effectively achieved in the building (subject to a maximum bonus of 30% of incentive tariff). The bonus will only be recognised provided efficiency improvements are made in the building served by such installations to the effect of cutting at least 10% of the building primary energy requirements.

Table 2.8 shows the number and capacity of installations currently in operation after the introduction of the first *Conto Energia*, together with a regional breakdown, whereas table 2.9 gives evidence of similar information pertaining to incentivised installations pursuant to the new *Conto Energia*. Apulia recorded the highest level of installed capacity, equal to 58.3 MW, followed by Lombardy (52.7 MW), Emilia-Romagna (42.2 MW), Piedmont (37.8 MW) and Veneto (32.1 MW).

1 The decree of February 2007, in particular, defines three types of integration for determining the incentive tariff to be recognised to each PV installation:
- non-integrated installation;
- partially integrated installation;
- installation with architectural integration.

TAB. 2.7

Tariffs of the new *Conto Energia* (PV Generation Incentive Scheme as per Min. Decree 19/02/2007)

NOMINAL CAPACITY(kW)	PHOTOVOLTAIC INSTALLATION TYPE NON-INTEGRATED (€c)	PARTIALLY INTEGRATED (€c)	INTEGRATED (c€)
1 ≤ P ≤ 3	0.40	0.44	0.49
3 < P ≤ 20	0.38	0.42	0.46
P > 20	0.36	0.40	0.44

Source: GSE.

TAB. 2.8

The first Conto Energia (Ministerial Decrees 28/07/2005 and 6/02/2006)

Operating installations as on 30 April 2009

	CLASS 1 1 kW ≤ P ≤ 20 kW		CLASS 2 20 kW < P ≤ 50 kW		CLASS 3 50 kW < P ≤ 1,000 kW		TOTAL	
	NUMBER	CAPACITY (kW)	NUMBER	CAPACITY (kW)	NUMBER	CAPACITY (kW)	NUMBER	CAPACITY (kW)
Val d'Aosta	-	-	1	46	-	-	1	46
Piedmont	207	1,440	68	2,745	4	2,134	279	6,320
Liguria	90	432	9	351	1	51	100	833
Lombardy	603	3,403	92	3,901	4	332	699	7,636
Trentino-Alto Adige	167	1,032	126	5,636	8	3,698	301	10,366
Veneto	395	2,463	61	2,510	3	1,521	459	6,494
Friuli-Venezia Giulia	210	1,177	7	324	2	707	219	2,208
Emilia-Romagna	468	2,674	177	7,262	7	2,773	652	12,709
Tuscany	237	1,797	40	1,653	7	4,512	284	7,963
Latium	273	1,733	53	2,515	4	3,372	330	7,620
Marches	225	1,425	100	4,452	8	3,826	333	9,704
Umbria	161	1,305	85	3,703	2	560	248	5,568
Abruzzo	57	501	36	1,626	5	1,836	98	3,963
Molise	11	80	3	109	1	301	15	490
Campania	105	936	50	2,287	4	3,491	159	6,717
Apulia	314	2,068	174	7,981	17	12,269	505	22,317
Basilicata	49	489	38	1,774	3	1,232	90	3,495
Calabria	71	529	54	2,575	9	6,852	134	9,955
Sicily	223	1,291	61	2,890	9	4,928	293	9,110
Sardinia	92	545	20	903	5	4,136	117	5,584
TOTAL FOR ITALY	**3,958**	**25,324**	**1,255**	**55,244**	**103**	**58,530**	**5,316**	**139,099**

Source: GSE.

In addition to the incentive, the operator responsible for the photovoltaic installation may benefit from further economic advantages arising from the sale of generated energy to the grid and from the total or partial coverage of its self-consumption requirements. For the sale of electricity generated by the installation, in particular, the operator may use an ‘indirect’ selling arrangement, i.e. by executing a delivery contract with the GSE, pursuant to the Authority’s resolution no. 280/07 of 6 November 2007 and its subsequent amendments.

The on-the-spot trading service, updated by resolution no. 74/08 of 3 June 2008 (see Chapter 2, Volume II), envisages that the electricity generated and injected into the grid at a given moment in time can be offset with the electricity withdrawn and consumed at a time other than that when it is generated. More specifically, resolution no. 74/08 and its subsequent amendments provide that the on-the-spot service be only provided by the GSE and no longer by distributors. The service user is required to own or operate:

- renewable-fired installations with a capacity of up to 20 kW and renewable-fired installations with a capacity from above 20 kW to 200 kW commissioned after 31 December 2007;
- high-efficiency co-generation installations with a capacity of up to 200 kW.

TAB. 2.9

The new *Conto Energia* (Ministerial Decree 19/02/2007)

Installations in operation as on 30 April 2009

	CLASS 1 1 kW ≤ P ≤ 3 kW		CLASS 2 3 kW < P ≤ 20 kW		CLASS 3 P > 20 kW		TOTAL	
	NUMBER	CAPACITY (kW)	NUMBER	CAPACITY (kW)	NUMBER	CAPACITY (kW)	NUMBER	CAPACITY (kW)
Val d'Aosta	21	54	20	188	-	-	41	242
Piedmont	1,454	3,793	1,138	9,212	131	18,472	2,723	31,47
Liguria	252	624	134	865	9	1,705	395	3,195
Lombardy	2,674	6,935	2,048	16,922	208	21,255	4,930	45,11
Trentino-Alto Adige	634	1,720	706	6,999	111	12,676	1,451	21,39
Veneto	1,547	4,035	1,246	9,417	102	12,183	2,895	25,63
Friuli-Venezia Giulia	740	2,005	853	5,641	36	3,532	1,629	11,17
Emilia-Romagna	1,730	4,458	1,171	9,622	161	15,391	3,062	29,47
Tuscany	1,236	3,166	983	8,100	76	11,249	2,295	22,51
Latium	941	2,457	822	6,238	66	7,889	1,829	16,58
Marches	643	1,686	443	3,574	63	10,009	1,149	15,26
Umbria	276	747	305	2,633	51	10,134	632	13,51
Abruzzo	235	603	304	2,308	28	2,473	567	5,384
Molise	33	92	46	425	5	199	84	715
Campania	261	707	267	2,159	23	4,185	551	7,052
Apulia	1,101	2,922	1,178	8,985	101	24,106	2,380	36,01
Basilicata	107	301	115	895	19	1,768	241	2,964
Calabria	242	661	346	2,764	19	5,571	607	8,995
Sicily	793	2,138	669	4,561	22	3,990	1,484	10,68
Sardinia	1,043	2,869	470	3,095	20	5,217	1,533	11,18
TOTAL FOR ITALY	**15,963**	**41,972**	**13,264**	**104,604**	**1,251**	**172,003**	**30,478**	**318,578**

Source: GSE.

In order to overcome the limits and criticalities found in the previous regulatory acts, the structure of the new on-the-spot trading service is so devised as to allow a service user to purchase the full quantity of its withdrawn electricity. In addition, the same user will execute with the GSE an on-the-spot trading agreement, pursuant to which the GSE will take delivery of the injected electricity and sell it onto the market against payment to the user of a consideration by way of:

- financial compensation calculated as the difference between the value of the electricity injected into the grid and the value of electricity withdrawn from the grid;
- return – for a quantity of withdrawn electricity as much as possible equal to injected electricity (i.e. "swapped energy") – of the variable part of charges payable for using the grid (transmission and dispatch service) as well as of general system charges (only in case of renewables).

The new regulation avoids the offsetting between electricity quantities having different economic values and therefore ensures the transparency of energy flows and a correct economic appraisal of any injected and withdrawn electricity. It is also instrumental in the quantification of any costs not incurred by a supplier applying for on-the-spot trading, which will remain payable by the grid users.

Incentivised Production: Solar Thermal Power Generation

Unlike photovoltaic installations, thermal solar power plants indirectly convert solar energy into electricity through an intermediate phase of solar energy conversion into the thermal energy of a heat-carrying fluid.
The ministerial decree of 11 April 2008 introduced new incentives for solar thermal power plants which equally applies to newly deployed hybrid[2] installations commissioned after 18 July 2008, i.e. the date of publication of

2 In hybrid installations, solar energy is integrated in a conventional thermal power generating system, while in non-hybrid installations solar energy is conveyed to the final thermodynamic cycle generating electricity.

the Authority's implementing resolution (resolution ARG/elt 95/08 of 14 July 2008). Incentives, to be calculated based on the tariffs shown in table 2.10. are recognised solely for the electricity generated by the plant from the sun, and are summed up to revenues arising from the sale of electricity generated and injected into the grid.

TAB. 2.10

Incentive Tariffs for Solar Thermal Power Plants (Ministerial Decree of 11/04/2008)

TYPE OF PLANT	€/kWh
Plants in which solar fraction is above 85%	0.28 + electricity sale
Plants in which solar fraction is between 50% and 85%	0.25 + electricity sale
Plants in which solar fraction is below 50%	0.22 + electricity sale

Source: GSE.

The values of tariffs relate to plants commissioned in the intervening period between the date of enactment of the Authority's resolution ARG/elt 95/08 and 31 December 2012. For plants commissioned between 1 January 2013 and 31 December 2014, tariffs will be reduced by 2% for each of the calendar years after 2008 (with rounding off to the third decimal). In the absence of further decrees to be issued by the Ministry for Economic Development jointly with the Ministry for the Environment and the Protection of the Land and Sea, as agreed with the body bringing together central and local administrations (*Conferenza Unificata*) for the years following 2014, the tariffs fixed by the decree of 11 April 2008 will continue to apply to plants commissioned after 2014. Incentives are recognised for a 25-year period from the date of commissioning.

Incentivised Production: CIP6 Power and Other Deliveries to GSE

In 2008, the electricity deliveries collected by the GSE pursuant to art. 3, paragraph 12 of legislative decree no. 79 of 16 March 1999, and to the Authority's resolution no. 108/97 of 28 October 1997, were equal to a total of 41,707 GWh, corresponding to 13.7% of the overall national net production. In comparison with 2007, collected deliveries were as a whole reduced by nearly 5 TWh.

A detailed analysis of electricity from renewable assimilated sources benefiting from CIP6 incentives shows that the overall reduction recorded in 2008, equal to 4 TWh, was largely determined by a drop in the electricity produced from new plants using fossil fuels containing hydrocarbons (-2.4 TWh), while the electricity generated by existing plants fell by nearly 0.8 TWh. In 2008, CIP6 assimilated energy amounted to nearly 14% of the net energy from conventional thermal generation, down from the 15.5% value of 2007. On the other hand, the reduction of CIP6 energy from renewable sources in 2008, equal to nearly 0.8 TWh, was mainly attributable to reduced generation from new wind and geothermal power plants (-5.3 TWh) and from photovoltaic, biomass-fired, waste-fired and assimilated plants (-2.8 TWh), while the energy generated from existing plants increased by 77 GWh. CIP6 conventions for renewable generation plants contributed to 12,8% of overall net generation from renewables, down from the 2007 value of nearly 17%.

TAB. 2.11

GSE Collected Deliveries: CIP6 Electricity and Resolution no. 108/97
GWh

GWh	2005	2006	2007	2008
Electricity generated from CIP6 conventions	50,296	48,340	46,462	41,653
of which from renewable-assimilated sources	40,463	39,068	38,268	34,224
of which from renewable sources	9,833	9,272	8,194	7,429
Resolution no. 108/97	966	689	115	54
TOTAL	**51,262**	**49,029**	**46,577**	**41,707**

Source: AEEG calculations on GSE data.

TAB. 2.12

Details of CIP6 Collected Deliveries of Electricity from Assimilated Sources (2003 to 2008)

GWh

	2003	2004	2005	2006	2007	2008
New installations	33,963	34,182	25,097	20,465	16,935	13,658
- of which installations using process fuels, residues or energy recovery	16,530	17,773	12,891	13,290	12,929	12,041
- of which installations using fossil fuels containing hydrocarbons	17,433	16,409	12,206	7,175	4,006	1,617
Existing installations	6,760	8,086	15,366	18,603	21,333	20,566
TOTAL	**40,723**	**42,268**	**40,463**	**39,068**	**38,268**	**34,224**

Source: : AEEG calculations on GSE data.

TAB. 2.13

Details of CIP6 Collected Deliveries of Electricity from Renewable Sources (2003 to 2008)

GWh

	2003	2004	2005	2006	2007	2008
New installations	9,547	10,031	9,685	8,958	7,857	7,015
- of which reservoir, basin or run-of- the-river hydropower installations of more than 3 MW	1,450	1,397	1,181	987	591	578
- of which run-of-the-river installations of up to 3	383	334	184	137	88	84
- of which wind and geothermal power installations	3,850	3,417	3,040	2,566	2,217	1,687
- of which photovoltaic, biomass-fired, waste-fired and assimilated power installations	3,666	4,648	5,084	5,198	4,949	4,666
- of which upgraded hydropower installations	199	234	196	70	13	-
Existing installations	90	100	148	314	337	414
TOTAL	**9,638**	**10,131**	**9,833**	**9,272**	**8,194**	**7,429**

Source: AEEG calculations on GSE data.

For 2008, the total cost of GSE's collected deliveries of energy as per the CIP6 conventions and pursuant to resolution no. 108/97, as shown in table 2.14, is estimated at 5.5 billion euros, largely arising (i.e. to the extent of about 72%) from the remuneration of CIP6 energy produced by assimilated installations (i.e. payments to producers). The related revenue – mainly derived from the sale of electricity in the Power Exchange net of charges associated with contracts for differences and imbalance charges – was equal to nearly 3 billion euros, with a 250 million increase over 2007. Similarly to 2007, the charge recoverable in the tariff, equal to the difference between the costs and revenues of collected deliveries of CIP6 energy was equal to nearly 2.4 billion euros.

Table 2.15 shows the detailed costs of assimilated and renewable sources incentivised through the CIP6 mechanism, classified by type of production. The increase of costs associated with assimilated sources from the 2007 levels, equal to more than 200 million euros, is attributable to an 11% reduction of the collected quantity which was more than compensated for by an increase of unit remuneration (18%). The main contribution to cost increase is ascribable to energy collected from existing installations. Equally in relation to renewables, the cost rise of 21 million euros was mainly attributable to the increased costs associated with existing installations. For new installations, on the other hand, the increase was rather contained and was mainly due to the growth of costs of energy collection from photovoltaic, biomass-fired, waste-fired and assimilated plants and from reservoir, basin and run-of-the-river hydro-power plants of more than 3 MW (+53 million euros), while the costs of collected energy from wind and geothermal power plants were down (-46 million euros). As a whole, while the quantity of renewable-generated energy collected by the GSE fell 9.3% in 2008 over 2007, unit remuneration was up around 12%.

As for assimilated sources, the first 11 industrial groups contributed to more than 97% of electricity generation under CIP6 conventions; the highest share, or more than one third of the full production, is that of the Edison group. With regard to collected deliveries of energy generated from renewables, the picture is rather diversified: the Enel group contributed about 17% to the full renewable generation, followed by A2A (13%). As a whole the first 10 industrial groups reached nearly 62% of total CIP6 renewable energy.

TAB. 2.14

Costs and Revenues of Collected Deliveries as per CIP6 and Resolution no. 108/97 in 2008

Million euros

COSTS AND REVENUES	VALUE
Remuneration of assimilated power installations	3,965.8
Remuneration of renewable power installations	1,497.7
Total remuneration of CIP6 power [(A)]	**5,463.5**
Other costs of CIP6 power associated with metering and transmission	10.7
Remuneration of power as per resolution no. 108/97	5.0
Total costs of collected deliveries	**5,479.1**
Revenue from the sale of energy	3,052.7
Revenue from the sale of green certificates	31.3
Total revenues	**3,084.0**
Cost to be recovered in the tariff (i.e. tariff component A_3)	**2,395.1**

(A) Closing estimates of year 2008 subject to adjustments on conclusion of the legal dispute related to the calculation of the "avoided fuel cost" (CEC).

Source: AEEG calculations on GSE data.

TAB. 2.15

Details of Costs and Quantities by Incentivised CIP6 Source of Energy in 2008

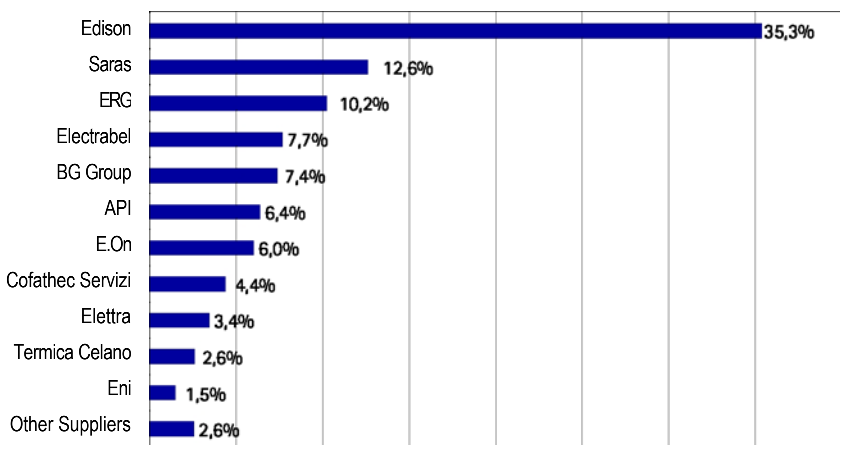
	TOTAL REMUNERATION (MILLION EUROS)	QUANTITY (GWh)	UNIT REMUNERATION (€/MWh)
Assimilated sources	**3,965.8**	**34.224**	**115.88**
New assimilated sources	1,870.6	13,658	136.96
- of which installations using process fuels, residues or energy recovery	1,685.0	12,041	139.94
- of which installations using fossil fuels containing hydrocarbons	185.6	1,617	114.74
Existing assimilated sources	2,095.2	20,566	101.88
Renewable sources	**1,497.7**	**7,429**	**201.60**
New renewable sources	1,454.0	7,015	207.27
- of which reservoir, basin or run-of-the-river hydropower installations of more than 3 MW	97.7	578	169.02
- of which run-of-the- river installations of up to 3 MW	11.9	84	142.30
- of which wind and geothermal power installations	277.6	1,687	164.51
- of which photovoltaic, biomass-fired, waste-fired and assimilated power installations	1,066.9	4,666	228.64
- of which upgraded hydropower installations	-	-	-
Existing renewable sources	43.6	414	105.45
TOTAL	**5,463.5**	**41,653**	**131.17**

Source: AEEG calculations on GSE data.

FIG. 2.5

Major Suppliers' Contribution to CIP6 Power Generation from Assimilated Sources

Year 2008; percentage data

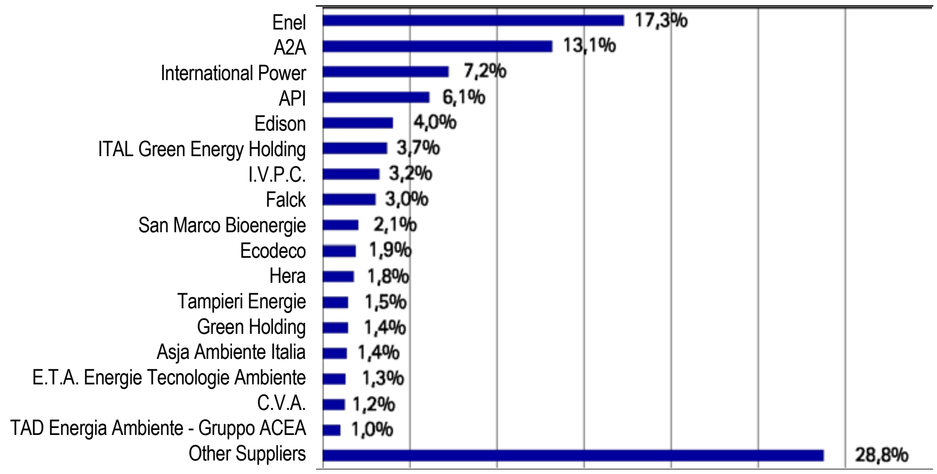


Source: AEEG calculations on suppliers' declarations.

FIG. 2.6

Major Suppliers' Contribution to CIP6 Power Generation from Renewable Sources

Year 2008; percentage data



Source: AEEG calculations on suppliers' declarations.

Net Imports

Based on the provisional results of Terna – the National Transmission System Operator, the external balance for 2008 amounted to 39,566 GWh resulting from the difference between imports for 42.997 GWh (-12.1% over 2007) and exports for 3,431 GWh (+29.6% over 2007). Compared to 2007, the external balance dropped by 14.5%; at such level in 2008, demand was met to the extent of 11.7%.

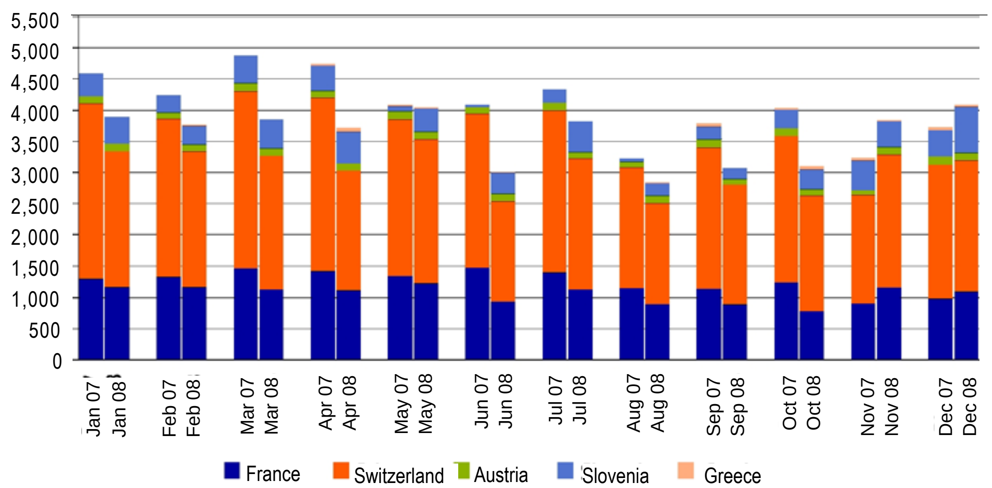
Imports from Slovenia and Greece increased by 45.4% and 2.8% respectively, while imports from France and Switzerland fell by around 17% respectively.

As for exports, the increase of flows was mainly attributable to Greece (+59.2%) and Switzerland (+512.2%).

FIG. 2.7

Electricity Imports by Border in 2007 and 2008

GWh



Source: AEEG calculations on provisional Terna data.

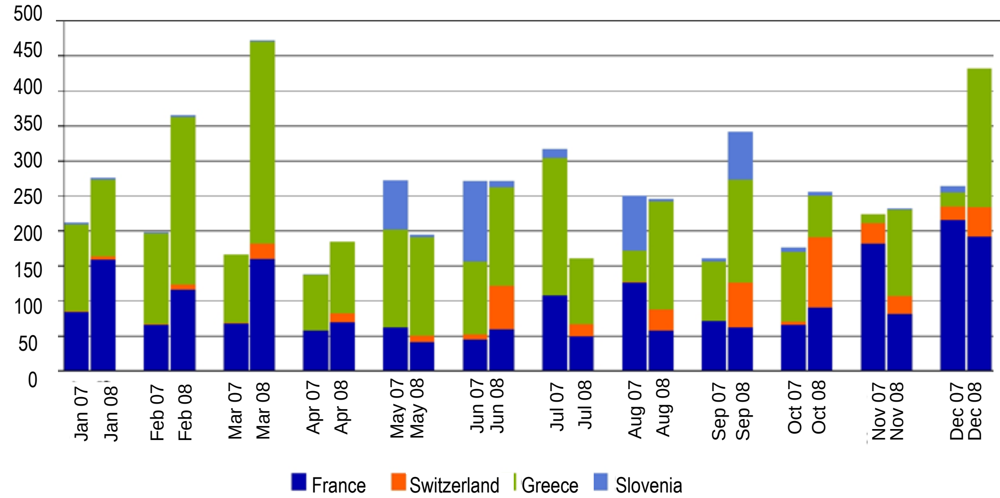


FIG. 2.8

Electricity Exports by Border in 2007 and 2008

GWh

Source: AEEG calculations on provisional Terna data.

Electricity Facilities

Transmission

Terna is the main owner of the National Power Transmission System (RTN). Among other owners are Self Rete Ferroviaria Italiana, Agsm Trasmissione (Verona) e Retrasm Asm (Brescia).

As on 31 December 2008 Terna's reference shareholder, the *Cassa depositi e prestiti* (Loan and Deposit Fund) owned a 29.99% stake; Enel and the asset manager Pictet Asset Management were reported to hold a 5.1% stake in the share capital each, while the remaining 60% was shared between institutional and retail investors.

TAB. 2.16

National Transmission System (RTN) Assets

Years 2007-2008; data as on 31 December

	2007	2008
Number of transmission system operators	11	8
Lines at 380 kV (km)	10,518	10,519
Lines at 220 kV (km)	11,416	11,387
Lines at 150-132 kV (km)	22,465	22,436
Lines at 400 kV DC (km)	207	207
Lines at 200 kV DC (km)	862	862
Substations at 380 kV	136	138
Substations at 220 kV	149	147
Substations at 150-132 kV	99	103

Source: AEEG calculations on GSE data.

Distribution

The ownership structure of distribution system operators shows a prevalence of public investors (54%); natural persons are also appreciably represented (19%) together with undertakings not active in the energy sector (17%) which constitute 7% of total.

Table 2.18 shows a territorial breakdown of operators and typologies of distribution system calculated on the basis ofdata collected by the Authority from distributors. An interesting aspect worth noting is the high number of distributors in the Trentino-Alto Adige region compared to a local distribution grid which only accounts for nearly 2% of the total distribution system length nationwide.

TAB. 2.17

Distributors' Ownership Composition

LEGAL STATUS OF OWNERS	%
Public bodies	54.2
Local power utilities	3.7
National power utilities	3.8
Foreign financial institutions	0.1
National financial institutions	0.8
Natural persons	19.3
Floating stocks	0.9
Miscellaneous corporations	16.8
Not available	0.3
TOTAL	**100.0**

Source: AEEG calculations on GSE data.

TAB. 2.18

Distribution Systems Length as on 31 December 2008

REGION	HIGH AND VERY HIGH VOLTAGE (km)	MEDIUM VOLTAGE (km)	LOW VOLTAGE (km)	NUMBER OF DISTRIBUTORS
Val d'Aosta	57	1,489	2,563	3
Piedmont	1,401	28,177	63,677	7
Liguria	739	6,995	21,282	2
Lombardy	2,808	40,339	83,107	11
Trentino-Alto Adige	433	7,762	14,447	63
Veneto	2,147	26,242	61,064	3
Friuli-Venezia Giulia	540	8,119	14,955	6
Emilia-Romagna	2,049	31,517	66,219	3
Tuscany	1,269	26,309	57,286	2
Latium	1,744	28,272	64,922	4
Marches	584	11,538	29,653	7
Umbria	57	8,565	20,025	2
Abruzzo	520	9,772	25,229	5
Molise	53	3,624	7,605	1
Campania	1,176	24,130	58,686	3
Apulia	1,758	28,490	59,681	3
Basilicata	629	9,792	14,765	1
Calabria	490	17,569	41,127	1
Sicily	1,161	35,757	75,235	11
Sardinia	447	17,781	33,515	5
TOTAL	**20,061**	**372,239**	**815,041**	**143**

(A) Each distributor is counted as many times as the number of regions in which it operates.

Source: AEEG calculations on suppliers' declarations.

As a whole, Italian power distributors are in the number of 131 for a total distributed volume of 295 TWh. The Enel group is the leading distributor of the country with 87% of distributed volumes, followed by A2A (4.1%) and Acea/Electrabel (3.4%). Other distributors control marginal shares (Tab. 2.19).

Table 2.20 shows distributor activity broken down by size expressed in terms of number of withdrawal points with the related indication of distributed volumes, withdrawal points and average distributor volumes. Distributors belonging to class one (withdrawal points > 500,000) include Enel, A2A, Electrabel/ Acea and Iride, while 50 distributors serve less than 1,000 withdrawal points (on average 311 withdrawal points per distributor).

TAB. 2.19

Electricity Distribution by Group in 2008

Distributed volumes

GROUP	GWh	SHARE (%) OF TOTAL
Enel (Enel Distribuzione and Deval)	256,498	87.0
A2A	12,067	4.1
Electrabel/Acea	10,054	3.4
Iride	2,621	0.9
Hera	2,170	0.7
Trentino Servizi	2,007	0.7
Agsm Verona	1,895	0.6
Aim Vicenza	1,105	0.4
Other distributors	6,476	2.2
TOTAL	**294,892**	**100.0**

Source: AEEG calculations on distributors' declarations.

TAB. 2.20

Distributors' Activity

Year 2008

WITHDRAWAL POINT CLASS IN NUMERICAL TERMS	NO. OF DISTRIBU-TORS	DISTRIBUTED VOLUME (GWh)	NUMBER OF WITHDRAWAL POINTS	AVERAGE VOLUME PER DISTRIBUTOR (GWh)	AVERAGE NUMBER OF WITHDRAWAL POINTS PER DISTRIBUTOR
> 500,000	4	275,865	34,185,708	68,966	8,546,427
100,000-500,000	8	13,797	1,400,409	1,725	175,051
50,000-100,000	2	1,460	141,602	730	70,801
20,000-50,000	8	1,836	260,108	229	32,514
5,000-20,000	22	1,399	218,965	64	9,953
1,000-5,000	37	453	79,135	12	2,139
< 1,000	50	81	15,560	2	311
TOTAL	**131**	**294,892**	**36,301,487**	**2,251**	**277,111**

Source: AEEG calculations on distributors' declarations.

The Wholesale Market

Electricity trading contracts contemplating the obligation of physical delivery can be forward or spot contracts. The regulated spot market (MPE) managed by Gestore del Mercato Elettrico S.p.A. (GME – an Electricity Market Managing entity with public limited company status) is divided into two submarkets, i.e. the Day-Ahead Market (MGP), in which hourly volumes of electricity are traded for the next day, and the Adjustment Market (MA), in which operators are allowed to make changes to the schedules defined in the MGP through further offers for public purchase or sale.

Downstream from these markets is the Dispatching Service Market or Ancillary Services Market (MSD) in which Terna procures the resources required for the operation of the transmission and dispatching services and for the electricity system security.

The regulation that will govern the dispatching service at full operation, envisages that, starting from 2009, demand is to actively participate in the MA as well. For 2008, similarly to the provisions introduced for the previous year, the transitional measures enforced envisage that demand may only participate in the MGP. The requirement of exclusive participation of demand in the MGP and the reduced opportunities of forward trading have implied the use of the following transitional mechanisms to compensate for the reduced bargaining flexibility:

- programme-based imbalance, for traders having executed contracts outside the system of offers to present programmes for imbalanced injections and withdrawals on the MGP;
- a Bilateral Contracts Adjustment Platform (PAB) for demand, whose activity terminated at the end of 2008, for traders operating withdrawal offer points belonging to the same geographical area to make balanced hourly electricity swaps.

An element that will provide more flexibility to the trading system is the development of a forward electricity trading market. Since May 2007, a Forward Electricity Account Trading Platform (PCE)[3] has been established which virtually replaces the previous Bilateral Contracts Platform. Further, since November 2008, the GME has initiated trading in the electricity forward market (MTE) in which physical quantities of electricity are multilaterally traded. Concurrently, Borsa Italiana (the entity running the Italian Stock Exchange) has launched the Italian Derivatives Energy Exchange (IDEX) in which derivative financial instruments based on an underlying National Single Price (PUN) are traded. In the initial phase, monthly, quarterly and annual futures contracts quoted in €/MWh are traded.

For 2008, the tolerance threshold for imbalance penalties was fixed at 3%, i.e. unchanged from 2007. This mechanism - designed to favour traders in the demand planning phase - is incompatible with the definitive market structure and will therefore be removed when the system becomes fully operational. As part of the process of gradual introduction of the final regulation governing actual imbalances, by its resolution no. 203/08 of 23 December 2008, the Authority lowered the tolerance threshold to 1.5% for 2009.

In order to provide demand with the necessary 'learning' time in order to efficiently manage its trading on the MGP, the electricity market regulation gives Terna the opportunity to submit supplementary offers on the MGP to adjust demand, in the light of the difficult estimation of load and production by non – programmable renewable sources by market participants. For 2008, the duration of such supplementary offer mechanism was extended with a 2% threshold. However this mechanism is not deemed compatible with the opening of the MA to demand. As a result, resolution no. 203/08 (see Section 2, Volume II) provides that, as from 2009, Terna may no longer present supplementary offers on MGP, except in the event of exceptional criticalities found in the national electricity system.

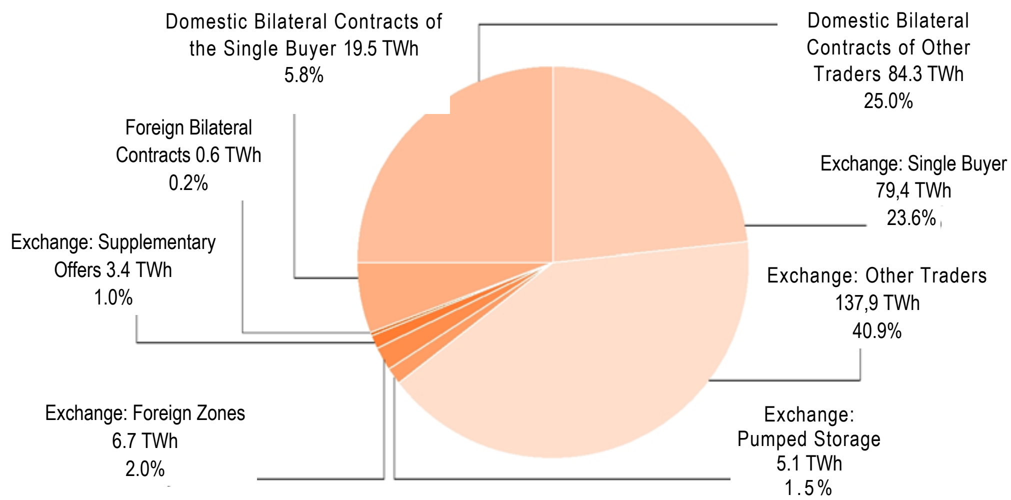
3 The operation of the PCE is governed by resolution no. 111/06 of 9 June 2006 (and its subsequent amendments and supplements) and by the Regulation issued by the GME.

Power Exchange: Demand in the Day-Ahead Market

Electricity demand in the Italian system in 2008 was equal to 337 TWh, up 1.8% from 2007[4]. National demand increased by 0.8%, with rather contained increases at zone level: the highest is that of the Sicily macrozone (2.5%), while a 0.9% fall was observed in the Sardinia macrozone. A significant contribution to the overall increase of power demand in the Italian system came from purchases from foreign zones which bucked the trend of the previous year with a 91.3% growth from around 3.8 TWh of 2007 to 7.3 TWh of 2008. However, demand declined in the fourth quarter 2008 (-1.1%) as opposed to the same period of 2007. Such reduction was particularly significant in December (-3.8%) concurrently with the worsening of the international economic crisis.

FIG. 2.9

Percentage Composition of Electricity Demand in 2008



Source: AEEG calculations on GME data.

Trading on the power exchange grew 4.8% from the previous year to 232,6 TWh. As a result, the tendency towards an increase of average market liquidity (69.0% in 2008 against 67.1% in 2007 and 59.6% in 2006) was confirmed. Market liquidity, merely measured on exchange transactions not subject to regulatory restraints (i.e. net of electricity volumes from CIP6 installations) was equal to 54%. Increased liquidity – which probably reflected better market competitiveness – is mainly ascribable to the further increase of sale and purchase transactions by non-institutional investors (other than the Single Buyer, the GSE or Terna). This development was particularly evident in the second half of 2007 and continued well into 2008. Similarly to the situation observed in the second half of 2007, a further increase that bolstered the growth of traded volumes in the power exchange - as opposed to the overall volumes traded in the Italian system - was that of transactions on foreign zones, with high traded volumes during the year, in line with the levels recorded during the October-December 2007 period.

[4] In order to take account of the higher number of hours of leap year 2008, percentage variations were calculated on average annual values.

Owing to the progressive downturn in the captive market and the complete liberalisation in the sales sector, since 1 July 2007, demand from the Single Buyer (AU) further reduced by 25.7% from the previous year. This tendency was concurrently counterbalanced by a substantial growth of demand from other traders, which was equal to 137.9 TWh against 99.7 TWh of 2007.

The demand underlying bilateral contracts was as a whole reduced by 4.3% from 2007 to 104.3 TWh. This reduction particularly affected bilateral trading with foreign zones, which fell by 23.2% over 2007 and, to a relative lesser degree, bilateral contracts executed by national traders other than the Single Buyer (-8.3%), while it was only partially offset by the trend of bilateral contracts executed by the Single Buyer, which rose by 20.3% over the previous year.

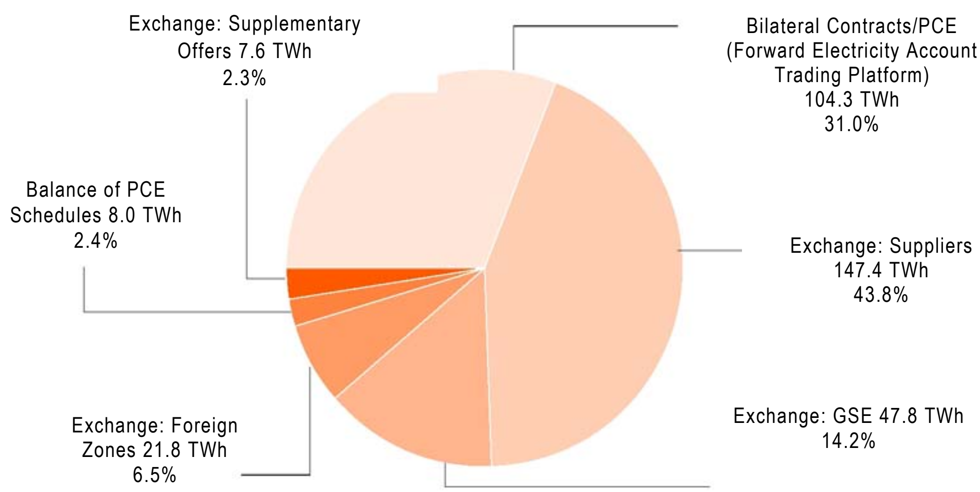
Power Exchange: Supply in the Day-Ahead Market

Volumes offered in the power exchange exhibited a 2.8% growth of national traders' offers over 2007 which, for the full year 2008, amounted to 147.4 TWh in total. This was also combined with a significant increase (+29.4%) of foreign offers, as a whole equal to 21.8 TWh, and with a rise (+4.0%) in offers from the GSE for 47.8 TWh. The balance of PCE schedules, measured as the difference between injection schedules and withdrawal schedules, was equal to 8.0 TWh, down 36.4% from the previous year.

Terna's supplementary offers on the supply side were equal to 7.6 TWh, staging a 140.7% increase from 2007. Against this background, it is worth noting that, in the same period, offers on the demand side were equal to 3.4 TWh, decreasing by 39.6% from the previous year.

FIG. 2.10

Percentage Composition of Electricity Supply in 2008



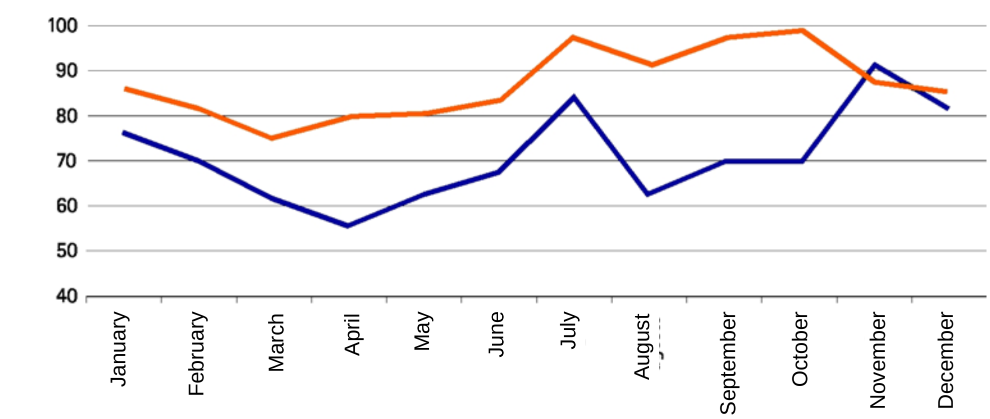
Source: AEEG calculations on GME data.

Power Exchange: Results in the Day-Ahead Market

The National Single Price (PUN) in the Italian power exchange was equal to 86.99 €/MWh, up 16 €/MWh from 2007 (+22.5%). The PUN increase, which continued throughout 2008, came to a halt only in the last two months of the year and resulted from the upswing of quotations of fuels on international markets and the consequent increase of electricity generation costs (Fig. 2.11). A further cyclical variable that is worth considering is the rising demand in the first three quarters of 2008 (+ 2.9%) against the same period of 2007, which was followed by a drop (-1.1%) in the fourth quarter.

FIG. 2.11

National Single Price (PUN)

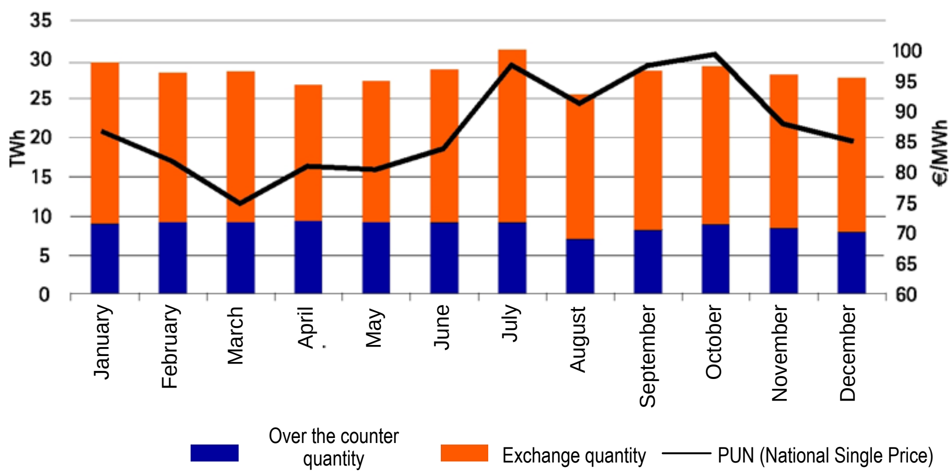


Source: AEEG calculations on GME data.

FIG. 2.12

Volumes Traded in the Day-Ahead Market (MGP) in 2008

TWh; €/MWh



Source: AEEG calculations on GME data.

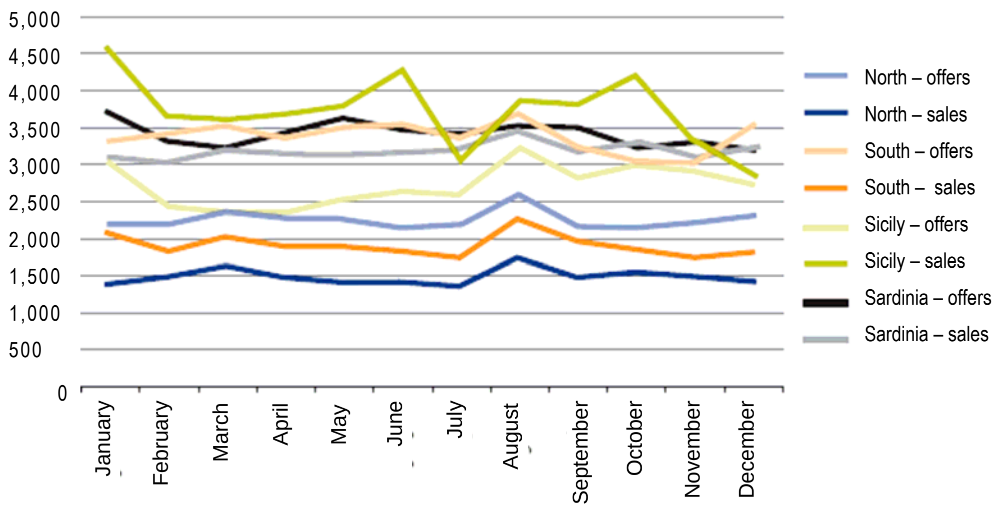
A particularly significant peak was achieved in October, when the average purchase price reached the all-time high of 99.07 €/MWh (+41.8% vs. October 2007) due to the cost of fuel, which peaked in July and was shifted to the price of electricity some months later. The sinking prices of fossil fuels and the exacerbation of the international economic crisis favoured a sizeable reduction of the PUN in November and December 2008 (Fig. 2.12).

The zone-level concentration index HHI, calculated in relation to the actual sales of energy and the accepted and unaccepted sale offers shows a competitive structure improvement on the supply side. More specifically, the periods during which satisfactory concentration levels were recorded (HHI < 1,800) have further increased in the Northern macro-zone and progress was observed equally in the Southern macro-zone. Obstacles to the development of permanently competitive structures persisted in the zones of Sicily and Sardinia, where the HHI index never reached values below the threshold of 1,800 (Fig. 2.13).

The marginal market participant index was significantly lower than that of 2007, which shows a tendency towards the improvement of competition: more specifically, while overall traded volumes in which the marginal market participant fixed the price exceeded 75% in almost all of the months of 2007, in 2008 the main market participant fixed the price for 51% of electricity volumes on average, and in the last four months of the year such share was stably below 35% (Fig. 2.14).

