



Autorità per l'energia elettrica e il gas

## **ANNUAL REPORT 2003**

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### **COMPETITION AND REGULATION IN THE ENERGY SECTORS**

**STRUCTURE OF THE MARKETS AND REGULATION OF THE ELECTRICITY SECTOR**

**STRUCTURE OF THE MARKETS AND REGULATION OF THE NATURAL GAS SECTOR**

**PUBLIC SERVICE OBLIGATIONS, QUALITY AND CONSUMERS' RIGHTS**

# STRUCTURE OF THE MARKETS AND REGULATION OF THE ELECTRICITY SECTOR

## REGULATORY REPORT: 1996 TO THE PRESENT

### Mandate, procedures and accountability

Law 481 of 14 November 1995 specifies the regulatory guidelines that Italy's Regulatory Authority for Electricity and Gas (hereafter "the Authority") has followed in the electricity sector during the six years since beginning operations on 23 April 1997. With a constant eye on the basic goals of promoting efficiency and competition in the sector, the Authority has centred its regulatory efforts on the definition of a clear, unambiguous tariff system based on pre-set criteria. It has also established the technical and pricing conditions for access to and interconnection with the grids, to ensure non-discriminatory use of essential facilities.

The provisions of Law 481/95 were joined by those of Legislative Decree 79 of 16 March 1999, which implemented European Directive 96/92/CE and gave the Authority a key role in liberalizing the Italian electricity market. In its newly accentuated role as regulator of the emerging electricity sector, the Authority was asked to intervene with "preventive" regulatory measures that would institute pro-competition mechanisms and incentives and blow the whistle on conduct that hindered an open market.

The Authority has thus defined a regulatory framework for the electricity sector which, over the course of six years, has stood out for certain milestones coinciding with the start of various phases of the liberalization process. The first regulatory phase, represented essentially by Resolution 70 of 26 June 1997 (concerning recognized costs for the procurement of resources for power generation), marked the beginning of efforts to streamline electricity legislation and to introduce mechanisms that would lead to gradual gains in production efficiency. The second phase, which can be reduced primarily to Resolutions 13 of 18 February 1999 and 204-205 of 29 December 1999, opened the door to the reform of the tariff system, which brought prices more into line with the cost of production and service provision and thus encouraged businesses to be more efficient. The third phase, with the 2002 enactment of the Consolidated Act (approved with Resolution 228 of 10 October 2001), marks the starting point for the reform of electricity sector rules that is now in its crucial stage, i.e. the start-up of the electricity market and the completion of the liberalization process mandated in Legislative Decree 79/99.

The actions of the Authority, therefore, have taken the form of intense regulatory and supervisory activities. Its regulatory activities are conducted by way of constant involvement in the decision-making processes of the interested parties.

The Authority's own decision-making process has been influenced ever more, given the objective of creating a single domestic electricity market, by dialogue and cooperation with other regulators and European institutions, including through the Council of European Energy Regulators (CEER) and the European electricity regulators' forum in Florence.

Its supervisory activities in the sector mainly consist of making sure that the power companies comply with legislation in force, through out-of-court investigation and technical controls and inspections.

### Phase 1 of electricity sector regulation (1996-1999): early moves toward streamlining and reform

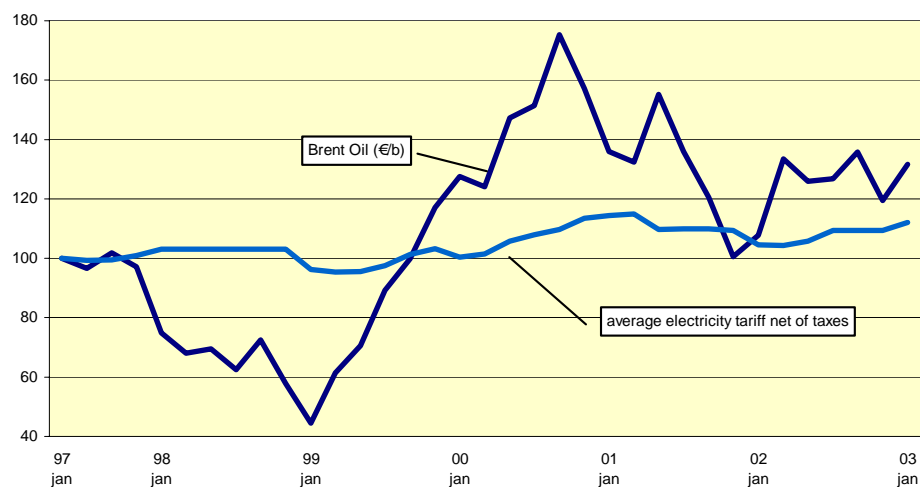
The first phase of regulatory activity in the electricity sector consisted of a series of structural changes—the building blocks of the sector's future organization—followed by a series of contingent measures designed to clear the obstructions left over from the previous regulatory framework.

The milestone of this first phase was the adoption of Resolution 70/97, which addressed tariff adjustments in relation to variable fuel costs. Resolution 70/97 rationalized the electricity tariff structure by clearly pinpointing the portion linked to fuel prices, and introduced a new method of adjusting that portion that would encourage the efficient running of production plants. Abandoning the principle of “actual-expense” reimbursement of variable production costs, the new method is based on the recognition of a standard variable production cost calculated on the basis of specific average consumption determined by the Authority for thermoelectric plants and of the price of a basket of fossil fuels traded on the international markets.

The achieved purpose of this adjustment mechanism was to foster gradual efficiency gains by Italian production plants, until complete liberalization could leave that task to the market. It also ensured greater stability in the amount end customers were charged for power with respect to the wildly fluctuating price of oil during the period in question (Fig. 1). With the corrections introduced by Resolutions 24 of 25 February 1999 and 194 of 29 November 2002, the adjustment mechanism, aimed at pushing efficiency as a way to mitigate the inflationary pressures of the rise in oil prices, is still used today to adjust the portion of captive customers' electricity tariffs that cover variable production costs.

**FIG. 1 TREND IN THE ELECTRICITY TARIFF IN COMPARISON WITH THE PRICE OF OIL, 1997-2003**

Index: May 1997 = 100



Another hallmark of the first regulatory phase for electricity was the establishment of an extensive consultation process, in view of the complete

overhaul of the tariff system and the definition of non-discriminatory rules for access to the grids. The Authority's first act in this sense was to publish, in June 1997, its *Criteria for the definition of the new tariff system*. In that document it explained certain standards to be followed on the subject of tariffs, such as the non-ambiguity and transparency of the tariff system, the protection of users' and consumers' interests by way of competition and efficiency, and the system's flexibility and focus on costs.

### **Phase 2 of electricity sector regulation (1999-2001): the new tariff system and the start of liberalization**

In late 1999 and early 2000, the Authority completed the first phase of the electricity tariff reform and the revision of technical and economic conditions for access to the grids. These efforts entailed the definition of the rules needed to start up power trading systems among producers, wholesale customers and eligible end customers, and the implementation of the tariff reform.

With Resolution 13/99 the Authority set the rules for the electricity wheeling service, establishing the technical and economic conditions for access to the transmission service by eligible customers. With Resolution 204/99 it laid down the new tariff system for the supply of power to customers in the captive market, basing its actions on the principle that tariffs should reflect costs and the quality of service rendered.

With Resolution 205/99 the Authority regulated the price of electricity sold by producers to distributors, and set the fee for transmission over the national grid and the distribution networks of the power purchased from distributors for supply to captive customers.

The new discipline brought about by Resolutions 13/99, 204/99 and 205/99 replaced the previous tariff system, which was rigid, inattentive to costs and lacking any enticement to spur efficiency.

The 1999 tariff reform introduced a system built on linking tariffs to costs, which encouraged the electric companies to be more efficient. The new system has several innovative aspects: in the first place, it uses a price cap mechanism (in accordance with Art. 2, par. 18 of Law 481/95) for annual tariff adjustments, which constitutes a clear, pre-determined incentive for efficiency gains. Next, it abandons the logic of differentiating electricity prices by type of use and instead links the tariff to the cost of the underlying service; and it drops the rigid pricing system for a new, more flexible one based on tariff options proposed by the companies within certain standards set by the Authority.

The tariff reform entailed greater protection for residential customers than it did for the entire clientele. Resolution 204/99, in keeping with the principle of covering the costs of the electric service, set a tariff that distributors were required to offer their residential customers, although they could also propose alternatives subject to the same rules that applied to special tariff options for non-residential use.

The tariff reform had to be implemented gradually with regard to both non-residential and residential customers. For the latter, it took quite some time.

From 1999 to 2001 the Authority issued other important measures to achieve the liberalization stemming from Legislative Decree 79/99, including the following:

- directives for accounting and administrative separation for companies operating in the electricity sector (Resolution 61 of 11 May 1999, later amended by Resolution 310 of 5 December 2001);
- instructions for the definition of import procedures and conditions in the event of insufficient transmission capacity;
- directives to GRTN S.p.A. (Italy's transmission system operator) for the adoption of technical grid connection rules (Resolution 52 of 9 March 2000);
- directives to the GRTN for the adoption of technical electricity measurement rules (Resolution 138 of 3 August 2000);
- conditions for the provision of the dispatch service by GRTN (Resolution 95 of 30 April 2001).

### Phase 3 of electricity sector regulation (2002-2003): towards total liberalization

In the autumn of 2001 the Authority adopted the Consolidated Act regulating the sale of electricity and the provision of transmission and measurement services (Resolution 228/01). The document standardized the tariff rules issued by the Authority, especially as regards the determination and regulation of transmission charges for end customers, distributors and producers and for electricity trading in the captive market, and the regulation of the electricity measurement service.

The Consolidated Act eliminated the existing rules on wheeling, which were replaced by a single discipline on power transmission for customers in the free and captive markets, in keeping with the start-up of the power exchange provided for by Legislative Decree 79/99.

It also paved the way for further liberalization of the power production and delivery chain, by defining—consistently with the distribution licences granted—the measurement service as separate from distribution, and thus liable to be restructured and rearranged including for the sake of advancing competition.

With the implementation of the Consolidated Act as from 1 January 2002, the Authority concluded its reform of tariffs and technical/pricing conditions for access and use of the transmission and distribution grids.

Therefore, the third phase of regulation can be viewed as the launching pad for a new, possibly still more delicate stage: full liberalization and the implementation of the bidding system called for by Legislative Decree 79/99. With that goal in mind, the Authority was asked to promote competition and efficiency (including through measures to prevent the exercise of market power) and to foster the utmost clarity and disclosure in the electricity sector. In short, it had assumed its new role as regulator of the budding market.

### A review of regulatory activities and prospects

The results of the Authority's regulatory activities can be evaluated on the basis of several variables. An obvious one is the trend in retail prices. In the case of the electricity sector, however, this requires some caution, particularly in separating the realms that the regulator can influence more directly (such as the price of services carried out under monopoly arrangements) from those dominated by external factors, where the regulator—until full liberalization is achieved—can only aim to transfer price

trends efficiently to the consumer (e.g. with regard to the component of the captive market tariff that covers variable production costs).

In this sense, the data seem to indicate that regulatory activities have had a generally positive effect. This is most evident in the reduction of transmission service charges (which the regulator can influence more directly), but significant also for the fuel-cost component of the tariff, especially in terms of limiting the fluctuation felt by the end consumer.