FIG. 2.13

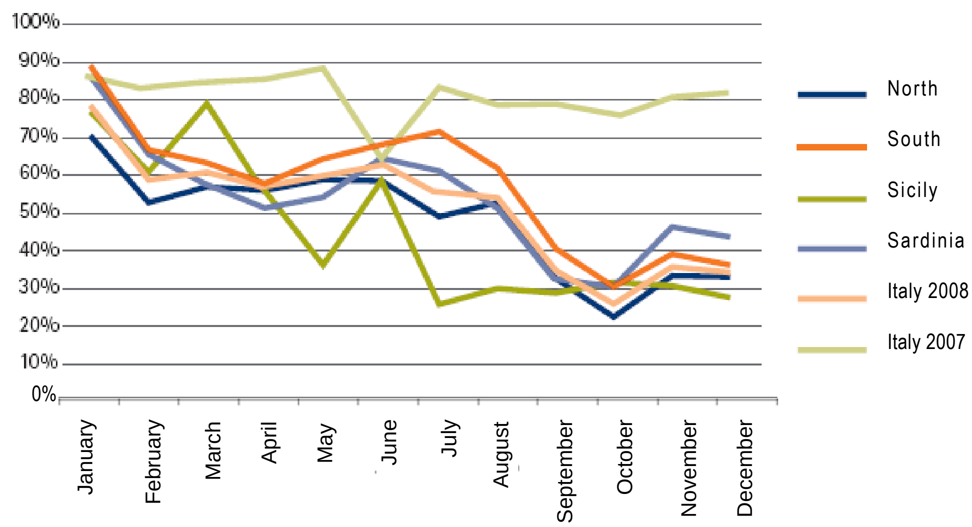
HHI Values in 2008



Source: AEEG calculations on GME data.

FIG. 2.14

Marginal Market Participant Index: share of Volumes for which the First Market Participant Fixed the Price by Macro-Zone



Source: AEEG calculations on GME data.

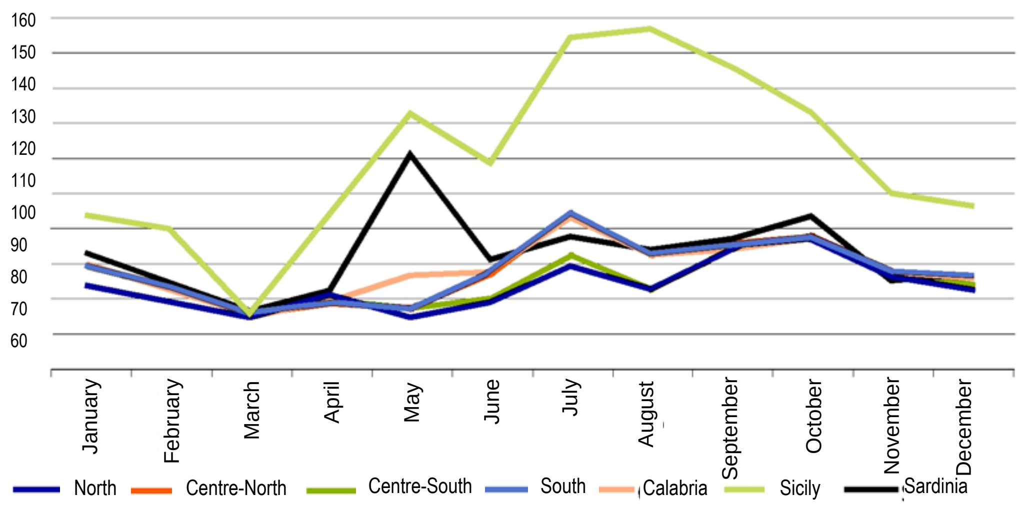
Zone selling prices varied between 82.92 €/MWh in the North, which was confirmed as the zone with the lowest prices, and 119.63 €/MWh in Sicily. As opposed to 2007, prices increased in line with the annual variation of the PUN ranging between +16.7% in the Centre-North and +22.5% in Sardinia. A significantly higher increase than the national average variation was recorded in the Sicilian macro-zone (+50.5%).

A monthly analysis of prices shows a considerable growth of prices in all zones, chiefly Sicily, in the months between June and October simultaneously with the higher increases of the average purchase price (Fig. 2.15). The high tension on prices occurred in Sardinia in May is attributable to the heavy reduction of supply following the suspension of transit with the rest of the country for a

FIG. 2.15

Monthly Performance of Zone Prices in 2008

€/MWh



Source: AEEG calculations on GME data.

considerable number of hours in the same month. In relation to Sicily, increases of the zone price have been observed since April, which were appreciably above the national average values, both as daily average price and as price at certain hours of the day. By resolution VIS 3/09 of 22 January 2009, the Authority initiated a fact-finding enquiry in order to appraise the pricing dynamics in the electricity market with special reference to the Sicilian zone (see Chapter 6 Volume II).

With regard to congestion rents, in 2007 national rents increased significantly (29%) from the previous year, from 121 million euros to 156 million euros. The transit that mostly contributed to national rents was the North-Centre North transit, although such contribution was considerably lower than that of the previous year (i.e. from 81% to 36% of total), whereas an appreciable increase of rents from Sicily-Calabria transits (from 3% to 20%) and from Centre North-Centre South transits (from 3% to 16%) was recorded.

With effect from 2008, the full interconnection capacity on foreign border is now jointly allocated by bordering system operators by means of annual, monthly and daily explicit auctions. By definition, this mechanism zeroes out rent from congestion on foreign zones, since the cost of congestion is paid in advance at the time of the explicit auction.

Power Exchange: Results in the Adjustment Market

In the course of 2008, the average monthly weighted price was strongly correlated to the PUN. The average purchase price – weighted to traded volumes - was equal to 84.95 €/MWh in 2008, i.e. 2.3% lower than the PUN. In comparison with 2007, the average weighted price in the MA increased 22.5%..

Volumes traded in the MA throughout 2008 were equal to 11.7 TWh, i.e. down 8.8% over the previous year, which corresponds to 3.5% of the overall MGP demand, against 3.9% of the previous year.

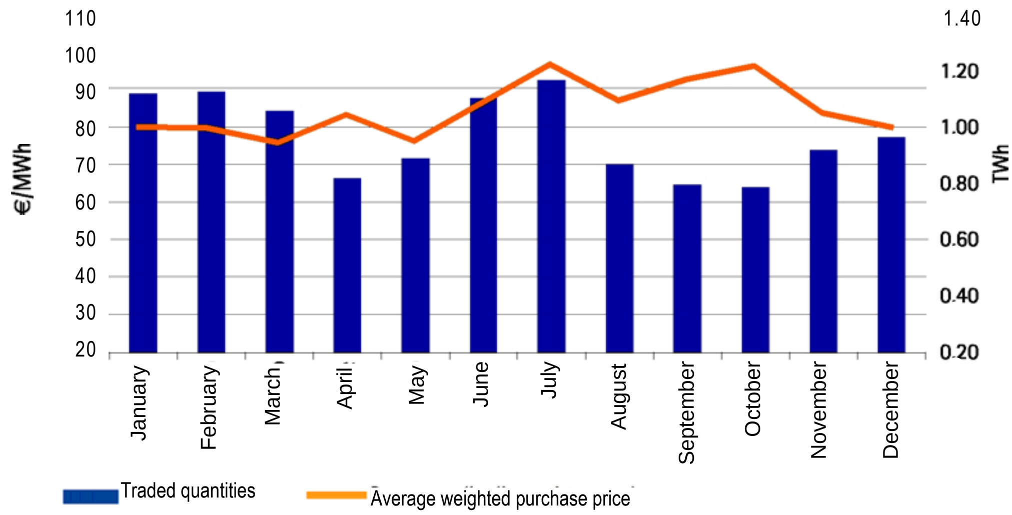
Power Exchange: Dispatching Service Market (MSD)

With regard to the MSD, *ex ante* step-up purchases were equal to 11.6 TWh, down 20.8% vs. 2007, whereas step-down quantities sold *ex ante* were equal to 11.3 TWh, down 6.6% over the previous year. Such volumes were nearly 3.5% of overall traded quantities in the MGP, thereby showing a fairly high monthly variability (Fig. 2.17): step-up offers were relatively higher in July and August (4.1% and 4.8% respectively of the corresponding monthly demand) while step-down requirements reached the highest levels in the months of January (3.9%), March (3.9%) and July (4%).

FIG. 2.16

Average Weighted-Price and Quantity in the Adjustment Market (MA)

€/MWh

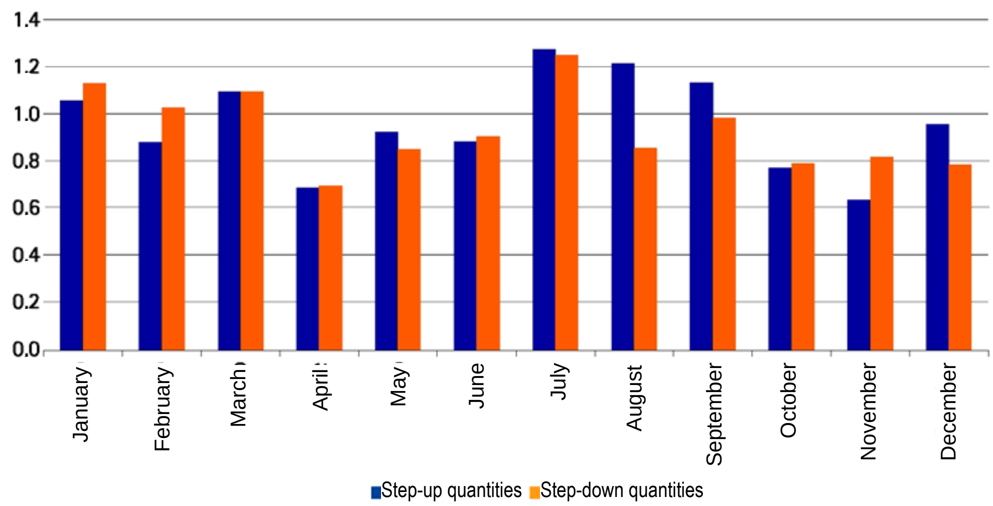


Source: AEEG calculations on GME data.

FIG. 2.17

Ex Ante Dispatching Service Market (MSD) Quantities in 2008

TWh



Source: AEEG calculations on GME data.

Power Exchange: Comparison with the Main European Exchanges

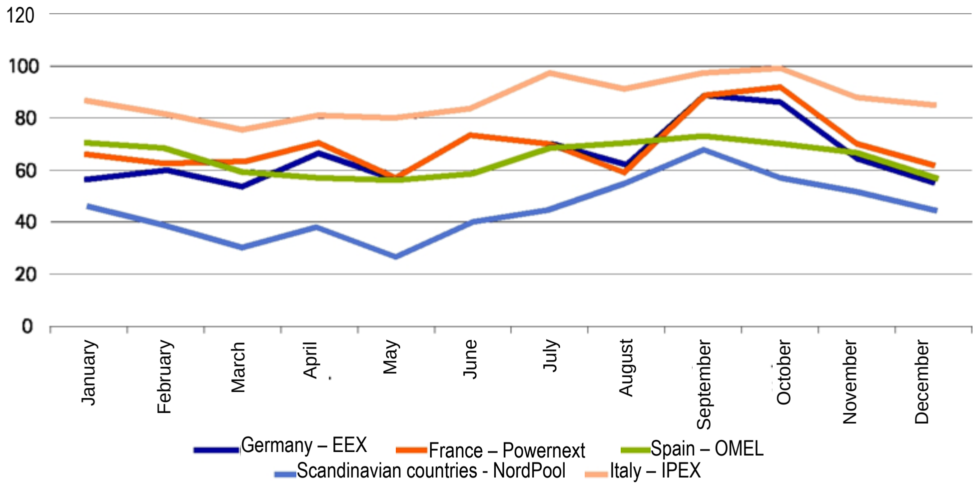
Throughout 2008, the average monthly price of the Italian power exchange (IPEX) was confirmed as the highest price in comparison with the levels recorded in the other major European power exchanges: more specifically, the average wholesale price of baseload electricity was equal to 65.76 €/MWh in the German power exchange (EEX), 69.15 in the French power exchange (Powernext), 64.44 €/MWh in the Spanish power exchange (OMEL) and 44.73 €/MWh in the Scandinavian power exchange (NordPool). These figures compare with the price of 86.99 €/MWh recorded in the MGP of the Italian power exchange. Price differentials however show that the Italian price approached the level of prevailing prices in Europe, chiefly in the summer months of 2008 (Fig. 2.18). The trend observed in the previous years of the Italian price reacting more slowly to the fluctuations of fuel prices in international market was confirmed.

In the course of 2008, in a context marked by high tensions in the oil markets, the wholesale prices of electricity showed considerable increases in all European

FIG. 2.18

Monthly Average Price in the Main European Exchanges

Average baseload values; €/MWh

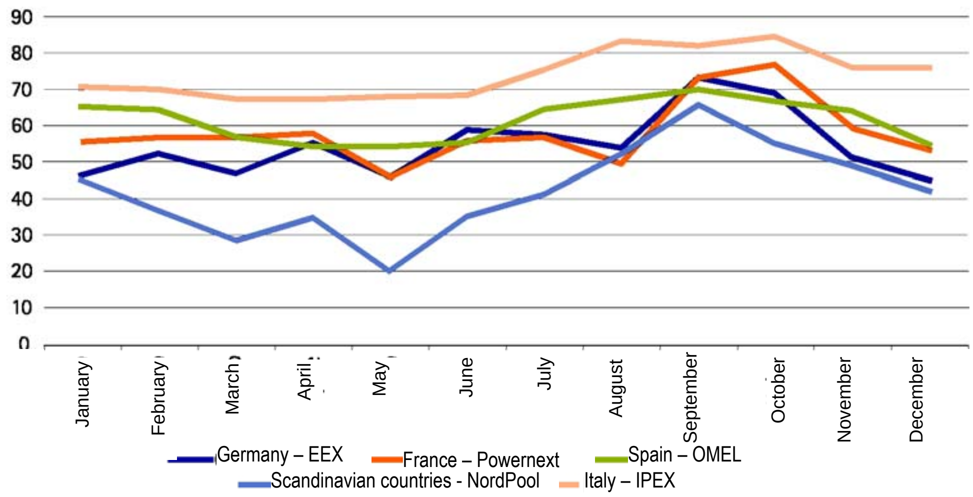


Source: AEEG calculations on data of the European Power Exchanges.

FIG. 2.19

Monthly Average Price in the Main European Exchanges in off-peak hours

€/MWh

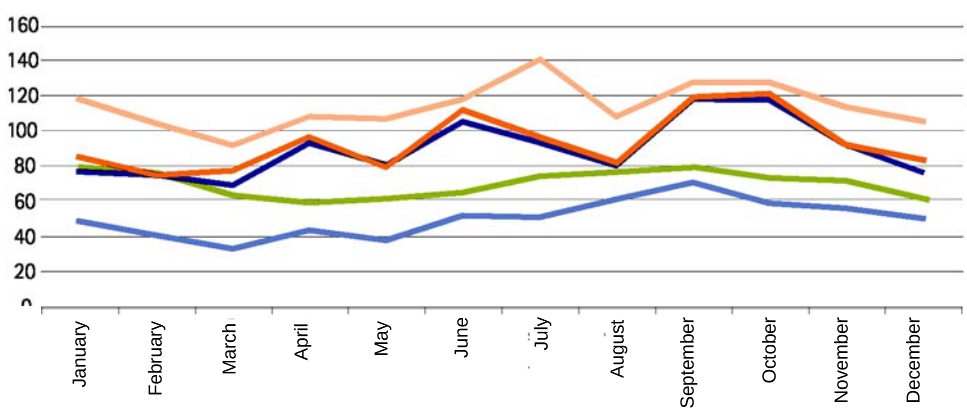


Source: AEEG calculations on data of the European Power Exchanges.

FIG. 2.20

Monthly Average Price in the Main European Exchanges in peak hours

€/MWh



Source: AEEG calculations on data of the European Power Exchanges.

countries including Italy. Since November, European prices have started to decrease in the wake of oil price reductions and the deterioration of the economic cycle.

The reduction of the IPEX price gap compared to the other power exchanges determined a significant increase of export flows in 2008 as opposed to the previous year, which were mainly concentrated in the off-peak hours. Such dynamics was more marked on the French border in the months of June and October and on the Swiss and Greek borders.

The Italian power exchange presents a fairly high differentiation between peak and off-peak price. In particular, the average price in 2008 was equal to 114.54 €/MWh in peak hours and to 74.21€/MWh in off-peak hours[5]. In other European power exchanges, instead, a more contained average price was usually associated with a lower differential between peakload and off-peak price. The average peakload price and the average off-peak price were respectively equal to 90.21 €/MWh and 54.44 €/MWh in the German Exchange, to 93.34 €/MWh and 57.93 €/MWh in the French exchange, to 70.59 €/MWh and 61.55 €/MWh in the Spanish exchange, and to 50.52 €/MWh and 42,04 €/MWh in the Scandinavian exchange.

PCE – Forward Electricity Account Platform

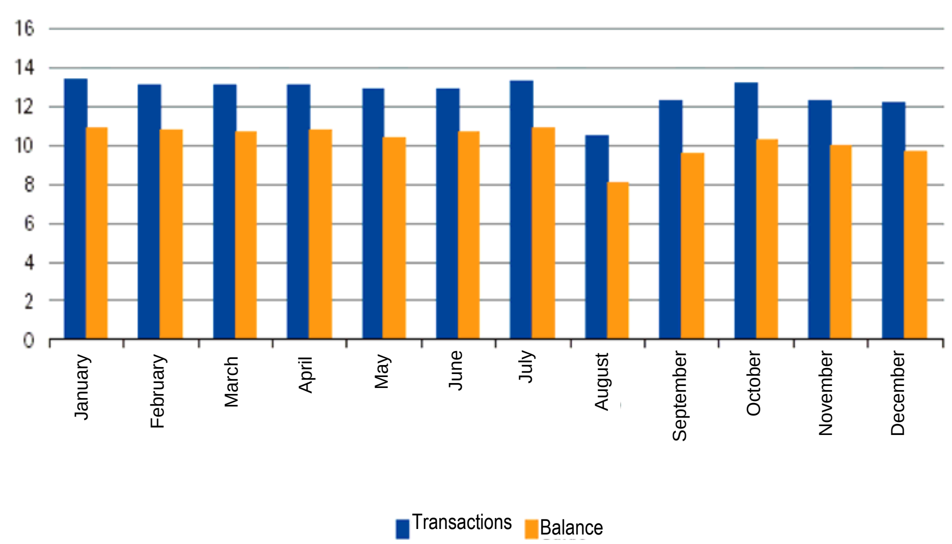
The PCE is the platform recording bilateral contracts in which traders may register quantities and durations of deliveries relating to forward contracts no more than two months in advance of the date of physical delivery. In general, all traders have one or more power injection accounts and one or more power withdrawal accounts on each of which they may record purchases and sales on condition that the resulting net balance against the new registration is a net sale in the former case and a net purchase in the latter case. The account balance determines the quantity of electricity that can be delivered/collected or sold/purchased on the MGP.

During 2008, the overall transactions handled in the PCE amounted to 152.4 TWh against a net position of 122.9 TWh. The PCE is instrumental in the registration of 5 types of contract of which four standard contracts (*baseload*, *peakload*, *off-peak* and *weekend*) and a non-standard contract. The most used contract profile in 2008 was non-standard, while among standard contracts the most popular one was the baseload.

FIG. 2.21

Forward Electricity Account Trading Platform (PCE) Transactions in 2008

TWh



Source: AEEG calculations on GME data.

[5] Prices are calculated for all power exchanges based on the time ranges adopted by the Authority for power value differentiation. Average peakload price is determined based on values recorded during timeband F1, while off-peak price is based on the other hours of the year (timebands F2 and F3).

Forward Markets: MTE and IDEX

The MTE (Electricity Forward Market) and the IDEX (Italian Derivatives Energy Exchange) are the two regulated forward markets managed by GME and Borsa Italiana respectively and instituted in November 2008 for traders to more flexibly manage their energy portfolios.

The MTE is instrumental in the trading of physical quantities of electricity with obligation of delivery at maturity over a maximum time horizon of one month. Physical positions arising from MTE trading are simultaneously recorded on the PCE in order to ensure system security and stability. During the first quarter of MTE operation, 8 traders participated for total traded volumes worth nearly 0.1 TWh, mainly through baseload contracts and with delivery at one month. Participation of traders in this market seems to be discouraged by the fact that no contracts with longer delivery terms can be traded.

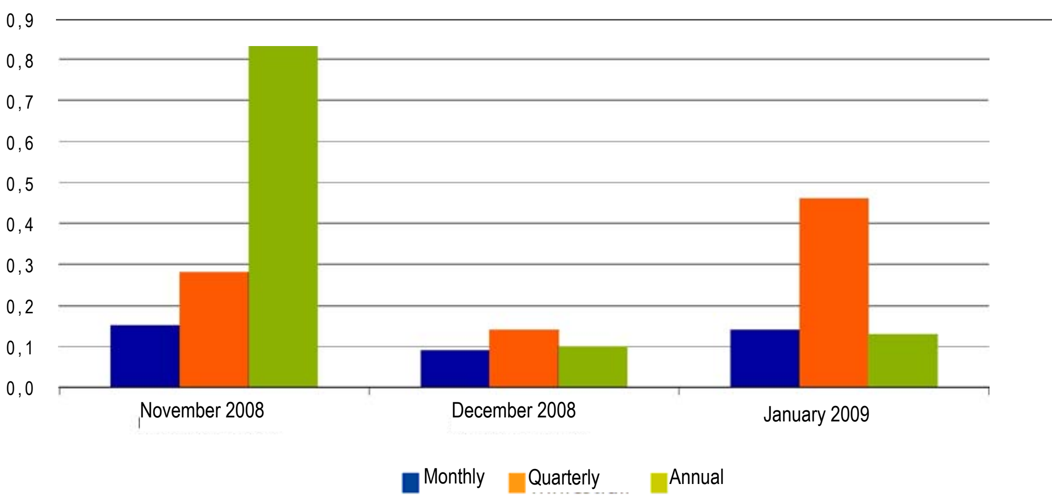
The IDEX is instrumental in the trading of forward contracts with the PUN as underlying price. At the start-up of this market, it was established that contracts could only have a baseload profile and monthly, quarterly and annual delivery periods. For the market functioning, a clearing house run by Borsa Italiana, the *Cassa di Compensazione e Garanzia* acts as central counterparty to which all market participants are required to subscribe.

In the first quarter of IDEX operation, overall traded volumes amounted to nearly 2.3 TWh. The most frequently traded contracts were those extending over an annual period (1.1 TWh) followed by those with quarterly duration (0.9 TWh). Despite the low traded volumes, the start-up of trading in this market is an important innovative element since traders may now have a useful price signal over a more extended time horizon.

FIG. 2.22

Italian Derivatives Energy Exchange (IDEX) Transactions in the first Quarter of Operation

TWh



Source: AEEG calculations on data supplied from Borsa Italiana.

Sales of CIP6 Electricity to the Market

In 2008 the energy collected by the GSE was placed on the market on the terms envisaged by the decree of the Ministry for Economic Development of 15 December 2007. The decree envisaged the following scheme for the awarding of the 4,900 MW of CIP6 rights in 2008, which is similar to that of 2007:

- the CIP6 energy collected by the GSE is offered on the electricity market;
- the capacity to be awarded for 2008 is determined by the GSE depending on the estimated total energy to be acquired based on contracts signed with producers and based on prudential statistics on unplannable sources of energy;

- the electricity sold to traders by award procedures conducted by the GSE is allocated in the proportion of 25% (1,225 MW) to the Single Buyer for supplies to customers in the protected market and for the remaining 75% (3,675 MW) to customers in the free market;
- the award price for the first quarter of 2008 is equal to 68 €/MWh and is adjusted on a quarterly basis on the terms fixed by the Authority on the basis of the quarterly appraised performance of the price index as per art. 5 of the former Ministry for Production Activity (now Ministry for Economic Development) of 19 December 2003;
- the awardee executes with the GSE a contract for differences and undertakes to procure on the power market quantities not below the awarded hourly energy allowance;
- if the price formed in the market is higher (vs. lower) than the award price, the awardee will receive from (vs. recognise to) the GSE an amount equal to the product between the price differential and the awarded quantity.

In the course of 2008, the Authority adjusted award prices pursuant to the provisions of resolution no. 331/07 of 19 December 2007, for the quarters following the first, which prices were respectively equal to 68.23 €/MWh, 68.77 €/MWh and 80.40 €/MWh.
For 2009, the decree of the Ministry for Economic Development of 25 November 2008 provided that the energy collected by the GSE would be allocated to the extent of 20% to the Single Buyer for the supply of electricity to consumers benefiting from protected tariffs, and for the remaining 80% to customers in the free market. The award price for the first quarter 2009 is 78 €/MWh and the capacity to be awarded for 2009 has been fixed by the GSE at 4.300 MW.

TAB. 2.21
CIP6 Rights Allocation
MW

	CIP6 RIGHTS FOR 2008	CIP6 RIGHTS FOR 2009
Enel Energia	1,148	1,035
Eni	332	250
Edison Energia	287	374
Acea Electrabel Elettricità	177	20
Sorgenia	144	145
E.On Energia (ex Dalmine Energie)	126	125
Modula	121	-
Ergon Energia	107	-
Energetic Source	100	185
Iride Mercato (ex Amga comm. And Siet)	97	81
A2A (merger between Aem and Asm)	86	130
EGL Italia	70	89
Hera Comm	70	106
Others	810	900
TOTAL	**3,675**	**3,440**

Source: AEEG calculations on GSE data.

Environmental Markets

Green Certificate Market

The system of green certificates is a form of incentive for energy generation from renewables based on market mechanisms.

Under the terms of law no. 244 of 24 December 2007, the production of electricity from renewable plants commissioned or upgraded from 1 April 1999 to 31 December 2007, is eligible for certification of power generation from renewable energy (green certificates) for the first 12 years of operation. Plants entered into operation or upgraded from 1 January 2008 are eligible for green certificates for a 15-year period. As regards production of electricity by plants fuelled by sources eligible for the issue of green certificates with an annual average nominal capacity not exceeding 1 MW and commissioned after the 31 December 2007, law no. 244/07 provides for the right, alternatively to green certificates and on the producers' request, to a feed-in tariff varying in relation to the used source for a 15-year period. Installations eligible for green certificates commissioned prior to 31 December 2007, will continue to be awarded certificates to the extent of their net power output.

A green certificate is issued by the GSE upon notice from the producer and pertains to either the production of electricity from renewables of the previous year or the expected production in the current year or the production in the following year. Green certificates, in particular, are issued in favour of producers with installations having obtained IAFR (renewable fuel installations) qualification or installations fired by the refuse waste eligible for incentives, as well as in favour of the GSE itself against the electricity generated by CIP6 installations.

In the market of green certificates, demand is based on an obligation binding producers and importers to annualy inject into the grid a quantity of energy generated from renewables. The legislative decree no. 79/99, in particular, provides that, with effect from 2002, the grid be injected a quantity of 2% of the energy produced (net of self-consumption) or imported from non-renewable sources in the previous year which exceeds 100 GWh/year. From 2004 to 2006, the minimum quantity of electricity produced from renewables to be injected into the grid in the following year was increased by 0.35% per annum, based on the provisions of legislative decree no. 387 of 29 December 2003. For the 2007-2012 period, the quantity was increased by 0.75% per annum pursuant to law no. 244/07.

The obligation to inject into the grid a quantity of renewable energy may be met, in addition to the production/importation of renewable energy, by purchasing green certificates from other suppliers. Green certificates can be traded through bilateral contracts or through the platform organised and managed by the GME. Entities eligible for participation in the market as either buyers or sellers include the GSE, national and foreign producers, electricity importers, wholesale customers and associations, subject to sending the GME an application to that effect and to obtaining a qualification as market participant. The GSE, in particular, on top of placing green certificates for generation from CIP6 installations, is authorised to trade further certificates in view of the suitable functioning of the market. Table 2.22 reports the transactions in the GME-organised market in 2008 and in the first quarter of 2009. An innovation from the previous years is the trading of the first green certificates issued against electricity generated from co-generation plants combined with district heating, while for the time being no transaction has been made on green certificates for hydrogen-fuelled electricity generation.

TAB. 2.22

Results of Trading in the Green Certificates Market organised by the GME in 2008 and in the First Quarter of 2009

TRADING PERIOD	REFERENCE YEAR	NEGOTIATED GREEN CERTIFICATES G(C) (MWh)	AVERAGE PRICE(A) (€/MWh)
2008	2006	24,905	99.87
	GC District Heating (2006)	996	90.63
	2007	514,258	95.61
	2008	253,576	91.91
2009 (January-March)	2006	6112	88.33
	GC District Heating 2006)	1157	87.18
	2007	98,897	89.61
	GC District Heating (2006)	20,867	94.51
	2008	434,434	92.20
	2009	45,064	83.88

(A) The average prices of green certificates are net of VAT.

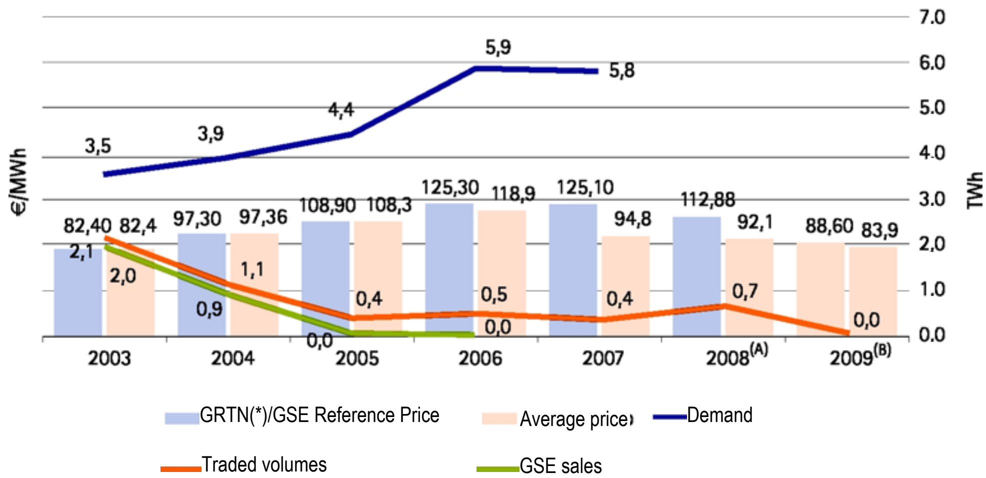
Source: AEEG calculations on GME data.

Figure 2.23 highlights the average cumulative price of green certificates in the GME organised market for each reference year, weighted to traded quantities, considering all sessions in which certificates were traded until March 2009. However, as can be seen in the chart, from 2004 onwards, most of the demand was met by transactions outside the organised market. Parallely, from 2006 onwards an excess of demand determined the selling out of green certificates by the GSE.

FIG. 2.23

Green Certificates Market: Market Prices and GRTN/ GSE Reference Prices

€/MWh net of VAT; TWh



(A) The calculation of average cumulative price includes green certificates associated with district heating.

(B) Data for 2009 relate to the first three months of the year. The calculation of the average cumulative price includes green certificates associated with district heating.

(*) GRTN = National Transmission System Operator

Source: AEEG calculations on GSE and GME data.

Since 2006 there has been a misalignment between market prices and reference prices fixed by the GSE. Such trend – caused by a supply surplus on the market – intensified in the course of 2007 and continued until October 2008. In particular, during the first phase of 2008, quotations of green certificates dropped appreciably from nearly 100 €/MWh to little more than 60 €/MWh, while a partial recovery only occurred starting from October, when expectations among traders for a change in the reference legislation increased.

The decree of the Ministry for Economic Development of 18 December 2008 enforcing law no. 244/07 introduced some innovations that affected the green certificates pricing mechanism. More specifically, it was provided that in the transitional period from 2009 to 2011, traders could request the GSE to collect green certificates in advance of maturity at a price equal to the average market price of the three-year period preceding the year in which the application for collection was sent.

With reference to applications filed by March 2009, the GSE's recognised price corresponds to 98 €/MWh, equal to the average weighted price recorded in the three years from 2006 to 2008.

In addition, since 2008, in accordance with the provisions of law no. 244/07, the green certificates issued by the GSE are placed on the market at a price equal to the difference between 180 €/MWh and the average annual value of the selling price of electricity defined by the Authority as recorded in the previous year[6]. By resolution ARG/elt 24/08 of 26 February 2008, the Authority fixed at 67.12 €/MWh the average annual

6 Law no. 244/07 provides that the average annual value of the electricity selling price shall be defined by the Authority pursuant to art. 13, paragraph 3, of legislative decree

value of the selling price. As a result, in 2008 the value of green certificates available to the GSE was equal to 112.88 €/MWh net of VAT (see Chapter 2 Volume II).

For 2009, the offer price for certificates available to the GSE is equal to 88.66 €/MWh, as calculated from the application of the method provided for by law no. 244/07 in relation to the average price of 91.34 €/MWh of certificates in 2008, as defined by the Authority by resolution ARG/elt 10/09 of 28 January 2009.

White Certificates Market

Energy efficiency certificates, otherwise known as white certificates, were instituted by the decrees of the Ministry for Production Activities of 20 July 2004, in which national quantitative targets were identified for increasing energy efficiency in the electricity and natural gas sectors for the period 2005 to 2009. Until 2007, such targets were imposed on the electricity and natural gas distributors with no less than 100,000 consumers as on 31 December 2001, through projects envisaging measures and interventions for increasing energy efficiency in the final uses of energy.

In its decree of 21 December 2007, the Ministry for Economic Development – in agreement with the Ministry for the Environment and the Protection of the Land and Sea – integrated and amended the previous decrees of 2004 by determining the national quantitative targets for energy efficiency increase to be achieved by electricity and natural gas distributors in the period 2008-2012 [7]. For each of the years following 2007, obligations apply to distributors which, as on 31 December for the years preceding each obligation, have connected more than 50,000 consumers through their distribution grid. White certificates are issued by the GME in favour of distributors, their subsidiaries and Energy Service Companies (ESCOs) in order to certify the reduction of consumptions obtained through energy efficiency increase interventions and projects from 2005 onwards. To fulfil such task, the GME organises and manages a White Certificate Register.

White certificates emissions are commensurate to the energy savings achieved by distributors or ESCOs and notified to the GME by the Authority. The latter, by resolution no. 103/03 of 18 September 2003 and its subsequent amendments, defined *Guidelines* for the preparation, implementation and evaluation of the projects under article 5 of the 2004 decrees and prescribed the criteria and terms for white certificates issue.

White certificates have a value of 1 toe and fall into three types:

- type I certifying the achievement of primary energy savings through interventions for the reduction of final electricity consumptions;
- type II certifying the achievement of primary energy savings through interventions for the reduction of natural gas consumptions;
- type III certifying the achievement of primary energy savings through interventions other than those under types I and II.

Electricity and natural gas distributors may also achieve their energy efficiency increase targets by purchasing white certificates from other entities, by bilateral transactions or by trading on a dedicated market organised and managed by the GME which, in agreement with the Authority has defined the rules for market

no. 387/03. Art. 13, paragraph 3 of legislative decree no. 387/03 provides that the Authority shall define, with reference to market prices, the terms for the collection - by the grid operator to which an installation is connected - of the electricity produced by installations:

- of whatsoever capacity provided they are fuelled by such renewable sources as wind power, solar power, geothermal power, wave power, tidal power and hydraulic power (for the latter source limited to run-of-the-river plants);
- fuelled equally by renewables other than those listed in the bullet above, provided their nominal capacity is below 10 MVA;
- with the exception of energy sold to the GSE pursuant to the current convention executed in compliance with measures CIP no. 15/89, no. 34/90, and no. 6/92, and in compliance with resolution no. 108/97, new, upgraded or renovated installations as defined by articles 1 and 4 of the foregoing resolution until the expiry of such conventions.

Pursuant to resolution no. 280/07, the price recognised to producers in the context of a dedicated delivery is the price formed on the electricity market (known as zone hourly price) and paid on the basis of the hourly injection profile of the individual producer.

[7] In particular, the decree fixes an overall target of energy efficiency increase for final uses of electricity and natural gas equal to 2.2 Mtoe in 2008, 3.2 Mtoe in 2009, 4.3 Mtoe in 2010, 5.3 Mtoe in 2011 and 6.0 Mtoe in 2012.

functioning. The white certificates market, in particular, allows the purchase of white certificates by distributors which, through their projects, achieve savings below their annual target and, correspondingly, the sale of certificates by distributors achieving savings above their annual target and wishing to sell the surplus certificates on the market. Offers of certificates on the market may also be submitted by ESCOs holding certificates after the implementation of autonomous projects. In the course of 2008, 514,951 white certificates were traded in the organised market, most of which were of type I (377,059) and type II (108,232); type III certificates were traded in smaller numbers (29,660) although the figure has grown significantly from the previous year. In 2008, 42,913 white certificates were traded on an average monthly basis, with a significant growth from the 2007 figure of 18,829. In the first three months of 2009 256,481 certificates were traded, exhibiting a further increase compared to the 2008 trend (Tab. 2.23). In 2008, white certificates bilaterally traded amounted to 800,484; consequently white certificate market liquidity was equal to 39.1%. A significant part of white certificates traded bilaterally (366,549) consisted of intra-group transactions. Therefore, market liquidity net of intra-group transactions was equal to 55.8%. With regard to bilateral transactions, by resolution no. 345/07 of 28 December 2007, the Authority provided that, with effect from 1 April 2008, the entities eligible to operate in the White Certificates Register shall inform the GME not merely of the quantities of TEE traded bilaterally but also of the related trading prices.

TAB. 2.23

Certificates traded in the White Certificates Market as on 31 March 2009

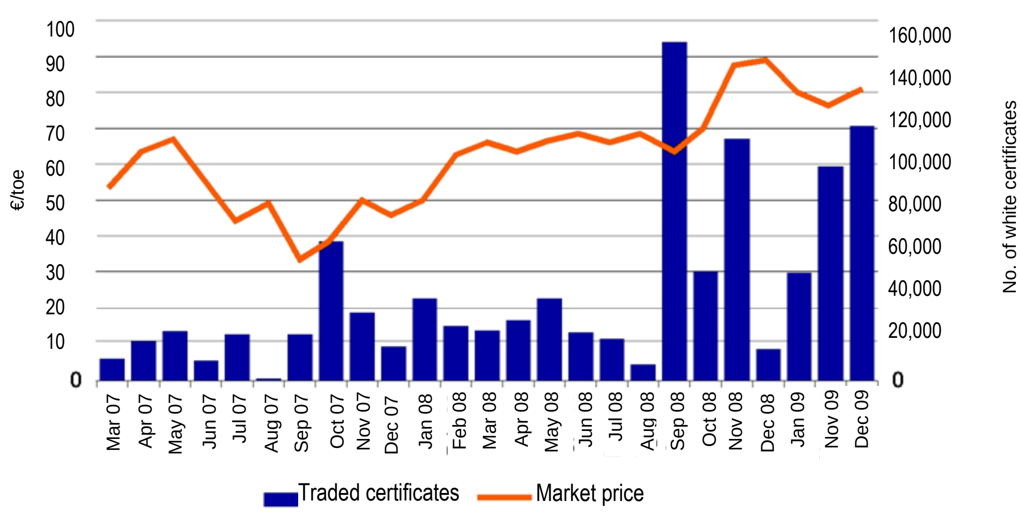
YEAR	TYPE I	TYPE II	TYPE III
2007	167.502	58.439	10
2008	377.059	108.232	29.660
2009 (January-March)	172.483	66.364	17.634
TOTAL	717.044	233.035	47.304

Source: AEEG calculations on GME data.

FIG. 2.24

Prices and Quantities in the White Certificates Market

€/toe; number of white certificates



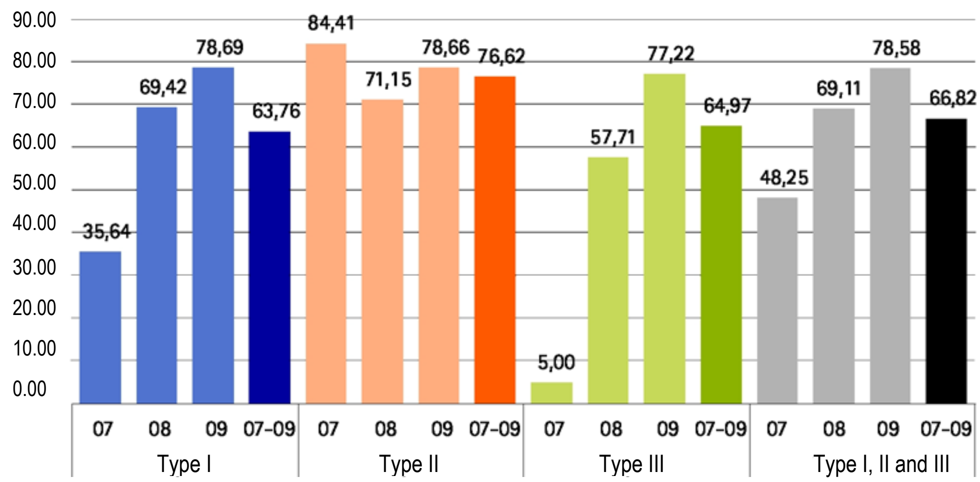
Source: AEEG calculations on GME data.

Figure 2.24 illustrates the monthly variations of average prices of white certificates with no distinction of type. Traded volumes increased significantly in the second half of 2008, with a peak in September; fairly high traded volumes were also recorded in the first quarter of 2009. The average weighted price of white certificates traded in the course of 2008 was equal to

FIG. 2.25

Prices by type of traded White Certificates (A)

€/toe



(A) Figures for 2009 relate to the first 3 months of the year.

Source: AEEG calculations on GME data.

69.11 €/toe, decisively above the 2007 average of 48.25 €/toe (Fig. 2.25).

With reference to price differentiation related to the types of white certificate traded, it is worth noting that with the removal of the "50% restraints" pursuant to the ministerial decree of 21 December 2007, the white certificates of type I and II were given equal treatment in terms of energy efficiency requirements. This measure implied, as from 2008, a convergence in the quotation of the two certificate types. In addition, through the extension of tariff contribution to all eligible types of interventions pursuant to legislative decree no. 115 of 30 May 2008, with effect from November 2008 the traded prices and volumes of certificate type III rose significantly - thereby converging towards the quotation levels of the other two certificate types.

The Retail Market

Sales to consumers of electricity in 2008, based on Terna's published data, amounted to nearly 296 TWh (excluding self-consumptions). In table 2.24 overall consumptions and the total number of customers (approximated to the number of withdrawal points) are broken down by type of market based on the data collected by the Authority from electricity suppliers: i.e. producers, protected-tariff service providers and safeguarded services providers, traders and retailers. In 2008 sales of the free market (including safeguarded service) reached about 70% of overall market in terms of volumes and 9% in terms of customers. The safeguarded service involved nearly 192,000 users for 5% of overall sales.

TAB. 2.24

Retail Market by Market Types and Customer Types in 2008

Net of self-consumptions and network losses

	VOLUMES GWh	WITHDRAWAL POINTS (thousands) (A)
Protected-tariff market	**89,288**	**32,445**
Domestic	59,584	27,017
Non-domestic	29,705	5,429
Safeguarded market	**12,820**	**192**
Free market (B)	**181,370**	**2,945**
Domestic	2,443	871
Non-domestic	178,927	2,074
TOTAL MARKET	**283,478**	**35,583**

(A) Withdrawal points are calculated with the 'per-day' criterion.

(B) Free market data are provisional and cover nearly 94% of overall volumes in such market. Based on the definitive data published by Terna, overall consumptions (net of self-consumptions and losses) were equal to 296.4 TWh.

Source: AEEG calculations on GSE data.

The Enel group was confirmed as the main operator in sales to consumers with an overall market share of nearly 47%, mainly consisting of sales to domestic customers (86% of the segment), while sales to non-domestic customers were below 40% of the market segment. The Edison ranked second with an overall share of '8% mainly attributable to sales to

TAB. 2.25

Sales to the Retail Market by Group and Customer Types in 2008

GWh

GROUP	DOMESTIC CUSTOMERS	NON-DOMESTIC CUSTOMERS			TOTAL
		LV	MV	HV & VHV	
Enel	53,244	44,182	19,211	17,249	133,886
Edison	9	1,867	9,793	5,365	17,034
A2A	1,861	3,436	8,370	2,328	15,995
Eni	164	434	5,202	7,515	13,315
Electrabel/Acea	3,236	3,082	4,646	2,301	13,264
CIR	158	4,607	3,530	292	8,587
Green Network	-	541	2,500	3,795	6,837
E.On	-	131	3,746	2,309	6,187
Iride	841	1,008	2,743	714	5,306
Hera	380	1,549	2,850	131	4,909
Mpe Energia	8	1,386	2,899	12	4,305
Energetic Source	8	941	2,411	332	3,693
Axpo Group	-	250	2,458	548	3,256
C.I.E.	0	716	2,413	-	3,129
Raetia Energie AG	-	1,316	1,798	1	3,115
Atel AG	4	442	1,223	909	2,578
C.V.A.	6	399	1,929	174	2,507
Exergia Spa	-	981	1,463	23	2,467
Telecom Italia	-	715	1,448	-	2,163
Egea	5	175	1,444	98	1,723
Other suppliers	2,103	6,821	17,611	2,687	29,223
TOTAL SUPPLIERS	**62,027**	**74,979**	**99,690**	**46,783**	**283,479**

Source: AEEG calculations on suppliers' declarations.

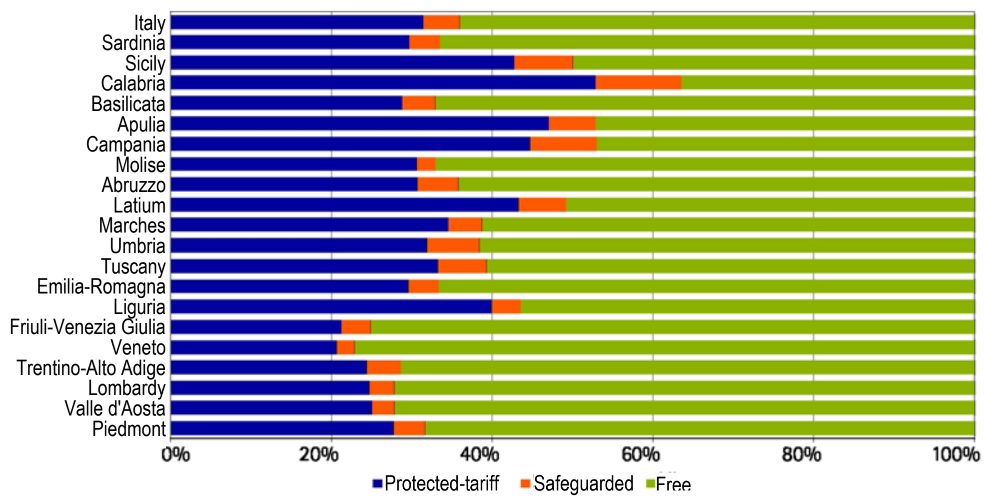
non-domestic medium and high-voltage customers, followed by the groups A2A and Eni with a market share of 6% each and by group Electrabel/Acea with a 5% share.