These considerations must, however, be seen as a starting point and not a finish line for the new phase of regulation, for which clear priorities have been set. In the first place, a regulatory framework must be defined that favours completion of the liberalization process launched with Legislative Decree 79/99, through the implementation of organized markets for the spot and forward trading of electricity and the market's wider opening on the side of demand. This implies both the prevention of competition-thwarting behaviour by electric companies and the definition of standards for the new tariff regulation period (to begin in 2004) that will remove all remaining obstacles to liberalization, such as the lack of sufficient information or the control of information by parties interested in slowing down the process. These measures will have to be joined by a sharper focus on the new issues the electricity sector will face, including the guarantee of a secure supply at reasonable prices, as market mechanisms take root.

## CHANGES IN THE MARKET IN 2002

The electricity report (Tab. 1) summarizes the existence, in 2002, of the various types of company at different stages of the cycle, along with the volume of power traded. Companies are split into nine types on the basis of their generation capacity and their role in energy intermediation.

As for producers, the figures put Enel S.p.A. in a place of its own, as the dominant operator with nearly 54 percent of net power generation (including pumping and leakage) and 66 percent of end sales in 2002. It is followed by the other categories, including self-producers.

There are three different categories of wholesaler; the list of the main wholesalers, which account for some 80 percent of electricity sales, is reported in Tab. 2. These data show how sales are heavily concentrated with four wholesalers, who share a more than 55 percent slice of the market. They also indicate the rising incidence of sales to other wholesalers and the decline in overall sales.

Lastly, the table specifies a category of end customers including power-dependent businesses that operate directly in the market for the allotment of import capacity and/or CIP6 power. As shown on the last lines of the report, producers and/or wholesalers have a hold on most of the final consumption.

The sum of national output plus the foreign balance and net transfers, less leakage and electricity used for pumping, equals the total resources available for sale in the end market. Sales in the free market (excluding self-consumption by companies that produce their own power) increased by 30 percent with respect to 2001. Direct sales to end customers amounted to just under 65 percent of total free market sales; of that figure, 26 percent consists of independent procurement by end customers through the assignment of imported or CIP6 power. The main direct vendor is the Enel Group, with 32 percent of the market (excluding self-producers), followed at

a distance by the foreign wholesalers. End customers belonging to consortiums are supplied mainly by the Enel Group and its main competitors (56 percent); wholesale consortiums cover just 17 percent of total end sales to these groupings.

**TAB. 1 THE ELECTRICITY SECTOR IN FIGURES, 2002 (A)**

TWh

	ENEL GROUP	MAIN COMPETING GROUPS	OTHER MAJOR PRODUCERS	MINOR PRODUCERS	SELF-PRODUCERS	INDEPENDENT WHOLESALERS	FOREIGN WHOLESALERS	WHOLESALER CONSORTIUMS	END CUSTOMERS	TOTAL
<b>Net national output</b>	<b>145,0</b>	<b>65,0</b>	<b>16,7</b>	<b>22,6</b>	<b>21,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>270,3</b>
Of which: CIP6	4,0	22,1	2,1	20,2	5,8	0,0	0,0	0,0	0,0	54,1
<b>Energy for pumping</b>	<b>10,6</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>10,6</b>
<b>Foreign balance</b>	<b>23,0</b>	<b>2,1</b>	<b>1,5</b>	<b>0,1</b>	<b>0,0</b>	<b>5,7</b>	<b>6,6</b>	<b>4,7</b>	<b>7,0</b>	<b>50,6</b>
Enel contracts	22,5	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	22,5
Assigned by national grid operator	0,0	1,3	1,2	0,0	0,0	4,8	1,7	1,8	6,0	16,9
Assigned by foreign operators	0,5	0,8	0,2	0,1	0,0	0,8	4,8	2,9	1,0	11,2
<b>Net transfers</b>	<b>48,3</b>	<b>-51,0</b>	<b>-1,1</b>	<b>-18,3</b>	<b>-2,8</b>	<b>5,2</b>	<b>1,9</b>	<b>7,1</b>	<b>10,6</b>	<b>0,0</b>
Of which: CIP6	29,1	5,3	2,2	0,2	0,0	3,7	1,8	1,4	10,6	54,1
<b>Leakage</b>	<b>13,2</b>	<b>1,0</b>	<b>1,1</b>	<b>0,3</b>	<b>1,2</b>	<b>0,7</b>	<b>0,5</b>	<b>0,8</b>	<b>1,1</b>	<b>19,9</b>
<b>Total resources</b>	<b>192,7</b>	<b>15,1</b>	<b>16,0</b>	<b>4,1</b>	<b>17,1</b>	<b>10,2</b>	<b>7,9</b>	<b>11,0</b>	<b>16,4</b>	<b>290,5</b>
Captive market	162,9	0,0	10,4	2,0	0,0	0,0	0,0	0,0	0,0	175,2
Free market	29,8	15,1	5,6	2,1	17,1	10,2	7,9	11,0	16,4	115,3
OF WHICH:										
<i>Direct sales and self-consumption</i>	<i>20,1</i>	<i>5,2</i>	<i>3,7</i>	<i>0,8</i>	<i>17,1</i>	<i>4,7</i>	<i>7,5</i>	<i>4,9</i>	<i>16,4</i>	<i>80,4</i>
<i>Consortium sales</i>	<i>9,7</i>	<i>9,9</i>	<i>1,9</i>	<i>1,3</i>	<i>0,0</i>	<i>5,5</i>	<i>0,5</i>	<i>6,1</i>	<i>0,0</i>	<i>34,9</i>
<b>End sales and consumption</b>	<b>192,7</b>	<b>15,1</b>	<b>16,0</b>	<b>4,1</b>	<b>17,1</b>	<b>10,2</b>	<b>7,9</b>	<b>11,0</b>	<b>16,4</b>	<b>290,5</b>

(A) Totals have been rounded off and may therefore differ from the sum of the parts.

Source: Data provided by companies and calculations on GRTN figures.

TAB. 2 SALES BY THE MAIN WHOLESALERS IN THE FREE ELECTRICITY MARKET

WHOLESALER	Sales to end customers	Sales to other wholesalers	TOTAL
Enel Energia (former ENEL Trade)	30,0	0,3	30,4
Edison Energia	14,6	0,2	14,8
EGL Italia	5,7	1,8	7,5
Energia	5,2	0,0	5,2
Dalmine Energie	2,7	0,1	2,8
EniPower Trading	2,5	0,2	2,7
NET	0,4	2,1	2,5
ASM Energy	0,7	1,3	2,0
Alpenergie Italia	1,2	0,6	1,8
Assoenergia	1,8	0,0	1,8
Energetic Source	0,5	1,3	1,8
Aem Energia	1,3	0,3	1,6
EDF Energia Italia (ex EDF Italia)	0,6	1,0	1,6
T.P.E. Trading per l'Energia	0,0	1,6	1,6
ElectrONE	0,5	1,0	1,5
Electra Italia	0,9	0,6	1,5
TecnoEnergia	0,7	0,7	1,3
Centomilacandele	1,2	0,1	1,3
Total (wholesalers with sales > 1.0 TWh)	70,5	13,1	83,6
Total (wholesalers with sales > 1.0 TWh)	11,6	10,3	21,8
<b>TOTAL</b>	<b>82,1</b>	<b>23,4</b>	<b>105,4</b>

Source: Wholesalers' declarations as per Resolution 91/99.

## POWER GENERATION AND IMPORTS

### Structure of the national production market

There are two defining elements of Italy's electricity production market: there is still a powerful incumbent, which generates about 50 percent of the output destined for consumption; and a large share of national production—more than 20 percent—comes from subsidized plants, almost all of them CIP6, whose power is withdrawn by the transmission system operator (GRTN) in accordance with Art. 3, par. 12 of Legislative Decree 79/99.

At any rate, that structure should change over the next few years, due to the conversion to combined-cycle plants of the facilities of producers sold to Enel and the construction of new power plants in Italy by companies both native and foreign.

In 2002, national output met only part of the increased power requirement, which was satisfied through a further rise in imports. With the demand for electricity up 1.8 percent on 2001, and an estimated 310,400 GWh requested from the national grid, Italian production grew by 1.6 percent against a rise of 4.6 percent for imports.



Peak summer and winter demand continued to converge in 2002. Peak summer demand came to 50,974 MW, an increase of 4.8 percent on the previous year, and the latter to 52,590 MW with a modest rise of 1.2 percent.

**TAB. 3 GROSS ENERGY PRODUCTION IN ITALY BY SOURCE, 1997-2002**

GWh

	1997	1998	1999	2000	2001	2002(A)
Solids	20 518	23 311	23 812	26 272	31 730	35 800
Natural gas	60 649	70 213	86 217	97 607	95 906	98 800
Petroleum	113 282	107 237	91 286	85 878	75 009	76 100
Other fuels	5 600	5 900	5 900	8 800	14 200	15 900
<b>Total thermoelectric (1)</b>	<b>200 049</b>	<b>206 661</b>	<b>207 215</b>	<b>218 557</b>	<b>216 845</b>	<b>226 600</b>
<b>Pumping (2)</b>	<b>4 965</b>	<b>6 232</b>	<b>6 451</b>	<b>6 688</b>	<b>7 064</b>	<b>7 563</b>
Hydroelectric	41 599	41 213	45 358	44 204	46 810	40 500
Wind	118	232	402	563	1 178	1 109
Solar	6	6	6	6	5	6
Geothermal	3 905	4 214	4 403	4 705	4 506	4 700
Biomass and waste	820	1 228	1 822	1 906	2 587	3 185
<b>Total renewable (3)</b>	<b>46 448</b>	<b>46 893</b>	<b>51 991</b>	<b>51 384</b>	<b>55 086</b>	<b>49 500</b>
<b>TOTAL (1+2+3)</b>	<b>251 462</b>	<b>259 786</b>	<b>265 657</b>	<b>276 629</b>	<b>278 995</b>	<b>283 663</b>

(A) Estimated.

Source: GRTN

## Disposal of Interpower

The sale of Interpower in January 2003 completed the disposal of Enel's production capacity, totalling 15,000 MW. The last "Gen.Co.", with thermoelectric capacity of 2,548 MW and 63 MW of hydroelectric plants, changed its name to Tirreno Power. The prime minister's decree of 4 August 1999, *Approval of the plan for the disposal of Enel S.p.A. plants*, identified the plants Enel was to sell by the end of 2003. It also contained the list of facilities to be converted into combined-cycle plants along with a possible transformation programme. In some cases, the programme was changed in terms of both timing and the type of conversion proposed in the buyers' business plans.

Tab. 5 shows the overall status of the conversions as approved by the prime minister's decree of 4 August 1999, the status of authorization procedures and works, and any alterations with respect to the original plan.

TAB. 4 GEN.CO. DISPOSAL SCHEDULE, PRICES AND BUYERS

GEN.CO.	CLOSING DATE	BUYER	PRICE (€MN) INCLUDING DEBT	NET EFFICIENT POWER (MW)	NEW NAME
Elettrogen	July 2001	Endesa 51%, Banco Santander Central Hispanico 34%, Asm Brescia 15%	2 630	5 438 of which: - 4 424 thermo - 1 014 hydro	Endesa Italia
Eurogen	May 2002	Edison 40%, Aem Milano 13,4%, Aem Torino 13,3%, Atel 13,3%, Unicredito Italiano 10%, Interbanca 5%, Royal Bank of Scotland 5%	3 700	7 008 of which: - 6 242 thermo - 766 hydro	Edipower
Interpower	January 2003	Acea Electrabel 50%, Energia Italia 50%	874	2 611 of which: - 2 548 thermo - 63 hydro	Tirreno Power

TAB. 5 STATUS OF CONVERSION PROGRAMMES FOR EX-GEN.CO. PLANTS

COMPANY AND PLANT POWER (MW), 1999		CONVERSION TO CCGT PER PRIME MINISTER'S DECREE	STATUS (ADMINISTRATIVE PROCEDURES/WORKS)	FUEL		COMPLETION
				BEFORE	AFTER	
<b>Eurogen/Edipower</b>						
S. Filippo Mela	1194 – four units	–	environmental works	Fuel oil	Fuel oil	
North Brindisi	1181 – four units	1200 MW	Alterations for resumed functioning			
Chivasso	376 – two units	800 MW three units	Authorized in March 2001	Coal, fuel oil	Gas	june 2004
Piacenza	624 - two units	660 MW	Tenders called	Fuel oil	Gas	
Sermide	1210 - four units	1200 MW		Fuel oil and gas	Gas	June 2004 for two units
Turbigo	1657 – four units	–				
<b>Elettrogen/Endesa</b>						
Monfalcone	921 four units	800 MW	Authorization requested in October 2002 for the use of coal in four units (as opposed to conversion to CCGT)	Coal, fuel oil	Coal	
Ostiglia	1251 four units	1200 MW	Authorized in August 2000	Fuel oil	Gas	Three units by end-2003; postponement requested for fourth unit to ensure safety
Fiume Santo	–		Agreement signed with local authorities for the use of coal in all four units	Coal and orimulsion	Coal	Coal to be used in all four units from July 2003
Tavazzano	1200 four units	1200 MW	Authorization granted in 2002 and later amended	Fuel oil	Gas	Three units by end-2005 to replace two units
Trapani				Diesel and gas		
<b>Interpower</b>						
Napoli Levante	411 three units	400 MW	Authorization not yet requested; EIA required	Fuel oil	Gas	
Torrevaldaliga Sud	937 four units	1200 MW	EIA-exempt; authorized in 2001; works underway	Fuel gas and oil	Gas	
Vado Ligure	1200 four units	800 MW	Authorized in 2002	Fuel oil and gas	Gas and coal	Two units repowered for gas; two coal-powered units functioning in alternation

Source: Authority's estimates based on press articles

## Authorizations

The Ministry of Production Activities has issued several new authorizations under the procedures introduced by Decree 55 of 9 April 2002 (the "*sblocca centrali*" or "plant release" decree later amended by Law 83 of 17 April 2003), since the conclusion of the processes underway before that time.

**TAB. 6 AUTHORIZATIONS ISSUED BY THE MINISTRY OF PRODUCTION ACTIVITIES AT MAY 2003**

REGION	Number of plants	MWe	MWt
Lombardy	3 new plants; 1 combined-cycle conversion	1 690	3 005
Piedmont	1 new plant	250	470
Friuli V.G.	1 new plant	800	1 500
Liguria	1 combined-cycle conversion		
Emilia Romagna	2 new plants	1 585	2 770
Tuscany	1 alteration for environmental safety		
Puglia	3 new plants; 1 alteration for resumed functioning	1 920	3 550
Molise	1 new plant	750	1 300
Campania	1 new plant	780	1 340
Calabria	2 new plants	1 600	2 760
<b>Total Italy</b>	<b>14 new plants, 2 combined-cycle conversions, 1 alteration for resumed functioning, 1 alteration for environmental safety</b>	<b>9 375</b>	<b>16 740</b>

Source: Ministry of Production Activities

The Ministry of Production Activities also has pending authorization requests for a further 39,013 MWe (Tab. 7).

The complete reconversion of the Gen.Co. plants (Tab. 5) and the opening of the facilities authorized (Tab. 6) and pending authorization (Tab. 7) should allow for greater competition on the supply side in coming years.

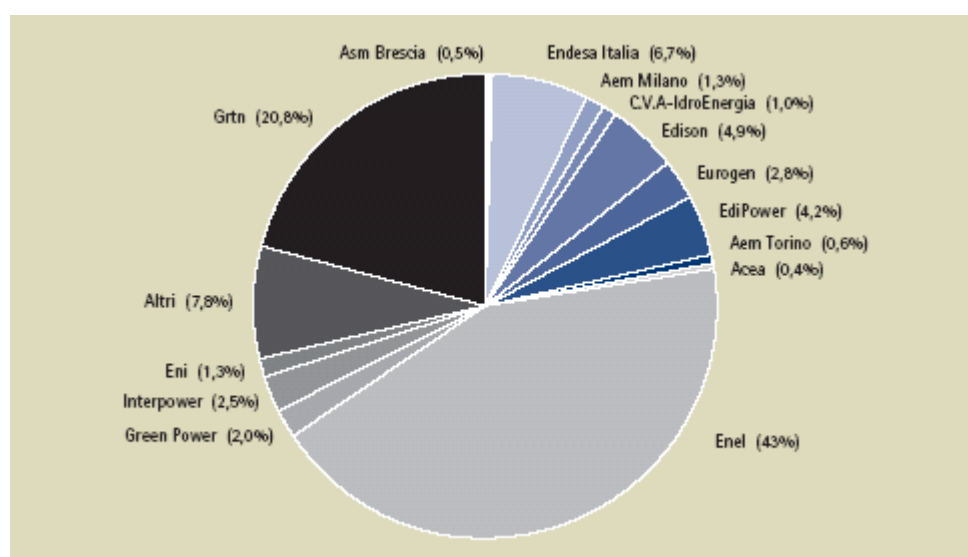
**TAB. 7 NEW PLANT AUTHORIZATIONS REQUESTED AT MAY 2003**

Applications filed with the Ministry of Production Activities

REGION	NUMBER OF PLANTS	MWe	MWt
Piedmont	9	5 872	10 267
Lombardy	10 new plants, 1 upgrade, 1 expansion	5 542	10 075
Veneto	5	2 715	4 810
Friuli V.G.	1 new plant and 1 alteration	400	750
Liguria	3	2 150	4 120
Emilia Romagna	4 new plants, 1 expansion, 1 conversion	2 345	4 210
Tuscany	2	650	1 240
Abruzzo	2	1 178	2 150
Molise	2	1 150	2 034
Umbria	1	800	1 400
Lazio	9 plants and 2 alterations	5 596	10 035
Campania	5	3 081	5 501
Puglia	4 nuove centrali, una modifica	2 422	4 275
Calabria	6	3 912	6 996
Basilicata	1	1 200	2 200
<b>Total Italy</b>		<b>39 013</b>	<b>70 063</b>

Source: Ministry of Production Activities

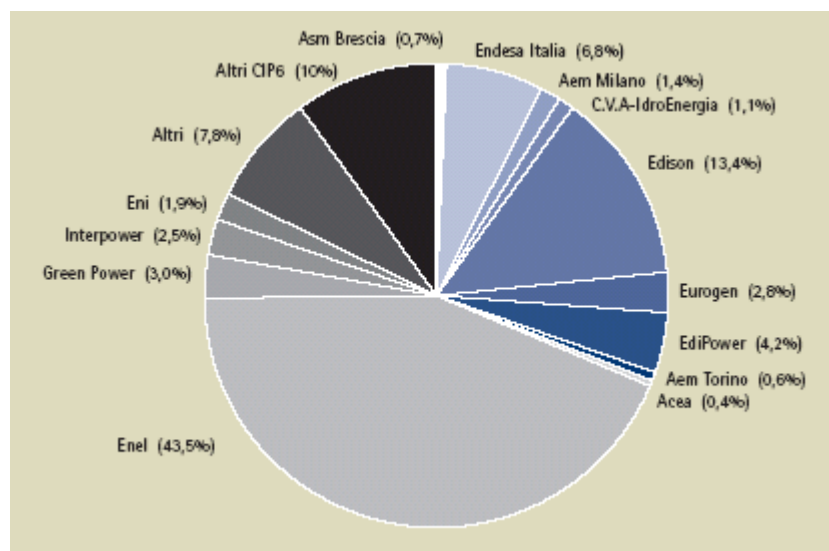
As it stands, the supply side is still strongly dominated by Enel, which only accounts for less than 50 percent of the output destined for consumption (net production less the volume used for pumping) if we include the energy produced at CIP6 subsidized plants.

**FIG. 2 MAJOR ELECTRIC COMPANIES' SHARE OF OUTPUT DESTINED FOR CONSUMPTION, 2002**

Source: Authority's calculations on companies' data

If we attribute CIP6 power to the original producers and not to the transmission system operator (GRTN), the scenario changes slightly.

**FIG. 3 MAJOR ELECTRIC COMPANIES' SHARE OF OUTPUT DESTINED FOR CONSUMPTION IN 2002, INCLUDING CIP6 POWER**



Source: Authority's calculations on companies' data

Net of CIP6 power, i.e. calculating the above percentages without including the electricity produced at CIP6 plants that have no direct "say" in setting the hourly price at the electricity exchange, the Enel Group accounts for 56 percent of the market, followed by Endesa Italia and Edipower with 9 percent each.

It should be noted, however, that for much of 2002, 21 percent of Endesa Italia's and Edipower's generating capacity was unavailable due to the start-up of repowering projects. Likewise, about 15 percent of Enel's installed power was not available for use.

**TAB. 8 TOP FIVE ELECTRICITY PRODUCERS: BREAKDOWN BY FUEL SOURCE**

	RENEWABLE	COAL	PETROLEUM	NATURAL GAS	OTHER
Enel(A)	24,5	18,8	29,1	27,5	0,1
Edison	12,6	-	1,8	74,4	11,2
Endesa IT	7,3	13,8	49,1	29,8	-
Edipower(B)	10,6	6,9	43,1	39,4	-
Interpower	3,4	58,2	21,8	16,6	-
<b>National average</b>	<b>17,9</b>	<b>13,0</b>	<b>27,6</b>	<b>35,8</b>	<b>5,7</b>

Including Enel Green Power

Including Eurogen

Source: Authority's calculations on companies' data

The breakdown of total conventional power generation varies widely among the top five companies (Tab. 8). The completion of the process of deregulating the supply side, during the plant authorization phase, must not

fail to ensure a balanced production mix to the various players in the market.

### Energy produced by subsidized plants

The power withdrawn by the GRTN amounts to roughly 20 percent of net electricity produced in Italy. The GRTN withdraws that power from the companies (Tab. 9) on the basis of the CIP6 discipline or, in the case of surplus energy or electricity produced by hydroelectric plants of less than 3 MW capacity, according to the prices and other terms specified by the Authority respectively in Resolution 108 of 28 October 1997 and Resolution 62 of 18 April 2002.

The production of subsidized electricity in 2002 amounted to 54,100 GWh, a slight increase on the 2001 figure of 53,525. More specifically, there was a rise in CIP6 energy produced by hydroelectric plants, whose sale is regulated by Resolution 62/02, while the sale of surplus power under Resolution 108/97 fell dramatically.

**TAB. 9 GRTN'S WITHDRAWAL OF SUBSIDIZED AND SURPLUS POWER**

GWh; CIP6, "mini-hydro" and surplus energy

	2001	2002
CIP6 power	47 153	49 751
Output by mini-hydroelectric plants (Resolution 62/02)	2 769	2 899
Surplus power (Resolution 108/97)	3 603	1 450
<b>Total</b>	<b>53 525</b>	<b>54 100</b>

Source: GRTN

Of the power withdrawn by the GRTN, 29.4 percent was sold to the captive market at an average price of 5.872 eurocents/kWh, and 76.4 percent was auctioned to the free market at an average of 4.693 eurocents/kWh (see the section on sales to eligible customers).