Fig. 2.26 shows a breakdown of various types of market at territorial level. More specifically the free market segment seems larger in northern regions while in central and southern regions the protected-tariff and safeguarded segments are in line with or above the national average. Calabria has the lowest percentage of market opening with a share of sales in the free market on total sales below 40%.

FIG. 2.26

Retail Market Sales by Region and Type of Market (A)

€/toe



(A) Provisional data. In particular, please note that the free market share of the Veneto region is overestimated since the data collected were not totally sufficient for breakdown of sales in all regions.

Source: AEEG calculations on suppliers' data.

Protected-Tariff Service

The protected-tariff service is meant for domestic customers and small businesses with low voltage connections not having entered into a supply contract in the free market. The service is provided by retailers or distributors with less than 100,000 customers connected to their system, based on the prices and commercial quality terms recommended by the Authority.

In 2008, sales to protected-tariff service users amounted to nearly 90 TWh for a total of 32 million delivery points, i.e. down 19% as opposed to 2007 based on Terna's provisional data[8]. 67% of volumes was purchased by domestic users (nearly 60 TWh) who, in numerical terms were 83% of the total protected-tariff service users (nearly 27 million) (Tab. 2.26).

Two-tier tariffs in 2008 only related to 160,000 domestic users.

89% of the protected domestic market is made up of resident customers, of which 79% were customers connected at capacity of up to 3 kW. In terms of withdrawal points, percentages were 81% for all resident customers and 76% for residents connected at up to 3 kW.

8 2007 sales were calculated by adding, to the captive market sales of the first half of 2007, the protected market sales of the second half of 2007.

TAB. 2.26

Protected-Tariff Service by Customer Types

Year 2008

TYPE OF CUSTOMERS	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (thousands)(A)
Resident customers connected at 3 kW max.	**47,011**	**20,530**
a) non-time-of-use tariff (single rate)	46,676	20,428
b) two-rate time-of-use tariff	335	102
Resident customers connected at > 3 kW	**6,207**	**1,345**
a) non-time-of-use tariff	6,005	1,301
b) two-rate time-of-use tariff	202	44
Non-resident customers connected at > 3 kW	**6,366**	**5,141**
a) non-time-of-use tariff	6,335	5,127
b) two-rate time-of-use tariff	30	14
Public lighting	**1,229**	**73**
a) non-time-of-use tariff	1,229	73
b) two-rate time-of-use tariff	0	0
Other uses	**28,475**	**5,356**
a) non-time-of-use tariff	28,146	5,343
b) two-rate time-of-use tariff	58	10
c) multiple-rate time-of-use tariff	272	4
TOTAL	**89,288**	**32,445**

(A) Withdrawal points are calculated with the 'per-day' criterion.

Source: AEEG calculations on suppliers' data.

TAB. 2.27

Sales to Domestic Customers by Customer Types and Consumption Class

Year 2008

TYPE OF CUSTOMERS	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (thousands)(A)
Resident customers connected at 3 kW max.	**47,010**	**20,530**
a) 0-1,000 kWh	1,598	2,980
b) 1,000-1,800 kWh	6,852	4,814
c) 1,800-2,500 kWh	10,121	4,719
d) 2,500-3,500 kWh	14,235	4,842
e) 3,500-5,000 kWh	10,232	2,523
f) 5,000-15,000 kWh	3,877	650
g) > 15,000 kWh	95	2
Resident customers connected at > 3 kW	**6,207**	**1,345**
a) 0-1,000 kWh	29	60
b) 1,000-1,800 kWh	119	81
c) 1,800-2,500 kWh	273	125
d) 2,500-3,500 kWh	749	246
e) 3,500-5,000 kWh	1,578	371
f) 5,000-15,000 kWh	3,174	449
g) > 15,000 kWh	285	12
Non-resident customers	**6,366**	**5,141**
a) 0-1,000 kWh	1,168	3,166
b) 1,000-1,800 kWh	1,158	848
c) 1,800-2,500 kWh	897	421
d) 2,500-3,500 kWh	995	336
e) 3,500-5,000 kWh	905	218
f) 5,000-15,000 kWh	1,017	144
g) > 15,000 kWh	224	8
TOTAL - DOMESTIC	**59,583**	**27,017**

(A) Withdrawal points are calculated with the 'per-day' criterion.

Source: AEEG calculations on suppliers' data.

Domestic customers' annual average consumption was equal to 2,200 kWh; for resident customers the breakdown is 2,290 kWh for connections of up to 3 kW and 4,600 kWh above 3 kW, while for non-residents it is equal to 1,240 kWh. 48% of resident customers with connection capacity of up to 3 kW belongs to the first two consumption classes (consumptions below 1,800 kWh/year) while 34% of residents with a connection capacity above 3 kW belongs to the last two consumption classes (consumptions above 5,000 kWh/year). As for non-residents (households with second homes) 50% fall in the first class (consumptions below 1,000 kWh/year) (Tab. 2.27).

Table 2.28 shows a breakdown of volumes (nearly 28 TWh) and withdrawal points (more than 5 million) related to other uses by consumption class. About 80% of non-residential customers (excluding public lighting) belongs to the first consumption class (< 5 MWh/year) which accounts for 1/5 of overall volumes. Although 150 suppliers operate in the protected market, the segment is highly concentrated. Enel Servizio Elettrico is the main supplier with a market share of nearly 84%, followed by Acea Electrabel Elettricità (5.5%), A2A Energia (3.4%) and Iride Mercato (1.5%). Other suppliers have shares below 1%.

TAB. 2.28

Sales to Non-Domestic Customers (other Uses) by Consumption Class

Year 2008

CONSUMPTION CLASS	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (thousands) (A)
< 5 MWh	5,629	4,279
5-10 MWh	3,814	505
10-15 MWh	2,482	189
15-20 MWh	1,929	104
20-50 MWh	6,666	204
50-100 MWh	3,821	53
100-500 MWh	3,846	22
500-2,000 MWh	286	0
2,000-20,000 MWh	2	0
TOTAL - OTHER USES	**28,475**	**5,356**

(A) Withdrawal points are calculated with the 'per-day' criterion.

Source: AEEG calculations on suppliers' data.

TAB. 2.29

Main Protected-Tariff Service Suppliers

Year 2008

COMPANY NAME	VOLUMES (GWh)	SHARE (%)
Enel Servizio Elettrico	75,256	84.3%
AceaElectrabel Elettricità	4,869	5.5%
A2A Energia	3,039	3.4%
Iride Mercato	1,357	1.5%
Hera Comm S.R.L. – Sole shareholder Hera	644	0.7%
Asm Energia E Ambiente	629	0.7%
Trenta	561	0.6%
Agsm Energia	442	0.5%
Enia Energia	349	0.4%
Acegas-Aps Service	317	0.4%
Vallenergie	165	0.2%
Asm Terni	143	0.2%
Aem Gestioni	113	0.1%
Other suppliers	1,406	1.6%
TOTAL - PROTECTED-TARIFF SERVICE SUPPLIERS	**89,288**	**100.0%**

Source: AEEG calculations on suppliers' data.

Free Market

Electricity sold in the free market in 2008, calculated by subtracting from Terna's data the safeguarded service sales, was equal to 194 TWh, up 9% over 2007. In table 2.30, the data collected by the Authority are broken down by type of customer: 96% of volumes related to other uses (i.e. uses other than domestic use, and public lighting) for nearly 2 million withdrawal points (65% of total).

In 2008 in the free market, electricity was supplied to nearly 871,000 domestic customers for a total of 2,443 GWh. Little less than half of sales were made in the consumption classes of above 3,500 kWh/year (Tab. 2.31).

TAB. 2.30

Free Market by Customer Types
Year 2008(A)

TYPE OF CUSTOMER	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (thousands)(B)
Low voltage	44,086	2,866
Domestic	2,443	871
Public lighting	3,733	144
Other uses	37,910	1,850
Medium voltage	92,970	79
Public lighting	320	2
Other uses	92,649	77
High and very high voltage	44,315	1
TOTAL – FREE MARKET	**181,370**	**2,945**

(A) Free market data are provisional and cover about 94% of total volumes.
(B) Withdrawal points are calculated with the 'per-day' criterion.
Source: AEEG calculations on suppliers' data.

TAB. 2.31

Free Domestic Market by Consumption Class
Year 2008(A)

CONSUMPTION WITHDRAWAL CLASS	VOLUMES (GWh)	NUMBER OF POINTS (thousands)(B)
< 1,000 kWh	41	74
1,000 - 1,800 kWh	221	146
1,800 - 2,500 kWh	385	177
2,500 - 3,500 kWh	706	243
3,500 - 5,000 kWh	653	165
5,000 - 15,000 kWh	416	67
> 15,000 kWh	21	1
TOTAL – DOMESTIC	**2,443**	**871**

(A) Free market data are provisional and cover about 94% of total volumes.
(B) Withdrawal points are calculated with the 'per-day' criterion.
Source: AEEG calculations on suppliers' data.

As for non-domestic customers, sales in volume were concentrated in the highest consumption classes: 1% of customers consumed more than 2,000 MWh per annum for a total of more than 100 TWh (i.e. nearly 60% of total sales of the market segment under review) while little less than half of customers consumed less than 5 MWh per annum. (Tab. 2.32).

TAB. 2.32

Free Non-Domestic Market by Consumption Class

Year 2008 (A)

CONSUMPTION CLASS	VOLTAGE LEVEL	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (thousands) (B)
< 5 MWh	LV	1,910	950
5-10 MWh	LV	2,236	312
10-15 MWh	LV	1,938	158
15-20 MWh	LV	1,855	107
< 10 MWh	MV	37	5
10-20 MWh	MV	29	2
< 20 MWh	HV and VHV	0	0
20-50 MWh	All	8,788	281
50-100 MWh	All	7,847	115
100-500 MWh	All	21,776	105
500-2,000 MWh	All	26,370	28
2,000-20,000 MWh	All	49,963	10
20,000-50,000 MWh	All	15,423	1
50,000-70,000 MWh	All	3,950	0
70,000-150,000 MWh	All	9,988	0
> 150,000 MWh	All	26,816	0
TOTAL – NON-DOMESTIC		**178,927**	**2,074**

(A) Free market data are provisional and cover about 94% of total volumes.

(B) Withdrawal points are calculated with the 'per-day' criterion.

Source: AEEG calculations on suppliers' data.

As a whole, more than 200 suppliers operate in the free market. The main supplier is the Enel group with a market share of 27% in volume in 2008. The first 18 suppliers account for 85% of the market in volume and 91% in terms of customer numbers.

TAB. 2.33

Main Free-Market Suppliers

Year 2008(A)

GROUP	VOLUMES (GWh)	SHARE (%)
Enel	48.796	26.9%
Edison	17.034	9.4%
Eni	13.315	7.3%
A2A	12.128	6.7%
CIR	8.587	4.7%
Electrabel/Acea	8.193	4.5%
Green Network	6.837	3.8%
E.On	6.187	3.4%
Other suppliers	60.293	33.2%
TOTAL – FREE MARKET SUPPLIERS	**181.370**	**100.0%**

(A) Free market data are provisional and cover about 94% of total volumes.

Source: AEEG calculations on suppliers' data.

Second Report on the Electricity Demand in Year 2007

With a view to promoting transparency and favouring the functioning of the free market in electricity, the Milan Chamber of Commerce with the scientific support of *Ricerche per l'economia e la finanza* (ref.), conducted the second edition of its *Survey on the cost of electricity charged to undertakings in the city of Milan and its province*.

The survey identified a number of standard profiles among small and medium sized enterprises (SMEs), monitored the development of the deregulated market, offered a quantification of the cost of electricity charged to SMEs and the savings that could be made by shifting to this market. The paper discusses analogies and differences in the consumption habits, the rational behind the selection of suppliers (wholesalers, retailers or consortia), the degree of customers' satisfaction with the service provided, the lenght of current contracts (one, two years or more) and type of price agreed (firm/indexed, time-of-use vs. non-time-of-use etc.), and how such operating choices imply variations in the purchasing cost of electricity.

In essencially, the survey helped shed light on the electricity consumption of a sizeable sample of more than 1,200 enterprises for a total consumption volume of 950 million kWh per annum, i.e. 7% of overall consumption in the sectors surveyed.

The survey classified non-domestic consumers under 5 standard profiles basically reflecting the market segmentation made by suppliers – ranging from *small energy-intensive* or *non-energy-intensive consumers* to *medium* and *large consumers*.

The kWh cost was higher for *small non-energy-intensive consumers*: in 2007 these undertakings paid nearly 19 €c per kWh consumed. Such cost decreases as consumption increases - going down to 17 €c per kWh for *small energy-intensive consumers* and even further down to less than 12 €c per kWh for *large consumers.*

The decreasing cost of a kWh correlated to consumption increase is motivated by:

- a highly regressive tax structure;
- the opportunity to reduce the incidence of fixed distribution costs;
- growing savings that can be negotiated on the free market on the price of electricity;
- the need to encourage a shift by medium and large consumers to the free market.

In the Milan province, 57% of undertakings purchased electricity in the free market for a quantity of withdrawals equal to 93% of the total kWh consumed, which confirmed the highest propensity to the free market of *medium* and *large consumers*. Whilst this figure is cross-sectional nationwide, Milan was marked by a high degree of participation in the free market by *small non-energy-intensive consumers* forming the large majority of the production community.

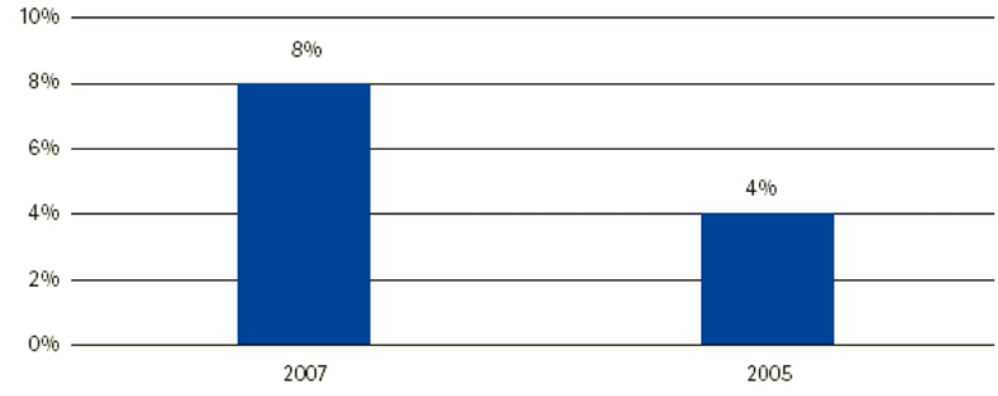
Among these, one undertaking out of two negotiated in the free market its electricity supply, which figure was appreciably above the national average (30%) – thereby demonstrating the degree of evolution of the Milan district with a clear focus on grasping the opportunities offered by deregulation. On the other hand Lombardy was also marked by a high number of suppliers: wholesalers, retailers and consortia.

If a comparison is made with undertakings having remained in the captive (i.e. monopolistic) market and thus subject to the prices fixed by the Authority, undertakings in the *small non-energy-intensive* class having opted for the free market made savings worth around 8%, higher than the 4% measured in 2005. These savings are partially ascribable to increased rebates on the power charges negotiated in the free market. *Small*

FIG. A

Free market: average percentage saving in comparison with the protected market

For consumptions of less than 300 MWh/year



Source: Calculations on the survey conducted by the Milan Chamber of Commerce.

consumers' approach to the free market is illustrated by an example taken from the survey: 6 undertakings out of 10 procured electricity on the free market without contacting any supplier, i.e. by subscribing to or renewing the contractual terms proposed by their usual supplier.

The paper findings show that comparison between proposals of multiple "prospective suppliers" is a key ingredient to make savings: there is a positive relationship between the number of suppliers contacted in the selection phase and the average cost of electricity to undertakings purchasing on the free market. This is true especially among *small non-energy intensive consumers*, in which case the cost differencial among those that contacted at least one supplier and those that, while purchasing on the free market, renewed their contract with their usual supplier, may be as high as 5%.

An interesting picture is that of customers in the free market having executed firm price contracts and those having opted for indexed charges i.e. charges pegged to the variation of prices in a fuel basket

In 2007, the majority of undertakings in the Milan province procured electricity at a firm price (56% of respondents, mainly *small consumers*). The remaining 44% of undertakings, instead, opted for an indexed-price contract, which share increases going up on the consumption class scale – i.e. among *medium to large consumers*, 2 undertakings out of 3 chose prices pegged to the oil price. The highest consumption and the highest incidence of energy on the overall production cost make indexed prices an almost mandatory choice for many undertakings – driven by the need to retain their price competitiveness in all cost scenarios; in many cases there was also an emulation factor whereby the choice was influenced by competitors' choices and the sector of activity.

The issue of energy cost is a major concern to undertakings. More than 60% of respondents declared that electricity had a very high or fairly high incidence on their corporate accounts. As a consequence of this,

1 undertaking out of 2 in the Milan province was considering swirching supplier, driven by the need to seek further savings on the price of energy: almost 40% of respondents would be prepared to shift to another supplier for a 5% rebate, with this share rising to 80% for a 10% rebate.
Conversely, undertakings reluctant to switch their supplier declared being satisfied with the current service level (60% of respondents); finally, there was a growing focus on the theme of environment protection as evidenced by 8% of SMEs that were prepared to shift to a supplier of "green energy", i.e. energy produced from certified renewable sources.

TAB. A

Free Market: Supply Contract Characteristics

% shares of enterprises

	ANNUAL CONSUMPTION MWh	FREE MARKET	INDEXED PRICE	ANNUAL DURATION	AT LEAST ONE SUPPLIER CONTACTED
Small non-energy intensive	<300	48%	34%	44%	43%
Small energy intensive	301-800	83%	52%	82%	72%
Medium	801-3,000	93%	73%	79%	75%
Medium to large	3,001-10,000	88%	71%	92%	71%

Safeguarded Service

All customers not eligible for access to protected-tariff service and either permanently or temporarily without an electricity trading contract in the free market are eligible for the safeguarded service. Since 1 May 2008, the service has been provided by retail energy sales companies selected by auction.
In 2008, the safeguarded service involved nearly 192,000 withdrawal points calculated with the per-day criterion and having withdrawn electricity for a capacity of nearly 13 TWh. Of these, nearly three quarters related to industrial/ commercial uses (other than public lighting and uses subject to special tariff schemes) with a majority of medium voltage connections (Tab. 2.34). 40% of total sales in the safeguarded market fell in the medium class of consumption based on the new price survey methodology adopted by Eurostat i.e. the class of 500 to 20,000 MWh per annum. In the consumption class of less than 20 MWh p.a., more than 94% of sales were made to low-voltage customers (Tab. 2.35).

TAB. 2.34

Safeguarded Service by Customer Types

Year 2008

TYPE OF CUSTOMER	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (A)
Low voltage	3,632	168,793
Public lighting	890	31,733
Other uses	2,739	137,000
Special tariff schemes	3	59
Medium voltage	6,720	23,400
Public lighting	95	343
Other uses	6,581	22,989
Special tariff schemes	44	68
High and Very High voltage	2,468	200
Other uses	151	105
Special tariff schemes	2,317	95
TOTAL – SAFEGUARDED MARKET	**12,820**	**192,393**

(A) Withdrawal points are calculated with the 'per-day' criterion.

Source: AEEG calculations on suppliers' data.

TAB. 2.35

Safeguarded Service by Consumption Class

Year 2008

CONSUMPTION CLASS	VOLTAGE LEVEL	VOLUMES (GWh)	NUMBER OF WITHDRAWAL POINTS (thousands)(B)
< 5 MWh	LV	159	74,220
5-10 MWh	LV	204	27,029
10-15 MWh	LV	214	16,590
15-20 MWh	LV	170	9,745
< 10 MWh	MV	17	4,032
10-20 MWh	MV	26	1,739
< 20 MWh	HV and VHV	0	31
20-50 MWh	All	973	29,431
50-100 MWh	All	888	12,450
100-500 MWh	All	2,918	13,184
500-2,000 MWh	All	2,987	3,385
2,000-20,000 MWh	All	2,108	525
20,000-50,000 MWh	All	563	19
50,000-70,000 MWh	All	152	3
70,000-150,000 MWh	All	596	6
> 150,000 MWh	All	844	4
TOTAL - NON-RESIDENTIAL		**12,820**	**192,393**

(A) Withdrawal points are calculated with the 'per-day' criterion

Source: AEEG calculations on suppliers' declarations.

Prices and Tariffs

Tariffs for the Use of Facilities

By resolution ARG/elt 188/08 of 19 December 2008 tariffs related to the electricity transmission, distribution and metering services were updated for year 2009. Consistently with the provisions of Annex A to resolution no. 348/07 of 29 December 2007, the update implied the application of the price cap method for the tariff part designed for settling operating costs. The update of the remaining part of the tariff covering amortisation, depreciation and return on invested capital was instead made with due account taken of the actual level of new investments as well as of disposals made by suppliers.

The average national tariff covering transmission, distribution and metering costs for 2009 increased – as a whole – by 1.7% in comparison with 2008, i.e. from 2.152 €c/kWh to 2.188 €c/kWh. Increases were chiefly due to the high inflation rate (+2.4%) recorded in the months preceding the annual update.

TAB. 2.36

Average Annual Tariffs for Transmission, Distribution and Metering Services

€c/kWh

	TRANSMISSION	DISTRIBUTION	METERING	TOTAL
Year 2009	0.363	1.547	0.278	2.188
Year 2008	0.345	1.534	0.273	2.152
Difference 2009-2008	0.018	0.013	0.005	0.036
% variation 2009-2008	5.2%	0.8%	1.8%	1.7%

That rate is used in the formula applied for updating operating costs in accordance with the price-cap method. This implied a nominal increase in the share of transmission and distribution charges covering operating costs, despite the annual recovery of efficiency on such costs as imposed by the applicable regulation.

The increase of tariffs further reflects a rise in gross and net invested capital, as a consequence of the investments made by operators and the effect of the revaluation of such investments, which revaluation is obtained by applying the gross fixed investment deflator measured by the Italian Statistical Institute (ISTAT).

TAB. 2.37

Transmission and Distribution Services: Tariffs by Customer Types

€c/kWh

	TRANSMISSION AND DISTRIBUTION		DIFFERENCE
	2008	2009	2009-2008
LV – domestic uses	3.417	3.505	0.088
LV – public lighting	1.706	1.751	0.045
LV – other uses	2.726	2.798	0.072
MV – public lighting	1.072	1.104	0.032
MV – other uses	1.133	1.166	0.033
HV	0.446	0.465	0.019
VHV > 220 kV	0.405	0.424	0.019

TAB. 2.38

Metering Service: Tariffs by Customer Types

€c/kWh

	METERING		DIFFERENCE
	2008	2009	2009-2008
LV – domestic uses	0.926	0.946	0.020
LV – public lighting	0.065	0.066	0.001
LV – other uses	0.287	0.290	0.003
MV – public lighting	0.061	0.063	0.002
MV – other uses	0.029	0.029	0.000
HV	0.005	0.005	0.000
VHV > 220 kV	0.001	0.001	0.000

Retail Market Prices

Based on the provisional data collected by the Authority, in 2008 the electricity average purchase price on the free market was equal to 76 €/MWh. Domestic customers in the free market paid for electricity on average more than 20% higher prices than non-domestic customers. In the safeguarded market the average price was equal to about 106 €/MWh. For protected market sales, on the other hand, prices were around 123 €/MWh. Please note however that, unlike prices in the free and safeguarded markets, these prices included all dispatching costs and – as a result – are not directly comparable to them.

TAB. 2.39

Average Final Prices in 2008

€/MWh

	DOMESTIC	NON-DOMESTIC	TOTAL
Free [(A)]	91.83	75.66	75.87
Protected [(B)]	122.24	123.67	122.72
Safeguarded [(A)]	-	106.03	106.03

(A) Prices related to sales in the free and safeguarded markets include the purchase cost of electricity, effective imbalance charges, non-arbitrage charges and sales marketing service costs; they exclude all taxes, general charges, transmission costs and other charges and are intended gross of network leakage.

(B) Prices related to sales in the protected market include all price components associated with electricity procurement and sales marketing services and are intended gross of network leakage.

Source: AEEG calculations on suppliers' data.

Free Market Prices

Based on the provisional data collected by the Authority from suppliers, the average price weighted to volumes of electricity in the free market was around 76 €/MWh. Such price is intended net of tax items, general system charges and the tariff components covering transmission, distribution and metering costs, while it includes sales marketing service costs and takes due account of network leakage. Table 2.40 breaks down free market prices by voltage level, while tables 2.41 and 2.42 break down prices by consumption classes of domestic and non-domestic users respectively.

TAB. 2.40

Average Final Prices of Electricity in the Free Market by Voltage Level

Year 2008(A)

VOLTAGE	PRICE (€/MWh)	VOLUMES (GWh)
Low voltage	85.98	44,086
Medium voltage	72.62	92,970
High and very high voltage	72.66	44,315
TOTAL	**75.87**	**181,370**

(A) Prices related to sales in the free and safeguarded markets include the purchase cost of electricity, effective imbalance charges, non-arbitrage charges and sales marketing service costs; they exclude all taxes, general charges, transmission costs and other charges and are intended gross of network leakage.

Source: AEEG calculations on suppliers' data.

TAB. 2.41

Average Final Prices of Electricity to Domestic Customers in the Free Market by Consumption Class

Year 2008(A)

CONSUMPTION CLASS	PRICE (€/MWh)	VOLUMES (GWh)
< 1,000 kWh	105.57	41
1,000-1,800 kWh	107.93	221
1,800-2,500 kWh	95.25	385
2,500-3,500 kWh	89.12	706
3,500-5,000 kWh	89.02	653
5,000-15,000 kWh	88.07	416
> 15,000 kWh	85.68	21
TOTAL – DOMESTIC	**91.83**	**2,443**

(A) Prices related to sales in the free and safeguarded markets include the purchase cost of electricity, effective imbalance charges, non-arbitrage charges and sales marketing service costs; they exclude all taxes, general charges, transmission costs and other charges and are intended gross of network leakage.

Source: AEEG calculations on suppliers' data.

TAB. 2.42

Average Final Prices of Electricity to Non-Domestic Customers in the Free Market by Consumption Class

Year 2008(A)

CONSUMPTION CLASS	PRICE (€/MWh)	VOLUMES (GWh)
< 20 MWh	98.60	8,006
20-50 MWh	87.77	8,788
50-100 MWh	85.19	7,847
100-500 MWh	80.19	21,776
500-2,000 MWh	75.97	26,370
2,000-20,000 MWh	72.48	49,963
20,000-50,000 MWh	71.06	15,423
50,000-70,000 MWh	72.62	3,950
70,000-150,000 MWh	70.25	9,988
> 150,000 MWh	69.07	26,816
TOTAL – NON-DOMESTIC	**75.66**	**178,927**

(A) Prices related to sales in the free and safeguarded markets include the purchase cost of electricity, effective imbalance charges, non-arbitrage charges and sales marketing service costs; they exclude all taxes, general charges, transmission costs and other charges and are intended gross of network leakage.

Source: AEEG calculations on suppliers' data.

Reference Prices for the Protected-Tariff Service

Single Buyer's Supplies

Following the full liberalisation of the electricity sales market on 1 July 2007, pursuant to conversion law no. 125 of 3 August 2007 transposing the contents of decree-law no. 73 of 18 June 2007, the *Acquirente Unico* (Single Buyer) is the entity in charge of procuring electricity for the users of the "protected-tariff service", which is intended for domestic customers and small businesses not having a seller in the free market. Customers not eligible for this service and without an electricity seller are served by the "safeguarded service" provided by a sales company selected through auctions. In the fulfilment of its assigned functions, the Single Buyer is responsible for procuring electricity and minimising costs and risks related to the different methods of procurement it may resort to.

Table 2.43 shows the procured volumes of the Single Buyer for the January-December 2008 period. It is clear from the table that, for its supplies, the Single Buyer executed contracts outside the offer system, for an amount equal to 19% of its requirements. Regarding purchases in the Day-Ahead Market (MGP), 33% of these were hedged against the price risk by contracts for differences as well as through an amount of electricity corresponding to the production capacity provided for by resolution no. 6 of the Interministerial Price Committee (CIP) of 29 April 1992 (termed "CIP6 production capacity").

The imbalance electricity quantity allocated to the Single Buyer as user of the dispatching service for consumption units exceeded the values of 2007 and was equal to 2.3% of requirements. Table 2.44 shows the shares of the Single Buyer's portfolio not subject to price risk associated with the volatility of prices quoted on the Power Exchange.

TAB. 2.43

Single Buyer's Supply Volumes from January to December 2008

GWh

ELECTRICITY PURCHASES	F1	F2	F3	TOTAL
Outside the offer system	6,709	4,490	8,309	19,508
of which				
- Annual imports	2,316	1,206	2,122	5,643
- Multiannual imports	1,670	1,249	2,352	5,270
- Bilateral contracts	2,723	2,036	3,836	8,595
Day-Ahead Market (MGP)	32,214	22,131	25,104	79,449
of which				
- Contracts for differences	7,432	3,249	5,692	16,373
- CIP 6 production capacity	3,029	2,266	4,261	9,555
- Purchases at the National Single Price	21,753	16,616	15,151	53,520
Consumption unit imbalance (A)	894	881	528	2,303
TOTAL	**39,816**	**27,502**	**33,942**	**101,260**

(A) For the sake of simplicity, the conventional sign fixed by resolution no. 111/06 and its following amendments and supplements was observed.

Source: AEEG calculations on the Single Buyer's data.

TAB. 2.44

Percentage Composition of the Single Buyer's Portfolio in 2008

	INCIDENCE OF SUPPLY SOURCES NOT SUBJECT TO PRICE RISK ON TOTAL REQUIREMENTS JANUARY-DECEMBER 2008			
CIP6	8%	8%	13%	9%
Bilateral contracts	7%	7%	11%	8%
Imports	10%	9%	13%	11%
Contracts for differences	19%	12%	17%	16%

Source: AEEG calculations on the Single Buyer's data.

With reference to 2009[9], the amount of electricity purchased in the MGP met nearly 71% of the Single Buyer's requirements.

The portion of the Single Buyer's portfolio covered by differential contracts hedging against the risk of price volatility expected for 2009 - with regard to the electricity purchased in the MGP - relates to:

- a quantity of electricity corresponding to the CIP6 production capacity allocated to the Single Buyer in 2009;
- the capacity awarded in the auctions called by the Single Buyer for year 2009 (2009 contracts for differences).

With reference to the contracts for differences of 2009, the Single Buyer called 5 auctions for the execution of two-way contracts for differences. The capacity awarded in each auction is shown in table 2.45, where baseload and peakload products are differentiated. The portfolio portion covered by contracts for differences in 2009 is estimated to be around 23.2% of requirements.

TAB. 2.45

Quantities Allocated to Contracts for Differences in 2009

DATE	MW	PRODUCT
30/07/2008	920	*Baseload*
	355	*Peakload*
13/10/2008	250	*Baseload*
	350	*Peakload*
21/10/2008	10	*Baseload*
24/10/2008	691	*Baseload*
	20	*Peakload*
11/11/2008	200	*Peakload*

Source: AEEG calculations on the Single Buyer's data.

These products are two-way differential contracts with a strike price resulting from the allocation process. In particular, for the contract entered into on conclusion of the auction of 30 July 2008, it was envisaged that 110 MW of the baseload product would be priced in accordance with a strike price indexed to the Brent price. The differences between the hourly price (PUN – National Single Price) and the strike price of contracts shall be paid/received to/by the Single Buyer.

Moreover, for 2009, the Single Buyer called 5 auctions for the execution of physical bilateral contracts. The capacity to be individually awarded in each auction is shown in table 2.46 where baseload and peakload contracts are differentiated.

9 The data for 2009 relate to the information available in March 2009.

TAB. 2.46

Quantities Allocated to Bilateral Contracts in 2009

DATE	MW	PRODUCT
12/12/2007	500	*Baseload*
20/12/2007	100	*Baseload*
18/11/2008	200	*Baseload*
	220	*Peakload*
24/11/2008	350	*Baseload*
	500	*Peakload*
09/12/2008	300	*Baseload*
	300	*Peakload*

Source: AEEG calculations on the Single Buyer's data.

As regards the settlement price for individual bilateral contracts, for the auction of 20 December 2007, prices were indexed to the Brent price, while for all other auctions a firm price was envisaged.

The Single Buyer also entered into a number of contracts on conclusion of an auction on 19 September 2007 whereby capacity for 155 MW constant per hour of the year was awarded. In relation to such contracts, the counterparties exercised their right of withdrawal and will consequently be required to pay an amount, for each month of 2009, equal to 50% of the difference, if positive, between the PUN and the price of supply, multiplied by the electricity covered by the contract.

On top of the electricity amount resulting from allocations shown in tab. 2.46, a further 143 GWh arising from OTC peakload contracts executed by the Single Buyer were added. Finally, regarding annual import contracts, the Single Buyer called auctions from power imports from Switzerland: the capacity individually awarded on each auction is shown in tab. 2.47, where baseload and peakload products are differentiated and duration is shown.

In addition to the capacity awarded by the foregoing auctions, further quantities arisen from import contracts executed by the Single Buyer were added, as shown in table 2.48 with differentiation by type of product (baseload and peakload) and respective monthly or annual duration.

Finally, tab. 2.49 shows an estimate of supply volumes and the related pricing terms for 2009.

TAB. 2.47

Quantities Allocated to Contracts for Import from Switzerland in 2009

AUCTION	MW	PRODUCT	DURATION
Annual auction(A)	160	*Baseload*	1 January - 31 December
Monthly auctions	200	*Baseload*	1-31 January
	30	*Peakload*	
	50	*Peakload*	1-28 February
	60	*Peakload*	1-31 March

(A) Annual products are subject to possible planned outages for grid maintenance.

Source: AEEG calculations on the Single Buyer's data.

TAB. 2.48

Quantities Allocated to other Import Contracts in 2009

AUCTION	MW	PRODUCT	DURATION
Annual products (A)	175(B)	*Baseload*	1 January - 31 December
Monthly products	30	*Baseload*	January
	40	*Peakload*	
	80	*Baseload*	February
	50	*Peakload*	
	30	*Baseload*	March
	40	*Peakload*	

(A) Annual products are subject to possible planned outages for grid maintenance.

(B) 155 MW in January.

Source: AEEG calculations on the Single Buyer's data.

TAB. 2.49

Single Buyer's Supply Forecast for 2009

SOURCE	DESCRIPTION OF QUANTITY	ESTIMATE OF QUANTITY FOR 2009 (GWh)	% ON THE TOTAL REQUIREMENT OF THE SINGLE BUYER	PRICE
Annual imports	The Single Buyer was granted rights for use of import transmission capacity in a proportion not below 15% of total import capacity	2,821	3.4	Defined in the contract
Multiannual imports	600 MW with reference to the Swiss border	5,256	6.3	78 €/MWh, corresponding to the maximum price provided for by the decree of 11 December 2008 (with quarterly updates pursuant to resolution ARG/elt 182/08)
Bilateral contracts	The capacity allocated in the auctions called by the Single Buyer for 2009	16,039	19.3	Defined in the contract
Power Exchange (Day-Ahead Market)	The remaining portion in order to meet the demand of the consumer	58,959	71.0	National Single Price (PUN)
of which				
CIP6 bands	20% of allocated CIP6 capacity bands were made available to the Single Buyer	6,888	8.3	78 €/MWh, corresponding to the maximum price provided for by the decree of 25 November 2008 (with quarterly updates pursuant to resolution ARG/elt 11/09)
Contracts for differences	The capacity awarded in the auctions called by the Single Buyer for year 2009	19,287	23.2	Firm or indexed strike prices depending on contracts – on the basis of the contract award price
	TOTAL REQUIREMENTS	83,075	100.0	

Source: AEEG calculations on the Single Buyer's data.

Electricity and Inflation

As fully described in Chapter one of this Volume, only in the second half of 2008 did international prices of oil and petroleum products reverse their upward trend followed since the beginning of 2007. After more than doubling from values of around 70 $/barrel in the summer 2007 to nearly the 150 $/barrel of the July peak 2008, the Brent crude price fell below 40 $/barrel in the three following months - at the beginning of the global economic crisis. After the trough of December 2008, the price started to rise again in the first quarter of 2009. Against this background of global

performance, with the usual delays due to indexing mechanisms, the price of electricity rose from autumn 2007 right to the beginning of 2009.
Indeed, the electricity price index measured by the Italian Statistic Institute with respect to a national consumer price basket for the full population (NIC)[10], exhibited increasingly substantial increases from July 2007 to the end of 2008.

TAB. 2.50

ISTAT's Monthly Electricity Price Index

Index numbers at 1995 = 100 and percentage variations

MONTHS	2007 NOMINAL PRICE	VAR. (%) 2007-2006	REAL PRICE (A)	VAR. (%) 2007-2006	2008 NOMINAL PRICE	VAR. (%) 2008-2007	REAL PRICE (A)	VAR. (%) 2008-2007
January	121.5	11.7	93.4	9.9	127.9	5.3	95.5	2.3
February	121.5	11.7	93.1	9.8	127.9	5.3	95.3	2.4
March	121.5	11.7	93.0	9.9	127.9	5.3	94.8	1.9
April	121.0	5.9	92.4	4.3	132.1	9.2	97.7	5.7
May	121.0	5.9	92.2	4.2	132.1	9.2	97.1	5.4
June	121.0	5.9	92.0	4.2	132.1	9.2	96.7	5.1
July	121.2	0.8	91.9	-0.8	136.9	13.0	99.8	8.6
August	121.2	0.8	91.7	-0.8	136.9	13.0	99.6	8.6
September	121.2	0.8	91.7	-0.8	136.9	13.0	99.9	8.9
October	123.7	1.6	93.4	-0.6	137.7	11.3	100.5	7.7
November	123.7	1.6	93.0	-0.8	137.7	11.3	100.9	8.5
December	123.7	1.6	92.7	-1.0	137.7	11.3	101.0	8.9
YEARLY AVERAGE	**121.9**	**4.8**	**92.6**	**2.9**	**133.7**	**9.7**	**98.2**	**6.2**

(A) Ratio of the electricity price index to the general index (excluding tobacco products).

Source: Calculations on ISTAT data, index numbers for the full population – national indices.

From the third quarter of 2007 onwards (table 2.50), the price of electricity underwent repeated and substantial cyclical increases: +2.1% in October 2007, +3.4% in January 2008, +3.3% in April, +3.6% in July and +0.6% in October. In July 2008, the related rate of inflation peaked at 13% on an annual basis. Equally on an annual basis, the price of electricity for Italian households grew by 4.8% in 2007 and 9.7% in 2008. Since the general level of prices also grew in the meantime, the electricity price rise was lower for Italian households if assessed in real terms, i.e. by 2.9% and 6.2% respectively in the two years considered.

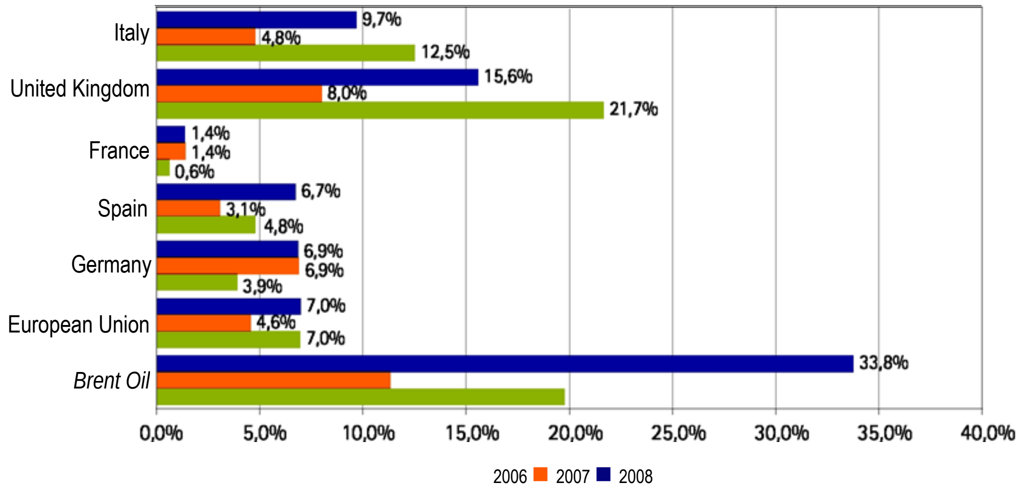
The performance of the electricity price in Italy can also be considered in comparison with the main European countries by using Eurostat's harmonised consumer price indices (Fig. 2.27).
In 2006, through an upsurge of 12,5%, the Italian price performance was the worst after that of the United Kingdom (21.7%). With Brent oil increasing by around 20%, electricity only increased by 7% on average in the European Union. In 2007, the Italian price performed perfectly in line with those of other European countries: an Italian growth at 4.8% compares to an EU-27 average of 4.6%.

10 More precisely, within the national basket of consumer prices for the full population, ISTAT measures the price of electricity under category "home costs". The weight of the electricity elementary index in the basket - net of tobacco products - fell from a value of 1.4% in 2007 to 1.2% in 2008; it is equal to 1.3% in 2009.

FIG. 2.27

Electricity Price Variations in the Main European Countries

Percentage variations over the previous year



Source: AEEG calculations on Eurostat data; index numbers of harmonised consumer prices.

The growth of the Italian price was by far more contained than that of the United Kingdom (8%) and Germany (6,9%), but higher than that of Spain (3.1%) and France (1.4%). In 2008, again, the Italian performance did not seem among the best. As a proof of this, the 9.7% upswing recorded in Italy was lower than that of the UK only (15.6%). In Germany and Spain, the price grew similarly to the EU average, i.e. around 7%. France, on the other hand, was confirmed as the country where consumers normally undergo less price rises – the French price increased by a mere 1.4% over 2007. As repeatedly observed in the *Annual Reports* of the last few years, the energy price growth rate variability for the countries considered tends to reflect the weight of thermal power generation correlated to that of other energy sources in these countries. In periods of marked increases in international quotations of crude oil, where the proportion of electricity produced from thermal sources (hence dependent on fuels such as oil or natural gas) is high, the final price of electricity tends to increase more substantially.

Reference Prices for the Protected-Tariff Service

The dynamics of the ISTAT monthly index of the electricity price was confirmed in the performance of the reference prices of the protected-tariff service charged to a domestic resident consumer with annual consumptions equal to 2,700 kWh and a capacity of 3 kW. Since the third quarter of 2007, prices of the protected-tariff service increased gradually until the peak of the fourth quarter of 2008 – the highest in the last two years. In the second quarter of 2009, prices fell 7% from such peak but still exceeded the level of two years ago by around 8% (Fig. 2.28).

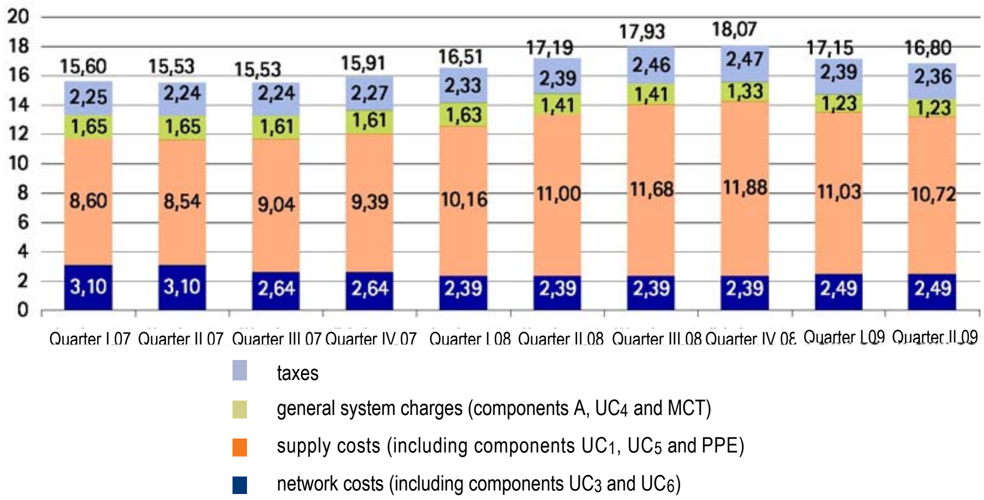
In a long term perspective, following the quadrupling of oil price (in euros, in nominal terms) in the 1999-2009 period, the overall per-kilowatt-hour price paid by an average domestic consumer increased nearly 65%. The reorganisation of the electricity sector and the deregulation process have cushioned the impact on electricity price of the high tensions experienced in international fuel markets from spring 2004 onwards (Fig. 2.29)

On 1 April 2009, the price of electricity charged to a resident domestic consumer with an annual consumption of 2,700 kWh and 3 kW capacity was equal to 14.44 €c/kWh net of taxes and 16.80 €c/kWh gross of taxes. The charge covering transmission, distribution and metering costs (including UC_3 and UC_6 tariff components related to the equalisation of transmission and distribution costs and service continuity recoveries) accounted for 15% of the overall gross price, slightly increasing from the rate recorded in the second quarter of 2008 (14%).

FIG. 2.28

Protected-Tariff Service Reference Prices for Average Consumers with an Annual Consumption of 2,700 kWh and a Power Capacity of 3 kW

€c/KWh; 2007-2008

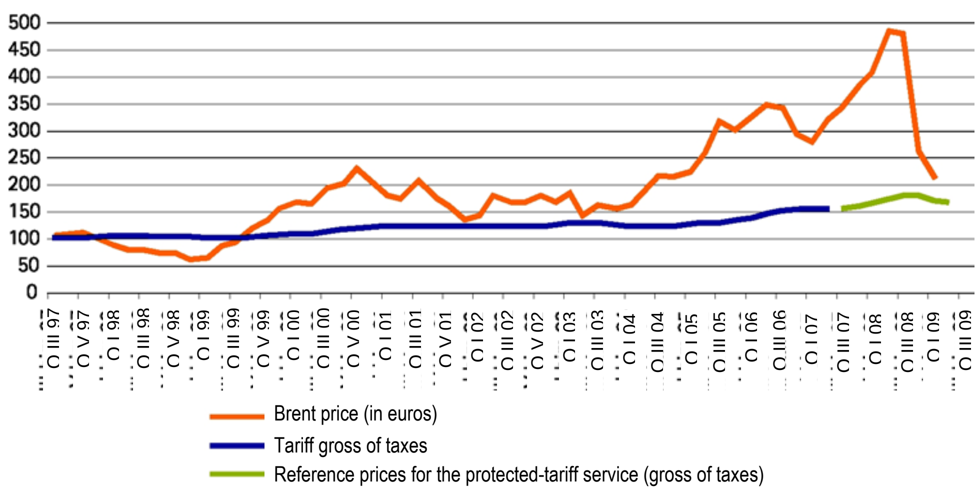


(A) Before 1 July 2007, network cost included sales marketing costs (which could not be identified as no specific tariff component existed for domestic tariff D2), whereas, with effect from the second half of 2007, a PCV component was introduced to cover such costs; since that date, this component has been included, more correctly, under procurement costs.

FIG. 2.29

Performance of Electricity Tariffs and – later – of Protected-Tariff Service Reference Prices vs. Oil Prices

Index numbers at Quarter III 1997=100(A)



(A) Average domestic consumer with an annual consumption of 2,700 kWh and a capacity of 3 kW.

Source: AEEG calculations on internal data and Platt's data.

In April 2009, the components covering electricity procurement and marketing costs had the same incidence on gross price as one year before (64%). Such components included the following:

- component UC_1 covering residual imbalances of the mechanism for the equalisation of procurement costs of electricity supplied to customers in the captive market until

30 June 2007, as well as of electricity supplied in the protected market in the period between 1 July and 31 December 2007; as on 1 April 2009, this component was equal to 0.148 €c/kWh;

- component PPE, in force since 1 January 2008 and implemented in January 2009, covering imbalances of the mechanism for the equalisation of purchase and dispatching costs of electricity supplied to protected-tariff service users; as on 1 April 2009, it was equal to 0.525 €c/kWh;
- charges that, in the organisation of the captive market tariff components, were respectively differentiated into component UC_5 (difference between actual and standard leakage in grids) and components CD (remuneration of production capacity availability) and INT (remuneration of the interruptibility service); all of which were later consolidated into a single component (item PD) covering dispatching costs with effect from the third quarter of 2007.

As on 1 April 2009, the charge covering sales marketing costs was equal to 0.7 €c/kWh and accounted for nearly 4% of the total price.

In the second quarter of 2009, general system charges (including components UC_4 associated with tariff surcharges and MCT for territorial compensation measures, and the new component A_s covering bonus allowances on electricity bills as a form of social benefit) payable by an average domestic consumer in the protected market amounted to 1.23 €c/kWh and their incidence on gross price was 7%. Component A_3, in particular, has been designed to fund incentive schemes for renewable and assimilated sources. With reference to 2008, costs to be recovered – in the amount of 3,000 million euros, were as follows:

- deliveries collected by the GSE, as per the CIP6 resolution and resolution no. 108/97 amounted to 2,400 million euros, on top of which further charges were added for the purchase of green certificates issued to producers of electricity from assimilated sources as well as for CO2 emission permits in order to cover the difference between allocated allowances and actual emissions, pursuant to Directive 2003/87/EC which instituted the EU Emission Trading System (EU ETS); such further charges can be assessed at around 500 million euros for 2008, but will be gradually reduced in the following years on the expiry dates of understandings;
- incentives for photovoltaic plants to the extent of nearly 112 million euros;
- incentives for the operators of plants with a nominal capacity below 1 MW (for wind power only, the capacity threshold is 200 kW) having opted for a firm tariff incentive mechanism for an overall amount of 20 million euros;
- costs induced by dedicated collected deliveries[11] in the electricity system – resulting from the positive difference between the costs incurred by the GSE for the collection of electricity and the revenues earned by the GSE from the sale of electricity in the market (ca. 40 million euros).

11 Dedicated collected deliveries, offered as an alternative to the ordinary sales of electricity produced by small sized and renewable-fuelled installations, imply the use of a simplified procedure rather than incentives in the strict sense (defined by the ordinary legislative activity).

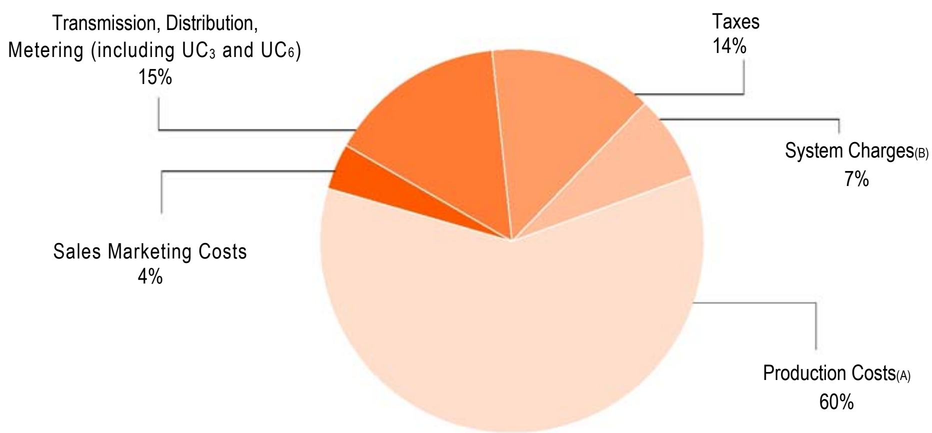


FIG. 2.30

Protected-Tariff Service Reference Prices to Standard Domestic Consumers with an Annual Consumption of 2,700 kWh and a Power Capacity of 3 kW

Percentage composition at 1 April 2009

(A) Production costs are inclusive of fuel costs, fixed generation-costs, dispatching costs, production-capacity and interruptibility service-service remunerations, and UC_1, UC_5 and PPE components.

(B) System charges are inclusive of all A components, plus component UC_4 and component MCT.

The Quality of the Service

The Quality of the Transmission Service

In 2008 power transmission continuity improved as opposed to the previous years. In the transmission sector, service continuity is commonly measured through the Energy Not Supplied (ENS) indicator. The performance of this indicator over the last three years is shown in table 2.51, where 2008 data are figures received from Terna in April 2009, whose correctness is still being checked by the Authority.

In addition, in the course of 2008, there was a significant reduction of relevant incidents (i.e. power outages with the highest impact in terms of ENS). A single relevant incident occurred in December at the time of exceptional snowfall (Tab. 2.52). The definition of relevant incident was changed with effect from 1 January 2008. In the context of the regulatory procedure in the 2008-2011 period, resolution no. 281 of 7 November 2007 defined

TAB. 2.51

Energy Not Supplied for Outages affecting All Users

MWh/year; including relevant incidents (A)

AREA	YEAR 2006	YEAR 2007	YEAR 2008
National area	3,477	8,469	2,440

(A) Data are calculated for the full national area in relation to outages affecting users directly connected to the relevant transmission system as a result of malfunctions due to miscellaneous causes, including relevant incidents and without distinction as to the origin of the outage.

Source: Terna.

TAB. 2.52

Energy Not Supplied following Relevant Incidents (A)

	NUMBER	MWh
2006	2	2,548
2007	11	7,468
2008	1	560

(A) Relevant incidents defined pursuant to resolution no. 250/04 for years 2006 and 2007 and to resolution no. 281/07 for year 2008.

Source: Terna.

relevant incidents as outages entailing a level of energy not supplied exceeding 250 MWh; until 31 December 2007, resolution no. 250 of 30 December 2004 envisaged that a relevant incident had to be characterised by a level of energy not supplied exceeding 150 MWh and a duration of more than 30 minutes.

Following resolution no. 341 of 27 December 2007, in 2008 the regulation governing the quality of transmission service came into effect to amend the previous regulation mainly pertaining to the transparency of the transmission system operator's performance. The transmission service quality regulation is based on the service continuity figures recorded by Terna pursuant to Title VIII of resolution 250/04 and shown in the documents published by Terna pursuant to such resolution.

Transmission service quality regulation has a strong innovative character and, as such, needs to be considered as experimental. Its main purpose is the promotion of quality improvement for the transmission service through suitable operating interventions and investments, without overburdening the resources required for the dispatching service. This regulation envisages a scheme of service continuity incentives and penalties based on 3 key indicators: energy not supplied for events fully or partially affecting the national transmission system (RTN)[12], the average number of outages (either long, i.e. above three minutes, or short) per user directly connected to the RTN and the percentage of users directly connected to the RTN not having undergone any outage. The latter indicator has a corrective function on received incentives in that it permits – with reference to the first two indicators – a direct comparison between actual results and expected annual levels.

The performance of the average number of outages (due to all causes even outside Terna's responsibility) is shown in table 2.53 (2008 information was received from Terna in April 2009, and still has to be checked by the Authority).

12 For regulatory purposes, the variance ENSR (energy-not-supplied reference) is adopted.

TAB. 2.53

Average Number of Outages (long or short) by User directly Connected to Terna's National Transmission System (RTN)

Number/year; including relevant incidents(A)

AREA	YEAR 2006	YEAR 2007	YEAR 2008
Turin	0.32	0.13	0.71
Milan	0.11	0.25	0.22
Padua	0.21	0.41	0.37
Florence	0.25	0.46	0.27
Rome	0.79	0.34	0.41
Naples	0.29	0.37	0.48
Palermo	1.05	0.94	0.75
Cagliari	0.75	0.82	0.22
TOTAL FOR ITALY	**0.38**	**0.39**	**0.42**

(A) Data are calculated for the full national area and for the 8 districts of Terna in relation to outages affecting users directly connected to Terna's National transmission system as a result of malfunctions due to miscellaneous causes, including relevant incidents and without distinction as to the origin of the outage.

Source: AEEG calculations on Terna's data.

Electricity Distribution Service Quality and Continuity

Improvements were continuously made until 2007 in terms of number and duration of unannounced outages with 70% and 45% respectively of the values measured in 2000, the year when the regulation encouraging service continuity for distribution companies was first introduced. 2008 bucked the trend nationally, mainly as a result of exceptional climatic events occurred in November and December. Considering outages on *distribution* and *transmission* grids (excluding 'relevant incidents' and activations of backup systems), in 2008:

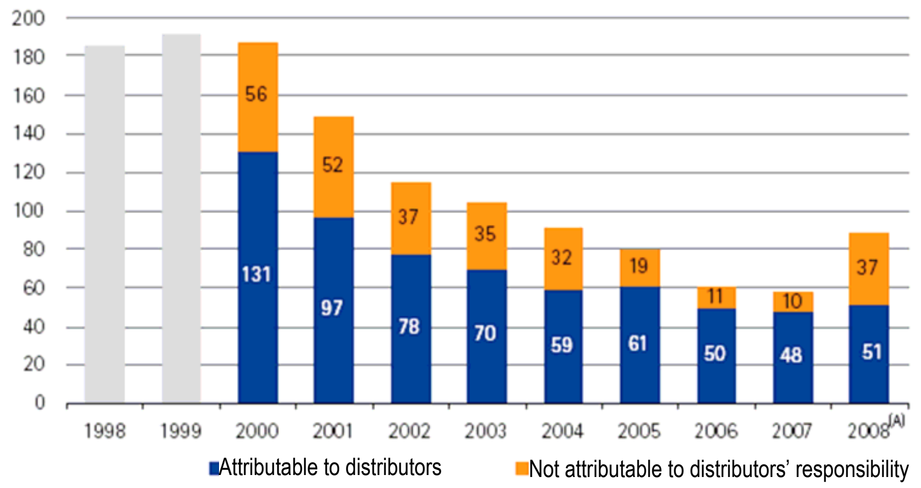
- the *overall duration* of outages per customer was equal to 88 minutes (Fig. 2.31);
- the *net duration* of outages per customer (i.e. duration under the responsibility of distributors, with the exclusion of the effects of exceptional heavy weather) was equal to nearly 51 minutes nationwide, 36 minutes in the North of Italy, 50 minutes in Central Italy and 73 in the South (Fig. 2.32);
- the *overall number* of long unannounced outages per customer was 2.37 (Fig. 2.33).

The increased duration and number of outages recorded in 2008, (duration +51%, and number of outages +9%) are mainly attributable to force majeure, while the net duration under the responsibility of distributors confirmed the trend recorded in 2006 and 2007. More specifically, over the last months of 2008, exceptional snowfall in the North of Italy and floods in Central Italy resulted in a number of trip-outs of power lines well above average monthly values recorded in the previous years, with difficulties and delays in power supply recovery for, *inter alia*, safety reasons.

FIG. 2.31

Duration of Outages per Low-Voltage Customer

Minutes lost per customer per year; Enel Distribuzione and local power utilities with more than 5,000 consumers (excluding relevant incidents on the transmission system and the activation of backup systems)



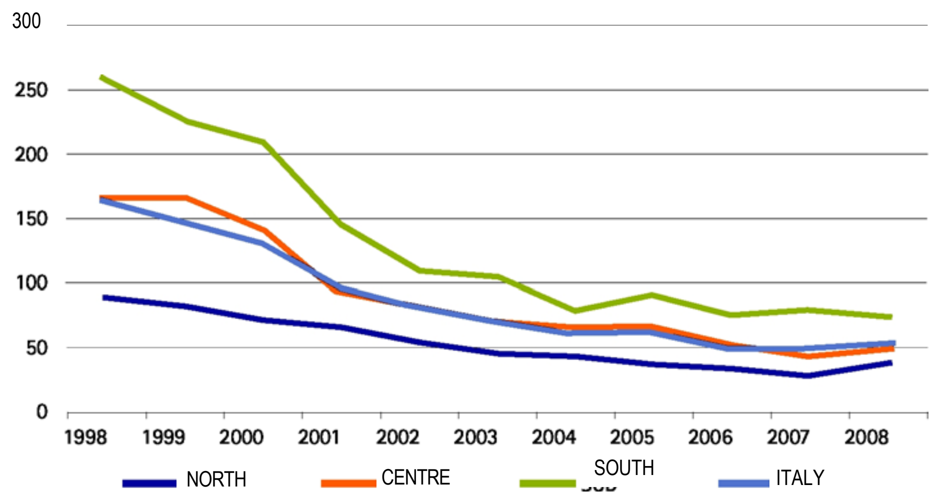
(A) The minutes of outages under the responsibility of distributors for 2008 (51 minutes) is still being checked for accuracy by the Authority.

Source: AEEG calculations on power utilities' declarations.

FIG. 2.32

Duration of Outages attributable to Distributors' Responsibility per Low-Voltage Customer

Minutes lost per customer per year; Enel Distribuzione and local power utilities with more than 5,000 consumers (excluding relevant incidents on the transmission system and the activation of backup systems) (A)



(A) The minutes of outages under the responsibility of distributors for 2008 is still being checked for accuracy by the Authority.

Source: AEEG calculations on power utilities' declarations.

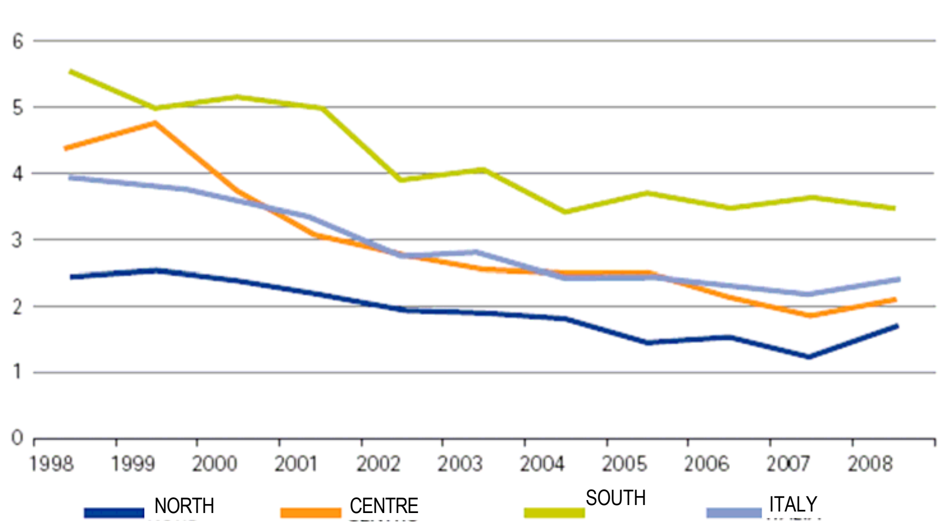
The impact of heavy weather seems clear from the observation of territorial data: as opposed to the increase in net duration indicators and in the number of areas in Northern and Central Italy, a record low net duration was recorded in the South (73 minutes lost per year per customer) and the total number of long power outages (3.46 per customer per year) was very close to the minimum value recorded in 2004.

The trend of improved duration of outages recorded in 2000-2008 was obtained through the scheme of service continuity incentives and penalties which the Authority has applied to electricity distributors since 2000. As more thoroughly discussed in Volume II of this report, this system places Italy among the most virtuous European countries in terms of overall service continuity and contributed to appreciably reduce

FIG. 2.33

Number of Long Unannounced Outagess per Low-Voltage Customer

Average number; Enel Distribuzione and local power utilities with more than 5,000 consumers (excluding relevant incidents on the transmission system and the activation of backup systems)



Source: AEEG calculations on power utilities' declarations.

power supply service continuity differentials between North and South, with a benefit not merely for households but also for the competitiveness of production sectors. The new scheme of incentives and penalties introduced by the Authority by resolution no. 333/07 of 19 December 2007 for the four years 2008 to 2011 envisages that, with effect from

TAB. 2.54

Duration of Outages by Low-Voltage Customer and Average Number of long (> 3 minutes) and short (> 1 second and ≤ 3 minutes) Outages per Customer per Year

Enel Distribuzione and local power utilities with more than 5,000 consumers (excluding relevant incidents on the transmission system and the activation of backup systems); year 2008

	MINUTES LOST PER CUSTOMER PER YEAR	NUMBER OF LONG OUTAGES PER CUSTOMER PER YEAR	NUMBER OF SHORT OUTAGES PER CUSTOMER PER YEAR
Piedmont	201	2.50	3.37
Val d'Aosta	69	1.86	2.50
Liguria	67	2.17	3.69
Lombardy	47	1.32	1.64
Trentino-Alto Adige	116	3.58	2.58
Veneto	56	1.76	2.53
Friuli-Venezia Giulia	49	1.34	2.38
Emilia-Romagna	30	1.08	1.65
Tuscany	53	1.59	2.20
Marches	50	1.64	2.59
Umbria	40	1.49	2.20
Latium	81	2.65	3.23
Abruzzo	62	2.09	3.11
Molise	24	1.30	1.44
Campania	104	4.04	8.14
Apulia	90	2.61	3.67
Basilicata	46	1.47	2.48
Calabria	132	4.16	6.45
Sicily	197	4.20	7.24
Sardinia	115	3.16	5.26
NORTH	72	1.68	2.27
CENTRE	65	2.09	2.74
SOUTH	122	3.46	5.94
ITALY	**88**	**2.37**	**3.61**

Source: AEEG calculations on power utilities' declarations

2008, distributors be subject to incentives and penalties related to the duration of outages (similarly to the previous years) and equally related, for the first time in Europe, to the improvement in the number of long and short outages, i.e. all outages lasting longer than 1 second.

Table 2.54 shows service continuity data on malfunctions in distribution and transmission grids (excluding relevant incidents on the transmission grid and backup systems activation) in 2008 at regional level. All data on power supply service continuity are available in the Authority's website.

Individual Quality Standards for Medium Voltage Customers

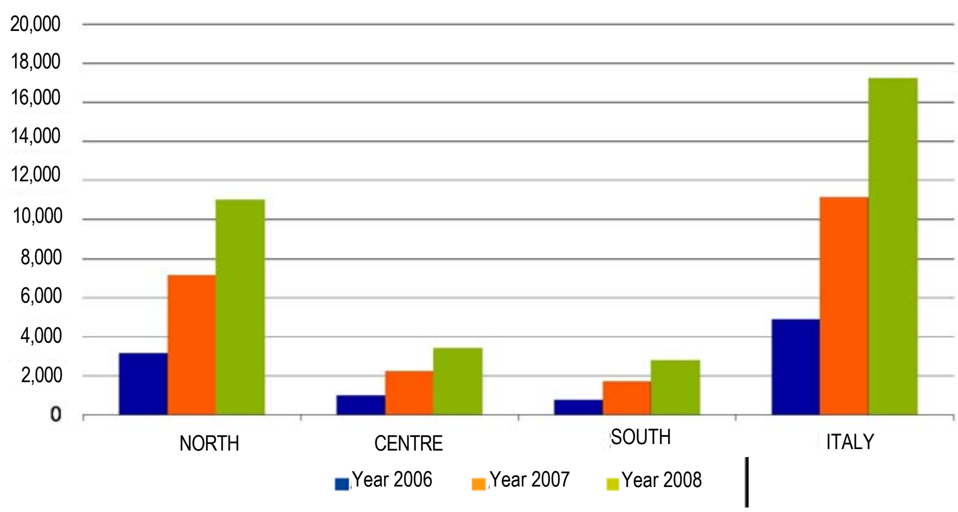
MV customers are entitled to a compensation if they undergo a number of outages above the standard levels fixed by the Authority, provided they send a declaration to the distributor certifying the conformity of their power plant to the Authority's determined technical requirements. In case of failure to present such declaration of conformity, customers are be required to pay a specific tariff charge (CTS) which the distributor withholds in part while the remaining part is paid to the *Cassa conguaglio per il settore elettrico* (Electricity Sector Compensation Fund). The latter fund equally receives the residual portion of penalties set aside by distributors to fund compensations to MV customers having produced a declaration of conformity.

The number of declarations tripled from 2006, with an annual constant increase in the whole national territory. Since the date when individual quality standards became effective, nearly one fifth of MV customers (roughly 100,000) made their power plants compliant to the Authority's defined requirements (Fig. 2.34).

FIG. 2.34

Declarations of Conformity for Medium-Voltage Customers' Plants

Total number of declarations sent at the end of years 2006, 2007 and 2008



Source: AEEG calculations on power utilities' declarations.

The increase of the CTS collected by distributors in the course of 2008 (Tab. 2.55) reflects the method of gradual enforcement introduced by the *Code on the Quality of Electricity Supply Services*, i.e. from 2007 onwards, only for medium voltage customers not having produced a declaration of conformity with an available capacity in excess of 500 kW and, from 2008 onwards for, all MV customers not having produced a declaration of conformity irrespective of their available power capacity.

TAB. 2.55

Specific Tariff Charge (CTS) Collected and Withheld by Distributors

Million euros

	CTS COLLECTED	CTS WITHHELD
2007	12.8	5.2
2008	44.9	5.5

Source: AEEG calculations on power utilities' declarations.

Commercial Quality for Electricity Distribution, Metering and Sales Services

Commercial quality regulation has been in force since 1 July 2000 with the determination of national commercial quality standards providing for a maximum time limit for the provision of services requested by customers (connections, activations, quotations, technical checks, replies to complaints, etc.) and defining the basic service that each supplier is required to provide to its customers. Commercial quality regulation is intended to protect consumers with interventions guaranteeing and promoting quality of service - for market liberalisation measures not to impair protection especially for customers with a lower bargaining power, in compliance with the principle of freedom of choice between services offered by suppliers.

A customer requesting a service subject to a specific standard is informed by the company providing the service of the maximum waiting time and the automatic refund envisaged in case of failure to comply with the standard. At least once a year, all customers of the protected-tariff service shall receive from the operator an informative document on the guaranteed quality standards and the results effectively achieved during the year - attached to the bill duly sent to their addresses. On an annual basis, in the context of its enquiry on the quality of service, the Authority publishes the average real times of provision of services declared by operators, as well as the related standard control parameters (percentage of cases not falling within the standard for reasons attributable to the operator without considering force majeure or third-party liability events). The introduction of automatic refunds to be recognised to customers in case of failure to comply with the specific quality standards for reasons ascribable to operators and not to force majeure or third-party or customer liability events has determined in time a higher number of refunds actually paid to customers as opposed to the indemnification system envisaged in the previous service charters (Tab. 2.56). The amount of refunds defined by the Authority is higher for customers with higher energy or network use costs. Automatic refunds are paid to customers by deduction from the amount debited in the first useful bill, and in any case within 90 calendar days of the expiry of the maximum term envisaged for the provision of the service requested by the customer. Any operator failing to comply with this term will be required to pay a refund which is twice or five times higher depending on the payment delay.

Since 1 January 2009, a new regulation of automatic refunds has come into force which envisages the doubling or tripling of the automatic refund as a result of the delay in the provision of a given service in comparison with the standards established by the Authority, and no longer on the ground of the payment delay.

In 2008 the regulation of commercial quality was extended to all companies active in the electricity sector – including minor companies – and was brought into line with the similar *Code on the Quality of Gas Supply Services*, including the adoption of a review method for checking commercial quality data.

Since 2008, the regulation of commercial quality has equally taken account of the extension to all low voltage customers of deregulation measures implemented on 1 July 2007 as well as of the new state of organisational and functional unbundling envisaged by legislation. As a consequence of this, the commercial quality regulation related to sales was revised through a specific consultation procedure focused on – among other things – the theme of prompt management and successful handling of complaints; at the end of such process, the regulation was excerpted from the *Code on the Quality of Electricity Supply Services* and was incorporated in the *Code on the Quality of Sales Services* approved by resolution ARG/com 164/08 of 18 November 2008.

It can be observed from the data supplied by operators that, until 2007, the number of cases of failed compliance with the specific quality standards subject to refund and the number of refunds paid to customers have remained substantially stable, while in the course of 2008 the cases of failed compliance with the specific standards have been reduced by more than half and consequently the number of refunds actually paid was reduced by two thirds (Tab. 2.56). Such improvement is confirmed by analysing the individual services subject to specific standards (Fig. 2.35): the reduction in the number of cases of failed compliance with commercial quality standards is observed for each type of service. Services related to power supply voltage checks and metering unit checks, which were subject to a general standard until 2007, have been subject to a specific standard since 2008. For such services, no comparison is possible with the figures of 2007 since the standard has changed - equally in procedural terms – for both service types: i.e. from 10 days to 30 days for a power supply voltage check and from 10 days to 15 days for a metering unit check. More specifically, the performed power supply voltage checks identified a high number of cases of failed compliance probably as a result of the complete revision of the service introduced since 2008.

TAB. 2.56

Number of Refunds Paid for Failure to Comply with Commercial Quality Standards

For commercial quality regulation; Enel Distribuzione and local power utilities with more than 5,000 consumers from 1 July 2000 onwards

	SERVICE CHARTER			COMMERCIAL QUALITY REGULATION								
	1997	1998	1999	2ND HALF OF 2000	2001	2002	2003	2004 (A)	2005	2006	2007	2008
Cases of failed compliance to the standard (eligible for refund)	6,099	4,167	8,418	7,902	25,650	61,881	67,344	57,424	64,696	73,868	73,903	32,509
Refunds actually paid in the year	21	54	22	4,771	12,437	52,229	79,072	48,305	63,822	73,714	70,712	27,716
Actual amount paid in the year (million €)	0.001	0.002	0.001	0.22	0.82	3.11	4.21	3.41	4.43	4.07	4.25	2.23

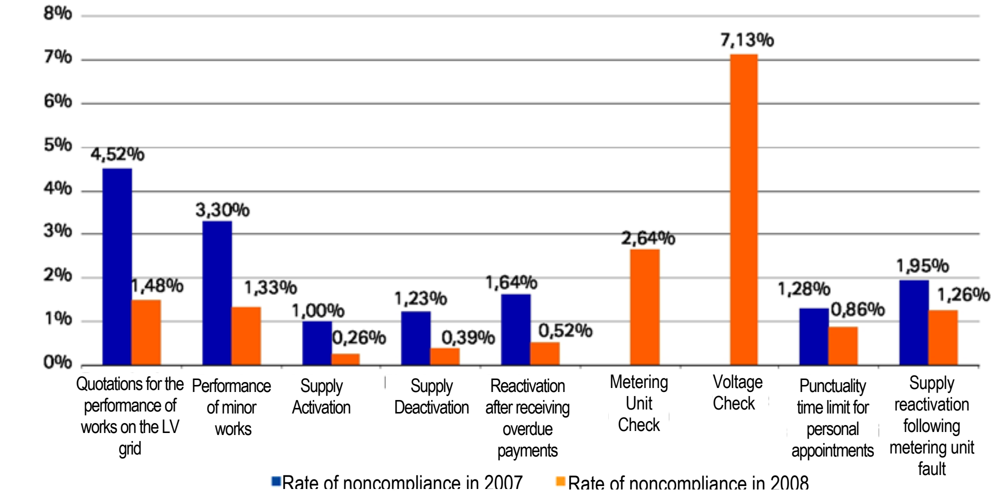
(A) Data from February to December 2004.

Source: AEEG calculations on power utilities' declarations.

FIG. 2.35

Rate of Noncompliance with Specific Commercial Quality Standards for Domestic and Non-Domestic Low-Voltage Consumers

Enel Distribuzione and local power utilities with more than 5,000 end-customers



Source: AEEG calculations on power utilities' declarations.

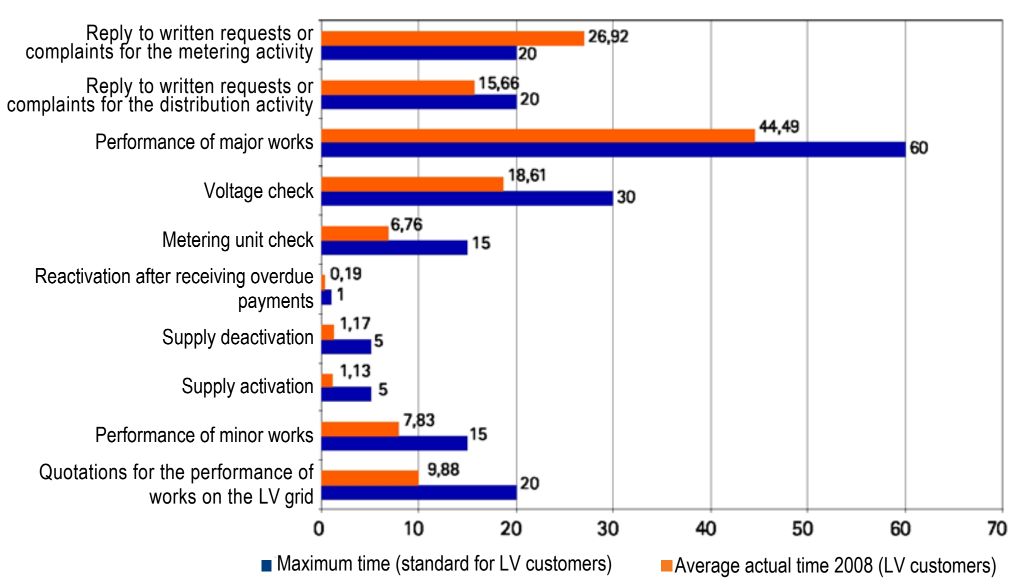
For some services, no specific standards associated with automatic refunds are currently envisaged, while general quality standards are envisaged which are instrumental in monitoring commercial quality performance.

From an analysis of available data, major criticalities were found in the times of response to complaints and requests for information related to distribution (Fig. 2.36) – which exceeded the standard value (26.92 average days as opposed to the 20 days of standard), while for the times of response to complaints and requests for information related to metering, the measured value is below the standard (15.66 average days against the 20 days of standard).

FIG. 2.36

Commercial Quality Standards and Effective Average Waiting Times for Domestic and Non-Domestic Low-Voltage Customers

Enel Distribuzione and local power utilities with more than 5,000 consumers



Source: Power utilities declarations to the Authority.

Table 2.57 presents the summary data (for years 2007 and 2008) of the full set of services subject to automatic refunds (number of requests per annum, average actual response time and number of automatic refunds paid to customers), with reference to the most common user class, i.e. LV domestic and non-domestic consumers.

TAB. 2.57

Services subject to Automatic Refunds for Low-Voltage Domestic and Non-Domestic Customers

Enel Distribuzione and local power utilities with more than 5,000 consumers

SERVICE	STANDARD	YEAR 2007			YEAR 2008		
		NO. OF REQUESTS PER ANNUM	AVERAGE ACTUAL RESPONSE TIME	NO. OF AUTOMATIC REFUNDS	NO. OF REQUESTS PER ANNUM	AVERAGE ACTUAL RESPONSE TIME	NO. OF AUTOMATIC REFUNDS
Quotations for the performance of works on the LV grid	20 working days	336,423	13.71	14,657	330,595	9.88	5,274
Performance of minor works	15 working days	411,978	8.96	12,403	344,938	7.83	5,196
Supply activation	5 working days	1,576,899	1.56	15,104	1,502,079	1.13	5,448
Supply deactivation	5 working days	814,666	1.50	9,683	805,068	1.17	3,932
Reactivation after receiving overdue payments	1 working day	946,624	0.36	15,393	1,159,628	0.19	5,478
Metering unit check	15 working days				12,191	6.76	284
Voltage check	30 working days				1,805	18.61	40
Punctuality time limit for personal appointments	3 hours	46,483		493	47,682		373
Supply reactivation following metering unit fault	3 to 4 hours	114,259	1.66	1,819	106,316	1.68	1,302

Source: AEEG calculations on power utilities' declarations.

Table 2.57 shows a sizeable reduction of the actual average times from 2007 to 2008 for all services subject to a specific standard with a consequent reduction of the number of refunds paid. More specifically, the effective average times related to the activation and deactivation of supply as well as to reactivation after receiving overdue payments were improved as a result of the introduction of electronic meters and remote control systems for meters.

Helpline Service Quality

The regulation of sales helpline service quality was incorporated in the *Code on the Quality of Sales Services* with the adoption of resolution ARG/com 164/08. Quality standards for sales helpline services were introduced in order to protect customers contacting suppliers through call centres and to meet suppliers' differentiation and competitiveness requirements. The Authority fixed standard levels for average waiting time, service level (percentage of calls successfully managed) and service accessibility in order to limit the number of calls on hold and reduce congestion on telephone lines.

The minimum Service Level standard – calculated as the ratio between the number of successfully handled calls and the total number of calls to the call centre in which a request is made by a caller to speak with an operator – is fixed at 80%. As regards service level, when the figures declared by electricity and gas companies with more than 100,000 consumers are taken into account (just consider that the two-sector regulation came into force on 1 January 2008), it can be observed that, for both the first and second half of 2008, companies' half-yearly performance is heavily imbalanced (Fig. 2.37).

For requests to speak with an operator, out of a total number of 31 suppliers, the standard fixed for average waiting time[13] was not met in 3 cases in the first half of 2008 and 2 cases in the second half of 2008.

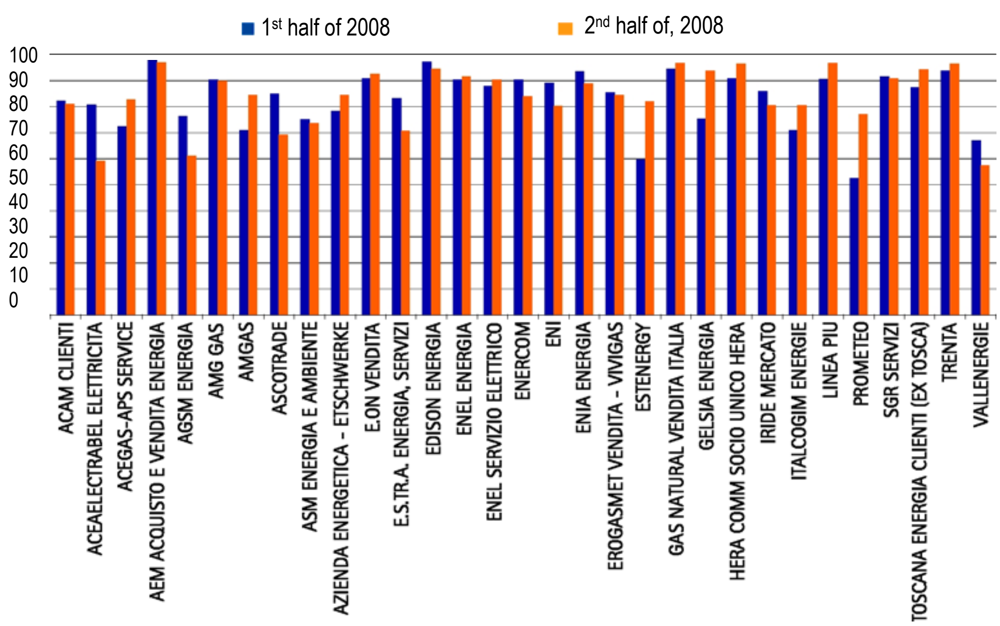
With regard to service accessibility, measured as the ratio between the number of time units in which at least one of the lines is free and the overall number of time units of call centre opening hours with operators on duty, based on the figures declared, the standards fixed (90%) were not complied with in 3 cases for the first half of the year, while the levels fixed by the Authority were observed in all suppliers and in both sectors in the second half of the year.

However, in the cases in which the supplier provides multiple services (for instance water supply, waste collection etc), the recorded indicators may be influenced by the difficulty to establish for which service a call is meant. More specifically, in such case, calculations of the indicators were made by using all phone calls from consumers having requested to speak with an operator or who were rerouted by an automatic call-sorting system to an operator, irrespective of the service provided.

FIG. 2.37

Service Level in the Helplines of Electricity and Gas Suppliers with More than 100,000 Consumers

1st and 2nd half of 2008



Source: AEEG calculations on power utilities' declarations.

13 The standards of 240 seconds are inclusive of the time required to go through the phone tree or IVR.

Survey of Domestic Customer Satisfaction

Ever since 1998, the Italian Statistical Institute has been proposing a number of specific questions on behalf of the Authority intended to measure the degree of satisfaction with and the effectiveness of the electricity and gas supply services as part of its multipurpose survey on households titled "Aspects of daily life". The survey is conducted through ad-hoc questionnaires on the satisfaction of households with the electricity and gas supply services. The survey reaches on average 22,000 households and 60,000 individuals nationwide. The wide sample of households surveyed provides representative results at regional level and is therefore instrumental in the constant monitoring of overall satisfaction related to the quality of the power supply service and the factors affecting customer satisfaction. From 2004 onwards the survey has been conducted in February, while until 2003 it was conducted in November: For this very reason, findings for year 2004 are unavailable.

On top of a standard group of basic questions relating to households' satisfaction with the supplied electricity and gas, further questions were asked year after year so as to investigate other aspects such as the readability of bills by users, their awareness of the Authority and its functions, the degree of market openness or the satisfaction at any applicable helpline service operated by the surveyed utilities.

In 2008 customers' general degree of satisfaction was reported to be slightly below that of the previous years throughout the national territory, but had in any case remained good. The drop was in line with the downward trend in satisfaction recorded since 2005, in the wake of the growth in the price of fuels and energy products over the last few years, which culminated in 2008. The different geographical distribution of satisfaction levels was further confirmed (Tables 2.58 and 2.59).

TAB. 2.58

Overall Satisfaction with the Electricity Supply Service

Percentages of respondents having opted for "highly satisfied" and "fairly satisfied" answers

	1998	1999	2000	2001	2002	2003	2005	2006	2007	2008
North-West	94.6	94.5	94.1	94.5	94.9	93.2	90.4	91.8	91.3	90.4
North-East	93.1	94.1	92.0	94.3	92.9	91.5	88.0	88.8	90.1	86.4
Centre	89.4	91.3	89.6	91.1	90.9	89.4	87.1	87.5	89.1	85.4
South	86.4	88.1	88.7	89.2	89.5	89.9	87.8	87.9	88.5	85.2
Islands	83.7	83.9	84.5	84.5	85.6	84.2	80.4	82.7	83.3	78.8
ITALY	**90.3**	**91.2**	**90.6**	**91.7**	**91.5**	**90.3**	**87.7**	**88.6**	**89.2**	**86.3**

Source: ISTAT multipurpose survey.

TAB. 2.59

Satisfaction with the Electricity Supply Service Continuity

Percentages of respondents having opted for "highly satisfied" and "fairly satisfied" answers

	1998	1999	2000	2001	2002	2003	2005	2006	2007	2008
North-West	95.4	95.4	95.1	94.5	95.6	94.1	93.5	94.3	93.7	94.1
North-East	94.2	94.8	93.9	95.8	95.0	93.1	93.1	93.5	95.0	94.3
Centre	89.5	90.6	89.0	91.9	91.7	89.9	89.4	90.5	92.3	90.9
South	85.9	87.5	88.3	88.5	89.2	89.6	90.0	89.7	90.8	89.8
Islands	85.0	83.1	85.8	85.9	88.4	86.4	83.5	86.6	88.4	81.9
ITALY	**90.8**	**91.1**	**91.2**	**92.0**	**92.5**	**91.1**	**90.8**	**91.6**	**92.5**	**91.3**

Source: ISTAT multipurpose survey.

Among the factors that most influenced overall satisfaction, service continuity (i.e. absence of outages in the supply of electricity to customers) had the greatest weight.
Equally with the reference to commercial aspects of the service, which are however perceived as less important than continuity by customers, from 2008 a slight drop of the degree of overall satisfaction was reported, which was more negatively affected by the negative judgements expressed on such aspects as intelligibility of bills and information on the service (Tab. 2.60). On the other hand, the better degree of satisfaction in terms of frequency of readings was confirmed, probably following the introduction of electronic meters.

TAB. 2.60

Overall Satisfaction with the Different Aspects of the Electricity Supply Service in Italy

Percentages of respondents having opted for the "highly satisfied" and "fairly satisfied" answers

	1998	1999	2000	2001	2002	2003	2005	2006	2007	2008
Continuity	90.8	91.1	91.2	92.0	92.5	91.1	90.8	91.6	92.5	91.3
Voltage drop	86.3	87.2	87.1	87.8	86.2	86.1	85.4	86	87.3	85.4
Frequency of readings	72.8	74.1	73.5	72.5	72.5	70.7	71.5	79.1	83	79.6
Intelligibility of bills	75.0	76.1	74.3	76.3	72.9	72.8	70.3	70.7	71.8	65.9
Service information	73.2	74.1	73.4	73.5	71.6	69.5	67.4	69	69.1	63.5
Overall satisfaction	**90.3**	**91.2**	**90.6**	**91.7**	**91.5**	**90.3**	**87.7**	**88.6**	**89.2**	**86.3**

Source: ISTAT multipurpose survey

3.

Structure, Prices and Quality in the Gas Sector

Natural Gas Demand and Supply

Preliminary actual figures published by the Italian Ministry for Economic Development indicate that, last year, gross domestic consumption of gas was substantially stable or, more exactly, underwent a small 0.02% contraction in spite of a rather rigid autumn-winter season (especially at the beginning i.e. in the late months of 2008). For the second consecutive year, therefore, gas demand remained around 85 G(m^3). Whilst in 2007 stability was mainly due to a mild winter, the failed growth of the sector in 2008 was most probably caused by the economic crisis which developed gradually to culminate in the early months of 2009. To further illustrate such interpretation, the data reported by the Ministry for Economic Development show that the downturn was particularly evident in the industrial segment (-9.1%), while thermal power generation was almost stable and the services and domestic segment surprisingly rose by 6.1%.

Similarly to the trend observed over the last several years, national production continued to fall to 9.3 G(m^3) from 9.7 G(m^3) in 2007. Imports grew 3.9%, from 73.9 to 76.9 G(m^3), similarly exports grew from 68 to 210 M(m^3). A part of the procured gas, nearly 1.5 G(m^3), remained in storage facilities. The gross demand was consequently met to the extent of 11% by national production and of 89% by net imports. Since, in accordance with the ministerial preliminary actual figures, another one and a half billion cubic metres were used to cover energy consumptions and network leakage, in 2008 net demand was equal to 83.4 G(m^3), 41% of which originated from the thermal power sector, 36% from the civil sector, 21% from industry and 2% from other sectors (agriculture, road transport and non-energy uses).

The preliminary actual figures published by the Ministry for Economic Development were substantially confirmed in the balance of gas suppliers (Tab. 3.1), presented as usual in these pages, in which an early provisional calculation is made (similar to the calculations presented in the following paragraphs) of the data declared by gas suppliers in the context of the Authority's annual survey on their activities in the previous year. This year too the table was compiled by reaggregating the data received from individual companies as on 31 December 2008 to the level of their respective industrial groups. Groups were divided by total amount of sold volumes (both retail and wholesale sales) and size of self-consumed gas volumes.

Differently from last year, this year, the first dimensional class was increased to include sold and self consumed volumes in the range of 2 to 11 G(m³), whereas in last year's breakdown of data, the first class was limited to volumes of up to 5 G(m³), since no industrial group other than those of the three major gas suppliers exceeded that amount. However, the merger by acquisition of Asm Brescia by Aem Milano with effect from 1 January 2008 resulted in the concentration of the former companies' sales and self-consumed quantities within the new group A2A, for an aggregate amount of 10.4 G(m³). As a result, the fist class was extended to 11 G(m³). Similarly; the merger transactions completed within the E.On group have greatly increased consumed volumes; the Group now still falls in this consumption class, but with an amount of gas equal to 6 G(m³) which makes it the second most important minor group after A2A. The other groups belonging to this first class (Hera, Energie Investimenti, Gaz de France Suez, Axpo Group and CIR) exhibited sold and self-consumed volumes ranging between 4.7 and 2.1 G(m³). The following classes respectively bring together 7, 49 and 190 groups (including those with zero consumptions).