**TAB. 10 VOLUME AND AVERAGE PRICES FOR ELECTRICITY WITHDRAWALS BY THE GRTN**

TYPE OF SUBSIDY	GWh withdrawn in 2002	Average price, €-cents/kWh	of which: specific technology subsidy	of which: avoided cost (plant and fuel)
1) CIP6 power	49 751	9,348	2,650	6,699
of which assimilated	41 216	8,548	1,837	6,711
- existing assimilated plants	6 046	6,841	-	6,841
- new assimilated plants	35 170	8,904	2,152	6,751
of which renewable	8 528	13,214	6,582	6,638
- existing renewable plants	746	5,780	0,054	5,726
- new renewable plants	7 782	13,927	7,209	6,726
2) Surplus res.108/97	1 450	6,996	-	-
3) "Mini hydro" res. 62/02	2 899	6,066	-	-
Total (1+2+3)	54 100	9,109	-	-

Source: GRTN

## Structure of imports

There was a further increase in the amount of electricity imported in 2002.

The interconnection capacity on the northern border amounted to 6400 MW for 2003: 5700 on the northwest border and 600 on the northeast, plus 100 on the Slovenian border whose use is not guaranteed.

In 2002, commercial operations began on the southern border through the continuous-current power line between Puglia and Greece, for a total capacity of 500 MW.

Italy's import capacity for 2003, as established in Authority Resolution 190 of 21 November 2002 (amended by Resolution 200 of 5 December 2002), can be broken down by market as follows:

- the free market has access to 4,145 MW of power, of which 1,445 are assigned on an annual basis under uninterruptible contracts, 1200 are assigned every two years under interruptible contracts, and 1500 are allotted to foreign operators;
- the Republic of San Marino, Corsica, and Vatican City have reserved total power of 155 MW;
- Enel's long-term contracts with foreign operators, which bring in energy for the captive market, amounted to 2000 MW in 2003. From 2007, the capacity promised under long-term contracts will be reduced to 600 MW, and from 2011 there will be no more long-term contracts in effect;
- captive market customers also benefit from a reserved capacity of 100 MW on the northern border and another 100 MW on the southern border.

Tab. 11 shows the breakdown of import capacity by country and destination.

**TAB. 11 ASSIGNMENT OF IMPORT CAPACITY ON THE NORTHERN BORDER, 2002-2003**

Border	2002					2003				
	F	CH	A	SLO	TOTAL	F	CH	A	SLO	TOTAL
1 Assigned to the free market	2 653		220	380	3 253	3 453		220	480	4 153
Of which										
interruptible	500		100		600	950			250	1 200
allocated to foreign operators	-	1000	110	190	1 300	-	1200	110	190	1 500
uninterruptible	1 153		10	190	1 353	1 303		10	140	1 453
2 Assigned to San Marino, Corsica, Vatican City			147		147			147		147
3 Long-term contracts for the captive market	1800	800			2 600	1400	600			2 000
4 Additional capacity assigned to the captive market							100			100
Total capacity (1+2+3+4)	5 400		220	380	6 000	5 700		220	480	6 400

## The Authority's objectives in promoting supply-side competition

The heavy concentration of the electricity supply in Italy confirmed that in 2002, the Authority would maintain a priority of encouraging new suppliers to enter the market. It focused its efforts on two areas: the advancement of



proposals aimed at reducing the market power of the incumbent, through measures in addition to the restriction on any one operator's exceeding 50 percent of national production and imports; and the promotion of a priority access system for companies that increase the interconnection capacity with other countries, as an added measure to the current regulation of interconnection lines. The Authority outlined possible interventions in this regard with two consultation documents, and sent recommendations to the Council of Ministers and the Italian Parliament dated 11 March 2002 and 13 June 2002.

The two consultation documents bore the following titles:

- *Proposals for the adoption of urgent measures to promote competition in the supply of electricity for the free market for the year 2002 (7 August 2001);*
- *Background report and proposals on the subject of direct lines for the international trading of electric power (27 February 2002).*

The first document focused mainly on regulating electricity imports and on the "virtual power plant" (VPP: the sale of production capacity without disposing the property of the plant itself), and the second on the regulation of direct lines for importation.

### Imports: from the consultation document to regulatory action

On the subject of imports, the consultation document of 7 August 2001 emphasized the main problems relating to the assignment of interconnection capacity and proposed solutions in the form of alternative allocation methods. The Authority also promised to pursue agreements with the regulatory authorities of neighbouring countries, to achieve the joint allocation of transmission capacity. In 2001, in fact, an agreement valid for 2002 was signed with the *Commission de regulation de l'électricité* (the French regulatory body) for the creation of an electricity free trade zone. Under that agreement, all of the transmission capacity of the interconnection network between Italy and France was assigned jointly to Italy's GRTN and the *Reseau de transport de l'électricité* (France's grid operator), along with the transmission capacity of the interconnection network between Italy and Switzerland that Italy was free to assign, amounting in 2002 to 1,653 MW out of an available 2,653.

### Resolution 190/02 and the regulation of imports for 2003

With Resolution 190/02, the Authority defined the procedures and conditions for the assignment of transmission capacity on the northern border for 2003. The resolution established:

- confirmation for 2003 of the creation of a free trade zone consisting of the interconnection lines between Italy and France and 50 percent of the available lines between Italy and Switzerland. That capacity would be assigned jointly to end customers meeting certain conditions, by the GRTN and the *Reseau de transport de l'électricité*, using a proportional rationing method;
- the assignment, using a proportional rationing method, of 50 percent of the transmission capacity on the interconnection networks between Italy and Austria and between Italy and Slovenia;

- the possibility to request transmission capacity for the transit of electricity over the national transmission network (importation and simultaneous exportation of the imported power);
- the coordinated assignment, by the GRTN, the Austrian Power Grid, and ELES (the Slovenian grid operator), of any annual transmission capacity made available to each other by those parties;
- a secondary trading mechanism, based on market methods, for the assignment of transmission capacity that becomes available for a horizon of less than one year (short-term assignment).

In May 2002, following the start-up of the Greece-Italy connection, the Authority and the Greek regulatory authority (RAE) signed an agreement governing a joint procedure for the management of the transmission capacity over the interconnection network between the two countries.

Still on the subject of imports, Art. 35 of Law 273 of 12 December 2002 ("Provisions regarding the importation and supply of electric power") makes it possible to ensure the priority assignment of import bands for three specific categories of user. The capacity reserved for priority assignment must be established in subsequent measures by the Ministry of Production Activities.

Therefore, since the approval of Art. 35, the procedures and conditions for allocating import capacity have no longer been ruled only by the Authority as stated in Art. 10, par. 2 of Legislative Decree 79/99.

#### **Additional efforts to promote competition: consultation document and recommendations to the Council of Ministers and Parliament**

On the topic of national output, the consultation document of 7 August 2001 proposed the introduction of VPPs, i.e. contracts under which the owner of a plant would agree to make it available for production, and the other signatory would acquire the right to formulate the offer to the wholesale market regarding the power that the plant could generate.

In 2002, however, during the Parliamentary debate over Bill AS 1125 that would convert Decree Law 7 of 7 February 2002 ("Urgent Measures to Ensure the Safety of the Electrical System"), a 50 percent cap was suggested on the allocation of installed power in Italy to any one party. The cap was meant to reduce the ownership concentration of generated power to a more significant level with respect to that envisaged in Legislative Decree 79/99.

The Authority's recommendation of 11 March 2002 to the Council of Ministers and Parliament, on the subject of the bill described above, expressed its full approval of the cap. The Authority also suggested identifying the approximately 5,000 MW of capacity that Enel would have to give up to third parties from its mid-merit and peak plants, given their strategic importance in setting the price of electricity.

The introduction of the cap would have made the VPP idea pointless, but the article concerning that measure was later removed from Bill AS 1125, making it necessary to come up with other ways of accelerating the supply-side liberalization of the electricity market.

In the recommendations for the advancement of competition submitted to the Council of Ministers with Resolution 106 of 13 June 2002, the Authority made several suggestions for limiting the incumbent's market power. Specifically, it emphasized the need to review and amend the quotas

established in Legislative Decree 79/99 in consideration of the market's geographical layout and thus, given the transmission limitations over the national grid, the possibility of concentrating the supply on a regional scale. The Authority also pointed out that the mid-merit and peak plants, fundamental in setting electricity prices for the market, would remain almost exclusively in the hands of Enel.

To take care of these problems, the recommendation suggested the following:

- for companies already in business before Legislative Decree 79/99, a 40 percent cap on production and importation (net of self-production and subsidized energy as per Art. 3, par. 12 of said decree), effective from 1 January 2006; for new arrivals the cap would be set at 20 percent;
- transitional measures that would remove from Enel some of the power generated by mid-merit and peak plants, using the VPP system or outsourcing contracts regulated by the Authority, or by putting the power from those plants in the hands of a third party such as the GRTN;
- a review of the prime minister's decree of 4 August 1999 where it concerns the minimum period of ongoing production by the companies acquiring the 15,000 MW worth of plants disposed of by Enel.

#### Resolution 151 of 1 August 2002 and direct and priority access lines for cross-border interconnection

The consultation document of 27 February 2002 was written with the aim of defining incentives for the activation of direct lines for electricity exchange across borders. In the Authority's opinion, these lines would help build competition in the supply of electric power.

With Resolution 151/02, the Authority issued rules for priority access to transmission capacity over the cross-border interconnection network as a reward to companies that work directly to expand that network. Specifically:

- companies performing works that directly develop the national transmission network for cross-border interconnection are granted priority access, for a 10-year period, to 80 percent of the increased capacity brought about by the infrastructures they build;
- during that period, no remuneration is due to the companies other than the assignment of priority access rights;
- the infrastructures built by the companies are part of the national transmission network, and as such, are run by the GRTN.

#### CIP6 auctions

In accordance with the Ministry of Production Activities' decree of 22 November 2002, for 2003 as well the Authority issued bidding rules for the energy withdrawn by the GRTN, pursuant to Art. 3, par. 12 of Legislative Decree 79/99. Since the auction system guaranteed only certain categories of user a low-cost supply of electricity, the general public shouldered the difference between the revenues from the bidding procedure (Tab. 15) and the withdrawal cost incurred by the GRTN (Tab. 10).

## ELECTRICITY TRANSMISSION AND DISPATCH

### Scheduled start-up of merit order dispatch

Legislative Decree 79/99, at Art. 5, par. 1, stated that the transition from self-dispatch system to a merit order system would have to take place by 1 January 2001. As of this writing, the self-dispatch system is still in operation, since the framework of rules necessary for implementing merit order dispatch has not yet been completed.

Having considered the Authority's opinion, with a decree of 9 May 2001 the Ministry of Industry, Commerce and Trade approved the electricity market regulations drawn up by the market operator (GME S.p.A.), which established that the implementation protocols and procedures would be specified in the instructions and in the technical operating provisions.

In January 2002, GME sent the instructions to the Ministry of Production Activities which, the following month, passed them on to the Authority. On 23 April 2002, with Resolution 72, the Authority issued its favourable opinion and specified the need to supplement or change certain measures.

As of this writing, the text of the instructions drawn up by GME on the basis of the Authority's comments is still being reviewed by the Ministry of Production Activities, although the section on the negotiation of "green certificates" was separated from the rest and approved by a ministerial decree of 14 March 2003.

As for the technical operating provisions, with Resolution 95/01 the Authority had defined the conditions for the GRTN's provision of the electricity dispatch service in Italy, on an economic merit basis.

On 31 October 2001 the GRTN submitted an outline of dispatch rules to the Authority which, with Resolution 87 of 8 May 2002, imposed some restrictions that the GRTN incorporated into the final version of the Rules for Merit Order Dispatch that was approved by its Board of Directors on 12 July 2002.