TAB. 3.1

2008 Balance of Natural Gas Suppliers

G(m³); values relate to industrial groups

	Eni	Enel	Edison	2-11 G(m³)	1-2 G(m³)	0.1-1 G(m³)	< 0.1 G(m³)	Total
Net domestic production	**7.1**	**-**	**0.7**	**-**	**0.9**	**-**	**0.0**	**8.7**
Net imports(A)	**45.9**	**9.8**	**7.3**	**7.9**	**1.9**	**1.7**	**0.3**	**74.8**
– of which Eni's sales from abroad	-	-	1.2	3.1	-	-	-	4.3
Stock variations	**-0.4**	**-0.2**	**0.0**	**0.0**	**-0.3**	**0.0**	**0.0**	**-1.0**
stocks as on 31 December 2007	2.9	0.7	0.6	0.4	0.7	0.1	1.2	6.4
stocks as on 31 December 2008	3.3	0.9	0.6	0.4	1.0	0.1	1.1	7.4
Domestic purchases	**1.8**	**9.0**	**6.8**	**24.5**	**7.5**	**16.4**	**4.2**	**70.3**
from Eni	0.9	2.8	4.5	7.7	1.5	6.3	1.1	24.7
– of which gas release at borders	-	*0.0*	*0.1*	*0.3*	*0.2*	*0.3*	*0.1*	*1.1*
– of which gas release at the VTP	-	*0.1*	-	*0.8*	*0.4*	*0.3*	*0.1*	*1.7*
from Enel	0.0	5.8	0.0	0.0	0.0	0.0	0.0	6.0
from Edison	0.2	0.2	1.3	0.4	0.6	1.0	0.4	4.1
from other suppliers	0.7	0.2	1.0	16.4	5.3	9.1	2.7	35.5
Sales to other suppliers	**23.0**	**5.9**	**4.9**	**16.1**	**7.7**	**8.5**	**0.6**	**66.6**
– of which sales to the VTP	4.4	0.1	1.0	3.0	3.7	2.0	0.2	14.3
Net transfers	**0.3**	**0.2**	**-1.0**	**0.7**	**0.8**	**-2.0**	**-0.3**	**-1.3**
Consumption and leakage (B)	**0.5**	**0.2**	**0.1**	**0.3**	**0.1**	**0.2**	**0.0**	**1.5**
Self-consumption	**4.4**	**0.0**	**5.3**	**3.2**	**0.4**	**0.0**	**0.1**	**13.5**
Final sales	**26.9**	**12.8**	**3.4**	**13.3**	**2.7**	**7.3**	**3.5**	**69.9**
to the free market	20.5	10.2	3.2	9.5	1.8	3.6	1.5	50.2
to the protected market	6.3	2.6	0.2	3.8	0.9	3.7	2.1	19.7
Final sales by sector	**26.9**	**12.8**	**3.4**	**13.3**	**2.7**	**7.3**	**3.5**	**69.9**
Electricity generation	10.5	7.3	2.2	3.4	0.7	0.4	0.2	24.7
Industry	9.5	2.4	1.0	4.2	0.8	1.9	0.7	20.5
Commerce	1.2	0.6	0.0	1.8	0.2	1.3	0.7	6.0
Domestic users	5.6	2.4	0.2	3.9	0.9	3.7	2.0	18.7
- of which to affiliated consumers	*1.1*	*6.9*	*2.2*	*2.9*	*0.8*	*0.6*	*0.2*	*14.6*

(A) Imports are shown net of re-exports.

(B) Estimated consumption and leakage on the basis of produced, imported, stored and internally purchased quantities.

Source: AEEG calculations on suppliers' declarations.

When it comes to procurement, the full production was virtually under the control of the Eni group, except a small share held by Edison and other insignificant volumes held by small farmers. With regard to imports, more than 60% of them were controlled by the largest group; another 4 G(m³) or so which major companies active in the sector purchased from Eni through imports from abroad should be added to these volumes.

In 2008, smaller groups in actual fact doubled their imported gas quantities from 2007 (i.e. 2 G(m^3) against 1.1) by diversifying their supply portfolios. None of them, however, procured gas through Eni's sales from abroad: the large majority of them were companies importing gas from their foreign parent companies. Quantities purchased by domestic suppliers from Eni on the national territory fell from 39% in 2007 to 35%. Out of the 24.3 G(m^3) sold by Eni to other suppliers, 2.7 G(m^3) were gas release quantities i.e. quantities sold by Eni following enquiries conducted by the Italian Antitrust Authority (AGCM) in which a dominant position of Eni was found. The first gas release took place pursuant to measure A329B (Blugas-Snam), which provided for the release of gas quantities at the Italian border for 4 thermal years until September 2008. The second gas release is now taking place pursuant to measure A371 (Management and use of regasification capacity) which provided for the release of gas quantities at the Virtual Trading Point (VTP) for 2 thermal years from October 2007 to September 2009. Generally speaking, considering the gas volumes that each group purchased from Eni on the domestic territory and those sold by the incumbent supplier from outside Italy, significant shares of gas availability for each group were directly ascribable to Eni. For the Enel group, such share was 15%, for the Edison it was as much as 38.6%. Little more than one third of gas availability for large and small sized groups – i.e. groups with sold and self-consumed quantities of 2 to 11 G(m^3) and of 0.1 to 1 G(m^3) respectively – originated from Eni,. Smaller groups were dependent on Eni to a lower extent but in any case with shares in excess of 15%.

As for groups' consumption, self-consumption was a very significant item for larger groups which normally have power generating plants. If self-consumption is considered together with sales to organisationally affiliated consumers (whose existence is often associated to the inclusion of power generating companies within their group), it is worth noting that most of the available quantities of each group were actually meant to cover corporate requirements. This situation is particularly significant among the major competitors of Eni: in the case of Enel and Edison, such percentage was 37% and 51% respectively. In the retail (i.e. end-user) market, sales to protected-tariff service users amounted to 28% of total. Therefore, at 7 years' distance from the full opening of the gas market, 72% of the total volumes consumed were purchased in the free market. As discussed below in this chapter, if free-market and protected-market shares are calculated in terms of number of customers, percentages are quite the reverse: in this case only 7% of customers were served by the free market, while 93% were apparently still under the protection measures provided for by the Authority. In other words, the free market is still a prerogative of large customers and has yet to involve the mass market (the percentage of domestic customers in the free market was down to little more than 4%).

Similarly to 2007, the tendency of suppliers to specialise in the protected market as overall volumes sold to the retail market diminish was confirmed. More specifically, most of the sales of smaller groups were made to domestic customers and businesses active in the commerce and service sectors (in the case of groups belonging to the last dimensional class, 56% of overall sales). More generally, it may be inferred that the smaller the group, the more likely it is that its market will coincide with what used to be its 'historic' catchment area prior to deregulation. The quantities of gas sold by the two largest groups to the civil market (domestic users, commerce and services) were equivalent; conversely, differences emerged with regard to sales to power generating plants, as a result of the different corporate structure of the two groups. In particular, although Enel had no self-consumption, significant sales were made to power generation companies (i.e. nearly 57%) it being understood that the gas meant for its own power plants was sold, as an ordinary transfer transaction, to electricity generating companies within the group.

On the other hand, Edison sold as much as 63% of gas to large electricity generation companies (a large part of which belong to its group) and consequently the gas quantities which it sold to customers other than large industrial consumers were limited.

Market and Competition

Gas Supply Structure

Domestic Production

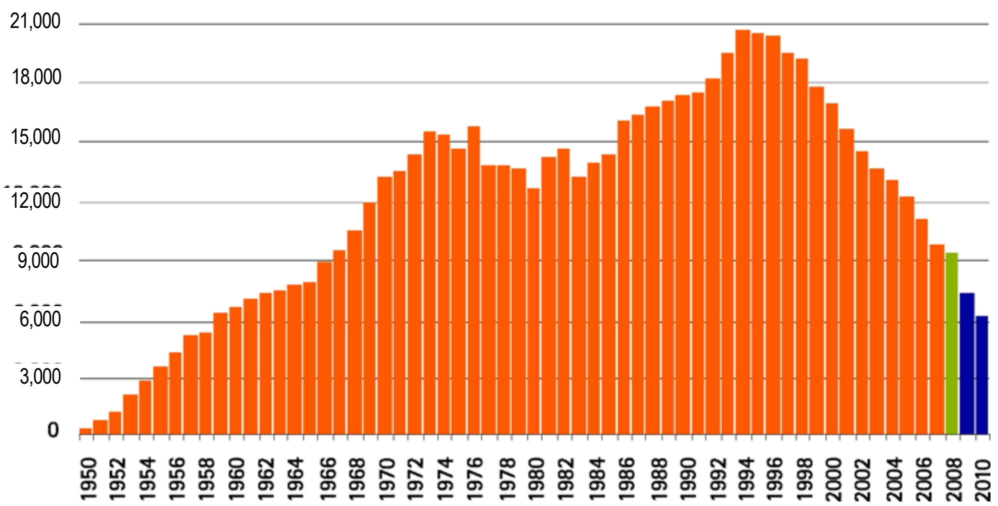
Similarly to the situation observed in the last several years, equally in 2008 domestic natural gas production fell from the previous year, although to a lesser extent than expected and in a lower proportion than the drops observed in the past years. More specifically, based on the provisional data published by the Ministry for Economic Development, last year's domestic production was equal to 9,255 M(m^3), down 4.6% from 2007, whereas – as evidenced in the historical curve of figure 3.1 – over the last few years, it fell on average at a rate of 9% annually. In the figures published by the National Mining Office for Hydrocarbons and Geothermal Resources of the Ministry for Economic Development, production 2008, was reported to be equal to 9,070 M(m^3) – showing a discrepancy from the figure reported above since it was calculated form a different calorific value of gas. More in detail, produced quantities originated in the proportion of one fourth from land fields and three fourths from offshore fields. The gas extracted from land fields, equal to 2,256 M(m^3), was the part of production that diminished to a lesser degree from last year (–4.7%), while offshore production reached 6,815 M(m^3), i.e. its drop was comparatively higher by more than one percentage point.

The continuous decline in production determined a gradual reduction of its coverage of domestic consumption – which dropped from the 30% of the late 1990s to around 20% in the

FIG. 3.1

Performance of Domestic Natural Gas Production since 1950

M(m^3); historical values from 1950 to 2007; preliminary results of 2008 and estimates from 2009 to 2010



Source: Ministry for Economic Development.

TAB. 3.2

Natural Gas Production in Italy in 2008

GROUP	M(m3)	SHARE (%)
Eni	7,146	81.8
Edison	685	7.8
Royal Dutch Shell	673	7.7
Gas Plus	232	2.7
Others	5	0.1
TOTAL	8,740	100.0
TOTAL (Ministry for Economic Development)	9,255	-

Source: AEEG calculations on suppliers' declarations.

first half of the 2000s and ultimately to 11% last year.

The usual annual survey on regulated sectors conducted by the Regulatory Authority for Electricity and Gas saw the participation of 7 respondents, which in 2008 produced in aggregate 8,740 M(m^3) of natural gas. The sector continued to be dominated by the Eni group with the highest production share (around 82%) well above those of its competitors, followed by Edison and Royal Dutch Shell, with a produced quantity of 700 M(m^3) each, and by Gas Plus with 232 M(m^3). Significantly, the Dutch group doubled its production from the 2007 quantity of 340 M(m^3).

Imports

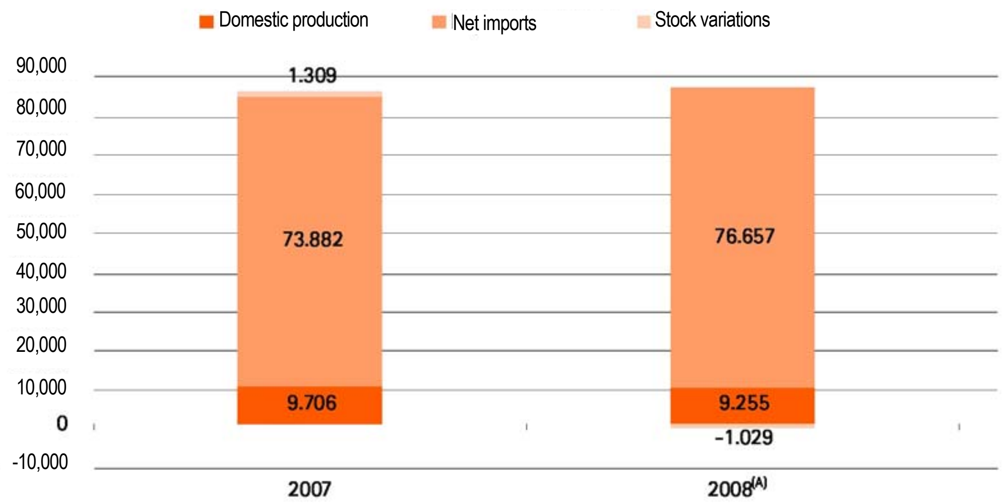
Based on the provisional figures of the Ministry for Economic Development, in 2008 imports amounted to 76.657 M(m^3), net of exports for 210 M(m^3), resulting in a 3.8% growth from 2007 (Fig. 3.2). Considering that, last year. 1,029 M(m^3) were stocked – while, in 2007, 1.309 M(m^3) were taken from stocks – and that network leakage is estimated at nearly 1.5 G(m^3), the volume of domestic consumption can be put at 83,389 M(m^3). Therefore Italy's dependence on imports reached 92%.

As illustrated in figure 3.3 showing a breakdown of imported gas volumes by country of physical (i.e. non-contractual) origin, 80% of exports originated from non-EU Countries. Foreign gas arrived in Italy almost exclusively through pipelines with only 2% of imported gas transported by ship and exclusively from Algeria. The main sources of procurement by pipeline were both from outside the EU: Algeria and Russia. Equally in 2008 Algeria was the leading exporter to Italy: as a whole, a quantity of 25.9 G(m^3) was received from Algeria, of which 24.4 by pipeline, at the national network entry point of Mazara del Vallo, and 1.6 by ship, with regasification at the Panigaglia plant. Altogether, the Algerian gas covered 33.8% of Italy's requirements. Russia supplied 24.6 G(m^3), or 32% of total imported quantities through the entry points of Tarvisio and Gorizia. The third exporter was Libya, which supplied 12.8%, or 9.9 G(m^3) of the overall imported gas in Italy. Significant quantities came from Holland (10.4%) and Norway (6.9%), which entered the Italian national network through the entry point of the Gries Pass at the Swiss border. The remaining 4.1% of 2008 imports came from other European countries, of which almost 1% from Croatia.

FIG. 3.2

Network injections in 2007 and 2008

M(m3)



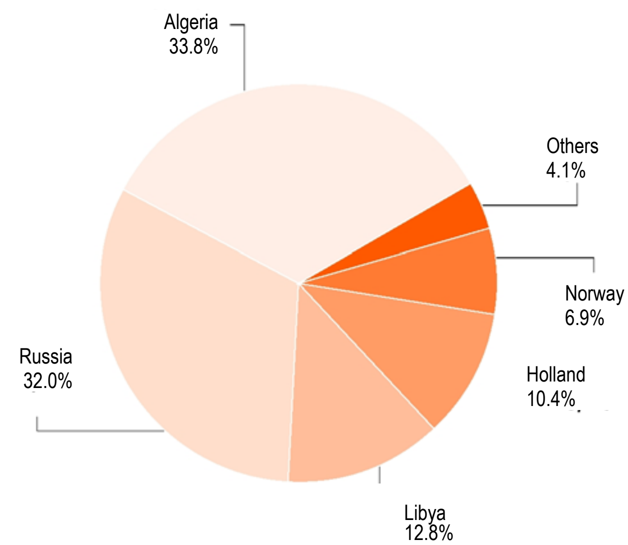
(A) Preliminary results for 2008.

Source: Ministry for Economic Development.

FIG. 3.3

Gross Gas Imports in 2008 by Origin

Percentage values; provisional data



Source: Ministry for Economic Development.

The respondents of the Authority's national survey included 36 importers[1] which in 2008 were reported to have imported to Italy an aggregate gas quantity of 75,041 M(m^3) (Tab. 3.3). This aggregate figure was the result of the first calculations made from suppliers' declarations in the context of the Authority's annual survey. Considering that the total (provisional) value of imports published by the Ministry for Economic Development is equal to 76,867 M(m^3), the survey reported degree of coverage was 96%.

Similarly to production, equally in imports Eni prevailed with

1 By "importer" is meant the beneficial owner of gas at the Italian border for the purpose of fulfilling customs obligations.

TAB. 3.3

First 20 Gas Importers in Italy in 2008
Gross imports

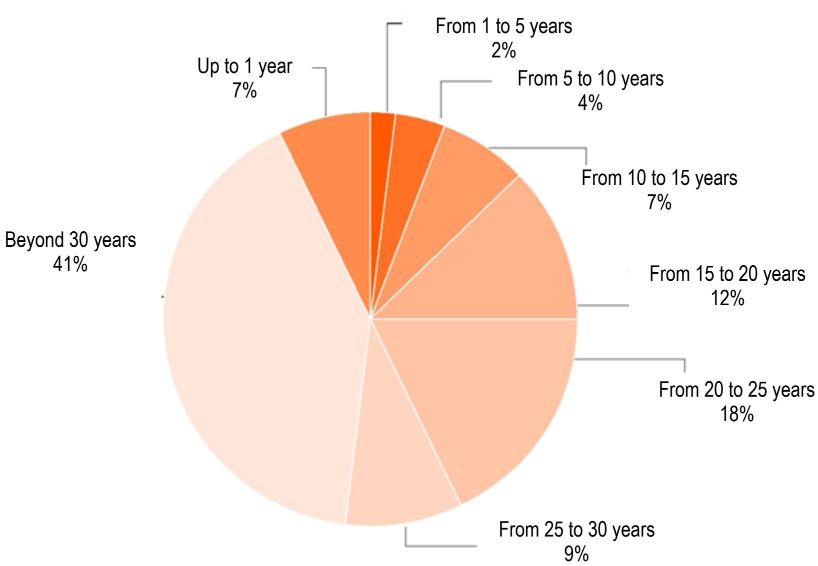
CORPORATE NAME	M(m3)	SHARE (%)
Eni	46,129	61.5
Enel Trade	9,816	13.1
Edison	7,272	9.7
Plurigas	2,676	3.6
Gaz de France –branch office	1,692	2.3
Sorgenia	1,510	2.0
ENOI	1,118	1.5
E.On Energy Trading	614	0.8
E.On Ruhrgas	535	0.7
Egl Italia	502	0.7
AceaElectrabel Trading	467	0.6
Hera Trading	337	0.4
CEA Centrex Italia	323	0.4
Italtrading	228	0.3
Worldenergy	208	0.3
Spigas	170	0.2
Begas Energy International (ex Bridas Energy)	151	0.2
Econgas Italia	150	0.2
Speia	146	0.2
Sinergie Italiane	129	0.2
Others	867	1.2
TOTAL	**75,041**	**100.0**
TOTAL IMPORTS (Ministry for Economic Development)	73,867	–

Source: AEEG calculations on suppliers' declarations.

a share of 61.5% (or 60% if calculated on the import value published by the Ministry), well above that of its competitors, although declining over time, in order to observe the antitrust caps fixed by legislative decree no. 164 of 23 May 2000. Enel Trade was the second importer with a quantity of 9.8 G(m^3), up 5.8% from 2007. Just like in 2007, Edison remained the third importer, although its imported quantities grew 23%, from 5.9 to 7.3 G(m^3). The first three importers were reported to have acquired more than 80% of total imports (which also applies to the total import value circulated by the Ministry).

FIG. 3.4

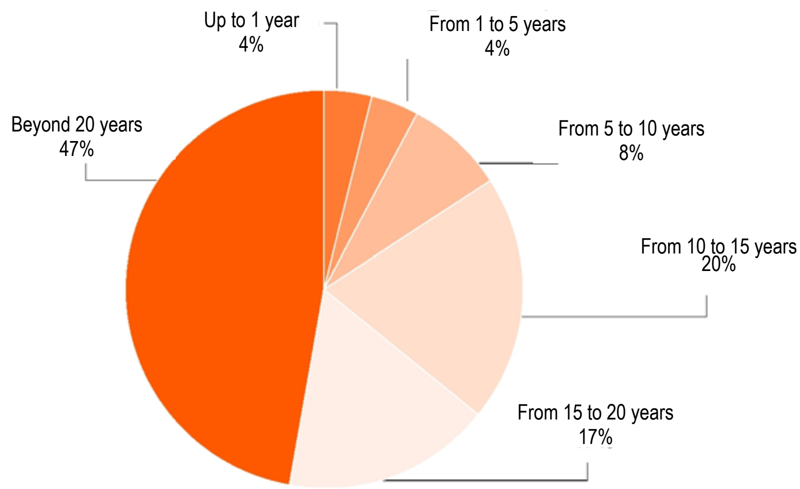
Structure of Current Annual and Multiannual Contracts in 2008 by Full Duration



Source: AEEG calculations on suppliers' declarations.

FIG. 3.5

Structure of Current Annual and Multiannual Contracts in 2008 by Residual Duration



Source: AEEG calculations on suppliers' declarations.

With regard to the analysis of importation contracts in force as at 2008 in relation to their full (Fig. 3.4) and residual duration (Fig. 3.5), similarly to the past years, importation was based on long-term contracts. Nearly 70% of contracts had an overall duration of more than 20 years, while contracts below ten years of durations were 13%. If contracts with a duration of less than one year are excepted, it is clear that as the life of contracts becomes shorter their overall incidence is proportionately reduced. The share of spot imports based on contracts with one-year validity or less was unchanged from the 2007 figure of 7%.

In terms of residual duration, overall contracts in force as at 2008 were still reported to have a long duration with almost half of them expiring in 20 years or more and 65% in 15 years or more. Only 15% of the existing contracts will expire in the next 10 years.

Development of importation facilities

An update from last year's picture of the overall importation pipeline facilities is summed up in tables 3.4 and 3.5 respectively showing the improvements made on the existing facilities and the advancement of new projects. 2008 saw the completion of the first step of expansion of the TAG pipeline connecting Austria to the Tarvisio entry point into the national network, which increased capacity from 38 to 41.5 G(m^3)/year. The improvement was obtained through the entry into operation of a new compression station in the Austrian town of Eggendorf. The second step of capacity expansion is scheduled to enter into operation in autumn 2009. It is worth recalling that both steps resulted form the commitments made in 2003 by Eni towards the European Commission in the context of the enquiry conducted by the Directorate-General for Competition on the territorial sales restrictions contained in the gas supply contracts between Gazprom and Eni. In October 2008, the second step of expansion of the TTPC (Trans-Tunisian Pipeline Company) pipeline connecting Tunisia to the Mazara del Vallo entry point of the national gas network was completed. It will be recalled that, following the enquiry conducted by the Italian Antitrust Authority (AGCM) for an abuse of dominant position – i.e. enquiry A358 (Eni – TTPC), Eni had committed to 2 steps of pipeline capacity expansion: the first for 3.2 G(m^3)/year and the second for 3.3 G(m^3)/year for an overall capacity of 6.5 G(m^3)/year. From October 2008, the month on which imports began, to 30 April 2009, a quantity of 1,678 M(m^3) was imported in relation to the first step of expansion and 370 M(m^3) in relation to the second step. The awardees of transmission capacity were as follows: for step one, BeGas Energy International, Worldenergy, Compagnia Italiana del Gas and Edison Gas; for step two Sonatrach Gas Italy and

TAB. 3.4

Upgrade of Existing Gas Pipelines

PROJECT	COMPANY	ENTRY INTO ITALY	NOMINAL CAPACITY G(m³)/year	LENGTH Km	FEASIBILITY STUDY COMPLETED ON	START-UP SCHEDULED ON	STATUS
TAG Trans Austria Gasleitung (Austria-Italy)	Trans Austria Gasleitung GmbH (Eni International B.V. 89%, OMV Gas GmbH 11%)	Tarvisio	3.2	380	2002	2009	Second portion of the extension to be completed by the end of 2009; in progress.
Green Stream (Libya-Italy)	Greenstream B.V. (Eni 75%, NOC 25%)	Gela	3	---	---	2012	Strategic agreement signed in October 2007 between Eni and NOC - ratified in February 2008 by the Libyan government.

Source: Ministry for Economic Development.

Enel Trade. The gas deliveries of the second step were delayed as a consequence of, among other reasons, an incident occurred last December at the underwater pipeline Transmed (of the Trans-Mediterranean Pipeline Company – TMPC), connecting Tunisia to Italy, which reduced transmission capacity near the TTPC section (i.e. the Transmed section crossing Tunisia from the border with Algeria).

As for the expansion of the Greenstream pipeline connecting Libya to the Gela point of entry into the national network, no important developments were reported. In 2008, , however, after a number of talks with the Libyan government, the Russian company Gazprom announced its intention to participate with Eni in a project for doubling pipeline in order to increase its annual capacity from the current 8 to 16 G(m³).

Table 3.5 provides an update on the advancement of the new pipeline projects – currently in the design phase – that could be of possible interest for Italy. New steps forward were made in the project for the TAP (Trans Adriatic Pipeline) which Egl and Statoil Hydro have designed for connecting Greece to Italy through Albania for the importation of gas from production areas in Eastern Europe and the Middle East. In January 2009, Tractebel Engineering Italy was awarded the planning and engineering phase. In the same month, a survey of sea beds in the stretch of sea between Italy and Albania was initiated. In March 2009, an intergovernmental agreement was signed between Italy and Albania; moreover, the management of TAP AG met the President and the Ministry of Economy of Albania, who declared that the project had a high strategic, political and economic value. For the next months, the Albanian government has planned a number of meetings with the Italian and Greek authorities in order to create a regulatory framework to facilitate the deployment of the pipeline.

In June 2008, the company IGI Poseidon was founded in Athens for the for the purpose of developing, building and operating the IGI pipeline connecting Greece to Italy. IGI Poseidon is a 50/50 joint venture between Edison International Holding (100% under Edison control) and the Greek publicly owned company Depa. The IGI pipeline will be part of the ITGI energy corridor for gas importation from the Caspian Sea through Turkey and Greece. The latter countries have already been connected to each other since November 2007. The pipeline is now in its advanced stage of authorisation with the competent Greek and Italian Authorities and three Memorandums of Understanding were signed: the first between Italy and Greece in November 2005, the second between Italy, Greece and Turkey in July 2007 and the third with Azerbaijan in December 2007. Following the favourable opinion expressed by the European Union, Edison and Depa obtained form the Italian government the right to fully use the pipeline transmission capacity for a 25-year period. Based on the agreements between the two companies, 80% of capacity was reserved for the Italian group and the remaining 20% to the Greek group. On the IGI, Edison and Depa made available a share of nearly 1 G(m³) of capacity for third-party access through an open season procedure whose first part was completed in September 2008, with 17 non-binding expressions of interests for the 10 lots to be awarded, each of 100 M(m³)/year. Edison and Depa will

Newly Designed Gas Pipelines

COMPANY	ENTRY INTO ITALY	NOMINAL CAPACITY (G m³/year)	LENGTH Km	FEASIBILITY STUDY COMPLETION	SCHEDULED YEAR OF START-UP	STATUS
TAP Trans Adriatic Pipeline (Greece-Albania-Italy)						
TAP AG (Egl and Statoil Hydro on equal shares)	Brindisi	10/20	520	2006	–	A supply contract was executed with Iran for 5.5 G(m³)/year for 25 years; in January 2009, Tractebel Engineering Italy was awarded the engineering and planning phase; an intergovernmental agreement was signed between Italy and Albania in March 2009; a survey of seabeds was initiated in the stretch of sea between Italy and Albania.
IGI Interconnector (Italy-Greece)						
IGI Poseidon SA (Depa 50%; Edison 50%)	Otranto	8/10	212	2005	2012	Project included by the EU among the supply priority axes. Exemption from third party access was granted and ratified at 100% for 25 years; bidding for project audit and certification jobs launched in April 2009.
Interconnectirol (Italy-Austria)						
SEL (Province of Bolzano 93.9%)	Bressanone	1.3	48	In progress	–	Funding granted in the context of the TEN Regulation. SEL obtained an extension until 31/12/2009 for completing the feasibility study.
GALSI (Algeria-Italy)						
GALSI (Sonatrach 41.6%; Edison 20.8%; Enel 15.6%; Sfirs 11.6%; Hera Trading 10.4%)	Porto Botte (Carbonia-Iglesias)	8	940	2005	2012	Intergovernmental agreement signed between Italy and Algeria. A final decision was expected by 2009 but was instead postponed to June 2010, pending the conclusion of the authorisation procedure started in July 2008 as well as of the additional engineering and environmental studies for project optimisation. This project was added to the group of projects to be financed in the context of the EU plan.
TGL Tauern Gas Leitung (Germany-Austria-Italy)						
Consortium of Tauerngasleitung Studien- und Planungsgesellschaft Mbh (E.On Rurhgas 45%, other Austrian companies 55%)	Malborghetto (Udine)	11.4	290	In progress; scheduled to be completed in autumn 2009	2015	In the second quarter of 2009 an open session procedure was planned for the allocation of 4.55 G(m³)/year. Contacts are under way with institutions in view of a specific agreement for the deployment of the infrastructure.

Source: Ministry for Economic Development.

also make available 10% of the imported gas in order to increase trading at the Italian VTP. The IGI project was included by the European Union among the 5 priority axes for gas supplies. In April 2009, a bidding procedure was commenced for the awarding of the project auditing and certification job.

With regard to the GALSI pipeline, which connects Algeria to Italy, a final decision on the related investments was expected by 2009 but was instead postponed to June 2010, pending the conclusion of the authorisation procedure started in July 2008 as well as of the additional engineering and environmental studies for project optimisation. This project was added to the group of projects to be financed in the context of the EU plan.

In March 2009, the consortium Tauerngasleitung Studien- und Planungsgesellschaft Mbh, controlled by E.On to the extent of 45% and by 5 Austrian companies for the remaining 55%, announced its intention to launch an open season procedure for the allocation of 4.55 G(m^3)/year in both directions of the pipeline Tauern Gas Leitung (TGL) that is planned to cover a distance of 290 km in the Austrian territory from the Italian to the German border. The consortium also made known that the TGL feasibility study was advancing in accordance with proposed timeline: the main project parameters and detailed layout were already defined. The study completion is planned for autumn 2009, at the end of the open season procedure. In 2010, a decision on investment will presumably be adopted, with 2015 as the planned date of the pipeline entry into operation. The TGL will connect the Haiming node (in Bavaria) to Malborghetto (Udine) across the Austrian regions of Inn and Carinthia, on whose territory it will be interconnected to the storage system of Salzburg and to the TAG. The project, which forms part of the EU Plan on Trans-European Networks (TEN), was conceived to transport gas in both directions and interconnect the Markets of Central-Northern Europe with those of Italy and the Balkan countries. In addition, the pipeline will expectedly transport LNG from Adriatic terminals to Germany.

Gas Facilities

Transmission

Since 2008 the gas transmission system (divided into national and regional) has been operated by 9 companies: 3 for the national system and 8 for the regional system (Tab. 3.6). An innovation as opposed to 2007 is the entrance into the national group of operators of Edison Stoccaggio operating the Cavarzere-Minerbio pipeline which connects the new Rovigo regasification plant to the national network. In terms of management structures, however, the gas transport segment has remained substantially unchanged. The main transmission system operator, Snam Rete Gas owns 31,474 km of network out of a total of 33,478 which constitute the Italian gas transmission system. The second operator is the Edison group which as a whole operates 1,365 km of network, of which 203 national. More specifically, such group runs the network owned by Società Gasdotti Italia (1,282 km) as well as the new pipeline connecting the Rovigo LNG terminal (through its subsidiary Edison Stoccaggio). Next, as shown in table 3.6, there are 6 minor operators owning small sections of the regional system; the table also lists, among other operators, the company Carbotrade which on 1 January 2009 sold its gas transmission business to Metan Alpi Energia.

Table 3.7 shows transmission activities by region. The first column reports the number of operators active in that region: each of the 9 transmission system operators is counted as many times as the number of regions in which it operates. The second and third columns specify the system length in kilometres per region. The last 5 columns indicate the gas volumes that were transported on the systems and re-delivered to different types of users.

TAB. 3.6

Transmission System Operators' Networks in 2008

km

OPERATOR	NATIONAL SYSTEM	REGIONAL SYSTEM	TOTAL
Snam Rete gas	8,779	22,695	31,474
Società Gasdotti Italia	120	1,162	1,282
Edison Stoccaggio	83	0	83
Consorzio della Media Valtellina per il trasporto del gas	0	29	29
Gas Plus Trasporto	0	32	32
Carbotrade	0	67	67
Metanodotto Alpino	0	76	76
Netenergy Service	0	36	36
Retragas	0	399	399
TOTAL	8,982	24,496	33,478

Source: AEEG calculations on operators' declarations.

TAB. 3.7

Transmission Activities by Region in 2008

	OPERATORS ACTIVE IN THE REGION	NATIONAL SYSTEM (km)	REGIONAL SYSTEM (km)	RE-DELIVERED VOLUMES – M (m³)				
				TO DISTRIBUTION INSTALLATIONS	TO INDUSTRIAL CONSUMERS	TO CONSUMERS IN THE THERMAL POWER SECTOR	TO OTHER DESTINATIONS (A)	TOTAL
Val d'Aosta	1	0	56	43	55	0	0	98
Piedmont	4	503	2,071	3,998	1,528	3,131	0	8,659
Liguria	2	22	464	977	170	838	0	1,985
Lombardy	3	552	4,336	9,021	2,785	7,581	81	19,468
Trentino-Alto Adige	2	106	371	621	241	57	0	919
Veneto	3	795	2,019	4,214	1,338	1,098	556	7,206
Friuli-Venezia Giulia	1	492	563	864	589	1,145	467	3,066
Emilia-Romagna	3	1,121	2,682	4,550	2,729	4,684	55	12,018
Tuscany	1	443	1,558	2,318	1,074	2,008	0	5,400
Latium	2	393	1,481	2,136	694	2,438	1	5,270
Marches	2	301	621	892	373	247	0	1,512
Umbria	1	180	450	555	424	569	0	1,548
Abruzzo	2	476	980	753	353	893	61	2,061
Molise	3	209	551	134	84	993	211	1,422
Campania	2	555	1,368	1,019	535	1,641	0	3,195
Apulia	2	522	1,348	1,020	665	2,216	1	3,901
Basilicata	2	367	904	187	126	208	0	522
Calabria	2	953	967	258	98	2,139	0	2,495
Sicily	2	992	1,706	642	971	2,471	0	4,084
Sardinia	0	0	0	0	0	0	0	0
TOTAL	**-**	**8,982**	**24,496**	**34,203**	**14,834**	**34,357**	**10,734**	**94,128**

(A) This column lists re-deliveries to export points, exit points to storage facilities, and other transmission system operators. The total value of this item does not coincide with the individual regional sum since in some cases transmission companies did not manage to break down volumes by region.

Source: AEEG calculations on operators' data.

Table 3.8 shows the results of firm transmission capacity allocations made at the beginning of thermal year 2008-2009. In comparison with the transmission capacity[2] made available in the previous gas thermal, increases of allocatable capacity were recorded in almost all points of entry into the national network interconnected to neighbouring countries. With the exception of Gorizia and the Gries Pass, in all other points, a growth of the available capacity was observed. In particular, as shown in the communication on the transport capacity which the Ministry for Economic Development periodically releases pursuant to art. 3, paragraph 10, of legislative decree no. 164/00:

- in the entry point of Mazara del Vallo, a gradual increase of transmission capacity of up to 99.0 M(m^3)/day occurred in the period between October 2008 and April 2009, during which the methane pipeline Montalbano-Messina was completed;
- in the Gela entry point, concurrently with the entry into operation of the upgraded sections of Rende-Tarsia and Tarsia-Morano, since April 2009 an increase of transmission capacity from 25.6 to 28.4 M(m^3)/day has been recorded;
- in the Tarvisio entry point, an increase of transmission capacity has been recorded as a result of the entry into operation of the improved facilities of the Istrana and Malborghetto power plants. More specifically, from October 2009 transmission capacity will increase from 101.0 to 107.0 M(m^3)/day.

As a whole, allocatable capacity has increased from the 276.5 M(m3)/day of the previous thermal year to 289.8 M(m3)/day, i.e. plus 4.8%.

The results of allocations for thermal year 2008-2009 show that, at the beginning of the thermal year, firm transmission capacity at the points of entry into the national network interconnected to neighbouring countries through gas pipelines was allocated in the proportion of 95.2% to 64 entities. However, considering the further capacity allocated in the course of the current thermal year, as on 30 June 2009, such share had risen to 95.6%.

Table 3.8 does not show the Panigaglia entry point whose allocatable capacity of 13 M(m3)/day, in accordance with current procedures, is now allocated to the operator of the Panigaglia terminal, GNL Italia, which feeds gas to the network on behalf of its regasification users, in view of an efficient use of the transmission capacity at the interconnection point with the terminal. Based on the indications of the communication from the Ministry for Economic Development, in thermal year 2008-2009, the terminal regasification capacity was equal to 6 M(m3)/year corresponding to 172 docked ships.

TAB. 3.8

Firm Transmission Capacity in Italy

Standard M(m^3) per day, if not otherwise stated; thermal year 2008-2009

POINTS OF ENTRY INTO THE NATIONAL NETWORK	ALLOCATABLE CAPACITY	ALLOCATED CAPACITY	AVAILABLE CAPACITY	SATURATION (%)
Gries Pass	59.4	59.4	0.0	100.0
Tarvisio	101.0	97.8	3.2	96.8
Mazara del Vallo(A)	99.0	93.2	5.8	94.2
Gorizia(B)	2.0	0.0	2.0	0.0
Gela(A)	28.4	25.6	2.8	90.1
TOTAL	**289.8**	**276.0**	**13.8**	**95.2**

(A) Available capacity since 2009.

(B) Please note that importation at the Gorizia point is a "virtual" transaction resulting from lower physical export volumes.

Source: AEEG calculations on data supplied by Snam Rete Gas.

2 Please note that the values of transmission capacity are calculated by hydraulic simulations of the transmission network which take account of the forecast withdrawal scenarios for the year under review. The transmission capacity of each point of entry is determined by considering the most demanding transmission scenario (i.e. the summer months for the Mazara del Vallo, Tarvisio and Gorizia entry points, and the winter months for the Gries Pass entry point). In particular, Snam Rete Gas assessed the maximum quantities that are admitted for entry into the network from each entry point without exceeding the minimum-pressure constraints in the various points of the system and without exceeding the maximum performance level of installations. These assessments are instrumental in ensuring transmission service availability at the required level in the course of the full thermal year.

Multiannual Allocations

Table 3.9 sums up the multiannual capacities allocated at the points of entry into the national network interconnected to other countries by a pipeline. As envisaged by the measures adopted by the Authority, this year capacities were allocated - for the next five gas years starting from 2010-2011 - to a total of 26 entities having executed multiannual import contracts. The table equally shows thermal year 2009-2010 with multiannual capacities allocated last year.

On top of the 5 points of entry into the national network, from the next thermal year, an additional entry point at Cavarzere will connect the LNG regasification terminal owned by Terminale GNL Adriatico, which will soon to come into operation in the stretch of the Adriatic sea off the coast of the Rovigo province. The company was awarded an exemption from third-party access for 25 years pursuant to law no. 239 of 23 August 2004 and to the European Directive 55/03/EC (see paragraph "LNG Terminals"). As a result, the allocatable capacity in such point – equal to 26.4 M(m^3)/day – will only be available for 5.4 M(m^3)/day until gas year 2032-2033. In addition, for the first 5 gas years such residual capacity is also reserved for the regasification company pursuant to resolution no. 168/06 of 31 July 2006.

TAB. 3.9

Allocations to the National Network Entry Points Interconnected by Pipeline to Other Countries from Thermal Year 2009-2010 to Thermal Year 2014-2015

Standard M(m^3) per day

THERMAL YEAR	ENTRY POINTS: TARVISIO	MAZARA DEL VALLO	GRIES PASS	GELA	GORIZIA	CAVARZERE
2009-2010						
Allocatable capacity	107.0	99.0	59.4	28.4	2.0	26.4
Allocated capacity	87.9	81.6	52.4	21.9	0.0	26.4
Available capacity	19.1	17.5	7.0	6.5	2.0	0.0
2010-2011						
Allocatable capacity	107.0	99.0	59.4	28.4	2.0	26.4
Allocated capacity	90.4	87.8	52.2	21.9	0.0	26.4
Available capacity	16.6	11.2	7.2	6.5	2.0	0.0
2011-2012						
Allocatable capacity	107.0	99.0	59.4	28.4	2.0	26.4
Allocated capacity	89.7	87.8	50.8	21.9	0.0	26.4
Available capacity	17.3	11.2	8.6	6.5	2.0	0.0
2012-2013						
Allocatable capacity	107.0	99.0	59.4	28.4	2.0	26.4
Allocated capacity	89.7	86.6	48.8	21.9	0.0	26.4
Available capacity	17.3	12.4	10.6	6.5	2.0	0.0
2013-2014						
Allocatable capacity	107.0	99.0	59.4	28.4	2.0	26.4
Allocated capacity	78.9	85.4	45.1	21.9	0.0	26.4
Available capacity	28.1	13.6	14.3	6.5	2.0	0.0
2014-2015						
Allocatable capacity	107.0	99.0	59.4	28.4	2.0	26.4
Allocated capacity	78.5	85.3	21.2	21.9	0.0	21.0
Available capacity	28.5	13.7	38.2	6.5	2.0	5.4

Source: Snam Rete Gas.

Storage

For thermal year 2008-2009, the storage system offered storage availability in terms of overall space per surplus gas reserve (known as "working gas") equal to nearly 13.9 G(m^3) (Tab. 3.10).

The part of such capacity allocated to strategic storage was equal to nearly 5.1 G(m^3), as provided for by the Ministry for Economic Development (in compliance with the provisions of art. 3, paragraph 4 of the decree of the Minister for Industry, Commerce and the Craft Trade of 9 May 2001 and art. 2 of the decree of the Ministry for

Production Activities of 26 September 2001) on the basis of: the programmes for imports from Non-EU Countries notified by users; the status of import infrastructures; and the variations recorded in terms of injections to and withdrawals from storage facilities in the previous winters. The capacity available for such services as underground storage, modulation and operational balancing of the transmission system amounted to 8.8 G(m3).

Withdrawal deliverability (or the daily open-flow potential volume of all natural gas from a facility) assessed on the completion of the withdrawal of the gas allocated for modulation and underground storage, as envisaged by the provisions introduced by resolution no. 50/06 of 3 March 2006, was equal to a total of 152 M(m^3) standard.

The results of allocations made by gas stockholders for thermal year 2008-2009 are shown in table 3.11. In terms of space per surplus gas reserve, the capacity allocated by Stogit for thermal year 2008-2009, calculated by adding the incremental capacity made available by Stogit in June 2008, amounted to nearly 13.5 G(m^3), or nearly 532.8 million GJ, if a gross calorific value (GCV) of 39.4 MJ/m^3 standard is considered. In comparison with thermal year 2007-2008, in the light of capacity reductions in the same thermal year for authorisation problems related to the overpressure operation of the Settala field, the space made available increased by around 0.3 G(m^3).

Out of the 13.5 billion made available by Stogit, 8.3 G(m^3) (equal to 328 million GJ) were allocated to modulation and underground storage, 0.11 G(m^3) (or 4 million GJ) to the transmission-system operational balancing and 5.1 G(m^3) to strategic reserve.

Altogether, in thermal year 2008-2009, Stogit executed contracts for storage services with 43 entities: 41 modulation service users (of which 5 also used the underground storage service and 9 the strategic service) and with 2 users of the transmission-system operational balancing service. Volumes physically handled by the Stogit storage system as at March 2007 were equal to around 13.6 G(m^3), of which 7.8 in withdrawals and 5.9 in injections. The capacity per surplus reserve made available by Edison Stoccaggio in thermal year 2008-2009 amounted to nearly 0.4 G(m^3). As a whole, a total of 15 entities used Edison's storage system: 14 modulation service users (of which 1 also used the strategic storage service) and 1 user of the operational balancing service for transmission system operators.

TAB. 3.10

Available Storage Capacity in Italy

	M(GJ)	M(m^3) STANDARD (A)
Space for strategic storage	200.9	5,100
Space for modulation, underground storage and transmission-system balancing services	346.9	8,818
TOTAL	**547.8**	**13,918**
Deliverability for underground storage, modulation and transmission-system balancing services at the end of the withdrawal season	6.0 M(GJ)/day	152.3 M(m^3)/day

(A) Determined in accordance with the reference GCV for the Edison Stoccaggio and Stogit systems, which is equal to 38.1 and 39.4 MJ/m^3 respectively.

Source: AEEG calculations on data supplied from Edison Stoccaggio and Stogit.

TAB. 3.11

Allocation of Space in Storage Facilities

Space reserved for underground storage, modulation and operational balancing services of transmission system operators

	THERMAL YEAR 2007-2008		THERMAL YEAR 2008-2009	
STOCKHOLDERS	NUMBER OF USERS	CAPACITY (GJ) (A)	NUMBER OF USERS	CAPACITY (GJ) (A)
Stogit	36	319,533,000	43	332,615,000
Edison Stoccaggio	10	14,172,000	14	14,322,968

(A) For the Stogit system the reference GCV is 39.4 MJ/m^3 standard, while for the Edison system it is 38.1 MJ/m^3 standard.

Source: AEEG calculations on data supplied from Edison Stoccaggio and Stogit.

Status of Applications for Concessions for new Storage Facilities

Table 3.12 shows the current status of applications for the concession of new storage sites by the Ministry for Economic Development, all of which will be established in depleted gas fields except Rivara, where the establishment of an aquifer site in deep lithologic units is planned.

TAB. 3.12

Applications for Storage Concession as at March 2009

PROJECT	COMPANY	WORKING GAS M(m³)	PEAK M(m3)/day	STATUS
Alfonsine (RA)	Stogit	1.550	10.0	Authorised; start-up has met with technical and environmental impediments. Use of field for strategic storage is being considered.
Bordolano (CR-BG)	Stogit	1,440	12.5/20	Authorised; after the settlement of a dispute on tariffs with the Authority, a programme was presented for resuming project works with modifications, some of which obtained a technical clearance from the competent National Mining office for Hydrocarbons and Geothermal Resources.
San Potito – Cotignola (RA)	Edison Stoccaggio (90%), Blugas Infrastrutture (10%)	915	7.2	Authorised in April 2009.
Cornegliano (LO)	Ital Gas Storage	590/1,010	16.5	In the authorisation phase; in July 2008 a favourable opinion was obtained from the investigating group of the competent Evaluation Impact Assessment (EIA) Committee; to be referred to *Conferenza dei Servizi* (local authorities consultative body)
Cugno Le Macine – Serra Pizzuta (MT)	Geogastock	742	7	In the authorisation phase; in October 2008 a positive EIA was obtained; the applicability of the Seveso directive is now being assessed by a technical panel recently instituted at the Environment Ministry.
Rivara (RA) (in deep aquifer)	Erg Rivara Storage (85% Independent Gas Management, 15% Erg)	3,000	32	Project is under study; objections were raised by the Municipalities concerned.
Verdicchio (AP)	Edison Stoccaggio	70	0.8	Under study; its preliminary design to be referred to the Committee for Hydrocarbons and Mining Resources.
Sinarca (CB)	Gas Plus Storage (60%), Edison Stoccaggio (40%)	324	3.3	In the authorisation phase; in November 2008 a positive EIA was obtained; to be referred to the competent *Conferenza dei Servizi*.
Poggiofiorito (TE)	Gas Plus Storage	160	1.7	Under study; the company is to present a study on basic design for the EIA.
Piadena Est (CR)	Blugas Infrastrutture	n.a.	n.a.	Under study; a favourable opinion was received from the Committee for Hydrocarbons and Mining Resources (June 2008).
Ro(CR-BG)ngo (CR-BG)	Enel Trade	n.a.	n.a.	Under study; a favourable opinion was received from the Committee for Hydrocarbons and Mining Resources (June 2008).
San Benedetto (AP)	Gas Plus Storage (51%), Gaz de France/Acea (49%)	n.a.	n.a.	Under study; a favourable opinion was received from the Committee for Hydrocarbons and Mining Resources (June 2008).
Bagnolo Mella (BS)	Edison Stoccaggio, Retragas	n.a.	n.a.	Awarding in May 2009.
Rapagnano (AP)	Not awarded	n.a.	n.a.	No application was submitted.

Source: Ministry for Economic Development.

In comparison with the situation illustrated last year, innovations mainly include the project in the San Potito – Cotignola area, in the Ravenna province, which in late April 2009 obtained a concession from the Ministry for Economic Development. The entry into operation of this facility will increase the current national capacity for underground storage, modulation and transmission-system operational balancing – currently equal to 9 G(m^3) – by nearly 900 M(m^3).
In June 2008, the Commission for Hydrocarbons and Mining Resources[3] delivered its favourable opinion in relation to the projects of Piadena Est (CR), Romanengo (CR-BG) and San Benedetto (AP). In July 2008, the project of Cornegliano (LO) received a favourable opinion from the investigating team of the Environmental Impact Assessment Committee and is now awaiting an appraisal by the competent *Conferenza dei Servizi* (local authorities consultative body); in October 2008 a favourable EIA was also obtained for the projects of Cugno Le Macine-Serra Pizzuta (MT) and Sinarca (CB) and they will consequently be referred to a *Conferenza dei Servizi* to be convened.

LNG Terminals

Table 3.13 sums up the advancement of projects for the new LNG regasification terminals along Italian coasts. Many innovations on these infrastructures are worth noting in comparison with last year's situation, first and foremost the now imminent conclusion of the implementation process for an offshore terminal project of the company Terminale GNL Adriatico, whose construction is close to completion.
At 10 years' distance from the first project presentation, the seaborne terminal - to be established 17 km off the coast of Porto Levante (Rovigo) - was built in Spain and arrived at destination in September 2008. In the ten years elapsed so far, the project has obtained the required authorisations – the last one being, in chronological order, the Integrated Environmental Authorisation (*Autorizzazione integrata ambientale*). Its entry into operation is planned in July 2009. Exemption from third-party access for 80% of the terminal capacity, equal to 8 G(m^3), was granted in November 2004 for 25 years and won the European Commission's approval. As provided for by the decree of the Ministry for Production Activities of 28 April 2006 and by resolution no. 168/06, an open season procedure was initiated in November 2007 for the allocation of the remaining 20%, or nearly 1.6 G(m^3), of capacity not subject to exemption; the procedure was concluded in May 2009 with the awarding to British Petroleum of 1 G(m^3)/year for 10 years starting from thermal year 2009-2010. This means that 0.6 G(m^3) are yet to be allocated and will be put on the market through annual procedures after the terminal commissioning. In the meantime, Edison Stoccaggio has completed the construction of the Cavarzere-Minerbio methane pipeline measuring about 83 km in length and forming part of the National Gas Pipeline Network to be connected to the offshore terminal.
Steps forward were equally made for the terminal of Gioia Tauro (RC) whose project obtained a grant in June 2008 from the European Commission worth 1.6 million euros as part of the TEN-E project and, in September of the same year, a positive environmental impact assessment was issued by the Italian Environment Ministry. A final clearance by the Economic Development Ministry is expected by summer 2009.

3 The Commission for Hydrocarbons and Mining Resources was instituted in January 2008 by consolidating 4 different divisions of the Ministry for Economic Development; it took over their technical and consultative functions related to basic exploration, hydrocarbons prospecting and exploitation, and royalties.

TAB. 3.13

Status of Projects for New LNG Terminals as at March 2009

Projects, promoters, regasification capacity in G(m³)/year and status of authorisations

PROJECT	COMPANY	CAPACITY	START-UP SCHEDULED ON	STATUS
Porto Levante offshore (RO)	Terminale GNL Adriatico (Edison 10%, Exxon Mobil 45%, Qatar Terminal Limited 45%)	8	2009	The seaborne terminal, built in Spain, arrived at destination in September 2008. In January 2009 an Integrated Environmental Authorisation was issued. Start-up is scheduled for July 2009. A public open-season procedure was completed. Edison Stoccaggio completed the construction of the Cavarzere-Minerbio methane pipeline (ca. 83 km in length) belonging to the National Methane Pipeline Network and to be connected to the offshore terminal.
Brindisi	Brindisi LNG (100% British Gas Italia)	8	n.a.	In December 2008, the Regional EIA Commission delivered an unfavourable opinion, which the Regional Government approved, on the regasification plant project in the di Capobianco area. British Gas is studying alternative solutions.
Toscana offshore (LI)	OLT Offshore LNG Toscana (E.On 46.79%, Iride Mercato 41.71%, ASA 5.08%, OLT Energy Tuscany 3.73%, Golar LNG 2.69%)	3.75 expandable to 4.7	2010	Application submitted for total TPA for 20 years –the application is now under study. In March 2008, Saipem was awarded a contract for the terminal construction. In September 2008, the *Consiglio di Stato* (highest administrative court in Italy) suspended the judgments by which the Regional Administrative Court had upheld the actions brought by Greenpeace and a few inhabitants, and had consequently annulled the authorisation for the regasification plant construction and operation.
Rosignano (LI)	Edison – BP – Solway	8	n.a.	The authorisation process is still in progress. In March 2008 Edison complemented its environmental impact study as requested by the EIA Commission and the Tuscany Regional Government. In July 2008 the Tuscan Regional Administrative Court dismissed the actions brought by Edison against the authorisation issued by the Ministry for Economic Development in 2006 for the (competing) terminal of Leghorn.
Gioia Tauro (RC)	LNG MedGas Terminal (Fingas – Sorgenia e Iride 69.8%, Medgas Italia – gruppo Belleli and Azienda Energetica Etschewerke of Bolzano 30.2%)	12	2014	Positive EIA in September 2008; authorisation by the Ministry for Economic Development expected for summer 2009. In June 2008 funding was obtained from the European Commission worth 1.6 million euros in the context of the TEN-E project. Meanwhile, in March 2008, the company LNG Medgas Terminal requested the Ministry for Economic Development to impose a constraint on the land to be used for building the pipeline for connection of the terminal to the national network. A Memorandum of Understanding was signed with local authorities.
Taranto	Gas Natural Internacional	8	n.a.	Agreement signed with Snam Rete Gas for building the pipeline for connection to the national network after project authorisation. In July 2008 the EIA Committee of the Apulia Regional Government delivered a negative opinion on the regasification plant. In July 2008 the regional cabinet resolved on an unfavourable opinion from the regional administration in the context of the EIA procedure.
Zaule (TS)	Gas Natural Internacional	8	2013	Agreement signed with Snam Rete Gas for the construction of the gas pipeline for connection to the national network after project authorisation. In July 2008, the Environment Ministry sent information to the homologue Slovenian Ministry with regard to cross-border impacts and referred the remarks received from the Slovenian administration to the EIA Commission. In September 2008, Italy and Slovenia decided to establish a Technical Group to discuss the theme of the two regasification plants to be built in the gulf of Trieste.

TAB. 3.13 CONTINUED

Status of Projects for New LNG Terminals as at March 2009

Projects, promoters, regasification capacity in G(m³)/year and status of authorisations

PROJECT	COMPANY	CAPACITY	START-UP SCHEDULED ON	STATUS
Trieste offshore (TS)	Terminale Alpi Adriatico (Endesa Europa 100%)	8	n.a.	In March 2008, a new location of the plant was proposed and the relevant environmental impact study was updated. The company requested the issue of a concession in respect of public land for the new location. The proposal for a new location was referred to the Technical Commission of the Environment Ministry in September 2008 for its appraisal.
Porto Empedocle (AG)	Nuove Energie (Enel 90%)	8	2010	The authorisation procedure is under the jurisdiction of the Sicily Regional Government. In April 2008, a positive opinion was delivered by the EIA Commission with prescriptions (i.e. presentation of the project for pipeline connection to the national network). In September 2008, a favourable environmental compatibility decree was issued with prescriptions. The *Conferenza dei Servizi* of the Sicily Regional Government gave its definitive clearance to the regasification plant construction in January 2009.
Rada di Augusta (SR)	ERG Power&Gas – Shell Energy Italy	8	n.a.	The authorisation procedure is under jurisdiction of the Sicily Regional Government. In May 2008, a positive opinion was delivered by the EIA Commission with prescriptions. In September 2008 a favourable decree on environmental compatibility was issued with prescriptions.
Ravenna (RA)	Atlas Ing. (Gruppo Belleli)	8	n.a.	This offshore plant is now being appraised by the Ministry for Economic Development.
Senigallia (AN)	Gaz de France Gdf-Suez	5	n.a.	This offshore plant is now being appraised by the Ministry for Economic Development. (an updated version of the project was presented by Gaz de France in April 2008).
Portovenere (SP)	GNL Italy (Eni 100%)	4.5	2014	Upgrade of the Eni's Panigaglia terminal to the effect of increasing capacity from the current 3.5 to 8 G(m³). EIA procedure started in July 2007. The Portovenere Municipality delivered a negative opinion. In May 2008, the Environment Ministry requested clarifications on and complements to the EIA procedure. In April 2009 the cabinet of the Ligurian regional administration confirmed its negative stand on the occasion of the EIA Commission meeting.

Source: Ministry for Economic Development.

Distribution Systems

In the context of the annual survey conducted by the Authority on the performance of regulated sectors, a section is dedicated to natural gas distribution. Distributors were asked to supply the preliminary results of their activity in 2008 and to confirm or adjust their provisional data supplied last year for year 2007.

A summary of the figures of natural gas distributors is given in table 3.14 evidencing a heavy reduction in the number of distributors over the last 2 years. Such perception is however incorrect, since in this year's survey the number of respondents (263) was patently under-represented; this is evidenced, for instance, by the figure of distributors registered in the Authority's database, i.e. 308 as on May 2009. No doubt, a process of industrial restructuring has been going on for some time now in natural gas distribution which every year implies either merger/acquisition deals (including transfers of business lines or assets) or a natural reduction in the number of companies active in the sector.

This year, however, more difficulties emerged than in the past, chiefly in the collection of data from companies operating in the distribution segment in the course of 2007 which in 2008 were taken over by other entities or simply terminated their business and sold it to other companies. In the tables below, therefore, the figures for 2008 (taken from the preliminary results of distributors) are meant to be provisional; similarly, for the same reason stated above, the figures for 2007 are equally provisional for small or very small distributors in particular.

As stated above, a total of 263 distributors participated in the survey, of which 10 were not operating in 2007 and only started their business in 2008, while 14 were active in 2007 but their business terminated in 2008 following a merger/ acquisition deal or following the transfer of their business to other entities. For instance, Siciliana Gas in 2008 terminated its business following its acquisition by Italgas, while Gruppo Linea Distribuzione in 2008 acquired 3 companies (Cogeme Gestioni, Metano Pavese and Padania Acque). Other acquisition transactions involved Gelsia Reti (which took over Gestione Servizi Desio and Bria), the group Intesa Distribuzione (which acquired 3 of the companies operating in 2007) and Bagnolo Mella Servizi (taken over by Gas Plus in November 2008).

The number of 'very large' distributors (i.e. distributors with more than half a million customers) increased by one unit following the addition of Azienda Energia Servizi Torino to such dimensional class. Another class that increased numerically from 2007 was that of 'large' distributors (serving a number of customers between 100,000 and 500,000), which in 2008 was reported to include 27 companies. By contrast, the number of 'medium' distributors (serving 50,000 to 100,000 customers) was down from 33 to 24. Only 35 distributors (14% of companies active in the sector) exceeded the threshold of 100.000 customers served - from which the obligation of functional unbundling of the business applies, in accordance with the provisions of the Authority's unbundling regulation. As a whole, they covered 78% of the volumes distributed in Italy (in 2007 there were 32 in total covering 75% of volumes). The remaining 214 companies active in 2008 distributed one fifth of total volumes.

TAB. 3.14

Distributors' Activity in the Period from 2006 to 2008

DISTRIBUTORS(A)	2006	2007	2008
TOTAL NUMBER	287	253	249
Very large distributors	7	8	8
Large distributors	22	24	27
Medium distributors	31	33	29
Small distributors	133	117	113
Very small distributors	94	71	72
DISTRIBUTED VOLUMES – M(m^3)	**34,917**	**31,094**	**33,485**
Very large distributors	18,194	15,921	17,276
Large distributors	7,841	7,394	8,952
Medium distributors	3,843	3,978	3,543
Small distributors	4,584	3,475	3,407
Very small distributors	455	326	306

(A) Very large: distributors with more than 500,000 customers.
Large: distributors with 100,000 to 500,000 customers.
Medium: distributors with 50,000 to 100,000 customers.
Small: distributors with 5,000 to 50,000 customers.
Very small: distributors with less than 5,000 customers.

Source: AEEG calculations on distributors' declarations.

Table 3.15 shows a detailed picture of the distribution activity in 2008, with a list of the number of distributors, customers (i.e. metering units) and municipalities served by region, as well as distributed volumes and related share on total. As a whole, 33.5 G(m^3) were distributed to around 21,400 resident customers in 6,566 municipalities. As observed in the past, data were highly variable between regions, but totally stable in time, since they reflected the different extension of the methane supply network, the climatic differences between geographical areas and the different territorial distribution of medium-sized production activities typically served by secondary networks. Four regions, Piedmont, Lombardy, Veneto and Emilia-Romagna absorbed more than 10% each and around 64% in aggregate of total distributed gas. Tuscany and Latium had a share exceeding 5%, 9 had a share between 1.5% and 3%, while the remaining 4 had shares of less than 1%. Sardinia is not included in the list, as no methane supply system has yet been built. The traditional breakdown of results between North, Centre, South and islands shows – just like in previous years - a predominance of the North in the share of distributed gas with 70.9% of total, followed by the Centre with 20.0%, and the South and Islands with 9.1%.

Table 3.16 shows a first calculation of the ownership composition of distributors in terms of controlled share capital as on 31 December 2008, which is however limited to the direct forms of participation (i.e. first-level shareholding) assessed in the annual survey. As a first comment on the reported data, it is interesting to note that there were only 4 companies with listed shares: Hera, Ascopiave, Enia and Acegas-Aps. Moreover, their listed share capital had only a 0.6% incidence on the total number of shares held in the capital of companies active in the distribution business. Around 43% of shares were held by public bodies. 22.7% were held by power utilities, specifically 11.1% by local power utilities, 9.6% by national utilities and 2% by foreign power utilities (with their parents in Spain and Austria). Ultimately, 12.7% of shares were held by natural persons.

TAB. 3.15

Distribution Activity by Region in 2008

	NUMBER OF DISTRIBUTORS IN THE REGION	CUSTOMERS (THOUSANDS)	SERVED MUNICIPALITIES	SUPPLIED VOLUMES M(m^3)	SHARE (%)
Val d'Aosta	1	19	24	43	0.1
Piedmont	30	1,948	1,017	4,008	12.0
Liguria	9	848	152	902	2.7
Lombardy	71	4,578	1,481	8,812	26.3
Trentino-Alto Adige	14	242	185	621	1.9
Veneto	30	1,921	570	3,976	11.9
Friuli-Venezia Giulia	11	509	190	902	2.7
Emilia-Romagna	32	2,218	359	4,469	13.3
Tuscany	15	1,509	236	2,280	6.8
Latium	13	2,128	312	2,101	6.3
Marches	26	609	235	895	2.7
Umbria	11	330	88	572	1.7
Abruzzo	26	559	278	723	2.2
Molise	10	101	98	119	0.4
Campania	22	1,219	402	933	2.8
Apulia	13	1,188	246	1,032	3.1
Basilicata	13	180	120	191	0.6
Calabria	10	360	263	260	0.8
Sicily	16	931	310	645	1.9
TOTAL	**-**	**21,396**	**6,566**	**33,485**	**100.0**

Source: AEEG calculations on distributors' declarations.

TAB. 3.16

Distributors' Ownership Composition

SHAREHOLDERS' LEGAL STATUS	%
Public bodies	42.8
Miscellaneous corporate persons	20.1
Natural persons	12.7
Local power utilities	11.1
National power utilities	9.6
Foreign power utilities	2.0
National financial institutions	0.9
Floating stocks	0.6
Foreign financial institutions	0.1
TOTAL	**100.0**

Source: AEEG calculations on distributors' declarations.

With regard to facilties, table 3.17 shows that distribution involves around 13,300 substations, nearly 201,500 pressure limiting terminal units, and networks measuring around 238,500 km in total, broken down into medium pressure (40%) and low pressure networks (nearly 60%). Networks are mainly located in the North (141,600 km vs. 53,700 km in the Centre and 42,300 km in the South and Islands) and, on average, are owned to the extent of 78% by distributors and 11.7% by municipalities. The ownership of networks, which may rest with distributors, municipalities or other entities (this explains why the sum of percentages in the table does not give 100), varies quite appreciably between regions.

TAB. 3.17

Distribution Facilities and their Owners in 2008

Number of substations and pressure-limiting terminal units; network extension in km

REGION	SUB-STATIONS	PRESSURE-LIMITING TERMINAL UNITS	NETWORK EXTENSION			OWNERSHIP OF NETWORKS (%)	
			HIGH PRESSURE	MEDIUM PRESSURE	LOW PRESSURE	OPERATOR	MUNICIPALITY
Val d'Aosta	10	104	0.3	165.9	194.0	99.0	0.6
Piedmont	684	29,125	84.6	11,783.2	10,788.5	89.3	2.7
Liguria	111	1,656	57.4	1,898.8	4,147.2	72.2	0.1
Lombardy	1,719	22,131	108.1	13,919.4	30,848.7	72.4	15.6
Trentino-Alto Adige	178	18,235	179.7	1,994.1	1,933.8	90.5	6.6
Veneto	882	9,745	291.6	9,985.0	17,307.1	82.0	10.8
Friuli-Venezia Giulia	131	1,691	5.0	2,064.3	5,029.6	72.7	26.7
Emilia-Romagna	466	87,328	371.6	15,966.4	12,505.6	60.5	13.1
Tuscany	530	6,594	204.6	6,053.7	9,131.2	66.1	9.0
Latium	431	4,034	185.0	6,601.2	7,359.2	97.6	2.3
Marches	161	2,528	24.6	4,174.9	4,423.4	47.6	24.4
Umbria	213	1,643	105.3	1,768.9	3,123.7	61.7	37.8
Abruzzo	6,627	8,620	1.4	4,019.4	4,533.4	79.0	20.5
Molise	79	447	5.6	978.2	1,018.5	84.6	15.1
Campania	325	2,772	17.5	3,535.0	7,412.2	84.4	12.7
Apulia	195	1,613	89.7	3,235.7	8,119.7	92.2	7.6
Basilicata	127	465	0.8	769.6	1.,477.5	76.7	22.9
Calabria	242	862	34.7	2,173.1	3,283.0	90.4	9.6
Sicily	211	1,816	60.3	3,911.5	8,213.3	97.6	2.4
Not in operation	-	-	0.0	127.6	527.1	-	-
TOTAL	**13,322**	**201,409**	**1,827.9**	**95,125.8**	**141,376.7**	**77.6**	**11.7**

Source: AEEG calculations on distributors' data.

Table 3.18 shows a preliminary calculation of data on distribution-system users in 2008 broken down by the individual usage classes as defined by resolution no. 17/07 of 2 February 2007 and associated with specific standard withdrawal profiles. The most prominent class in Italy is that of gas use for individual heating + cooking + sanitary hot water production, which accounts for 62% in terms of customer numbers. Among the other important classes, cooking + hot sanitary water production accounts for 11% of total, and cooking only for 10.6%. An appreciable incidence is also that of individual heating associated with cooking, with 7% of total distribution-system users.

TAB. 3.18

Breakdown of Customers by Usage Class in 2008

Percentages of customers connected to distribution systems as on 31/12/2 008 and of volumes distributed to the same; average consumption in m³

USAGE CLASS	SHARE (%)
Cooking	10.6
Production of sanitary hot water	1.2
Cooking and production of sanitary hot water	10.9
Technological uses (in the craft and industrial sectors)	1.1
Air conditioning	0.1
Individual/central heating	3.9
Individual heating + cooking + production of sanitary hot water	61.9
Individual heating + cooking	7.0
Individual heating + production of sanitary hot water	1.5
Central heating + cooking + production of sanitary hot water	0.3
Central heating + production of sanitary hot water	0.5
Technological uses + heating	0.9
Air conditioning + heating	0.0
TOTAL	**100.0**

Source: AEEG calculations on distributors' declarations.

How distribution service users are apportioned in terms of consumable volumes can also be assessed by looking at the data reported in table 3.19 in which customers and volumes are broken down by withdrawal class expressed in GJ/year consistently with the tariff system applied to the distribution service in 2008.

The first two classes (0-4 and 4-20 GJ/year) most probably include households using gas for cooking and/or hot water production. Altogether they account for 41.8% in numerical terms and 5.4% in terms of withdrawn volumes. The most numerous class in terms of number of metering units as well as volumes is that with an annual consumption between 20 and 200 GJ (around 520 to 5,200 m^3): it includes families or small commercial businesses using gas equally for heating. The last four, relatively less numerous classes are those of intensive uses absorbing half of the distributed gas.

Finally, table 3.20 shows the first 20 groups active in natural gas distribution in 2007 and 2008 and their relevant market shares. Here again, similarly to the situation observed in other production segments, the Eni group is dominant with a share (26.6% in 2008), which although less significant, is still two times higher than that of lower ranking groups. A comparison with 2007 shows that the incumbent's share rose mainly following the acquisition of Siciliana Gas, to the detriment of competitors which saw their shares shrink quite evenly between them. An exception to this were Iride, Enia, Gelsia and Aimag, whose market share instead grew – in the case of Iride by more than one percentage point. Altogether, the first 20 groups covered almost 80% of the market..

TAB. 3.19

Breakdown of Customers and Withdrawals by Withdrawal Class

Distribution network customers in thousands as on 31/12/2008; withdrawn volumes in M(m_3)

WITHDRAWAL CLASS (GJ/year)	CUSTOMERS	VOLUMES	INCIDENCE ON CUSTOMERS (%)	INCIDENCE ON VOLUMES (%)
0-4	3,852	204	18.0	0.6
4-20	5,082	1,588	23.8	4.7
20-200	11,009	14,315	51.5	42.8
200-3,000	1,341	7,697	6.3	23.0
3,000-8,000	87	1,977	0.4	5.9
8,000 40,000	20	2,948	0.1	8.8
Above 40,000	4	4,756	0.0	14.2
TOTAL	**21,396**	**33,485**	**100.0**	**100.0**

Source: AEEG calculations on distributors' declarations.

TAB. 3.20

First 20 Groups Active in Natural Gas Distribution in 2008

Distributed natural gas volumes in M(m_3)

GROUP	2007	SHARE (%)	2008	SHARE (%)
Eni	8,031	25.8	8,897	26.6
Enel	3,441	11.1	3,622	10.8
Hera	2,081	6.7	2,129	6.4
A2A	1,933	6.2	1,895	5.7
Italcogim	1,226	3.9	1,307	3.9
E.On	1,144	3.7	1,181	3.5
Iride	751	2.4	1,177	3.5
Enia	958	3.1	1,070	3.2
Asco Holding	743	2.4	802	2.4
Linea Group Holding	483	1.6	537	1.6
Acegas-Aps	460	1.5	463	1.4
Amga Azienda Multiservizi	413	1.3	443	1.3
Erogasmet	314	1.0	351	1.0
Gelsia	152	0.5	319	1.0
Consiag	327	1.1	319	1.0
Energei	291	0.9	311	0.9
Gas Rimini	298	1.0	304	0.9
Aimag	213	0.7	302	0.9
Agsm Verona	284	0.9	285	0.9
Edison	272	0.9	281	0.8
Others	7,279	23.4	7,488	22.4
TOTAL	**31,094**	**100.0**	**33,485**	**100.0**

Source: AEEG calculations on distributors' declarations.

The Wholesale Gas Market

Wholesale market figures derive from the early provisional calculations of data collected in the annual survey conducted by the Authority on the state of electricity and gas markets in the previous year.
With regard to the gas sales sector, the enquiry involved all companies having declared – during the procedure of accreditation for registration with the Authority's register of suppliers instituted in July 2008 by resolution GOP 35/08 of 23 June 2008 (see Chapter 6, Volume II) – that they operated in the gas wholesale and retail sales markets in year 2008. Pursuant to legislative decree no. 164/00, companies selling gas to consumers need a further authorisation from the Ministry for Economic Development, while pure traders of gas do not need such authorisation. Among market participants, those classified as wholesalers are companies having made less than 95% of sales to consumers and also include companies with their own natural gas production which they offer on the wholesale market.
In 2008 wholesalers were in the number of 78. As can be seen in table 3.21 summing up wholesale activity, since the complete opening of the gas market in 2003, the number of gas wholesalers has almost doubled.
Taken together, wholesalers sold 109.6 G(m^3), of which 43.2 to the retail market (end-users) and 66.4 to other intermediaries in the wholesale market (Tab. 3.24). Compared to last year, the overall volume traded grew 8.2%, but within such volume, sales to the wholesale market rose 23.3% from the 2007 level of 53.9 G(m^3), while direct sales to consumers fell 9.0% from last year's level of 47.4 G(m^3). The reduction of volumes sold on the retail market and the increase of those sold on the wholesale market by the same wholesalers is a phenomenon of the last few years; it seems therefore that a specialisation process is under way in the wholesale market itself with a growing liquidity of the same.
On average, the unit sales volume increased 2.6%, from 1.37 to 1.40 G(m3) as a consequence of the overall growth in the traded volumes, of the substantial stability in the number of wholesalers (from 74 in 2007 they grew to 78), and also of a reduction in the volumes sold by larger wholesalers. More specifically, it is clear from the values reported in the table that the sales of large wholesalers were reduced to the advantage of their small and, more importantly medium sized competitors.
The overall gas volumes sold by Eni fell by nearly 6 percentage points, those of large wholesalers were down 3.2%, while small wholesalers saw their sales grow 15.2% and medium-sized wholesalers' sales grew even more by 17.1%.
Wholesalers' procurement sources are illustrated in table 3.22 showing that 60% of wholesalers' gas was purchased through imports. A significant part (almost 20%) of imports of medium sized wholesalers was purchased from Eni outside Italy. 23% of the gas sold to the wholesale market was purchased from other suppliers in the national territory (both at the border or at the city gate), 7% was directly generated and almost 10% was purchased at the Virtual Trading Point (VTP). Imports are the main source of procurement chiefly for large companies, while as the size of the company gets smaller, purchases on the domestic market and at the VTP become more significant (in the latter case, smaller average quantities were purchased). The incidence of purchases at the VTP was at its peak (36%) in case of very small wholesalers.
Against the resources available to wholesalers as shown in table 3.22, table 3.23 illustrates wholesalers' gas uses.

TAB. 3.21

Wholesalers' Activity in the Period 2002 to 2008

WHOLESALERS (A)	2002	2003	2004	2005	2006	2007	2008
NUMBER	**55**	**40**	**41**	**60**	**72**	**74**	**78**
Eni	1	1	1	1	1	1	1
Large wholesalers	1	1	1	2	1	1	1
Medium wholesalers	4	4	6	8	9	11	13
Small wholesalers	17	20	19	29	29	31	33
Very small wholesalers	32	14	14	20	32	30	30
SOLD VOLUME – G(m^3)	**85.2**	**90.6**	**95.9**	**110.5**	**103.2**	**101.3**	**109.6**
Eni	52.3	51.3	53.6	58.0	57.3	51.6	48.7
Large wholesalers	12.9	17.8	16.3	27.0	13.5	13.1	12.7
Medium wholesalers	15.8	15.6	18.4	14.0	20.1	22.8	31.6
Small wholesalers	4.0	5.6	7.6	10.8	11.3	12.7	15.6
Very small wholesalers	0.2	0.2	0.1	0.7	1.0	1.1	1.1
AVERAGE UNIT VOLUME – M(m^3)	**1,550**	**2,264**	**2,340**	**1,842**	**1,433**	**1,369**	**1,405**
Eni	52,349	51,320	53,632	58,027	57,292	51,643	48,656
Large wholesalers	12,865	17,808	16,268	13,486	13,451	13,131	12,709
Medium wholesalers	3,954	3,902	3,061	1,748	2,233	2,074	2,429
Small wholesalers	234	279	399	372	391	410	472
Very small wholesalers	7	17	7	37	31	35	37

(A) Large: wholesalers with sales above 10 G(m^3).
Medium: wholesalers with sales between 1 and 10 G(m^3).
Small: wholesalers with sales between 0.1 and 1 G(m^3).
Very small: wholesalers with sales below 0.1 G(m^3).

Source: AEEG calculations on wholesalers' declarations.

TAB. 3.22

Origin of Wholesalers' Supplies in 2008

Percentages

ORIGIN OF SUPPLIES	WHOLESALERS (A)					
	Eni	Large	Medium	Small	Very small	Total
Domestic production	13.2	0.0	1.7	5.2	1.8	6.9
Imports	85.1	75.5	40.9	14.2	22.0	59.6
Purchases from suppliers in the national territory	1.5	20.5	39.9	51.9	33.6	22.9
Purchases from storage facilities	0.0	0.2	0.1	4.3	6.6	0.7
Purchases at the VTP	0.3	3.8	17.5	24.3	36.0	9.8
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(A) Large: wholesalers with sales above 10 G(m^3).
Medium: wholesalers with sales between 1 and 10 G(m^3).
Small: wholesalers with sales between 0.1 and 1 G(m^3).
Very small: wholesalers with sales below 0.1 G(m^3).

Source: AEEG calculations on wholesalers' declarations.

As a whole, 54.6% of procured gas was resold in the wholesale market, 35.5% went to consumers (of which 29% were organisationally affiliated consumers) and the remaining 9.9% was for self-consumption, i.e. directly used in the power generating plants of wholesalers. It is clear from the table that sales to other suppliers prevail in small and very small companies, which allocate to this market 70% or more of their procured gas. Eni seems to allocate its procured gas in a more balanced way between wholesale and retail market. Medium to large operators, instead, beside the wholesale sales activity apparently use gas for their own consumption: 100% of the gas sold to the retail market by large wholesalers goes to affiliated consumers, while almost one fifth of the gas available to medium-sized wholesalers is meant for self-consumption.

TAB. 3.23

Wholesalers' Gas Uses in 2008

Percentages

SALES	WHOLESALERS (A)					
	Eni	Large	Medium	Small	Very small	Total
To other suppliers in the national territory	42.7	46.0	64.0	77.9	66.8	54.6
– of which to storage facilities	0.0	0.6	1.2	1.7	3.7	0.9
– of which sales at the VTP	19.3	1.5	25.0	27.4	28.5	21.5
To consumers	49.0	54.0	16.8	21.7	30.8	35.5
– of which affiliated consumers	4.1	100.0	63.9	5.0	0.4	28.5
Self-consumption	8.3	0.0	19.2	0.4	2.3	9.9
TOTAL	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

(A) Large: wholesalers with sales above 10 G(m^3).
Medium: wholesalers with sales between 1 and 10 G(m^3).
Small: wholesalers with sales between 0.1 and 1 G(m^3).
Very small: wholesalers with sales below 0.1 G(m^3).

Source: AEEG calculations on wholesalers' declarations.

TAB. 3.24

Sales of main Wholesalers in 2008

M(m^3)

COMPANY	TO WHOLESALERS & RETAILERS	TO CONSUMERS	TOTAL
Eni	22,648	26,009	48,656
Enel Trade	5,851	6,858	12,709
Edison	4,845	2,165	7,009
Plurigas	3,054	839	3,893
Gaz de France – Branch office	2,795	0	2,795
Hera Trading	2,471	54	2,525
E.On Energy Trading	2,263	38	2,301
A2A Trading	2,150	3	2,153
Blugas	1,726	41	1,767
AceaElectrabel Trading	1,362	16	1,378
ENOI	1,289	8	1,296
Sinergie Italiane	945	0	945
Gas Plus Italiana	937	0	937
Sorgenia	932	1,142	2,074
E.On Ruhrgas	838	356	1,194
Ascotrade	810	851	1,661
Egl Italy	771	52	823
Spigas	761	79	840
Italtrading	745	9	755
Elettrogas	679	0	679
Begas Energy International (ex Bridas Energy)	674	27	701
2B Energia	621	0	621
Worldenergy	574	0	574
Shell Italy	563	193	756
Essent Trading International	262	0	262
Enova	499	9	509
Iride Mercato	471	1,056	1,527
Energy Trade	465	0	465
Energetic Source	459	22	481
A2A Beta	401	116	517
Shell Italy E&P	362	0	362
Eni Mediterranea Idrocarburi	325	0	325
CEA Centrex Italy	323	0	323
Unogas Energia	313	110	423
Others	2,518	3,115	5,632
TOTAL	**66,436**	**43,168**	**109,603**
Average price (€c/m³)	*34.67*	*37.75*	*35.88*

Source: AEEG calculations on wholesalers' declarations.

Table 3.24 shows the detailed activities of the 34 wholesalers (vs. 27 last year) whose sales reached at least 300 M(m^3). Altogether these companies covered 96.2% of overall sales made in this market which remained highly concentrated, although in a better way, i.e. the share of the first 3 companies Eni, Enel Trade and Edison was down to 50.2% (vs. 59.8% last year); that of the first 5 - including Plurigas and Gaz de France - fell to 59% (vs. 67.8% in 2007).

The last line in the table shows the average price quoted by companies classified as wholesalers, which in 2008 was reported to be equal to 35.88 €c/m^3. Consumers obviously paid a higher price than that quoted to other gas suppliers. The differential between the two customer groups can be estimated at 3 €c/m^3, calculated from a the price paid by consumers of 37.75 €c/m^3 and a price paid by other wholesalers and by retailers of 34.67 €c/m^3.

VTP – Virtual Trading Point

In the first half of thermal year 2008-2009, 63 entities traded, sold and acquired gas at the VTP; of these, 53 were also users of the transmission system. As a result ten entities were pure traders at the VTP.

Figures 3.6 and 3.7 show a historical curve of gas transactions made at the points of entry into the national gas transmission system and at the VTP until March 2009, in terms of volumes and number of transactions[4]. In the context of transactions at the VTP, a distinctive indication, i.e. "LNG VTP" is given to gas re-deliveries (in terms both of sold volumes and number of daily re-deliveries) made by GNL Italia, the operator of the Panigaglia regasification terminal, to the terminal users. Such deliveries – which have been made at the VTP since 2005, do not result from traders' dealings on the secondary market although they are formally recorded as VTP transactions.

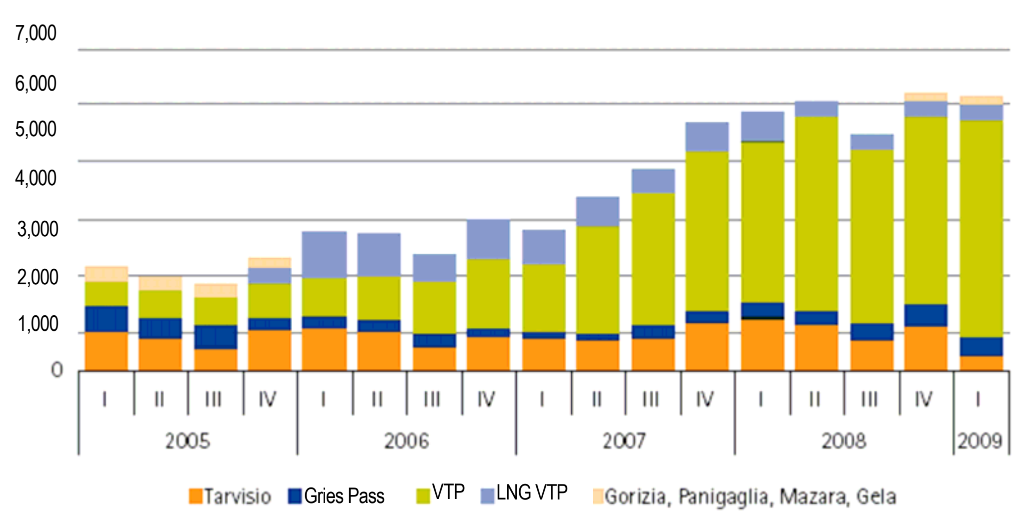
Over the last few years, the VTP has significantly grown in importance in terms of traded volumes and number of transactions. This has also happened because, since November 2006, in accordance with the Authority's provisions, traders may engage in transactions at this national hub without necessarily being transport system users.

A comparison between gas years 2006-2007 and 2007-2008 (Fig. 3.8) shows that the VTP is growing to the detriment of other points of entry into the national network. Except for the Gries Pass point, whose share remained stable, it is the only trading point that recorded an overall increase of traded volumes, equal to 12 percentage points. In the early months of thermal year 2008-2009 until March 2009, gas transactions at the VTP in terms of volumes amounted to nearly 78% of total volumes of transactions.

FIG. 3.6

Transaction Volumes in the National Network Entry Points

M(m^3) standard of 38.1 MJ; performed transactions relate to gas fed into the network by the selling user

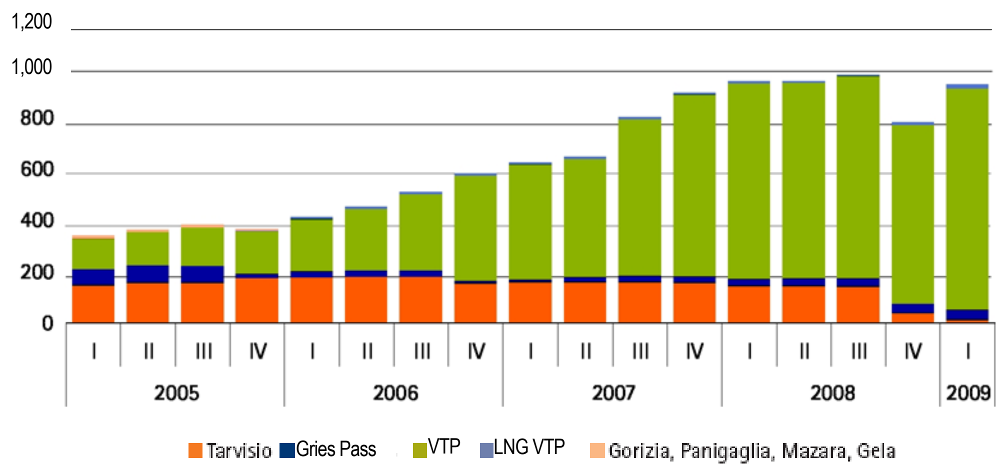


Source: AEEG calculations on data supplied from Snam Rete Gas.

4 In order to make transactions recorded at the VTP comparable to transactions at the identified entry points, for the VTP account is taken each month of the average number of daily transactions as well as of total traded volumes.

FIG. 3.7

Transaction Numbers in the National Network Entry Points

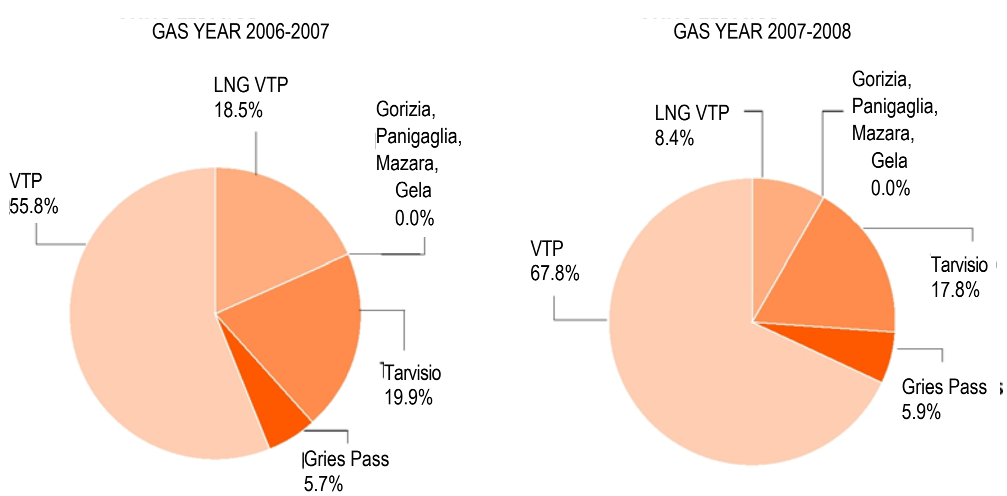


Source: AEEG calculations on data supplied from Snam Rete Gas.

FIG. 3.8

Breakdown of Volumes Traded/Sold and the National Network Entry Points Interconnected with Other Countries and with the Virtual Trading Point

Comparison between gas year 2006-2007 and gas year 2007-2008



Source: AEEG calculations on Snam Rete Gas data.

Final Retail Market

At the closing date of this *Annual Report*, among the participants in the annual survey conducted by the Authority in the energy and gas sectors, a total of 209 entities listed in the Authority's register of suppliers declared being active in the gas sales sector in 2008 and further declared that they were reported in the list of entities authorised to sell to consumers by the Ministry for Economic Development. As on 11 September 2008, such list comprised 393 companies; it is common knowledge, however, that some of the companies having requested a ministerial sales licence remain dormant. Considering that the overall volume of gas sold to consumers, calculated based on the replies given to the Authority's survey questionnaire, was in line with the preliminary data on consumptions circulated by the Ministry for Economic Development, it is reasonable to assume that the entities that did not reply were not operating in the year under review or that they made marginal sales volumes. As a proof of this, suffice it to consider the early results of the annual survey, showing that sales to the retail market in 2008 were equal to 69.9 G(m^3), and were met in the proportion of 43.16 G(m^3) by wholesalers and of 26.75 G(m^3) by "pure retailers". If such quantities are considered in aggregate with self-consumptions for 13.45 G(m^3) (self-consumptions being the gas directly used in the power plants of retailers), then a consumed gas volume of 83.38 G(m^3) will be obtained, which is virtually equivalent to the value of 83,39 G(m^3) reported by the Ministry for Economic Development.

As can be seen in table 3.25, in 2008 the number of entities falling in the class of "pure retailers" (i.e. for which at least 95% of volumes were sold to consumers) fell from last year by nearly 30 units. Overall sold quantities, however,

TAB. 3.25

Retailers' Activity in the Period 2002 to 2008

RETAILERS(A)	2002	2003	2004	2005	2006	2007	2008
NUMBER	**504**	**432**	**353**	**258**	**226**	**238**	**209**
Large retailers	2	5	4	4	4	4	6
Medium retailers	42	40	37	38	39	33	29
Small retailers	222	176	149	100	107	105	94
Very small retailers	237	211	163	116	76	96	80
VOLUME SOLD G(m^3)	**26.6**	**33.0**	**31.4**	**24.5**	**24.1**	**21.9**	**27.0**
Large retailers	7.5	15.8	14.6	8.5	8.3	9.1	15.3
Medium retailers	11.2	11.1	11.6	11.5	11.3	8.4	7.5
Small retailers	6.8	5.2	4.6	4.2	4.2	4.0	3.9
Very small retailers	1.0	0.8	0.7	0.3	0.3	0.4	0.3
AVERAGE UNIT VOLUME M(m3)	**53**	**76**	**89**	**95**	**107**	**90**	**128**
Large retailers	3,756	3,169	3,640	2,135	2,076	2,287	2,542
Medium retailers	267	279	313	301	290	254	260
Small retailers	31	30	31	42	39	38	41
Very small retailers	4	4	4	3	4	4	4

(A) Large: retailers with sales above 1,000 M(m^3).
Medium: retailers with sales between 100 and 1,000 M(m^3).
Small: retailers with sales between 10 and 100 M(m^3).
Very small: retailers with sales below 10 M(m^3).

Source: AEEG calculations on retailers' declarations.

increased from 21.9 to 27 G(m^3), consequently the average unit sales volume of retailers has grown in aggregate. As evidenced in the table, the increase is totally attributable to large retailers, i.e. those whose sales were in excess of 1,000 M(m^3) and which saw their overall volume grow from 9.1 G(m^3) in 2007 to 15,3 G(m^3), partly as a result of two new entrants in this market segment; as a result, the average unit volume has grown significantly to over 2.5 M(m^3). The increase of sales observed among large retailers went to the detriment of all other retailers, which fell both in numerical terms and in sales volumes. The effect of such downward trend in the medium to small dimensional classes ultimately resulted in the increase of concentration: the average unit sales volumes of medium and small retailers grew slightly, while those of very small retailers belonging to last class remained stable.

The procurement policy of companies falling in the retailer class was exclusively based on purchases from other domestic suppliers and at the VTP. More specifically, small and very small retailers purchased at the VTP 20% of the gas they put on sale. A detail of their gas uses obviously shows a prevalence of volumes sold to consumers; however, on average, 0.3% of the available gas was self-consumed and 0.8% was sold on the wholesale market.

Table 3.26 shows the detailed results of the 19 companies classified as pure retailers, whose sales to consumers in 2008 exceeded 200 M(m^3). It therefore excludes the companies already listed in table 3.24 which sold to the retail market quantities above the envisaged threshold, were consequently classified as wholesalers and as such analysed in the wholesale market section.