The bidding system can only begin once the market regulation instructions have been approved by the Ministry of Production Activities. Meanwhile, the regulations need to be completed with regard to:

- the definition of authorization procedures for bilateral contracts formed outside the bidding system;
- the creation of a system for the conventional assignment of an hourly withdrawal profile for the load taken at points without hourly meters ("load profiling"), to ensure that the entire demand side can participate actively in the bidding system.

That latter aspect was a focus of the Authority's efforts in 2002. In August, it issued a consultation document called *Conventional Determination of Electricity Withdrawal Profiles for End Customers without Hourly Meters and the Definition of Information Flows Required for the Estimation and Final Reckoning of Electricity Withdrawals*.

### Transitional dispatch regulations

Until the merit order dispatch system could be established, it was necessary to set the rules for the transitional dispatch service. These took the form of

Resolution 36 of 7 March 2002, which specifies how fees are to be paid for the balancing and electricity exchange services.

When Resolution 36/02 was applied, however, some problems emerged with regard to the accounting and settlement of transactions. In response, the Authority published a consultation document entitled *Changes to the Transitional Conditions for the Electricity Dispatch Service and Ideas for the Procurement of Resources to Render that Service*, in order to solve the problems that had arisen during the year.

The document proposed that the transitional dispatch service be reformed so that:

- transmission contracts for a given withdrawal point could only be drawn up after the agreements for balancing and exchange;
- a single agent would hold the transmission, balancing and exchange contracts;
- all available withdrawal points in a distributor's own area would have to be grouped into a single contract;
- balancing charges could be invoiced as advances on the basis of the declarations submitted by the holders of balancing contracts;
- the preliminary balances of exchange contracts could be computed on the basis of the declarations submitted by the holders of exchange contracts, and be invoiced as advances if negative.

## Technical and economic service regulation

### Transmission charge adjustments

As stated in Resolution 228/01, the Authority must adjust its tariff variables for the electricity transmission, distribution and selling service on an annual basis. For 2003, the adjustment was made via Resolution 152 of 1 August 2002. The net result of increases and decreases in the various parameters was a slight rise in transmission charges for all types of end user.

**TAB. 12 AVERAGE TRANSMISSION TARIFF FOR THE VARIOUS TYPES OF CONTRACT**

Average charge net of taxes and component A; €-cents/kWh

CONTRACT	2002	2003	Difference 2003-2002	% change 2003-2002
Low Voltage residential	4,923	4,947	0,024	0,5
LV lighting	1,790	1,822	0,032	1,8
LV other	3,985	4,018	0,033	0,8
Medium Voltage public lighting	1,050	1,072	0,022	2,1
MV other	1,471	1,493	0,021	1,4
High Voltage	0,445	0,455	0,011	2,4

The changes in recognized costs led to the adjustment of the V1 limitation (the restriction on revenues that can be earned by each distributor for each type of contract), resulting in an average change in end-customer charges as reported in Tab. 12. As for electricity transmission tariffs for distributors and producers (Part 2, Section 2 of the Consolidated Act), the change in

recognized costs implied an average increase of 3 percent in the component charged to distributors (CTR) and a rise of 4.1 percent in that charged to producers.

## SALES TO ELIGIBLE CUSTOMERS

### The market of electricity sales to eligible customers

The market was opened further in 2002 and early 2003, as reported in Tab. 13, which shows the breakdown of eligible customers by type of eligibility and region along with consumption.

The supply shortage on the free market is demonstrated by a comparison between the figures reported in this table and those for free-market sales, found in the Electricity Report (Tab. 1). With a free-market demand for electricity in 2002 of slightly more than 117 TWh, sales by wholesalers amounted to about 98 TWh. The rest of the power required by eligible customers, approximately 20 TWh or 15 percent of the total, was provided on the captive market.

For purposes of describing the trend in eligible customers during the year it is helpful to distinguish between two periods, before and after the eligibility threshold was lowered to 0.1 GWh in April 2003.

The amounts of electricity involved in free-market purchases refer to withdrawals only, although the volume of energy actually self-produced may be affected by the prices achieved on the market. Self-production accounts for a significant share of consumption, as demonstrated in Tab. 14. Self-consumption by self-producers makes up about 15 percent of consumption by eligible customers. Self-production as a percentage of total consumption is especially high in the case of multi-site customers, end customers, and cooperatives, which often have self-production plants for the whole association. It is negligible, on the other hand, in the case of corporations, groups and consortiums.

TAB. 13 EVOLUTION OF THE FREE MARKET, 2002-2003

	APRIL 2002			APRIL 2003			MAY 2003		
	No. sites	Consumption (TWh)	Consumption per site (GWh)	No. Sites	Consumption (TWh)	Consumption per site (GWh)	No. sites	Consumption (TWh)	Consumption per site (GWh)
<b>By type of eligibility</b>									
End customer	688	62,4	90,7	817	65,3	79,9	n.d.	n.d.	-
Corporations	421	5,9	14,0	611	6,9	11,2	n.d.	n.d.	-
Groups	526	7,5	14,3	555	7,9	14,2	n.d.	n.d.	-
National multi-site	824	12,8	15,6	1 059	17,0	16,1	n.d.	n.d.	-
Consortiums	7 073	27,8	3,9	8 434	31,1	3,7	n.d.	n.d.	-
Cooperatives	1 673	8,4	5,0	1 999	8,5	4,3	n.d.	n.d.	-
<b>By region</b>									
Val d'Aosta	5	0,3	53,5	11	0,3	30,0	239	0,4	1,7
Piedmont	1 207	13,9	11,5	1 410	14,9	10,6	11 688	19,1	1,6
Lombardy	3 298	30,7	9,3	3 906	33,0	8,5	34 245	45,9	1,3
Liguria	178	1,7	9,3	227	1,8	7,8	3 033	3,5	1,1
Veneto	1 598	13,8	8,6	1 892	14,8	7,8	15 976	20,0	1,3
Trentino Alto Adige	266	2,0	7,4	296	2,4	8,1	3 558	3,6	1,0
Friuli Venezia Giulia	408	5,3	13,1	482	5,6	11,6	3 810	7,1	1,9
Emilia Romagna	1 215	9,9	8,2	1 535	11,6	7,6	14 390	17,8	1,2
Tuscany	792	7,3	9,2	931	7,6	8,2	10 301	11,0	1,1
Marches	364	2,0	5,5	424	2,4	5,6	4 498	4,0	0,9
Umbria	131	2,8	21,6	171	3,1	18,4	1 277	3,8	2,9
Lazio	526	4,7	8,9	691	5,5	8,0	8 926	9,3	1,0
Abruzzo	216	2,7	12,7	253	3,0	12,0	2 612	4,1	1,6
Molise	59	0,6	9,8	65	0,7	10,3	517	0,9	1,7
Campania	272	5,2	19,0	346	5,8	16,8	7 397	9,1	1,2
Puglia	233	4,7	20,3	284	5,2	18,5	6 449	7,3	1,1
Basilicata	43	0,9	21,5	57	1,1	19,5	1 056	1,5	1,4
Calabria	102	0,6	6,0	115	0,7	6,0	2 751	1,5	0,5
Sicily	176	8,8	50,0	230	9,4	41,1	7 787	12,4	1,6
Sardinia	116	6,8	59,0	149	7,5	50,5	3 306	8,7	2,6
<b>By range of consumption (GWh)</b>									
0,1 - 0,2	0	0,0	-	0	0,0	-	67 590	9,5	0,1
0,2 - 0,5	0	0,0	-	0	0,0	-	40 474	12,6	0,3
5,0 - 1,0	0	0,0	-	0	0,0	-	14 966	10,6	0,7
1,0 - 2,0	4 172	5,6	1,3	5 363	6,9	1,3	10 105	13,4	1,3
2,0 - 5,0	3 772	11,8	3,1	4 397	13,7	3,1	6 296	19,5	3,1
5,0 - 10,0	1 564	10,9	7,0	1 792	12,5	7,0	2 276	15,8	6,9
10,0 - 20,0	847	11,7	13,8	987	13,7	13,9	1 115	15,5	13,9
20,0 - 50,0	496	15,2	30,7	562	17,1	30,4	597	18,1	30,3
50,0 - 100,0	183	12,5	68,5	194	13,4	68,8	208	14,3	69,0
> 100,0	171	57,0	333,4	180	59,4	329,8	189	61,9	327,4
<b>Total</b>	<b>11 205</b>	<b>124,8</b>	<b>11,1</b>	<b>13 475</b>	<b>136,7</b>	<b>10,1</b>	<b>143 816</b>	<b>191,1</b>	<b>1,3</b>

Source: eligible customer databases

**TAB. 14 INCIDENCE OF SELF-PRODUCTION ON CONSUMPTION BY ELIGIBLE CUSTOMERS AT END-APRIL 2003**

Billions of kWh

	Withdrawal	Production	Sale	Consumption
<b>By type of eligibility</b>				
End customer	52,7	18,0	5,3	65,3
Corporations	6,3	0,7	0,1	6,9
Groups	7,5	0,5	0,1	7,9
National multi-site	13,0	23,8	19,8	17,0
Consortiums	30,2	1,3	0,3	31,1
Cooperatives	7,9	2,7	2,0	8,5
<b>By region</b>				
Val d'Aosta	0,3	0,0	0,0	0,3
Piedmont	13,0	3,9	2,0	14,9
Lombardy	30,0	13,3	10,2	33,0
Liguria	1,6	0,2	0,0	1,8
Veneto	13,5	1,5	0,2	14,8
Trentino Alto Adige	2,1	0,4	0,0	2,4
Friuli Venezia Giulia	4,6	1,6	0,6	5,6
Emilia Romagna	9,6	5,5	3,5	11,6
Tuscany	6,7	2,4	1,4	7,6
Marches	2,2	0,7	0,5	2,4
Umbria	3,1	0,0	0,0	3,1
Lazio	5,1	0,4	0,0	5,5
Abruzzo	2,7	0,6	0,3	3,0
Molise	0,7	0,0	0,0	0,7
Campania	5,5	0,4	0,0	5,8
Puglia	3,9	3,6	2,2	5,2
Basilicata	0,9	0,3	0,1	1,1
Calabria	0,7	0,0	0,0	0,7
Sicily	5,4	10,7	6,7	9,4
Sardinia	6,0	1,6	0,1	7,5
<b>Total</b>	<b>117,5</b>	<b>47,0</b>	<b>27,8</b>	<b>136,7</b>

Source: eligible customer databases

## CIP6 auctions and imports as a way to increase free-market supply

CIP6 energy auctioned to the free market in 2002 amounted to 39,052 GWh, or about 40 percent of the total free market demand. The power was sold by the GRTN via three auctions to three different kinds of end customer: interruptible without notice, interruptible with notice, and uninterruptible, in accordance with Art. 2 of Authority Resolution 91 of 30 June 1999. Constant-width 10-MW bands were assigned on an annual basis. Tab. 15 shows the CIP6 power allocated to the free market in 2002 by type of end customer and average auction price.

The Ministry of Production Activities decree of 22 November 2002 established, for 2003, a different classification of end customers to whom CIP6 power would be assigned, allotting them 4,400 MW to be assigned on



an annual basis and 200 MW on a monthly basis. With respect to 2002, new features are as follows:

- replacement of the “interruptible without notice” category by end customers with at least 55 percent of their consumption in cluster F4;
- the availability of 200 MW to assign on a monthly basis.

With Resolution 204 of 12 December 2002, the Authority defined the bidding procedures and auction starting prices for the various categories identified in the Ministry's Decree.