Similarly to the data shown in the wholesalers table, the retailers table shows the average price quoted by retailers in the two market segments. The wholesale selling price is in line with that of wholesalers, although slightly below (34.26 against 34.67 €c/m^3); on the other hand, the average price offered to consumers is appreciably higher – as can be easily expected, given the high

TAB. 3.26

Retail Market Sales in 2008

M(m^3)

COMPANY	SALES TO WHOLESALERS & RETAILERS	SALES TO CONSUMERS	TOTAL
Enel Energia	11	5,932	5,942
Italcogim Energie	121	3,123	3,244
Hera Comm	2	2,092	2,094
E.On Italia Power & Fuel	41	1,436	1,478
Edison Energia	4	1,263	1,267
E.On Energia	9	1,217	1,226
A2A Energia	0	997	997
Toscana Energia Clienti	1	853	854
Asm Energia e Ambiente	0	593	593
Estenergy	1	415	416
Gas Plus Vendite	1	371	372
Erogasmet Vendita – Vivigas	2	364	366
SGR Servizi	0	296	296
Gelsia Energia	0	282	282
Agsm Energia	0	273	273
Enercom	0	267	267
Prometeo	1	233	234
Sinergas	0	227	227
Bas Omniservizi	0	203	203
Others	14	6,193	6,207
TOTAL	**206**	**26,755**	**26,961**
Average price (€c/m^3)	*34.26*	*41.64*	*41.58*

Source: AEEG calculations on retailers' declarations.

incidence of customers connected to distribution networks. The price offered by pure retailers therefore includes the cost of distribution, which is normally not included in the price quoted by wholesalers since they mainly sell to consumers directly connected to the transmission network. In addition, the focus of pure retailers is more on the mass market (i.e. they have a higher number of customers in this segment, which however consume relatively smaller volumes), while – on the other hand– most of wholesalers' final consumers are large consumers active in the industrial/ thermal power sector and can therefore fetch lower prices.

In order to correctly calculate the retail market shares and market concentration, however, wholesalers too need to be considered since, it was observed, they also offer gas to consumers. As a result, the customary distinction between wholesalers and pure retailers needs to be set aside and replaced by an analysis of quantities sold by all companies divided by corporate group (Tab. 3.27).

TAB. 3.27

First 20 Groups by Sales to the Retail Market in 2008

Volumes in M(m^3)

GROUP	VOLUME	SHARE (%)
Eni	26,862	38.4
Enel	12,799	18.3
E. On	3,927	5.6
Edison	3,428	4.9
Energie Investimenti	3,136	4.5
A2A	2,668	3.8
Hera	2,209	3.2
CIR (Sorgenia)	1,142	1.6
Iride	1,107	1.6
Ascopiave	922	1.3
E.S.TR.A. Energia, Servizi, Territorio, Ambiente	567	0.8
Acegas-Aps	415	0.6
Linea Group Holding	399	0.6
Erogasmet	386	0.6
Gas Plus	371	0.5
Trentino Servizi	313	0.4
Amga Azienda Multiservizi (Udine)	311	0.4
Gas Rimini	296	0.4
Gelsia	282	0.4
ACSM (Como)	275	0.4
Others	8,108	11.6
TOTAL	**69,922**	**100.0**

Source: AEEG calculations on retailers' declarations.

The retail (end-customer) market has remained rather concentrated: the 3 major groups had a share of 62.3% in aggregate (vs. 63.5% last year). Concentration for the first 5 groups even increased from 69.4% to 71.7%, as could be expected in the light of the increased number of large retailers and the corresponding decrease in the number of medium to small retailers. With 38.4%, Eni was still the dominant group although its share is decreasing in time; the second most important group, Enel, although well below Eni, is year after year growing – in 2008 its share rose 2 percentage points to 18.3%. The rise to third position of E.On - now ahead of the Edison group with a share of 5.6% - is an achievement worth noting if account is taken of the fact that the share of the latter group rose from 3.1 to 4.9%. They are followed at a relatively short distance by Energie Investimenti, A2A and Hera. In general, another sign of market concentration is the shrinking of differences between the shares of the first two companies taken together and those of the next four or five companies equally taken together.

In the year under review, the natural gas retail market (Tab. 3.28) was made up of 20 million customers broken down as follows: 18 million domestic customers, 1.2 million customers in the trade and service sector, 172,000 industrial customers and 600 customers in the thermal power sector. In terms of volumes, proportions were the reverse; if self-consumptions are included, the domestic segment was found to absorb 18.8 G(m^3), commerce 6 G(m^3), industry 20.6 G(m^3) and electricity generation 37.6 G(m^3).

The percentage of customers served in the free market increases as one moves from the domestic sector (with 4.5%) to gas-intensive sectors or sectors for which gas is a key production process input: it is equal to 39% in commerce and services, 49% in industry and 89% in the thermal power sector.

Detailed sales to retail market by sector of consumption and customer size, illustrated in table 3.29, show that as consumptions grow customers tend to shift to the free market. It is worth mentioning that the indication of volumes and prices (as will be better illustrated in the following section dedicated to prices in the free market) in the protected consumption classes of above 200,000 m^3 is due to the fact that they include the consumptions of customers that, while being in a position to change supplier, still have to make a choice to that effect and have consequently retained the protected tariffs provided for by the Authority. However, the number of these customers and their purchased gas quantities are shrinking in time: in 2008, while more than 19 G(m3) were sold on regulated terms to customers with consumptions below 200,000 m^3, the volumes sold on regulated terms to customers with consumptions above such threshold were equal to 202 M(m3).

This year, the survey conducted among natural gas transport system operators and distributors contained a few questions on the number of customers[5] having changed their supplier in calendar year 2008. Questions on supplier switching were posed in such a way as to measure the phenomenon in accordance with the definition of the European Commission. A questionnaire was therefore used to measure switching intended as the number of supplier switches in a given period of time (one year) including:

- *re-switches*, when a customer switches for the second or subsequent time, even within the same measured period of time;
- *switchbacks*, when a customer switches back to his/her former or previous supplier;
- *switches* to a competitor of the incumbent and vice versa.

If a customer moves to a different area of domicile, a switch should only be recorded if he/she switches to a supplier other than the supplier which is incumbent in the area where he/she is moving to; in addition, a change of tariff with the same retailer

TAB. 3.28

Final Retail Market by Consumption Class

Customers in thousands; volumes in M(m^3)

	DOMESTIC	COMMERCE AND SERVICES	INDUSTRY	ELECTRICITY GENERATION\	TOTAL
CUSTOMERS					
Self-consumption	2	1	10	0,05	12
Free market	824	468	80	0,48	1,372
Protected market	17,597	731	82	0,06	18,411
TOTAL	**18,423**	**1,200**	**172**	**0,60**	**19,795**
VOLUMES					
Self-consumption	56	43	51	13,305	13,454
Free market	1,704	3,967	19,824	24,692	50,187
Protected market	17,001	2,015	718	2	19,735
TOTAL	**18,761**	**6,025**	**20,592**	**37,998**	**83,377**

Source: AEEG calculations on retailers' declarations.

5 Conventionally in this text the generic term "customers" was used. It should be noted however, that technically this figure identifies the number of re-delivery points (in case of transmission system users) and number of metering units (in case of distribution system users).

TAB. 3.29

Seles to Final Retail Market by Market Types and Customer Types

M(m3)

SECTOR	CUSTOMERS DIVIDED BY ANNUAL CONSUMPTION CLASS (m^3) < 5,000	5,000-200,000	200,000-2,000,000	2,000,000-20,000,000	> 20,000,000	TOTAL
Domestic	14,520	2,392	72	18	–	17,001
Commerce & services	526	1,427	60	1	–	2,015
Industry	92	575	45	5	–	718
Electricity generation	0	1	1	0	–	2
TOTAL VOLUMES SOLD AT REGULATED PRICES	15,138	4,395	178	24	–	19,735
Domesticl	693	768	175	34	34	1,704
Commerce & services	514	1,801	1,058	565	28	3,967
Industry	105	987	3,952	7,719	7,061	19,824
Electricity generation	5	12	513	875	23,286	24,692
TOTAL VOLUMES SOLD AT MARKET PRICES	1,317	3,568	5,344	9,193	30,766	50,187
TOTAL	16,455	7,963	5,522	9,217	30,766	69,922

Source: AEEG calculations on retailers' declarations.

TAB. 3.30

Consumers' Supplier-Switch Rates in 2008

CUSTOMERS BY ANNUAL CONSUMPTION CLASS	CUSTOMERS	VOLUMES
Up to 5,000 m^3	1.1	1.4
5,000–200,000 m^3	3.5	6.8
200,000–2,000,000 m^3	10.4	15.8
2,000,000–20,000,000 m^3	29.0	30.0
Above 20,000,000 m^3	44.2	55.7
TOTAL	**1.2**	**34.9**

Source: AEEG calculations on retailers' declarations.

is not equivalent to a switch (this exclusion extends to: changing to a new tariff and changing from a regulated to a non-regulated tariff with the same supplier or a subsidiary of the same supplier).
Significantly, the use of the new measurement methodology makes the data presented in this chapter not comparable to those published on other occasions by the Authority.
The survey has shown that the percentage of customers having changed their gas supplier in 2008 was in aggregate 1.2%, or 34.9% if assessed in terms of gas volumes consumed by customers having completed the switch. Table 3.30 shows detailed supplier switching data and differentiates customers by group of consumption.
As it is obvious, percentages grow as the size of customers grows, since when consumption volumes increase, then the cost of gas purchases also increases and, consequently, this results in a greater interest in the opportunity of saving on the part of consumers, which is usually the first motivation for supplier switching, and ultimately results in consumers' better knowledge of the sector and better ability to make informed choices. This data collection methodology, however, fails to exclude cases in which large customers change supplier as a result of a supplier's policy designed to regain a previous customer base in a given industrial group - and not on the ground of purely competitive logic.
Classes with higher consumptions, however, contain a decisively limited number of customers (e.g. nearly 250 in the consumption class of more than 20 M(m^3)/year).
The territorial breakdown of the domestic segment is illustrated in table 3.31. The region with the highest consumptions is Lombardy - having purchased 27.4% of the quantities sold and accounting for 22.3% of served customers. The other two high-ranking regions are Piedmont and Veneto, both with little more than 11% in the purchases of gas sold nationwide and with a customer share in excess of 9%. Right below – in terms of purchased volumes –

TAB. 3.31

Final Retail Market in 2008: Domestic Segment

Customers in thousands and volumes in M(m^3)

REGION	RETAILERS	CUSTOMERS	VOLUMES
Piedmont	80	1,722	2,119
Val d'Aosta	12	16	23
Lombardy	130	4,100	5,123
Trentino-Alto Adige	32	218	294
Veneto	69	1,679	2,091
Friuli-Venezia Giulia	34	397	438
Liguria	35	737	611
Emilia-Romagna	66	1,516	1,860
Tuscany	46	1,322	1,194
Umbria	30	263	251
Marches	45	528	553
Latium	58	1,952	1,474
Abruzzo	52	484	443
Molise	20	88	74
Campania	44	994	573
Apulia	29	1,098	785
Basilicata	26	150	148
Calabria	23	301	199
Sicily	28	855	451
TOTAL	**-**	**18,421**	**18,705**

Source: AEEG calculations on suppliers' declarations.

are Emilia-Romagna and Latium. The latter region, whose weather is milder than in the North, has a higher incidence in terms of customer numbers than in terms of purchased quantities. This is explained by the fact that Latium hosts 10.6% of the served customers purchasing 7.9% of the gas sold to domestic users.

Table 3.32 illustrates a territorial breakdown of the non-domestic sector. A similar order of importance between regions can also be observed in the various segments of non-domestic consumption. Lombardy is the region that absorbs the highest gas quantities: 26.6% in commerce and services, 21.7% in industry and 21.5% in electricity generation – followed by:

- in commerce, Emilia-Romagna, Veneto and Piedmont with volume shares of 16.3%, 12.4% and 10.3% respectively;
- in industry, Emilia-Romagna, Piedmont and Veneto, with volume shares of 14.7%, 13.9% and 11% respectively;
- in electricity generation, Emilia-Romagna, Piedmont and Latium, with volume shares of 13.9%, 12.0% and 10.3% respectively.

As for purchases, not surprisingly, Lombardy is also the region in which the highest number of retail sales companies operate, i.e. 130. It is appropriate to observe that the number of retailers is reported in table 3.31, but actually pertains to companies selling gas to the domestic and/or non-domestic customer segments. In addition, in the column, companies are counted as many times as the number of regions in which they operate; hence the sum of such column is meaningless. A high number of retailers is also present in Piedmont (80), Veneto (69), Emilia-Romagna (66) and Latium (58).

TAB. 3.32

Final Retail Market in 2008: Non-Domestic Segment

Customers in thousands and volumes in M(m^3)

REGION	COMMERCE & SERVICES		INDUSTRY		ELECTRICITY GENERATION	
		CUSTOMERS	VOLUMES	CUSTOMERS	VOLUMES	CUSTOMERS (A)
Piedmont	136	618	20	2,858	65	2,974
Val d'Aosta	2	15	0	63	2	2
Lombardy	291	1,589	50	4,457	121	5,305
Trentino-Alto Adige	21	187	2	350	40	70
Veneto	167	744	26	2,253	74	301
Friuli-Venezia Giulia	38	199	2	633	10	206
Liguria	23	85	4	261	11	874
Emilia-Romagna	127	973	18	3,023	39	3,440
Tuscany	99	387	9	1,487	45	1,661
Umbria	23	106	4	578	18	433
Marches	40	230	8	484	26	250
Latium	82	240	4	824	41	2,535
Abruzzo	35	114	4	654	13	473
Molise	5	24	1	100	4	997
Campania	33	132	4	652	10	1,631
Apulia	32	185	2	685	3	86
Basilicata	9	40	1	123	4	191
Calabria	13	36	1	96	6	830
Sicily	24	79	2	961	11	2,434
TOTAL	**1,199**	**5,982**	**162**	**20,542**	**544**	**24,693**

(A) Customer numbers in absolute terms.

Source: AEEG calculations on sellers' declarations.

Supply of LPG and Other Gases by Local Networks

Similarly to the past, in its annual survey on regulated sectors the Authority devoted a specific section to sales of gases other than natural gas and distributed through secondary networks. Gas distributors other than natural gas distributors (which – unlike the latter – are still allowed to engage in both distribution and sales activities) were asked to provide preliminary data on their activities in 2008, as well as to definitively confirm or adjust the provisional data supplied last year for 2007. For this very reason, the 2007 figures – concisely illustrated in the tables below – may differ from those published in last year's *Annual Report*.

As a whole, 87 respondents participated in the survey, whose total distribution amounted to little less than 28 M(m^3) in 2007 and to 32 M(m^3) in 2008. The number of customers (metering units) served increased from 121,520 units in 2007 to 129,125 units in 2008 (Tab. 3.33). In the two years considered, the average unit consumption remained substantially stable – i.e. there is no much difference between the 228 m^3 of 2007 and the 247 m^3 of 2008.

Among network-distributed gases other than natural gas the most popular is LPG, which accounts for around 65% of overall distributed volumes and 79% of served customers. The remaining customers – served by networks fed with a propane-air mixture – consume one third of distributed volumes. Other gas types account for a marginal part of the total distributed gas (2%).

The data on regional distribution (Tab. 3.34) show that

TAB. 3.33

Network Distribution of Gas Types other than Natural Gas

Volumes in M(m3) and number of customers

GAS TYPE	YEAR 2007		YEAR 2008	
	DISTRIBUTED VOLUME	CUSTOMERS	DISTRIBUTED VOLUME	CUSTOMERS
LPG	18.4	96,265	20.6	101,939
Propane-air mixture	8.7	24,855	10.7	26,787
Other gases	0.6	400	0.6	399
TOTAL	**27.6**	**121.520**	**31.9**	**129.125**

Source: AEEG calculations on operators' data.

Sardinia (a region still with no methane distribution system) has obviously the highest percentage distribution of gases other than natural gas both in terms of distributed quantities and in terms of served customers: Sardinia alone absorbed one third of distributed volumes to meet the demand of a just as high share of customers (28%). However the service is concentrated in few municipalities (74 out of the 377 existing in the region), although it is growing – just consider that there were only 57 served municipalities last year. The second ranking region in terms of non-natural gas distribution is Tuscany, with 15.2% of total distributed volumes and 17.1% of total served customers. This service now reaches a half of the municipalities existing in the region (136 out of 287). Non-natural gas distribution is also significant in Lombardy, whose incidence in terms of national distributed volumes is much higher than that expressed in terms of served customers. This happens because this region has several production units using non-natural gas distribution systems with higher average consumptions than those of domestic users. The same phenomenon was observed in other regions, especially Trentino-Alto Adige and, more importantly, Friuli-Venezia Giulia, where most of the territory is mountainous and can therefore be more easily served by fuels such as LPG, whose advantage on natural gas lies in its easier transport. Relatively significant shares of network-distributed non-natural gases were also found in Liguria, Emilia-Romagna and Latium.

The extension of networks and their ownership structure are illustrated in table 3.35, which shows that Italy has in total 3,850 km of networks fed with gases other than natural gas (of which 3,260 km fed with LPG). A comparison with the data collected for 2007 shows a growth of network extension by nearly 300 km. Most infrastructures belong to operators. Municipalities have minority shares or no shares at all in most of the national territory: the average in Italy is only 5.5%. The sum of shares may not be equal to 100% due to the presence in the region of other owners: this applies especially to Sardinia and the Marches.

TAB. 3.34

Regional Network Distribution of Gas Types other than Natural Gas

Volumes in M(m³) and number of operators, customers and served municipalities

REGION	2007				2008			
	DISTRIBUTED VOLUMES	OPERATORS[A]	CUSTOMERS	SERVED MUNICIPALITIES	DISTRIBUTED VOLUMES	OPERATORS[A]	CUSTOMERS	SERVED MUNICIPALITIES
Val d'Aosta	0.08	3	254	4	0.09	3	283	5
Piedmont	1.58	11	6,210	72	1,82	11	7,371	80
Liguria	2.22	16	11,910	68	2,47	17	12,615	77
Lombardy	2.29	13	7,187	52	2,66	14	7,525	55
Trentino-Alto Adige	0.20	2	641	7	0,24	2	669	7
Veneto	0.12	4	623	8	0,15	4	774	11
Friuli-Venezia Giulia	0.99	3	1,784	8	1,14	3	1,861	9
Emilia-Romagna	2.26	12	9,023	43	2,41	15	9,638	45
Tuscany	4.36	20	21,115	131	4,84	20	22,120	136
Latium	1.62	14	12,988	47	1,81	14	13,232	47
Marches	0.67	13	2,977	34	0,71	14	3,166	24
Umbria	0.48	9	3,176	26	0,51	8	3,415	29
Abruzzo	0.46	7	3,342	18	0,39	7	2,904	12
Molise	0.04	1	168	1	0,04	1	177	1
Campania	0.62	5	3,004	12	0,67	5	3,316	13
Apulia	0.09	2	390	2	0,11	2	389	2
Basilicata	0.26	3	1,251	5	0,33	3	1,308	5
Calabria	0.24	2	1,986	6	0,44	2	1,999	6
Sicily	0.05	3	225	4	0,06	4	276	5
Sardinia	9.10	8	33,266	57	10,97	8	36,087	74
ITALY	**27.73**	**151**	**121,520**	**605**	**31,87**	**157**	**129,125**	**643**

(A) In this column distributors are counted as many times as the number of regions in which they operate.

Source: AEEG calculations on operators' data.

TAB. 3.35

Extension and Ownership of Networks for the Distribution of Gas Types other than Natural Gas

Year 2008; extension in km and percentages of ownership

REGION	NETWORK EXTENSION			% OF OWNERSHIP	
	HIGH PRESSURE	MEDIUM PRESSURE	LOW PRESSURE	OPERATOR	MUNICIPALITY
Val d'Aosta	0.0	9.6	0.0	85.0	15.0
Piedmont	0.0	173.4	86.5	96.4	3.6
Liguria	0.0	152.5	69.9	96.7	0.0
Lombardy	0.0	85.8	91.8	83.0	14.0
Trentino-Alto Adige	0.0	19.3	0.3	100.0	0.0
Veneto	0.0	22.3	2.8	100.0	0.0
Friuli-Venezia Giulia	0.0	1.2	52.3	80.4	19.6
Emilia-Romagna	0.0	115.0	137.0	96.6	0.0
Tuscany	0.8	256.9	290.8	99.4	0.0
Latium	0.0	151.9	189.6	99.3	0.7
Marches	0.0	31.9	45.2	88.2	5.5
Umbria	0.0	51.1	94.3	80.8	19.2
Abruzzo	0.0	39.1	15.8	100.0	0.0
Molise	0.0	2.8	0.6	100.0	0.0
Campania	0.0	69.2	46.6	100.0	0.0
Apulia	0.0	22.6	0.0	100.0	0.0
Basilicata	0.0	3.6	36.2	100.0	0.0
Calabria	0.0	60.4	0.0	100.0	0.0
Sicily	0.0	8.8	0.0	100.0	0.0
Sardinia	7.5	797.9	599.5	63.9	9.4
ITALY	**8.4**	2075.1	1759.1	83.9	5.5

Source: AEEG calculations on operators' data.

Prices and tariffs

Tariffs for the Use of The Facilities

Transmission and LNG

As is customary, prior to the beginning of the new thermal year 2008-2009, the Authority approved and published the tariffs for natural gas transmission (resolution ARG/gas 102/08 of 30 July 2008) and for LNG regasification (resolution ARG/gas 118/08 of 6 August 2008).

The new levels of transmission tariffs on the national and regional networks (Tab. 3.36) were determined following the review of the tariff proposal submitted by the transmission system operators Carbotrade, Consorzio della Media Valtellina, Edison Stoccaggio, Metanodotto Alpino, Netenergy Service, Retragasl, Snam Rete Gas and Società Gasdotti Italy to the Authority pursuant to resolution no. 166/05 of 29 July 2005.

TAB. 3.36

Transmission and Dispatch Tariffs for Thermal Year 2008-2009

Unit Charges (commodity); €/GJ

VARIABLE UNIT CHARGES	
CV	0.151159
CV^P	0.014641

Capacity unit charges in the National Network; €/year/standard m³/day

CP_E –ENTRY POINT CHARGES			
5 points of interconnection with foreign import methane pipelines			
Mazara del Vallo	2.011733	Tarvisio	0.708822
Gela	1.846864	Gorizia	0.564748
Gries Pass	0.501050		
1 point from the LNG regasification plant			
Panigaglia LNG	0.564748		
Storage hub			
For Stogit/ Edison Stoccaggio stocks	0.322499		
69 points from the main national production fields or from their storage and processing hubs			
Casteggio, Caviaga, Cornegliano, Corte/Colombarola, Fornovo, Leno, Ovanengo, Piadena Est, Piadena Ovest, Pontetidone, Quarto, Romanengo, Soresina, Trecate	0.228431	Alfonsine, Casalborsetti, Certaldo, Collalto, Correggio, Cotignola, Manara, Medicina, Montenevoso, Muzza, Pomposa, Ravenna Mare San Potito, Santerno, Spilamberto, Tresigallo/Sabbioncello, Vittorio V./ S. Antonio/S. Andrea	0.350648
Calderasi/Monteverdese, Ferrandina, Metaponto, Monte Alpi, Pisticci A.P./B.P., Sinni (Policoro)	0.906033	Larino, Fonte Filippo, Poggiofiorito, Reggente, S. Salvo/Capello Santo Stefano Mare, Ortona	0.660977
Rubicone	0.322770	Falconara, Fano	0.370940
Carassai, Cellino, Grottamare, Montecosaro, Pineto, Rapagnano, San Benedetto del Tronto, San Giorgio Mare, Settefinestre/Passatempo	0.514462	Candela, Masseria Spavento, Roseto/Torrente Vulgano, Torrente Tona	0.725994
Crotone, Hera Lacinia, Lavinia	1.415518	Bronte, Chiaramonte Gulfi, Comiso, Gagliano, Mazara/Lippone, Noto	2.029590
Cavarzere	0.392407		

TAB. 3.36 CONTINUED

Transmission and Dispatch Tariffs for Thermal Year 2008-2009

Unit Charges (commodity); €/GJ

Capacity unit charges in the National Network; €/year/standard m³/day

CPu – EXIT POINT CHARGES					
5 point of interconnection with export lines					
Bizzarone		2.032801	Gries Pass		1.237129
Gorizia		0.961945	Tarvisio		0.290100
Republic of San Marino		1.337506			
17 withdrawal areas distributed on the entire national territory					
Friuli-Venezia Giulia	A	0.540387	Romagna	I	0.626969
Trentino-Alto Adige and Upper Veneto	B	0.741423	Umbria and Marches	L	0.828005
Eastern Lombardy	C	0.741423	Marches and Abruzzo	M	0.768784
Western Lombardy	D	0.942460	Latium	N	0.701526
North Piedmont	E1	1.143496	Basilicata and Apulia	O	0.567748
South Piedmont and Liguria	E2	0.942460	Campania	P	0.500489
Emilia and Liguria	F	0.741423	Calabria	Q	0.366711
Lower Veneto	G	0.540387	Sicily	R	0.165675
Tuscany and Latium	H	0.828005			

Translator's note: letters J and K are skipped in the Italian alphabet (I is immediately followed by L)

Capacity unit charge in the Regional Network; €/year/standard m³/day

CRr	
Capacity unit charge in the regional network	1.307380

Fort the LNG regasification service, the current thermal year 2008-2009 is the first of the third regulatory period. Hence, prior to the approval of the new tariff levels, by resolution ARG/Gas 92/08 of 7 July 2008, the Authority defined the new criteria to be observed by regasification companies in the definition of their own proposals. For a description of this regulatory measure and the introduced innovations in regasification tariffs, kindly refer to Volume II.

Pursuant to resolution ARG/gas 92/08, the company GNL Italia sent the Authority its tariff proposal for the LNG regasification service at the Panigaglia terminal, while the company Terminale GNL Adriatico sent the proposal for regasification service at the new Rovigo terminal. After reviewing the information received, by resolution ARG/gas 118/08, the

TAB. 3.37

Regasification Tariffs for using the Panigaglia and Rovigo Terminals in Thermal Year 2008-2009

CHARGE	PANIGAGLIA		ROVIGO	
	FIRM SERVICE(A)	SPOT SERVICE(B)	FIRM SERVICE(A)	SPOT SERVICE(B)
C_{qs} – Unit commitment charge associated with the contractual LNG quantities (€/m³ liquid volume)	4.718073	3.302651	20.655380	14.458766
C_{na} – Unit charge associated with docked ships (€/docked ship)	32,036.306155	32,036.306155	375,813.170087	375,813.170087
Variable unit charges for energy associated with regasified volumes (€/GJ)				
CVL	0.026508	0.026508	0.118353	0.118353
CVL^P	0.003174	0.003174	-	-
Rate covering consumption and leakage paid by a terminal user per cubic metre delivered	1.7%	1.7%	1.5%	1.5%

(A) The firm regasification service is a regasification service that implies delivery of LNG in accordance with a monthly delivery schedule.

(B) The spot regasification service is a regasification service provided in relation to a single unload, to be made at a date fixed by the regasification company following its monthly scheduling of deliveries.

Authority definitively approved the tariff proposal of GNL Italia (Tab. 3.37), while Terminale GNL Adriatico's proposal was provisionally approved, pending the correct definition of operating costs. After completing its preliminary enquiry, by resolution ARG/gas 28/09 of 9 March 2009, the Authority definitively approved the tariff proposal for the Rovigo terminal regasification service for gas year 2008-2009 (Tab. 3.37).

Storage

The national single charges constituting the storage tariff for thermal year 2009-2010 were fixed by the Authority on 30 March 2009 by resolution ARG/gas 30/09, following its review of the data sent by the two national stockholders operating in this phase, i.e. Stoccaggi Gas Italy (Stogit) and Edison Stoccaggio. Charges are detailed in table 3.38.

TAB. 3.38

Single Storage-Charges constituting the Tariff for Thermal Year 2008-2009

CHARGE	UNIT OF MEASUREMENT	VALUE
Space unit charge f_S	€/GJ/year	0.182324
Injection capacity unit charge f_{PI}	€/GJ/day	9.011258
Withdrawal capacity unit charge f_{PE}	€/GJ/ day	11.989093
Gas handling unit charge C_{VS}	€/GJ	0.105084
Strategic stockholding unit charge f_D	€/GJ/year	0.169729
Component π	€/GJ	–0.019711

Distribution

December 2008 was the closing month of the second regulatory period for gas distribution tariffs, which was characterised by intense administrative litigation (the deadline was originally scheduled for September, but was later extended to 31 December by resolution ARG/gas 128/08 of 22 September 2008). In the course of 2008, therefore, a procedure was conducted for the definition of new regulatory criteria on gas distribution tariffs for the third regulatory period running from 1 January 2009 to 31 December 2012. The reform was adopted by resolution ARG/gas 159/08 of 6 November 2008 contemplating the new provisions on tariff regulation of gas distribution and metering services (for a detailed description of new provisions kindly refer to Chapter 3, Volume II).

The tariff system for the third regulatory period involves the determination of a compulsory service to be applied to consumers and a reference tariff which defines the admissible revenue per distributor intended to cover their regulatorily recognised costs. An equalisation scheme is intended to cover any imbalances between admissible revenues from the reference tariff and actual revenues obtained by applying the compulsory tariff. In terms of tariff structure, more or less similarly to the regulation of the first regulatory period, the compulsory tariff applied to network users is binomial, with a fixed and a variable part. The fixed component of the tariff is structured into 6 different geographical areas. The variable component of the distribution tariff linked to standard distributed cubic metres is divided into 8 steps (Tab. 3.39) instead of 7 as was done previously.

For distributors to submit their own tariff proposals in accordance with the new criteria, resolution ARG/gas 159/08 has envisaged that, until 30 June 2009, they will apply the distribution tariffs approved by the Authority for thermal year 2007-2008 by way of advance payment and that, after 30 June 2009, they will proceed with tariff equalisation while bearing in mind the requirements of retail sales companies, by applying retroactively, from 1 January 2009 onwards, the compulsory tariffs to be published by the Authority no later than 30 June 2009.

TAB. 3.39

Composition of the Tariff Structure for the Variable Part of the Distribution Tariff

STEP OF CONSUMPTION	LOWER LIMIT Sm³/year	UPPER LIMIT m³/year	VARIABLE PART €c/m³
1	0	120	0
2	121	480	11.06
3	481	1,560	6.93
4	1,561	5,000	5.78
5	5,001	80,000	4.39
6	80,001	200,000	2.35
7	200,001	1,000,000	1.00
8	1,000,001	Unlimited	0.19

Free-Market Prices

The provisional analysis of data collected in the Authority's survey in 2008 shows that last year the average price of gas (weighted with sold quantities), net of taxes applied by retailers or wholesalers operating in the retail market, was equal to 39.24 €c/m^3 (Tab. 3.40). The same price in 2007 was equal to 32.29 €c/m^3. As a whole, therefore, the price of gas rose in Italy 21.5%, i.e. a high but expected value give the sizeable growth of the oil price – which grew 33.8% in the same period – to which the price of gas is strongly linked.

Customers in the protected market paid for gas 47.46 €c/m^3 on average, while 36.01 €c/m^3 was the average price paid by customers in the free market. A comparison with the same data of 2007 shows that the customers of the two markets underwent highly differentiated increases; against an average 10% growth of the price of gas sold in the protected market, the gas sold in the free market rose more markedly i.e. +28%. The amount of such difference depends not so much on the type of market (protected vs. free) as on the average size of customers. This result too does not deviate from the expected result, since one of the purposes pursued by the Authority's instituted protection scheme was to mitigate increases in periods of strong growth in raw material prices.

The analysis of results by customer size confirmed that, similarly to the last few years, customers in the protected market paid more than those in the free market with similar consumption profiles; however, as the customer size grows in terms of consumed volumes on an annual basis, prices tend to fall to a higher extent among protected customers.

The smaller customers of the protected market, with consumptions below 5,000 m^3/year paid on average 48.66 €c/m^3. This price is similar to the average national reference price calculated for a standard domestic customer consuming 2,700 m^3/year (as illustrated in the following paragraph), which in 2008 was equal to 46.83 €c/m^3 (or, gross of taxes, 74.38 €c/m^3). When customers in the protected market are again analysed, it can be inferred that as consumptions grow, the price appreciably falls for consumptions of up to 2 M(m^3)/year; in the highest consumption class, customers were found to have paid on average 38.89 €c/m^3, i.e. virtually the same price as that of the previous class. The price differential between small and large customers grows from a minimum of 4.99 to 9.77 cents in the consumption class of 2,000,000-20,000,000 m^3. The absolutely highest consumption class, i.e. with consumptions above 20 M(m3), is not obviously represented in the protected market. It might be helpful to observe that the indication of volumes and prices in the consumption classes in excess of 200,000 m^3 is due to the existence of customers that, while being in a position to change supplier, still have to make a choice to that effect and have consequently retained the contractual conditions regulated by the Authority. However, as pointed out in the paragraph on the retail market, the number of these customers and their purchased gas quantities are shrinking in time: in 2008, while more than 19 G(m^3) were sold on regulated terms to customers with consumptions below 200,000 m^3, volumes sold on regulated terms to customers with consumptions above such threshold were equal to 202 M(m^3) (Tab. 3.29).

In the free market, customer size affects the price offered to a higher extent, i.e. smaller customers pay 9.73 €c/m^3 more than large customers, which are supplied gas at an average price of 34.90 €c/m^3. As reported last year, it is however worth noting that the incidence of distribution costs is much higher for small consumptions: this component probably explains the majority of differences found between consumption classes.

A breakdown of average prices by type and size of customer and by sector of consumption is of interest (see table 3.41). Such calculations (provisional as they may be - similarly to those in the paragraphs above) confirm expectations related to performance and orders of magnitude: customers in the protected market pay significantly more than those in the free market in the same segment of consumption and with similar consumption profiles; equally within each segment of consumption, as the size of customers grows in terms of annually consumed volumes, prices tend to reduce to a higher extent in case of free-market customers.

In the domestic and the commerce and service segments, differences between free and protected markets are less significant, at least up to the consumption class of 2 M(m^3)/year. Beyond such volume and in the other segments (industry and thermal power) differences are more significant. Considering all consumption classes, it is clear that price differentials between protected-market and free-market customers, in the same segment of consumption, tend to grow as one moves from domestic users to thermal power generators, given the underlying parallel increase of average consumptions: i.e. a protected domestic customer pays on average 4.25 €c/m^3 more than a free-market customer; a protected commercial customer pays 3.65 €c/m^3 more than a free-market customer; a protected industrial customer pays 7.39 €c/m^3 more than a free-market customer; finally, protected power generators (i.e. a few small to medium sized entities) pay 6.87 €c/m^3 more than similar consumers served in the free market.

TAB. 3.40

Average Selling Prices Net of Taxes in the Retail Market

€c/m^3

CONTRACT AND CUSTOMER TYPES	2004	2005	2006	2007	2008	VAR. (%)
PROTECTED MARKET	**33.65**	**35.36**	**41.57**	**43.15**	**47.45**	**10.0**
Consumptions below 5,000 m^3	35.32	37.01	43.32	44.59	48.66	9.1
Consumptions of 5,000 to 200,000 m^3	30.44	32.12	37.94	39.16	43.66	11.5
Consumptions of 200,000 to 2,000,000 m^3	27.04(A)	29.39(A)	32.64(A)	33.75	28.97	15.5
Consumptions of 2,000,000 to 20.000.000 m^3	27.04(A)	29.39(A)	32.64(A)	33.28	38.89	16.9
Consumptions above 20,000,000 m^3	27.04(A)	29.39(A)	32.64(A)	–	–	-
FREE MARKET	**18.76**	**23.23**	**28.53**	**28.13**	**36.01**	**28.0**
Consumptions below 5,000 m^3	32.99	31.95	41.99	41.01	44.64	8.9
Consumptions of 5,000 to 200,000 m^3	27.24	29.76	35.53	37.10	42.27	14.0
Consumptions of 200,000 to 2,000,000 m^3	18.46(A)	23.00(A)	28.07(A)	30.86	37.41	21.2
Consumptions of 2,000,000 to 20.000.000 m^3	18.46(A)	23.00(A)	28.07(A)	27.85	35.13	26.1
Consumptions above 20,000,000 m^3	18.46(A)	23.00(A)	28.07(A)	26.39	34.90	32.2
TOTAL	**23.13**	**26.89**	**32.61**	**32.28**	**39.24**	**21.5**

(A) Until 2006, the price was measured for a single customer class with consumptions above 200,000 m^3. As a result, data are not comparable to the subsequently measured values.

Source: AEEG calculations on suppliers' declared values.

TAB. 3.41

Retail Selling Prices by Market, Consumption Class and Customer Size

€c/m[3]

TYPE OF CONTRACT AND MARKET SEGMENT	CUSTOMERS DIVIDED BY ANNUAL CONSUMPTION CLASS (m[3]) < 5,000	5,000-200,000	200,000-2,000,000	2,000,000-20,000,000	> 20,000,000	TOTAL
Domestic	48.68	44.20	41.50	47.33	-	48.02
Commerce & services	48.05	43.07	38.79	36.20	-	44.24
Industry	47.57	42.89	35.17	39.03	-	42.98
Power generation	50.81	43.04	40.73	-	-	41.94
AVERAGE PRICE IN THE PROTECTED MARKET	48.66	43.66	38.97	38.89	-	47.45
Domestic	44.09	44.50	41.76	39.14	36.10	43.77
Commerce & services	46.16	42.26	37.91	35.54	34.16	40.59
Industry	41.25	40.61	36.96	34.97	34.73	35.59
Power generation	35.34	38.90	38.29	36.12	34.95	35.07
AVERAGE PRICE IN THE FREE MARKET	44.64	42.27	37.41	35.13	34.90	36.01
TOTAL AVERAGE PRICE	48.33	43.07	37.45	35.16	34.90	39.24

Source: AEEG calculations on suppliers' declared values.

Reference Prices

Gas Price and Inflation

As fully described in Chapter 1 of this Volume, the permanent (and fast) growth of international oil and petroleum product prices since the beginning of 2007 stopped in the second half of 2008. After more than doubling from around 70 $/barrel in the summer 2007 to nearly 150 $/barrel of the July 2008 peak – concurrently with the emergence of the global economic crisis – the Brent oil price fell to below 40 $/barrel in the three following months. After the trough reached in December 2008, it then started again to rise in the first quarter of 2009. Against this international background of oil price performance, while considering the belated reaction of the gas price due to indexation mechanisms, the price of gas started to growth at appreciable rates in autumn 2007 and continued growing until the beginning of 2009. The dynamics of the gas price elementary index measured on a monthly basis by ISTAT in its inflation basket[6] is illustrated in table 3.42.

Starting from the third quarter 2007, the gas price recorded repeated and marked increases, i.e. +1.1% in October 2007, +3.9% in January 2008, +3.1% in April, 2.8% in July, 3.1% in October and 2.1% in December, to quote only rises of above 1%. Hence the relative inflation rate, which in December 2007 reached a relative minimum equal to –1.9% (mostly as a consequence of the higher increases recorded in the same months of 2006), resumed its growth to ultimately reach 17.4% in December 2008.

On an annual basis, the price of gas for Italian households

6 More precisely, within the national basket of consumer prices for the full population, ISTAT measures the price of gas (which includes gas used for heating, cooking and hot water production and distributed either by local distribution systems or in cylinders) under category "home costs". In 2009, the weight of the gas elementary index in the basket – net of tobacco products – rose back to its 2007 level of 2.3% from a 2008 level of 2.0%.

TAB. 3.42

ISTAT's Monthly Gas Price Indices

Index numbers at 1995 = 100 and percentage variations

MONTHS	2007 NOMINAL PRICE	2007 VAR. (%) 2007-2006	2007 REAL PRICE(A)	2007 VAR. (%) 2007-2006	2008 NOMINAL PRICE	2008 VAR. (%) 2008-2007	2008 REAL PRICE(A)	2008 VAR. (%) 2008-2007
January	154.9	*6.7*	119.1	*5.0*	156.1	*0.8*	116.6	*–2.1*
February	154.9	*5.5*	118.7	*3.7*	157.3	*1.5*	117.2	*–1.3*
March	153.7	*3.7*	117.7	*2.0*	156.7	*2.0*	116.2	*–1.3*
April	150.1	*0.5*	114.7	*–0.9*	161.6	*7.7*	119.5	*4.2*
May	149.0	*0.7*	113.5	*–0.9*	162.2	*8.9*	119.3	*5.1*
June	149.1	*1.0*	113.4	*–0.6*	162.3	*8.9*	118.8	*4.8*
July	148.0	*–2.7*	112.2	*–4.3*	166.9	*12.8*	121.6	*8.4*
August	147.4	*–3.4*	111.6	*–4.9*	166.9	*13.2*	121.5	*8.9*
September	147.4	*–3.5*	111.6	*–5.1*	166.9	*13.2*	121.8	*9.2*
October	149.0	*–2.7*	112.5	*–4.7*	172.1	*15.5*	125.6	*11.7*
November	149.8	*–2.2*	112.6	*–4.5*	172.7	*15.3*	126.5	*12.3*
December	150.2	*–1.9*	112.6	*–4.4*	176.3	*17.4*	129.3	*14.9*
Annual average	150.3	*0.1*	114.2	*–1.7*	164.8	*9.7*	121.2	*6.1*

(A) Percentage ratio between the gas price index and the general index (excluding tobacco products).

Source: AEEG calculations on ISTAT data, index numbers for the full population – National indices.

grew 0.1% in 2007 and 9.7% in 2008. Since the general level of prices also grew in the meantime, the gas price rise was lower if assessed in real terms, i.e. in 2008 it was equal to 6.1%.

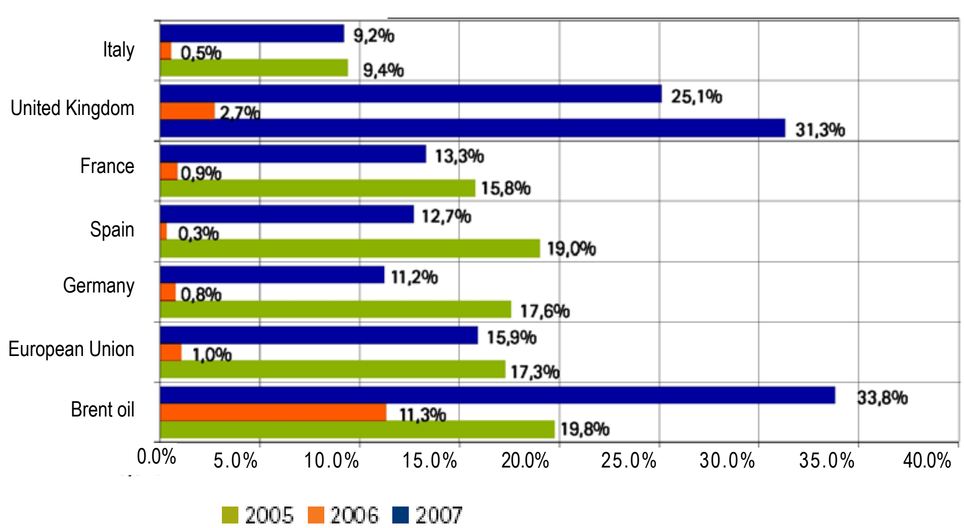
The performance of the gas price for Italian households can also be considered in comparison with the main European countries by using Eurostat's harmonised consumer price indices (Fig. 3.9).

Our analysis shows that the increases incurred by Italian households over the last two years, albeit significant, were the lowest in Europe; all of the other countries considered, except Spain for 2007 only, experienced higher increases. In 2007, despite an 11.3% oil price rise, the performance of the Italian gas price which slightly grew by half percentage point, was the second best performance after that of Spain (which only experienced a 0.3% rise). In the average of

FIG. 3.9

Variations of Gas Prices to Households in the Main European Countries

Percentage variations over the previous year

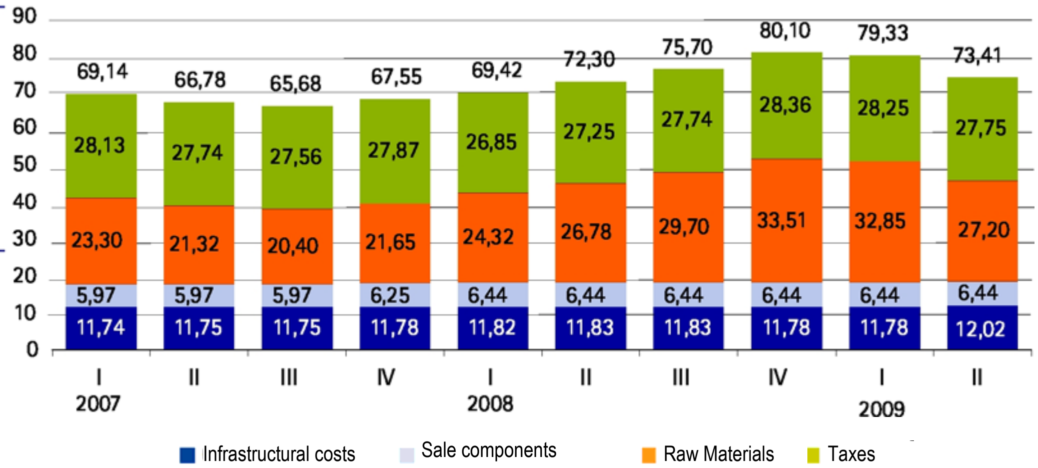


Source: Eurostat, index numbers of harmonised consumer prices.

FIG. 3.10

Average National Natural Gas Price to an Average Domestic Consumer

€c/m³; average household with an individual heating system and an annual consumption of 1,400 m³



the 27 EU member states, the gas price rose twice as much (+1%). On the other hand, in 2008 the Italian price increase was appreciably below than that of the other European countries in the sample under review: the Italian rise of 9.2% compares to a rise of 11.2% in Germany, 12.7% in Spain, 13.3% in France and 25.1% in the UK. Equally in 2008, with +15.9% the average rise of the 27 EU member states was almost two times higher than Italy's, although it was equal to around half of the oil price rise in the same year (i.e. +33.8%).