## Imports

The capacity intended for the free market rose from 3,253 MW in 2002 to 4,153 MW in 2003 (Tab. 11). Of the total, the GRTN, in conjunction with the French *Reseau de transport de l'électricité*, assigned 2,053 MW according to the standards set in Resolution 190/02, i.e. on a pro-quota basis (Tab. 17). Therefore, 1,500 MW were assigned to foreign operators, while the remaining 600 had been assigned in 2002 under interruptible, two-year contracts. The power available to the GRTN was split into 1,453 MW for yearly assignment to uninterruptible end customers and 600 MW for two-yearly assignment to interruptible customers, in addition to the 600 MW already allocated under two-year contracts the previous year.

**TAB. 15 VOLUME AND AVERAGE PRICE OF CIP6 ENERGY AUCTIONED IN 2002**

END CUSTOMER	MW ASSIGNED	AVG.PRICE, €CENTS/KWH
Uninterruptible	3 180	4,9843
Interruptible with notice	820	4,0497
Interruptible without notice	500	3,8998
<b>Total</b>	<b>4 500</b>	<b>4,6935</b>

Source: GRTN

**TAB. 16 ENERGY ASSIGNED IN 2003 AND STARTING PRICE AT CIP6 AUCTIONS**

End customer	MW assigned	Starting price set by Authority
Annual assignment	4 400	
of which: uninterruptible	3 000	$2,43+0.659 \cdot Ct$
of which: interruptible with notice	1 000	$1,80+0.659 \cdot Ct$
of which: with 55% of consumption in F4	400	$1,98+0.659 \cdot Ct$
Monthly assignment	200	$2,43+0.659 \cdot Ct$ * monthly coefficient $A_M$
<b>Total</b>	<b>4 600</b>	

Source: GRTN

Of the 1,453 MW, the capacity available on the northwest border (1,303 MW) was divided among 48 companies, and that on the northeast border among 16 companies.

Of the 600 MW worth of interruptible power, the capacity on the northwest border was assigned to 77 companies and the 150 MW in the northeast to 57.

**TAB. 17 ASSIGNMENT OF AVAILABLE CAPACITY ON THE NORTHERN BORDER, 2003**

	Northwest border		Northeast border		Total
	MW	No. of assignees	MW	No. of assignees	MW
Uninterruptible customers	1303	48	150	16	1453
Interruptible customers	450	77	150	57	600
Total	1753	125	300	73	2 053

Source: GRTN

## Actions by the Authority to simplify eligibility certification procedures

With Resolution 20 of 13 March 2003, the Authority redefined procedures for the certification and recognition of eligibility to access the free electricity market. Art. 10, par. 4 of Law 57 of 5 March 2001 had lowered the eligibility threshold to 0.1 GWh with effect from 29 April 2003. On that basis, the number of eligible end customers increased more than tenfold, from about 13,000 to more than 150,000.

Therefore, the Authority designed a system by which companies could certify their own status over its website. This way, end customers who have the right to access the free market but who do not appear on the list can do so simply by registering their names on-line. They are still subject to the system of eligibility inspections established with Resolution 91/99, which has not been changed.

Nor has there been any change in the reporting requirements stated in Resolution 91/99, concerning the sale of electricity by distributors and wholesalers to other eligible customers, which the Authority needs in order to monitor the development of the free market. In fact, reporting requirements have been introduced for consortiums and cooperatives that sell energy to eligible customers, and for producers with more than 10 MW of installed power. All of these parties must submit their declarations to the Authority by 31 January each year.

## DISTRIBUTION AND SALE TO THE CAPTIVE MARKET

### The local distribution monopoly and the market for sales to captive customers

#### Completion of the distribution network disposal

In 2002 and early 2003, additional progress was made in the rationalization of the electricity distribution sector as ordered by Art. 9 of Legislative Decree 79/99. During the second half of 2002, the Ministry of Production Activities issued 27 distribution licences to municipalities and six to Italian islands. The licensing procedure is still underway for a number of distributors, however, including Enel Distribuzione.

Meanwhile, Enel Distribuzione has continued to sell off portions of its network, in places such as Milan, Verona, Vercelli and Gorizia. In other cities, including Terni, Modena and Vicenza, arbitration procedures have begun, some of which have already led to preliminary sale agreements.

In still other parts of the country, on the other hand, Enel Distribuzione has acquired portions of the network or bought out entire distributors.

## Economic regulation of the distribution business

### Approval of tariff options

When the Authority adjusted the transmission tariff parameters with Resolution 152/02, it also redefined the price caps (V1 and V2) within which distributors were asked to calculate their proposed tariff options for 2003.

In total, the Authority has evaluated 886 basic tariff options submitted by 172 distributors and 99 special tariff options proposed by 32 distributors. All of the options, both basic and special, have been found to comply with the provisions of the Consolidated Act, and have been published on the Authority's website as planned.

## Economic regulation of sales to the captive market

In 2002 and early 2003, the Authority concentrated on its usual task of tariff adjustment and also on the integration of legislative changes regarding the reflection of fuel costs in the variable portion of the tariff and the inclusion of a new component to cover the expense of obtaining "green certificates". Lastly, in order to complete the tariff reform while ensuring access to the service by economically disadvantaged households, in February 2003 the Authority issued a consultation document for the introduction of a low-income tariff.

### Calculation of the wholesale price for the captive market

With Resolution 203 of 12 December 2002, the Authority set the wholesale price of electricity for the period from 1 January 2003 until the start-up of the electricity bidding system.

The method used to calculate the wholesale price for the captive market in 2003 was the same as that used for 2002. The component covering fixed production costs was determined on the basis of the ratio of recognized costs to a standard production level set for thermoelectric plants, so as to make prices compatible with an efficient wholesale electricity market and ensure companies' economic and financial viability on the basis of those parameters. For 2003, that component was essentially in line with the 2002 figures for each of the hourly brackets.

### New procedures for calculating Ct

Due to the conversion into law of Decree 193 of 4 September 2002 (Law 238 of 28 October 2002) and the approval of the prime minister's decree of 31 October 2002, which contained supplementary rules for the Authority's determination of gas and electricity tariffs, with Resolution 194/02 the Authority established new procedures for adjusting the electricity tariff component that covers variable generation costs.

The changes concerned three indexing variables, namely:

- the indexing period. Before the enactment of Resolution 194/02, Ct was revised on the basis of the average price of a basket of fossil fuels over the previous four months. Under the new procedure, the indexing period was increased from four to six months;
- the no-adjustment threshold. Resolution 194/02 states that Ct shall be updated if Vt—the recognized unit cost of fuel, as per Art. 6, par. 5 of Resolution 70/97—goes up or down by more than 3 percent. The previous threshold for no-adjustment was 2 percent;
- adjustment frequency. Under Resolution 194/02, adjustments would be made on a quarterly basis as opposed to every two months.

### Compensation for the cost of obtaining “green certificates”

With Resolution 227 of 23 December 2002, the Authority established how companies could recover the expense of complying with Art. 11 of Legislative Decree 79/99 (which instituted compulsory environmental or “green” certificates) with regard to electricity sold in the captive market.

For free-market electricity, the transfer of certification costs to the end customers takes place according to traditional market rules, i.e. by incorporating those costs into the price that is freely agreed between the parties. For end customers in the captive market, however, the certification costs can only be transferred within the limits of the administered tariffs defined by the Authority, in the context of the wholesale price of electricity. For that reason, Resolution 227/02 introduced a separate tariff component, VE, expressed in eurocents per kilowatt hour, to be incorporated into component CCA.

### Directives for the Sole Purchaser (Acquirente Unico)

Art. 4 of Legislative Decree 79/99 requires the Sole Purchaser to guarantee the supply of electricity to customers in the captive market. It also states that, on the basis of directives imparted by the Authority, the Sole Purchaser shall enter into non-discriminatory sale contracts with distributors, permitting the application of the sole tariff to the captive market and ensuring its own viability.

In accordance with Art. 4, the Authority, with Resolution 136 of 17 July 2002, initiated a process by which it could acquire the information it needed to issue such directives.

### Sales to non-residential captive customers

To customers in the captive market with contracts other than residential use, electricity is sold according to the provisions of the Consolidated Act, giving rise to the application of component CCA that covers the cost of buying and selling electric power. That component has been set and periodically adjusted by the Authority in relation to changes in component Ct (see the section “New procedures for calculating Ct”).

### Sales to residential customers

The tariff system for residential customers described in the Consolidated Act is based on tariffs that are set and adjusted by the Authority. The following pricing categories exist:

- D2, for primary home contracts with power commitment of no more than 3 kW;

- D3, for primary home contracts with power commitment of more than 3 kW or for secondary residence contracts;
- D1, a reference tariff not used with end customers. This is a tariff covering service costs that is used to help establish the revenues each company is due.

Residential tariffs for 2003, excluding component PV, were adjusted with Resolution 153 of 1 August 2002.

### Bimonthly adjustments

Component Ct rose from 3.514 eurocents/kWh during the second two months of 2002 to 4.106 eurocents/kWh during the first quarter of 2003.

The increase in Ct from March 2002 to March 2003, amounting to 16.8 percent, was relatively minor compared with the rise in fuel prices, due in part to Decree Law 193/02 that was published in the *Official Gazette* (Gazzetta Ufficiale, Serie Generale) of 4 September 2002 (issue 207) and converted without changes into Law 238/02. That law froze tariffs at the level estimated for July-August 2002, until the end of the year, and led to the Authority's establishment of new adjustment criteria for electricity prices (see the section "New procedures for calculating Ct").

With regard to Decree Law 193/02, it should be noted that the tariff freeze applied only to those set by the Authority for public utility services. Therefore, it had no direct influence on prices not set by the Authority, such as those for the supply of electricity in the free market. The effects on that market were indirect, stemming, for example, from contractual terms specifying that the price of power supplied to a free customer would be adjusted on the basis of the trend in component Ct.

In 2002 and the first quarter of 2003, the Authority also took care of rate adjustments for components A and UC. Specifically, during the period in question, the only changes made were to component A3, used in the calculation for new plants run on renewable and assimilated fuels. The average rate for that component rose from 0.75 eurocents/kWh for the first two months of 2002 to 0.92 eurocents/kWh, an increase of 0.17 eurocents/kWh.

### Low-income rate and tariff for earthquake victims

On 20 February 2003 the Authority issued a consultation document concerning the definition of tariffs for low-voltage electricity contracts with low-income households. The document was an important step in bringing the economic goals of the power companies closer to the objectives of social welfare.

The proposed tariff system would allow economically disadvantaged persons to pay less for household electricity, without putting a burden on the state, through a limited programme of revenue transfer from other customers. Entitlement to the low-income rate would depend on an objective mechanism for determining the household's economic status, called the *indicatore della situazione economica equivalente* (ISEE), developed by the government for the reduced-rate provision of essential services.

With the establishment of the low-income rate, the Authority will have completed the reform of the electricity tariff system for residential customers that began in the year 2000. Therefore, once the low-income rate is

adopted, it can redefine the process of merging the D2 and D3 residential tariffs into a single rate reflecting service costs (currently known as reference tariff D1).

In keeping with its mandate, in 2002 and early 2003—due to the state of emergency declared by the Department of Civil Protection and the subsequent requests made by the commissioner for emergencies—the Authority intervened with special tariffs for the victims of natural calamities.

## ELECTRICITY PRICES AND TARIFFS

### Trend in the ISTAT index

Thanks to the favourable trend in international oil prices during the course of 2001, the price of electric power for Italian households was reduced several times starting in the second quarter of that year.

By the close of 2001, the index<sup>1</sup> had fallen to its position as of autumn 2000, and decreased by 2.6 percent over the 12-month period. As a matter of fact, the contribution of electricity to total inflation was zero during the summer months, and negative starting in September.