Average National Price to the Average Domestic Consumer

The dynamics recorded by ISTAT was substantially confirmed in the performance of the average national price to an average domestic consumer with an annual consumption of 1,400 m³ and an individual heating system (Fig. 3.10). Such price is calculated by the Authority (for a typical average consumer as defined above) as the national average of the reference supply prices differentiated at local level as defined by the Authority in its resolution no. 138/03 of 4 December 2003, which retail sales companies are required to offer to households along with any of their alternative offers.

In 2008, the price to an average household – equal to 74.38 €c/m³ – was 10.5% higher than the value recorded in 2007, i.e. 67.29 €c/m³.

The turbulence having affected the international prices of Crude oil and petroleum products for one half of 2007 and throughout 2008 drove up the charge covering the cost of raw material acquisition (known as component QE) from the fourth quarter of 2007 to the full year 2008. The update of this component is made on a quarterly basis in accordance with an indexation mechanism (established by the Authority) linked to the international prices of oil and petroleum by-products with some time delay. The 6.2% increase of the QE component in October 2007 was followed by another four consecutive increases, i.e. +12.3% in January, +10.1% in April, +10.9% in July and ultimately +12.9% in October. It is worth noting that. with effect from April 2008, the QE component also includes the variable unit charge for appropriations to be made to the Fund for liabilities incurred by last-resort wholesalers (CFGUI), instituted by resolution ARG/gas 39/08 of 28 March 2008 – currently in the amount of 0.007788 €/GJ (corresponding to 0.03 €c/m³ for natural gas with a reference Gross Calorific Value (GCV) of 38.52 MJ/ m³).

At the beginning of 2009, the QE indexation mechanism started to be affected by the slump experienced in international fuel prices since July 2008. An early modest reduction in January (–2%) was followed by a sharp fall of 17.2% in the second quarter of the year.

The 2008 rises recorded in the charge covering the cost of raw material acquisition were further compounded in the first quarter of the year by further rises attributable to transport cost revision (1,2%) and by the increased charge covering retail sales costs (+7.2%). Since then, the cost of transmission was revised downwards (–1.2%), in October 2008, and then experienced a new rise (+5.1%) in April 2009 following the changes introduced by resolution ARG/gas 40/09 of 30 March 2009. In particular, such resolution changed the value of the charge for the equalisation of regional transmission tariffs (applied evenly to customers nationwide), and introduced another charge to compensate for non-recoverable costs paid by companies in respect of the changes in the mechanism used for calculating the component covering the cost of raw material acquisition – which changes were introduced at the end of 2008 by resolution ARG/gas 192/08 of 19 December 2008. Similarly, the charge covering storage costs increased 6.1% in April 2009.

Clearly, when all of the above is considered, the average price charged to an average domestic consumer (65.68 €c/m³ in the third quarter of 2007) inevitably continued to rise throughout 2008 peaking at 80.10 c€/m³ in the last quarter; after an early slight drop in January 2009, in April 2009, following a 7.5% fall from the previous month, it rose again to nearly the same level as that of 2008, i.e. 73.41 €c/m³.

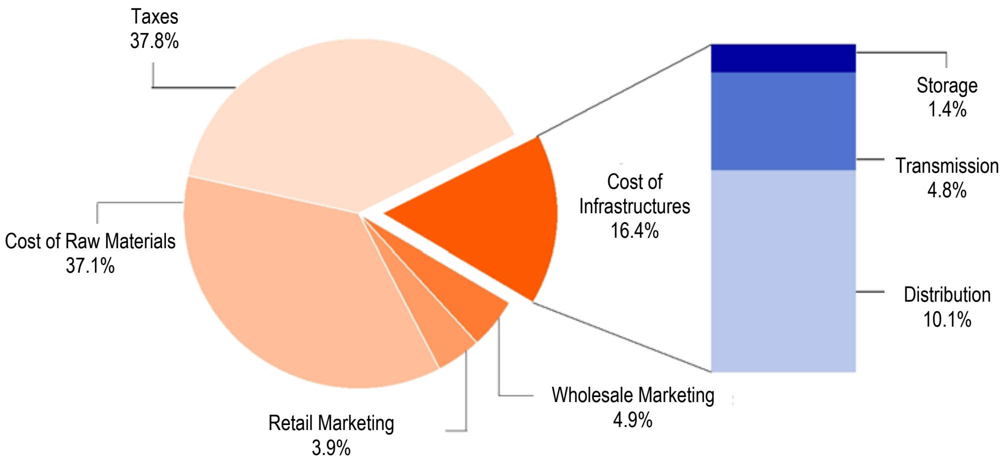


FIG. 3.11

Percentage Composition of the Average National Price to an Average Domestic Consumer as on 1 April 2009

Percentage values; average household with an individual heating system and an annual consumption of 1,400 m³

As shown in figure 3.11 above, as on 1 April 2009, the average price to an Italian household consuming 1,400 m³ and owning an individual heating system was made up by charges financing costs in the proportion of around 62% and by taxes levied on the natural gas sector (i.e. excise duty, regional surcharge and VAT) for the remaining 38%. The costs of raw materials accounted for 37% of the overall gas value, marketing costs for 8.8% and infrastructure use and maintenance costs for the remaining 16.4%. Among infrastructural costs, the most significant component is distribution with a 10% impact on the overall value; the incidence of transport costs was equal to 4.8%, while storage costs affected the gas value to the extent of 1.4%.

Table 3.43 shows the details of taxes levied on the natural gas sector. The values of the ordinary excise duty reported in the table for the various annual consumption classes are those in effect from 1 April 2009. Tax rates were fixed by ministerial decree no. 26 of 2 February 2007, which transposed European Directive 2003/96/EC and fully reformed the taxation of energy products in Italy.

For the full year 2008 and for the first three months of 2009, the excise duties applied in the districts not included in those of the former *Cassa del Mezzogiorno* (Special Fund for the South) were reduced to levels as close as possible to those of the *Cassa* beneficiary districts with a view to progressively complete the process of harmonisation and approximation of excise rates for natural gas in the different districts of the Country. However, the Italian Ministry of Economy and Finance, through the Customs Agency, made clear that, given the meagre financial resources earmarked to cover such abatement of rates, it was not possible to extend the reduction to the full year 2009 and, as a result, the relief was only intended for the first quarter of the year.

TAB. 3.43

Gas Taxes

€c/m³ for excise taxes and rates for VAT, effective from quarter II of 2009

TAXES	CIVIL USES			INDUSTRIAL USES		
Consumption class	< 120 m^3	120-480 m^3	480-1,560 m^3	< 1,560 m^3	< 1.2 M(m^3)	> 1.2 M(m^3)
EXCISE DUTY						
Ordinary	4.40	17.50	17.00	18.60	1.2498	0.7499
Ex *Cassa del Mezzogiorno* districts(A)	3.80	13.50	12.00	15.00	1.2498	0.7499
REGIONAL SURCHARGE(B)						
Piedmont	1.9000	2.5800	2.5800	2.5800	0.6249	0.5200
Veneto	0.7747	2.3241	2.5823	3.0987	0.6249	0.5165
Liguria						
– climatic zones C and D	1.9000	2.5800	2.5800	2.5800	0.6249	0.5200
– climatic zone E	1.5500	1.5500	1.5500	1.5500	0.6249	0.5200
– climatic zone F	1.0300	1.0300	1.0300	1.0300	0.6249	0.5200
Emilia-Romagna	1.9000	3.0987	3.0987	3.0987	0.6249	0.5165
Tuscany	1.5000	2.6000	3.0000	3.0000	0.6000	0.5200
Umbria	0.5165	0.5165	0.5165	0.5165	0.5165	0.5165
Marches	1.5500	1.8100	2.0700	2.5800	0.6249	0.5200
Latium	1.9000	3.0990	3.0990	3.0990	0.6249	0.5160
Abruzzo						
– climatic zones E and F	1.0330	1.0330	1.0330	1.0330	0.6249	0.5165
– other zones	1.9000	2.3241	2.5823	2.5823	0.6249	0.5165
Molise	3.0987	3.0987	3.0987	3.0987	0.6200	0.6200
Campania	1.9000	3.1000	3.1000	3.1000	0.6249	0.6249
Apulia	1.9000	3.0980	3.0980	3.0980	0.6249	0.5165
Calabria	2.2000	2.5823	2.5823	2.5823	0.6474	0.6474
VAT RATE (%)	10	10	20	20	10(C)	10(C)

(A) These districts are identified in the Decree of the President of the Republic no. 218 of 6 March 1978.

(B) Regions with a special statute fixed a regional surcharge of 0; likewise, the tax has no longer been levied since 2002 in Lombardy (Regional Law no. 27 of 18 Dec. 2001) and since 2008 in Basilicata (Regional Law no. 28 of 28 Dec. 2007).

(C) This rate applies to extraction, agricultural and manufacturing companies; for other companies, a higher rate of 20% is applied.

Quality of Service

Gas Distribution Service Quality and Continuity

The analysis of data on the quality of gas services provided to consumers notified by network operators to the Authority pursuant to resolution no. 168/04 of 29 September 2004, shows equally for 2008 that, all things considered, operators complied with the provisions of the *Code on the Quality of Gas Services*. Below is an illustration of the data related to the full sector together with a number of tables evidencing the performance of companies with a number of consumers in excess of 100,000. More specifically, it was found that the number of distributors increased from last year by 3 units to 36, which clearly demonstrates a concentration process among distributors.

The chart in figure 3.12 shows the data on the inspections performed on the low-pressure and the high-pressure networks from 1997 onwards.

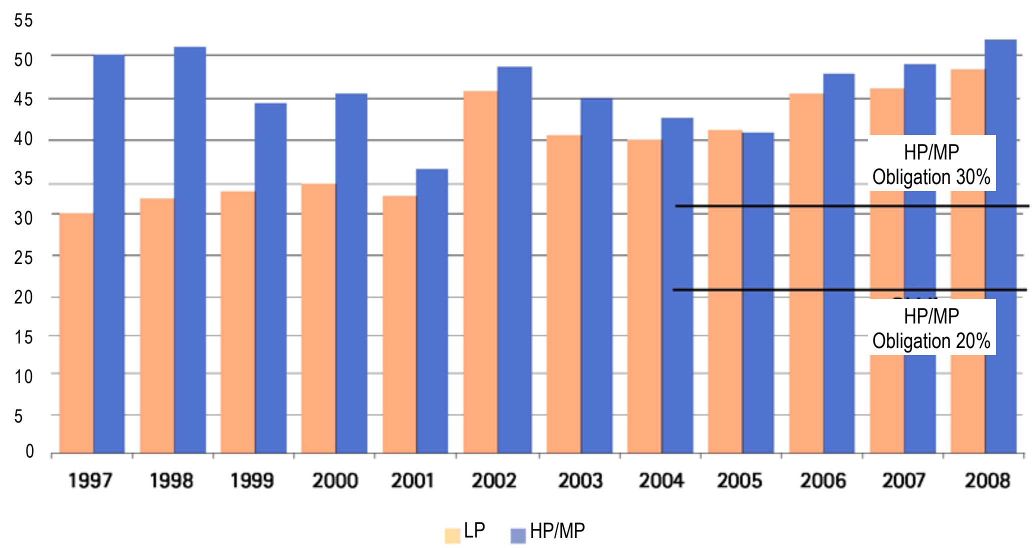
From 2004, when the second regulatory period started, to 2005, the percentage of inspected networks reached a level of around 40%. Starting from 2006, inspections rose appreciably to values of above 45% for both high and low pressure networks. In 2008, inspections performed in the full gas sector detected an overall level of compliance which was largely consistent with the obligations fixed by resolution no. 168/04. With regard to the minimum levels fixed by the Authority, i.e. 20% for low pressure and 30% for medium and high pressure, the level of compliance was around 50%.

With reference to emergency calls (Fig. 3.13), it was found that the average actual time of arrival on the site of call was well below the maximum time limit of 60 minutes fixed by resolution no. 168/04.

The chart shows that, against an increase in the absolute

FIG. 3.12

Percentage of Inspected Networks in the years 1997 to 2008

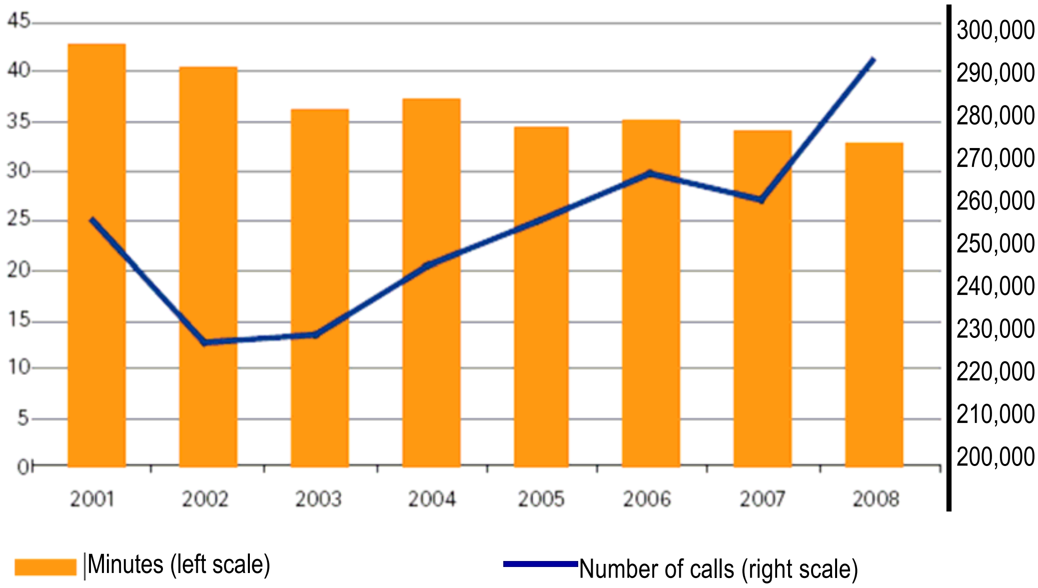


Source: Operators' declarations.

FIG. 3.13

Calls for Emergency Service on Distribution-System Installations

Years 2001 to 2008; average actual time of arrival on the site of call (in minutes) and number of calls



Source: Operators' declarations.

TAB. 3.44

Average Number of Leaks Detected following Third-Party Reports

NETWORK OPERATORS	NETWORK EXTENSION (km)			NUMBER OF DETECTED LEAKS FOLLOWING THIRD-PARTY REPORTS			NUMBER OF DETECTED LEAKS FOLLOWING THIRD-PARTY REPORTS PER km OF NETWORK		
	2006	2007	2008	2006	2007	2008	2006	2007	2008
Large operators	155,767	167,257	180,305	13,911	14,821	14,147	0.08	0.08	0.07
Medium operators	56,566	50,078	45,267	3,271	2,929	2,817	0.05	0.05	0.06
Small operators	13,039	11,194	10,762	277	249	259	0.02	0.02	0.02
TOTAL	**225,374**	**228,530**	**236,335**	**17,459**	**17,999**	**17,223**	**0.07**	**0.07**	**0.07**

Source: Operators' declarations.

number of emergency calls for servicing on the distribution system, the time of arrival at the place of call progressively fell to an average national level of 33 minutes.

Table 3.44 sums up the number of leaks found following third-party reports – divided by supplier size. It is clear that the incidence of leaks detected following third-party reports was nearly unchanged both in terms of total national level, and in terms of breakdown by operator size. More specifically, for large operators it was found that the number of leaks found per km of network fell from 0.08 in 2006 and 2007 to 0.07 in 2008.

Table 3.45 sums up the total results of the emergency service requested from large operators in 2008.

Tables 3.46 and 3.47 provide a general summary of network-inspection and leak-detection activities in the networks of large operators in 2008.

Finally, table 3.48 sums up total cathodic-protection activities in large operators' networks in 2008.

TAB. 3.45

Large Operators' Emergency Service in 2008

NETWORK OPERATORS	CONSUMERS	DISTRIBUTION SYSTEM		DOWNSTREAM FROM DELIVERY POINT		TOTAL CASES
		CASES	CASES FOR EVERY 1,000 CONSUMERS	CASES	CASES FOR EVERY 1,000 CONSUMERS	
Società Italiana per il Gas	4,957,639	70,385	15	4,215	0.93	74,600
Enel Rete Gas	2,082,203	30,753	15	1,674	0.83	32,427
Hera	1,086,886	17,511	17	1,201	1.20	18,712
A2A Reti Gas	833,675	23,539	28	2,056	2.48	25,595
Napoletana Gas	716,224	12,818	18	198	0.28	13,016
Italcogim Reti	672,076	10,368	16	1,140	1.75	11,508
Toscana Energia	655,110	9,400	15	449	0.70	9,849
Azienda Energia e Servizi	472,088	8,835	19	1,177	2.50	10,012
Enìa	387,035	6,157	16	155	0.41	6,312
Asm Reti	382,333	3,100	8	982	2.59	4,082
Genova Reti	327,635	4,657	14	228	0.70	4,885
Ascopiave	326,955	2,537	8	413	1.29	2,950
AcegasAps	262,229	1,997	8	427	1.64	2,424
Arcalgas Progetti	260,381	5,876	23	786	3.10	6,662
Linea Distribuzione	235,003	2,389	15	374	2.31	2,763
Consiag Reti	183,250	2,401	13	244	1.35	2,645
Gelsia Reti	177,589	2,000	22	233	2.54	2,233
SGR Reti	164,022	900	6	132	0.82	1,032
E.On Rete Laghi	159,931	2,605	17	194	1.23	2,799
E.On Rete Padana	142,924	3,157	22	225	1.56	3,382
Acsm – Agam	142,170	1,580	19	125	1.50	1,705
Gas Natural Distribuzione Italia	142,111	7,145	53	1,337	9.96	8,482
Edison DG	140,442	1,793	13	183	1.34	1,976
AMG Energia	139,071	3,960	29	627	4.58	4,587
E.On Rete Mediterranea	136,664	2,016	15	109	0.82	2,125
Agsm Rete Gas	135,810	2,429	19	303	2.33	2,732
Amga Azienda Multiservizi	129,204	955	9	231	2.26	1,186
GEI Gestione Energetica Impianti	128,455	1,519	13	78	0.64	1,597
Dolomiti Energia	124,568	427	4	237	1.95	664
Erogasmet	123,625	1,869	15	225	1.86	2,094
AS Retigas	121,744	1,376	11	102	0.85	1,478
AMG Gas	116,249	1,525	14	9	0.08	1,534
Multiservizi	115,018	2,411	21	120	1.05	2,531
Coingas	114,059	1,818	16	228	2.04	2,046
Acam	109,093	1,958	18	217	2.01	2,175
Intesa Distribuzione	105,349	995	10	389	3.81	1,384
TOTAL	**16,508,820**	**255,161**	**15.5**	**21,023**	**1.30**	**276,184**

Source: Operators' declarations.

TAB. 3.46

Networks Inspected by Large Operators in 2008

NETWORK OPERATORS	LOW-PRESSURE NETWORK			HIGH-PRESSURE NETWORK		
	NETWORK EXTENSION km(A)	INSPECTED NETWORK LENGTH (km)	% OF INSPECTED NETWORK	NETWORK EXTENSION km(A)	INSPECTED NETWORK LENGTH (km)	% OF INSPECTED NETWORK
Società Italiana per il Gas	26,087	10,188	39.1	19,299	8,536	44.2
Enel Rete Gas	18,784	9,885	52.6	11,755	6,284	53.5
Hera	4,933	3,143	63.7	8,062	5,785	71.7
A2A Reti Gas	2,367	1,963	82.9	487	478	98.1
Napoletana Gas	3,306	1,611	48.7	1,593	599	37.6
Italcogim Reti	5,187	2,602	50.2	3,870	1,894	48.9
Toscana Energia	3,708	1,279	34.5	2,706	1,173	43.3
Azienda Energia e Servizi	1,113	379	34.1	207	36	17.7
Enìa	2,823	1,249	44.2	2,767	1,121	40.5
Asm Reti	3,373	1,217	36.1	1,376	648	47.1
Genova Reti	1,198	396	33.1	408	139	34.0
Ascopiave	4,311	1,368	31.7	2,096	710	33.9
AcegasAps	1,703	1,569	92.2	417	376	90.1
Arcalgas Progetti	2,094	1,376	65.7	2,887	1,941	67.2
Linea Distribuzione	1,868	995	53.3	751	439	58.4
Consiag Reti	996	348	34.9	550	277	50.3
Gelsia Reti	1,211	612	50.6	260	254	97.8
SGR Reti	1,245	444	35.7	1,369	550	40.2
E.On Rete Laghi	1,322	489	37.0	699	210	30.1
E.On Rete Padana	1,420	575	40.5	1,014	436	43.0
Acsm – Agam	812	401	49.4	218	140	64.0
Gas Natural Distribuzione Italia	2,740	1,301	47.5	1,927	694	36.0
Edison DG	1,382	1,137	82.2	1,078	754	69.9
AMG Energia	509	509	100.0	257	257	100.0
E.On Rete Mediterranea	1,205	372	30.9	1,204	465	38.6
Agsm Rete Gas	825	524	63.6	292	152	52.0
Amga Azienda Multiservizi	1,540	514	33.4	586	195	33.3
GEI Gestione Energetica Impianti	1,512	683	45.2	631	257	40.7
Dolomiti Energia	1,092	245	22.4	494	131	26.6
Erogasmet	1,020	1,020	100.0	449	449	100.0
AS Retigas	941	284	30.1	1,104	349	31.6
AMG Gas	430	135	31.4	120	36	30.3
Multiservizi	540	262	48.5	589	251	42.5
Coingas	1,060	1,060	100.0	693	693	100.0
Acam	1,119	361	32.3	294	123	41.8
Intesa Distribuzione	896	372	41.5	838	350	41.8
TOTAL	**106,673**	**50,867**	**50.0**	**73,349**	**37,178**	**50.0**

(A) Network extension is inclusive of municipal distribution systems currently in their phase of entry into operation, or being taken over or disposed of during the year. In addition systems were also considered for which the operator exercised the derogation power under art. 11, paragraph 11.3 of resolution no. 168/04.

Source: Operators' declarations.

TAB. 3.47

Detection of Leaks in Large Operators' Networks in 2008

NETWORK OPERATORS	METRES OF NETWORK PER END	NETWORK LENGTH (km)	LENGTH OF INSPECTED NETWORK (km)	NUMBER OF LEAKS			
				FROM INSPECTED NETWORK (km)(A)	PER km OF INSPECTED NETWORK	REPORTED BY THIRD PARTIES	PER km REPORTED BY THIRD PARTIES
Società Italiana per il Gas	9.16	45,386	18,724	1,448	0.08	30,765	0.68
Enel Rete Gas	14.68	30,538	16,168	280	0.02	14,226	0.47
Hera	11.94	12,995	8,927	680	0.08	9,643	0.74
A2A Reti Gas	3.42	2,854	2,441	197	0.08	16,134	5.65
Napoletana Gas	6.84	4,899	2,210	62	0.03	7,685	1.57
Italcogim Reti	13.48	9,057	4,496	15	0.00	4,824	0.53
Toscana Energia	9.80	6,414	2,452	108	0.04	5,048	0.79
Azienda Energia e Servizi	2.79	1,319	416	34	0.08	4,220	3.20
Enìa	14.49	5,591	2,370	24	0.01	3,389	0.61
Asm Reti	12.45	4,749	1,865	102	0.05	1,503	0.32
Genova Reti	4.90	1,606	535	774	1.45	3,425	2.13
Ascopiave	19.60	6,407	2,078	39	0.02	1,143	0.18
AcegasAps	8.08	2,120	1,945	137	0.07	1,075	0.51
Arcalgas Progetti	19.14	4,981	3,316	92	0.03	3,118	0.63
Linea Distribuzione	11.14	2,619	1,434	42	0.03	1,286	0.49
Consiag Reti	8.44	1,547	625	16	0.03	904	0.58
Gelsia Reti	8.28	1,470	866	15	0.02	958	0.65
SGR Reti	15.93	2,614	994	16	0.02	695	0.27
E.On Rete Laghi	12.64	2,022	699	54	0.08	1,432	0.71
E.On Rete Padana	16.43	2,434	1,011	37	0.04	1,848	0.76
Acsm – Agam	7.25	1,031	541	6	0.01	809	0.78
Gas Natural Distribuzione Italia	12.61	4,668	1,994	350	0.18	3,814	0.82
Edison DG	17.52	2,460	1,890	63	0.03	919	0.37
AMG Energia	5.51	766	766	1	0.00	2,801	3.66
E.On Rete Mediterranea	18.34	2,410	837	17	0.02	922	0.38
Agsm Rete Gas	8.23	1,117	676	23	0.03	1,066	0.95
Amga Azienda Multiservizi	15.96	2,126	709	26	0.04	492	0.23
GEI Gestione Energetica	16.68	2,143	939	1	0.00	1,157	0.54
Dolomiti Energia	12.73	1,586	376	8	0.02	207	0.13
Erogasmet	11.88	1,469	1,469	149	0.10	1,277	0.87
AS Retigas	16.80	2,045	632	6	0.01	730	0.36
AMG Gas	4.73	550	171	1,579	9.23	761	1.38
Multiservizi	9.82	1,129	513	13	0.03	677	0.60
Coingas	15.36	1,752	1,752	32	0.02	638	0.36
Acam	13.13	1,413	484	94	0.19	771	0.55
Intesa Distribuzione	16.49	1,734	722	34	0.05	528	0.30
TOTAL	**10.76**	**180,022**	**88,045**	**6,574**	**0.02**	**130,890**	**0.36**

Source: Operators' declarations.

TAB. 3.48

Cathodic Protection in Large Operators' Networks in 2008

Network extension in km

NETWORK OPERATORS	NETWORK EXTENSION	STEEL NETWORK EXTENSION	CATHODI-CALLY PROTECTED STEEL NETWORK EXTENSION	NON-PROTECTED STEEL NETWORK EXTENSION	% OF STEEL NETWORK WITH CATHODIC PROTECTION
Società Italiana per il Gas	45,386	35,047	33,989	1,058	97.0%
Enel Rete Gas	30,538	27,856	20,831	7,026	74.8%
Hera	12,995	10,995	10,458	536	95.1%
A2A Reti Gas	2,854	1,053	670	383	63.7%
Napoletana Gas	4,899	3,658	3,283	375	89.8%
Italcogim Reti	9,057	7,845	7,845	0	100.0%
Toscana Energia	6,414	5,224	4,669	555	89.4%
Azienda Energia e Servizi	1,319	508	491	17	96.7%
Enìa	5,591	5,345	5,143	202	96.2%
Asm Reti	4,749	3,238	2,612	626	80.7%
Genova Reti	1,606	422	78	344	18.5%
Ascopiave	6,407	6,319	6,319	-	100.0%
AcegasAps	2,120	687	482	206	70.1%
Arcalgas Progetti	4,981	3,263	3,263	-	100.0%
Linea Distribuzione	2,619	2,263	1,964	299	86.8%
Consiag Reti	1,547	1,451	1,446	6	99.6%
Gelsia Reti	1,470	1,455	1,182	273	81.2%
SGR Reti	2,614	2,589	2,589	-	100.0%
E.On Rete Laghi	2,022	1,871	1,854	17	99.1%
E.On Rete Padana	2,434	2,390	2,390	-	100.0%
Acsm – Agam	1,031	1,008	1,008	-	100.0%
Gas Natural Distribuzione Italia	4,668	4,124	4,124	-	100.0%
Edison DG	2,460	1,516	1,516	-	100.0%
AMG Energia	766	250	250	-	100.0%
E.On Rete Mediterranea	2,410	1,950	1,950	-	100.0%
Agsm Rete Gas	1,117	811	776	35	95.7%
Amga Azienda Multiservizi	2,126	1,729	1,616	113	93.5%
GEI Gestione Energetica Impianti	2,143	2,099	2,099	-	100.0%
Dolomiti Energia	1,586	1,520	1,520	-	100.0%
Erogasmet	1,469	1,469	1,469	-	100.0%
AS Retigas	2,045	1,925	1,925	-	100.0%
AMG Gas	550	525	457	68	87.0%
Multiservizi	1,129	937	928	9	99.0%
Coingas	1,752	1,746	1,746	-	100.0%
Acam	1,413	1,321	871	450	65.9%
Intesa Distribuzione	1,734	1,168	1,168	-	100.0%
TOTAL	**180,022**	**147,578**	**134,980**	**12,598**	**91.5%**

Source: Operators' declarations.

Commercial Quality for Gas Distribution Services

Natural Gas Distribution Service

The year 2008 confirmed the trend previously recorded in 2007 marked by prompt automatic refunds. Table 3.49 shows an almost total correspondence between the number of cases of failed compliance with the standard levels subject to refund and the number of refunds actually paid by operators in the reference year. Therefore, a significant improvement of the service was recorded in terms of reduction of cases of non-observed standards against 2007 and prompt payment of refunds in compliance with the rules fixed by the Authority in resolution no. 168/04. More specifically, the service that generated the highest out-of-standard values and consequently the highest number of refunds paid is the performance of minor works. The most frequent service type is supply activation covering alone nearly 41% of total, followed by quotations for the performance of minor works. Users with a meter of up to class G6 (domestic users) generated almost the total number of requests for support. As a result, this class of users benefited from the highest degree of protection in the regulation introduced by the Authority.

TAB. 3.49

Failed Compliance with Commercial Quality Standards (Number of Cases and Refunds paid)

Years 1997 to 2008; operators with more than 5,000 consumers

	SERVICE CHARTER					COMMERCIAL QUALITY REGULATION						
	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cases of failed compliance with standards (subject to refund)	14,265	12,366	11,212	14,635	16,424	14,651	11,766	25,826	34,330	31,439	43,741	19,954
Refunds actually paid in the year	1,237	707	1,640	3,709	12,086	13,368	8,535	19,249	31,189	35,146	43,886	19,265

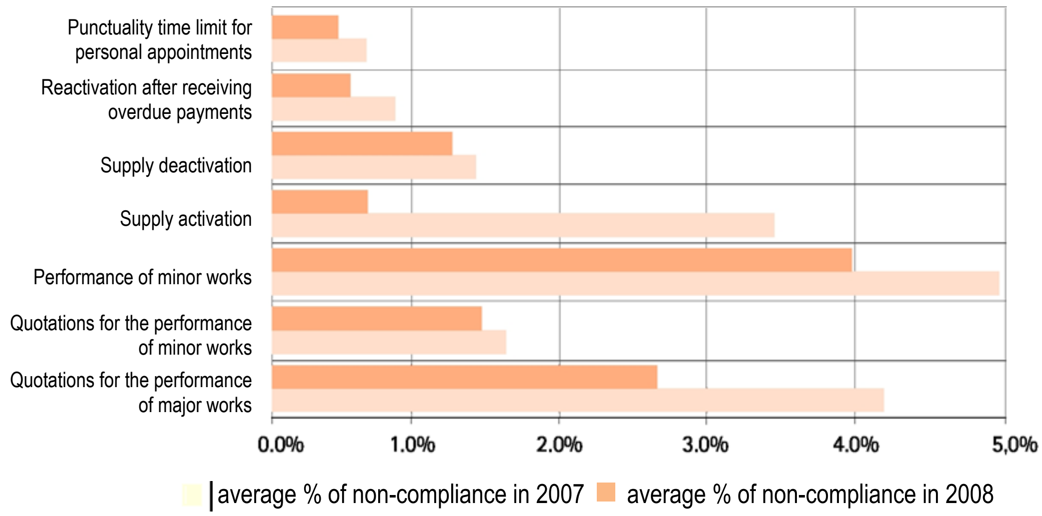
Source: Operators' declarations.

With regard to percentages of failed compliance (Fig. 3.14), 2008 data show an improvement compared to 2007. Although the performance of minor works was confirmed as the service type with the highest degree of non-compliance, its incidence was down 1% from 2007. It is further worth noting that the actual time recorded for all service to customers with a meter of up to class G6 was well below the standard

FIG. 3.14

Rate of Noncompliance with Specific Commercial Quality Standards

Years 2005 to 2008; operators with more than 5,000 consumers

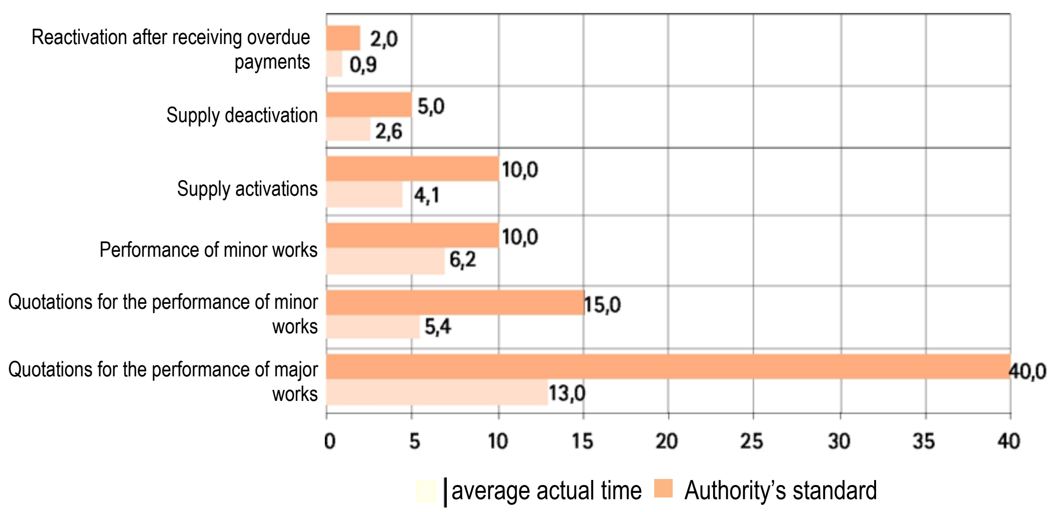


Source: Operators' declarations.

FIG. 3.15

Comparison of Effective Average Waiting Time vs. the Standard defined by the Authority for Commercial Quality Services for Customers with a Metering Unit of up to Class G6

Year 2008; operators with more than 5,000 consumers



Source: Operators' declarations.

fixed by the Authority (Fig. 3.15).

With reference to the most frequent type of users, i.e. consumers connected to a low-pressure network and a metering unit of up to class G6, table 3.50 shows the main 2007 data related to all services subject to an automatic refund. For each service type, standards were substantially complied with.

TAB. 3.50

Services Subject to Automatic Refunds payable to Low-Pressure Consumers with a Metering Unit of up to Class G6

Years 2007 to 2008

SERVICE TYPE	YEAR 2007				YEAR 2008		
	AUTHORITY STANDARD	NUMBER OF REQUESTS	AVERAGE ACTUAL TIME	NUMBER OF AUTOMATIC REFUNDS	NUMBER OF REQUESTS	AVERAGE ACTUAL TIME	NUMBER OF AUTOMATIC REFUNDS
Quotations for the performance of minor works	15 working days	265,788	5.4	5,032	239.729	5.4	2,801
Quotations for the performance of major works	40 working days	10,732	12.9	369	10.544	13.0	197
Performance of minor works	10 working days	204,557	7.3	8,605	184.981	6.2	5,573
Supply activation	10 working days	725,210	4.7	22,963	678.298	4.1	4,842
Supply deactivation	5 working days	316,572	2.6	4,170	330.501	2.6	3,988
Reactivation after receiving overdue payments	2 working days	66,715	0.8	530	64.681	0.9	385
Punctuality time limit for personal appointments	2 hours	146,175	–	1,009	146.826	–	588
TOTAL	**–**	**1,735,749**	**–**	**33,822**	**1.640.560**	**–**	**18,374**

Source: Operators' declarations.

Natural Gas Sales Service

Table 3.51 shows the overall number of invoice corrections processed by operators and the average waiting time and number of refunds paid. Equally for this service type (eligible for automatic refund), the standard level fixed by the Authority in resolution no. 168/04 was observed. More specifically, it is worth observing that the number of refunds paid was slightly higher than the number of cases of failed compliance attributable to the operator and, further, that the average actual waiting time for an invoice correction, while being below the standard fixed by the Authority of 90 calendar days, increased from 22.93 days in 2007 to 28.42 days in 2008.

Figure 3.16 shows the 2008 performance of such service types as the handling of written complaints and of written requests for information received by operators with more than 100,000 consumers, in relation to the most frequent type of users, i.e. consumers connected to a low-pressure network and a metering unit of up to class G6.

TAB. 3.51

Invoice Corrections for Low-Pressure Consumers with a Metering Unit of up to Class G6

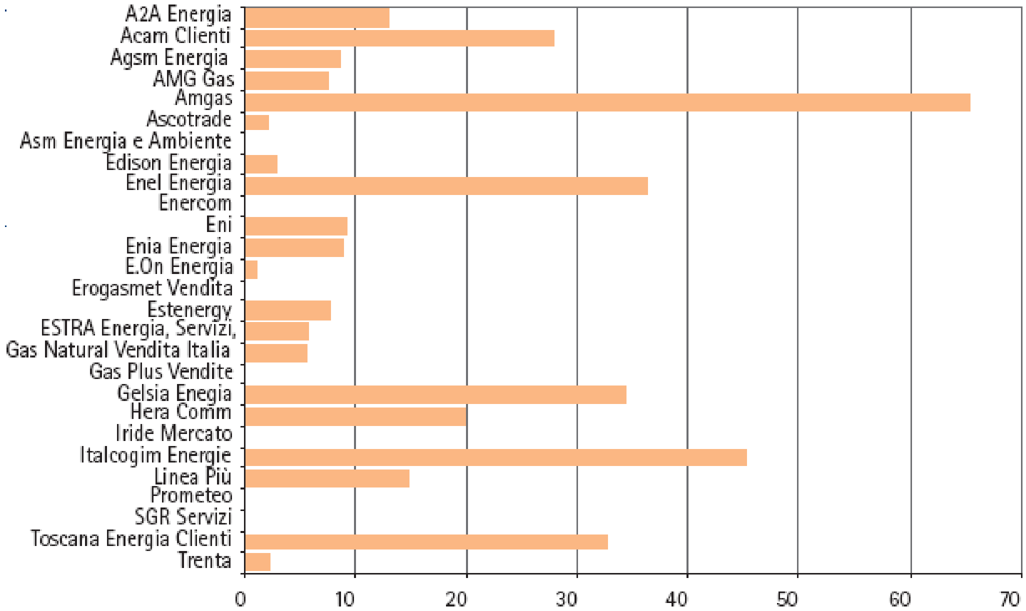
SERVICE TYPE	YEAR	AUTHORITY STANDARD	NUMBER OF REQUESTS	OUT-OF-STANDARD CASES	AVERAGE ACTUAL TIME	NUMBER OF AUTOMATIC REFUNDS
Invoice corrections	2006	90 calendar days	125,858		15.9	1,897
	2007	90 calendar days	88,939	926	22.9	1,016
	2008	90 calendar days	48,064	1,345	28.4	1,412

Source: Operators' declarations.

FIG. 3.16

Time of Response to Claims from Low-Pressure Consumers with a Metering Unit of up to Class G6

Year 2008; days



Source: Operators' declarations.

Helpline Service Quality

After its revision, the regulation governing the commercial quality of gas sales was incorporated in a single *Code on the Quality of Sales Services* (TIQV), approved by the Authority in resolution ARG/com 164/08 of 18 November 2008 for both the gas and the electricity sales services. For this very reason, the performance of gas suppliers in terms of quality of their call centres (formerly governed by resolution no. 139/07 of 19 June 2007) has already been described and illustrated in the paragraph on the quality of the electricity service (see Chapter 2 of this Volume).

Gas Quality and Safety downstream of Gas Redelivery Points

Safety inspections on Users' Gas-Fired Installations

In the period of 1 October 2007 to 30 September 2008, the fourth year of implementation of resolution no. 40/04 of 18 March 2004, 450,000 new user installations were approved (Tab. 3.52). Once again the enforcement of the Authority's issued regulation produced significant effects, witness the fact that, for thermal year 2007-2008 there was a 5% increase in the number of performed safety inspections in comparison with the previous year.

More specifically, nearly 96% of installations were immediately authorised for activation, following a positive check of the full documentation as required by law no. 46 of 5 March 1990. By contrast, nearly 18,074 initial inspections were completed with negative results, thereby requiring further inspections; in particular, distributors only supplied gas to these installations after supplementary checks and after the removal of causes of non-conformity with the provisions of law no.46/90. It is however worth noting that this was the first thermal year marked by a significant reduction in the number of inspections with negative results as opposed to thermal year 2006-2007, i.e. about -8%. In addition the number of inspections prevented by the applicants' failure to deliver the requested documentation was limited to 4%. The data under review are show in the following tables with breakdowns by type of user installation and size of gas distributors.

TAB. 3.52

Summary of Data related to Resolution no. 40/04 notified by Distributors

Gas year 2007-2008

TYPE OF USER INSTALLATION	REQUESTS WITH POSITIVE RESULTS OF INSPECTIONS	REQUESTS WITH NEGATIVE RESULTS OF INSPECTIONS	INSTALLATIONS WITH MORE THAN ONE INSPECTION
≤ 34.8 kW	411,109	16,484	16,090
> 34.8 kW and ≤ 116 kW	32,662	1,782	1,533
> 116 kW	8,106	500	451
TOTAL	**451,877**	**18,766**	**18,074**

Source: Distributor's declarations.

TAB. 3.53

Summary of Data related to Resolution no. 40/04 notified by Gas Distributors broken down by Distributor Size

Gas year 2007-2008

DISTRIBUTORS	REQUESTS WITH POSITIVE RESULTS OF INSPECTIONS	REQUESTS WITH NEGATIVE RESULTS OF INSPECTIONS	INSTALLATIONS WITH MORE THAN ONE INSPECTION
Large distributors	340,767	15,405	14,906
Medium distributors	93,959	2,833	2,641
Small distributors	17,151	528	527
TOTAL	**451,877**	**18,766**	**18,074**

Source: Distributor's declarations.

Transmission Quality

By resolution no. 185/05 of 6 September 2005, the Authority approved general-purpose provisions on natural gas quality in order to more accurately regulate the measurement of Gross Calorific Value (GCV) and of chemical and physical characteristics of natural gas supplied to consumers. The resolution entrusts transporters, i.e. transmission system operators, with the task of measuring and controlling gas quality parameters, for metering to be reliable and prompt; in addition it provides that metering units be made accessible for any checks by the Authority. This requirement equally applies to the owners of metering systems, if they do not coincide with transporters. At the points of entry into transmission systems, the resolution requires that GCV and other gas quality parameters be

measured and controlled, whereas, with regard to transmission systems, the resolution provides that gas calorific value be measured by means of gas chromatographs.
Equally for thermal year 2007-2008, natural gas transporters supplied data on the measuring points of a uniform withdrawal area (AOP) and on the measuring points at entry into their transmission system. More specifically, points are currently equipped with 147 gas chromatographs of which 123 are owned by transporters and 24 by third-parties.

Insurance in favour of Civil End-Users of Gas

Pursuant to the provisions of paragraph 3.3 of resolution no. 152/03 of 12 December 2003, the Italian Gas Committee (CIG) sent the Authority a concise summary of incident-related claims received as well as of the state of redress procedures from 1 October 2007 to 30 September 2008. The total number claims was equal to 45.
From a statistical survey of incidents from fuel gas compiled by the CIG pursuant to resolution no. 168/04, in gas year 2007-2008, 157 incidents – within the meaning of resolution no. 152/03 – were reported downstream from the delivery point. In any case, a reduction of incidents of around 8% was observed in comparison with gas year 2006-2007.

Measurement of Domestic Customer Satisfaction

An agreement was signed between the Authority and ISTAT for the 2005-2009 period for the purpose of measuring domestic customer satisfaction with the supply of electricity and gas services. For gas services, the survey includes a sample of more than 187,000 households and consists in the regional monitoring of their satisfaction at aspects associated with quality regulation such as frequency of meter readings, intelligibility of bills and a judgement on the information provided on the service. The enquiry was first conducted in 1998 and has since then been repeated on a yearly basis: in such respect, it should be noted that no results are available for 2004, on the ground that since 2004 the survey has been conducted in February while until 2003 the survey used to be conducted in November. For general aspects, kindly refer to the paragraph on domestic customer satisfaction associated with electricity service quality in Chapter 2 hereof.
In 2008, the general level of satisfaction of users compared to 2007 levels fell 2.5 percentage points. If the values of 2007 are excepted, a progressive reduction of the degree of overall satisfaction has been recorded over the last few years (Tab. 3.54).

TAB. 3.54

Overall Satisfaction with the Gas Supply Service

of respondents having opted for the "highly satisfied" and "fairly satisfied" answers

	1998	1999	2000	2001	2002	2003	2005	2006	2007	2008
North-West	94.9	95.0	94.6	94.7	95.4	94.7	94.7	92.9	94.2	92.4
North-East	94.5	94.8	94.0	94.5	93.1	94.3	92.3	91.5	91.1	88.1
Centre	94.3	95.7	94.9	94.3	95.0	94.6	92.9	92.7	93.7	91.6
South	94.5	95.1	94.9	96.0	94.0	93.9	92.5	92.9	94.0	90.6
Islands	89.6	95.6	91.5	96.3	94.6	90.8	95.3	93.3	93.4	92.0
Italy	**94.5**	**95.2**	**94.5**	**94.9.**	**94.6**	**94.3**	**93.4**	**92.6**	**93.4**	**90.9**

Source: ISTAT multipurpose survey, years 1998 to 2008.

TAB. 3.55

Overall Satisfaction with the Different Aspects of the Gas Supply Service

of respondents having opted for the "highly satisfied" and "fairly satisfied" answers

	1998	1999	2000	2001	2002	2003	2005	2006	2007	2008
Frequency of reading	86.1	86.9	85.7	82.9	82.4	81.0	78.5	80.9	82.0	78.6
Bill intelligibility	80.2	81.5	79.6	80.4	78.4	77.0	74.4	74.4	75.2	69.5
Information on service	79.4	81.1	79.5	79.0	77.3	75.8	72.9	73.2	74.8	69.2
Overall satisfaction	**94.5**	**95.2**	**94.5**	**94.9**	**94.6**	**94.3**	**93.4**	**92.6**	**93.4**	**90.9**

Source: ISTAT multipurpose survey, years 1998 to 2008.

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