**TAB. 18 MONTHLY ELECTRICITY PRICE INDEX**

Index (1995 = 100) and percent change

Month	2001				2002			
	Nominal price	% change 2001-2000	Real price (A)	% change 2001-2000	Nominal price	% change 2002-2001	Real price (A)	% change 2002-2001
January	103,2	9,3	90,1	6,1	98,1	-4,9	83,6	-7,1
February	103,2	9,3	89,7	6,1	98,1	-4,9	83,2	-7,3
March	103,4	9,3	89,8	6,2	98,0	-5,2	83,1	-7,5
April	103,4	9,3	89,4	5,9	98,0	-5,2	82,8	-7,5
May	100,3	2,7	86,5	-0,4	99,0	-1,3	83,4	-3,6
June	100,3	2,7	86,3	-0,3	99,0	-1,3	83,4	-3,4
July	100,5	1,0	86,5	-1,9	101,3	0,8	85,2	-1,5
August	100,5	1,0	86,5	-1,8	101,3	0,8	85,1	-1,7
September	100,5	-0,1	86,4	-2,7	101,3	0,8	84,9	-1,7
October	100,5	-0,1	86,3	-2,6	101,3	0,8	84,7	-1,8
November	100,4	-2,6	86,0	-4,9	101,3	0,9	84,4	-1,9
December	100,4	-2,6	86,0	-4,9	101,3	0,9	84,3	-1,9
<b>Average for the year</b>	<b>101,4</b>	<b>3,1</b>	<b>87,5</b>	<b>0,3</b>	<b>99,8</b>	<b>-1,5</b>	<b>84,0</b>	<b>-3,9</b>

(A) Electricity price index as percentage of the general index (excluding tobacco products).

Source: Calculations on ISTAT data, national indices for entire population.

In real terms, the price of electricity fell even more dramatically: in December the index was nearly 5 percent lower than the figure for the previous year.

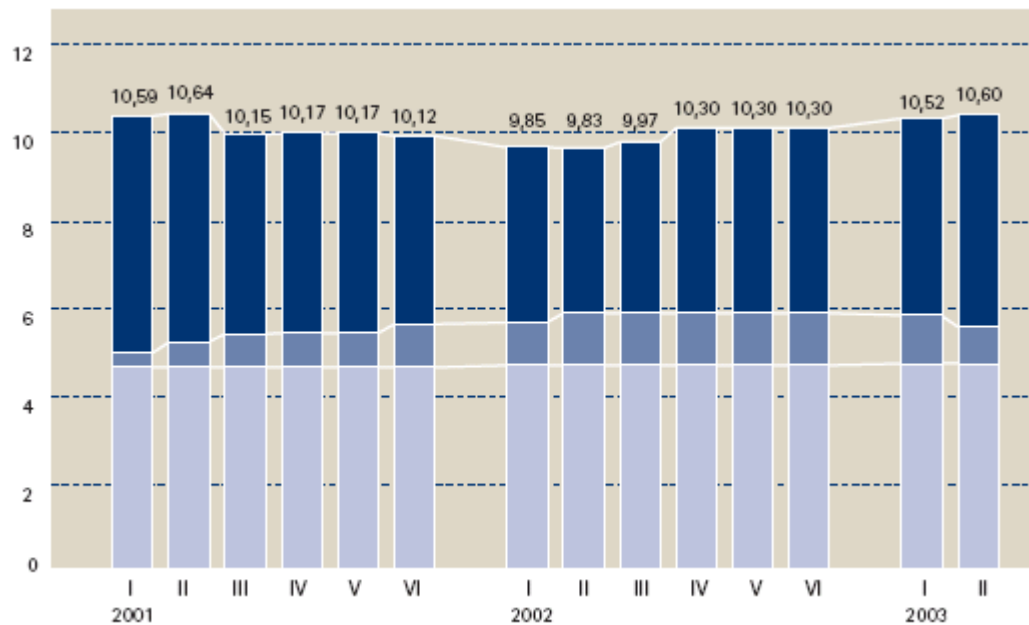
<sup>1</sup> In the context of the national basket of consumer prices for the entire population (NIC), ISTAT reports the price of electricity each month, as part of the "household expenses" category (see our previous annual reports for an explanation of how the elementary electricity price index is calculated).

Because of the high prices that opened 2001, however, the average for the year increased by 3.1 percent (0.3 percent in real terms) compared with 2000.

The subsequent flare-up in international prices, especially starting in the second quarter of 2002, caused the price of electricity in July to jump 2.3 percent with respect to the previous month. That price remained unchanged until the end of the year, due to the tariff freeze implemented by the government with Decree Law 193/02 (converted into Law 238/02). The year closed with an overall increase (+0.9 percent on December 2001), which was destined to rise further because of the constant rise in the international price of crude oil.

**FIG. 4 BREAKDOWN OF NATIONAL AVERAGE ELECTRICITY TARIFF, NET OF TAXES, FOR THE PAST TWO YEARS**

Eurocents per kWh



Until 2001 the average amount of the component covering fixed costs for generation, transmission and distribution is calculated on free and captive customers as a whole; from 2002 it is calculated on captive customers only.

- Component covering the transmission service and fixed generation, transmission and distribution costs
- Component covering general system costs
- Component covering the cost of fuel

Compared with general inflation, however, the price of electricity in real terms fell repeatedly during the second half of 2002, closing the year nearly 2 percent lower than in December 2001.

Therefore, the price of electricity for Italian households in 2002 decreased by 1.5 percent with respect to the previous year, or by nearly 4 percent if measured in real terms.

#### Breakdown by component of the national average electricity tariff

The trends seen above through the ISTAT index of consumer prices are confirmed in the pattern set by the national average electricity tariff net of taxes, as calculated by the Authority. At 10.30 eurocents/kWh during the

second quarter of 2003, in fact, it is essentially unchanged with respect to the 10.59 eurocents/kWh recorded for the first two months of 2001.

A breakdown by component of the national average electricity tariff net of taxes (Figure 4.5) shows how the overall pattern over the past two years results from contrasting individual trends. While the component covering fuel costs declined and the portion covering fixed costs was basically stable, the component covering general system costs tended to rise with time.

### Cost of fuel

The portion of tariffs relating to the cost of fuel fell sharply in 2001, but began to rise again in 2002 and continued its ascent during the first half of 2003. From 52.4 percent in the first two months of 2001, as a percentage of the full average tariff (net of taxes) it fell to a low of 39.4 percent in March-April 2002, but rebounded to 46.8 percent for the second quarter of 2003.

### Fixed costs

The component covering the fixed costs of the electric system currently amounts to 4.78 eurocents/kWh, or 45.1 percent of the average electricity tariff. With respect to 2001, this portion has grown little in absolute terms (up from 4.69 eurocents/kWh), while as a percentage of the whole it has increased by around 2 points due to the reduction in the relative weight of the fuel cost component. The fixed cost portion depends on the trend in various cost items that can be grouped into two categories: fixed generation costs and fixed transport (transmission and distribution) costs. Until the electricity exchange is established, the former have been set by the Authority (by means of a standard cost estimate) at 2.26 eurocents/kWh. The portion pertaining to fixed transport costs, which is the same for all of Italy, amounts to 2.52 eurocents/kWh (0.34 cents for transmission over the high-voltage grid and 2.18 cents for distribution).

### General system costs

During the second quarter of 2003, general system costs averaged 0.86 eurocents/kWh or 8.1 percent of the full tariff. As shown in the graph, the extent of those costs in absolute terms and as a percentage of the whole has risen significantly over time; in January-February 2001, the component amounted to 0.35 eurocents/kWh and just 3.3 percent of the total tariff.

Determined on the basis of governmental measures, this component covers various cost items, namely:

- costs for the production of electricity from renewable and assimilated sources (0.60 eurocents/kWh); this is the most sizable of the system costs, used to offset the difference between the price of CIP6 power withdrawal by the GRTN and the revenues from its sale to the captive market and to the eligible market via auction;
- stranded costs (0.14 eurocents/kWh);
- costs for the dismantling of power plants and the closure of the nuclear fuel cycle (0.06 eurocents/kWh);
- research conducted by power companies in the general interests of the country (0.03 eurocents/kWh);



- the funding of tariff hikes granted to small electric companies in order to ensure their financial viability, as per Law 10 of 9 January 1991 (0.03 eurocents/kWh).

### **Stranded costs, hydroelectric revenue and Nigerian gas**

The memorandum submitted to the Chamber of Deputies' Tenth Commission on Production Activities, Commerce and Tourism, on the occasion of the conversion of Decree Law 25 of 18 February 2003 ("Urgent Measures on the Subject of General Costs for the Electric System"), summarizes the issues concerning the tax on hydroelectric revenue and the recognition of ordinary stranded costs and of the stranded costs from Nigerian gas.

#### **Stranded costs**

Stranded costs are recognized in many European Union countries, and in Italy via European Directive 96/92/CE and Legislative Decree 79/99.

The right to the reimbursement of stranded costs is justified by the fact that in the context of a monopoly, the public operator may have to add to its own production costs the additional expenses of service obligations. The liberalization process, which inevitably leads to a lower market share for the former monopoly holder, does not allow the monopoly holder to recover the higher costs incurred prior to liberalization.

On the basis of the Authority's recommendations, rules for stranded costs were introduced in 2000 and were originally effective until 2006.

The underlying principle was that the amount of the reimbursement should not be pre-established, but determined according to the emergence of stranded costs once the market develops, hence calculated each year in hindsight. Because national production costs were so high, in fact, and because of the way the liberalization process was organized and timed, it was unlikely that the former monopoly holder would suffer a major revenue drop or a rapid loss of market share; defining the stranded cost reimbursement ahead of time might have forced consumers to shoulder costs they had already paid for in the form of tariffs.

The experience of 2000-2001—when the total amount of costs to refund to the producers and distributors was moderate—and the projected trend in the wholesale price of electricity in coming years suggest that the reimbursement of stranded costs will not be significant. It can therefore be eliminated, with the benefits of simplicity, predictability, consumer relief, and lesser distortion in the market.

Decree Law 25/03 has altered the way stranded costs for generation plants are reimbursed. It has changed both the duration and the method of calculation with respect to the provisions of the ministerial decree of 26 January 2000, amended by the ministerial decree of 17 April 2000, and subsequent resolutions by the Authority.

Regarding the method of calculating stranded costs, the decree law introduces two measures that cause them to be higher than if they were determined according to the Authority's model. The decree reduces the amount of revenues that are attributed to covering recognized costs, thus raising the amount of unrecovered costs, i.e. of stranded costs to be reimbursed.

Firstly, the decree eliminates offsetting between companies, i.e. between Enel and the Gen.Co. buyers; the owners of generation plants eligible for the reimbursement mechanism whose revenues are higher than the recognized amount, and who therefore have negative stranded costs, will not have to help finance the positive stranded costs of other companies.

Secondly, the total availability of power with respect to which the portion of revenues covering fixed plant costs is measured must be calculated net of any electricity purchased at subsidized CIP6 power auctions.

The period in which stranded costs are recognized has been shortened by three years, ending in 2003 instead of 2006. Therefore, consumers will bear no such costs during the period 2004-2006.

**Hydroelectric revenue**

The tax on hydroelectric revenue was introduced because the liberalization had produced gains for the hydroelectric plants. Under the monopoly, hydroelectric power was paid for on the basis of its cost, without reimbursement of the "thermal charge", while under today's rules it receives the same price as thermoelectric power. Part of the resulting gain is taxed at a gradually descending rate, for the direct purpose of funding stranded costs or other system expenses.

Pursuant to Decree Law 25/03, the tax on hydroelectric revenue was eliminated with effect from 2002, two years earlier than planned.

**Reimbursement of stranded costs from Nigerian gas**

In the sole case of Enel, stranded costs derive not only from investment expense but also from the use of Nigerian gas, which is liquefied for transportation and then regassified. That process is very expensive, due to the failure to build regassification terminals in Italy, and the resulting need to do business with Gas de France. The higher costs attributable to the lack of regassification plants are being reimbursed until 2010.

The Authority had set the amount of the reimbursement as the cost of regassification in France plus transportation, less the estimated cost of regassification in Italy had the Montalto di Castro terminal been built. The decree redefines the method of stating those costs: neither regassification in France nor the hypothetical regassification in Italy enter into the calculation. Since the latter are estimated to be much higher than the former, the effect of the decree is to raise the amount reimbursed

# STRUCTURE OF THE MARKETS AND REGULATION OF THE NATURAL GAS SECTOR

## REGULATORY REPORT: 1996 TO THE PRESENT

The natural gas market has been completely liberalized since 1 January 2003, so the time seems ripe for this first report on regulatory activities in the sector.

The liberalization took place in keeping with the energy policies adopted by the Italian government and in accordance with Law 481 of 14 November 1995, aiming in particular to enforce Legislative Decree 164 of 23 May 2000, which incorporated EU laws on gas sector liberalization. These new standards caused a dramatic shift in regulatory action, putting efficiency in public services and the fostering of competition at the top of the regulator's agenda.

Competition among companies is the best way to achieve efficiency. The gas sector, however, had always been dominated by monopolies stretching all across the production and delivery chain. For competition to take root, there was a need for liberalization laws that would:

- open the market gradually in phases where competition is technically feasible (e.g. production, importation and sales);
- govern free access to the phases involving facilities essential to all companies operating upstream and downstream from that point, distinguishing between those that would remain a monopoly (high-pressure transmission and local distribution of natural gas) and those that could be opened to competition (storage).

Stimulating competition in the natural gas sector demanded intense regulatory action, aimed at both the proper separation of monopolistic and competitive activities performed by a given company ("unbundling") and the assurance of free access to transmission and distribution networks as well as to stockpiles, which are basically "essential facilities" held in a monopoly arrangement. Access to essential facilities was regulated in a newly issued Transmission Code, and in provisional rules for access to stockpiles, in view of the publication of an official code. Regulators are currently working on the reference model for a code of access to and use of the distribution networks, to which the numerous natural gas companies will have to adapt their own codes.

Two years since the liberalization decree, the Italian gas market is wide open on the demand side, but supply-side competition has been slow to take off because of restrictions and infrastructural bottlenecks when it comes to foreign procurement. In governing access, the Italian Regulatory Authority for Electricity and Gas (hereafter "the Authority") has had to settle for a trade-off between encouraging infrastructure investment and reducing the amount of capacity that would be eligible for exclusive rights, in order to favour other companies' access to essential facilities. In regulating access to new infrastructures (GL terminals and new import pipelines), the Authority—as an exception to the regulated access principle—gave limited-time priority access (80 percent of capacity for 25 years) to companies that invest in new facilities.

Regulated access to essential facilities makes the Authority responsible for setting gas transmission and storage tariffs. Until the natural gas market was completely liberalized on 1 January 2003, the Authority controlled tariffs both for sales to end users and for use of the essential facilities: transmission, storage and distribution.

The tariff adjustment method, prescribed in the Authority's by-laws and based on a price cap mechanism, is designed to foster production efficiency, i.e. the efficient use of a company's internal resources. Under this method, price adjustments must be linked to the achievement of specific efficiency targets, expressed as the annual rate of productivity growth, a rate that the Authority has the power to set at its own discretion on the basis of its technical expertise. Therefore, the annual tariff adjustment is based on the change in an average price index, less the "required" change in productivity deemed to be reasonably attainable by the company.

Natural gas tariffs consist of three basic components: one for the raw material cost (including the cost of importing and marketing gas from abroad); one for fixed costs (transmission, storage, distribution and sale) and one for taxes. The latter is especially onerous in the case of natural gas, especially for residential consumers. On average, it accounts for 45.4 percent of the tariff, between consumption taxes, regional surcharges and VAT.

Of the average tariff in effect at the end of 2002, the raw material component accounted for 21.5 percent of the total (23.8 percent during the second quarter of 2003). In this regard, it should be kept in mind that gas prices are also affected by the price of oil. International import agreements have clauses that index the price of gas to that of crude oil and its by-products. To take account of this, the Authority has determined a portion of the recognized raw material cost that corresponds to the cost of buying gas abroad, and that is indexed to the price of crude, diesel and fuel oil through a mechanism of half-yearly averaging.

Concerns about inflation in Italy have caused that indexing system to be further revised. For gas, Resolution 195 of 29 November 2002 stated that—starting in January 2003—tariffs would be adjusted on a quarterly basis instead of every two months, and that the increase would be calculated on average international prices for the previous nine months compared with the month preceding the quarter of application, as opposed to the previous six months. It kept the no adjustment threshold at 5 percent.

From 1998 to 2002, the raw material component grew by 44 percent, and by as much as 66 percent if we include the first two quarters of 2003.

The fixed-cost component accounted for 33.2 percent of the average tariff in effect at the end of 2002 (32 percent during the second quarter of 2003). Through the actions taken by the Authority, that component decreased by 6 percent with respect to 1998. The fixed-cost component has two parts: transmission and storage costs, accounting for 45 percent, and local distribution costs (including the cost of sale to the end consumer) making up the remaining 55 percent. In late 1999, the Authority intervened to reduce the fixed-cost component after verifying that the total costs for the pipeline transmission, stockpiling, balancing and bulk sale of natural gas paid to the company Snam S.p.A. were 12 percent higher than the most prudent cost estimates deduced from Snam's budgets. The consequent reduction in the final price came to 23.7 lire per cubic metre (the equivalent of 1.22 eurocents/m<sup>3</sup>) with effect from 1 January 2000. The Authority later intervened on the individual fixed costs in order to define the tariffs for

transmission, regassification, storage and distribution on the basis of the actual costs of these services.

More specifically, as far as gas transmission costs were concerned, the Authority changed the existing tariff mechanism based on the distance between gas injection and withdrawal points, defining a new one that downplays the distance factor and makes the key elements the incoming and outgoing transmission capacity reserved on high-pressure pipelines and the flow of energy carried. On the final section of the regional network of medium-pressure pipelines, there is a "postage stamp" tariff completely independent of distance (over 15 km). The tariff is structured so as to motivate the transmission company to increase the flow of gas, which is consistent with a key goal of liberalization, i.e. to increase the amount of gas marketed by new competitors.

As for storage, the Authority has established new tariffs in order to encourage competition at a phase of the process where this is possible, and to keep the de facto monopoly in check. The new tariff, based on documented costs, includes capacity fees correlated with the cost of keeping the gas in the stockpiles and obtaining the maximum peak day sendout capacity during the coldest months, and variable fees for the actual injection and delivery of the gas.

The Authority has also set new tariffs for gas distribution, which is now separate from its sale to the end customer. The distribution business, being a natural local monopoly, will still be regulated with its own tariff. Since the distribution service is carried out in Italy by a number of operators, both public (including municipalities) and private, in setting the new tariffs the Authority devised a mechanism of "comparative competition" which estimates the basic parameters responsible for distribution costs by comparing the actual costs of a representative sample of operators, and then bases the tariffs on the costs of operators found to be most efficient, thus applying the principle of standard costs. Later, that method was adjusted to take account of some legal rulings to the effect that tariffs should be determined on the basis of the investment costs declared by companies that issue certified financial statements.

Although the natural gas sector has been liberalized since 1 January 2003 and is fully open as far as demand is concerned, the capacity limitations on the international pipelines and the long-term structure of the import contracts restrict competition on the wholesale market. This is because in Italy, most natural gas is procured from abroad, and national output is basically in the hands of the incumbent.

The current situation on the wholesale market is that the incumbent not only holds almost all of the import contracts, but also acts in the dual role of supplier (to the new arrivals) and competitor (for the sale of gas to wholesale customers). Today's cost structure dissuades both the incumbent and the new entries from pursuing aggressive price-cutting strategies in order to lure market shares away from their competitors. As a result, at least in the initial phase of liberalization, the companies operating in the wholesale market find it more worthwhile to adopt a strategy of maintaining their existing shares and the profit margins brought about by the segmentation of the market.

Liberalization has been a success if measured as the creation of the conditions necessary for the development of a competitive market, as they are conceived of in European laws later incorporated by national legislatures. With this "intermediate" result achieved, however, new

measures are needed to promote competition in the market. These must surely include measures (adopted by the Authority) to encourage infrastructure investment, in the form of exclusive rights granted to companies that increase their available capacity, and systems to foster the development of spot markets for the exchange of natural gas and capacity rights, through the use of physical or virtual hubs similar to those in the US and UK.

## CHANGES IN THE MARKET IN 2002

Although it had its ups and downs, 2002 was a year of major progress for the liberalization of the gas market in practically all phases of the cycle, from importation to final sale. The key changes are reported in Tab. 19, which shows the main energy flows between natural gas operators. National output has been at the standstill where it finds itself now for several years. As for imports, the first aspect of note is a substantial increase in both the amounts imported by new operators and in the number of different importers. Tab. 20, however, shows a strong concentration on a few importers, most of which benefit from sales by the incumbent beyond the border. ENI's sales at the border to Edison S.p.A., Plurigas S.p.A., Dalmine S.p.A. and Energia S.p.A. have gone up sharply, in fact. Aimed at reaching the target set out in Legislative Decree 164/00, they climbed to 5 billion m<sup>3</sup> in 2002, up from little more than a billion in 2001. Independent imports from ENI amount to roughly 20 percent of the total, but excluding the imports of Enel S.p.A., that figure falls to just 6 percent, compared with around 5 percent in 2001.

TAB. 19 THE NATURAL GAS SECTOR IN FIGURES, 2002

Billions of m<sup>3</sup>; figures based on minimum energy content of 8,250 kcal/ m<sup>3</sup>; (Storage: injections are positive figures, withdrawals are negative figures)

Country	Producers			Wholesalers				Separate final sales			Integrated final sales	Total
	ENI	EDISON	ALTRI	ENI	ENEL	EDISON	ALTRI	ENI	Enel	altri		
<b>National output</b>	<b>12,5</b>	<b>1,2</b>	<b>0,6</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>14,3</b>
<b>Net imports</b>	<b>0,4</b>	<b>0,0</b>	<b>0,0</b>	<b>41,2</b>	<b>7,9</b>	<b>4,3</b>	<b>4,3</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>58,1</b>
Direct imports	0,4	0,0	0,0	41,2	7,9	2,7	1,0	0,0	0,0	0,0	0,0	53,1
ENI sales at border	0,0	0,0	0,0	0,0	0,0	1,7	3,3	0,0	0,0	0,0	0,0	5,0
<b>Transfers</b>	<b>0,1</b>	<b>0,0</b>	<b>0,0</b>	<b>12,5</b>	<b>7,7</b>	<b>2,0</b>	<b>1,8</b>	<b>8,2</b>	<b>3,3</b>	<b>12,0</b>	<b>8,5</b>	<b>56,0</b>
From Eni	0,0	0,0	0,0	12,5	7,0	0,8	0,5	8,2	1,4	7,0	7,0	44,3
From Enel	0,0	0,0	0,0	0,0	0,0	0,0	0,8	0,0	1,9	0,5	0,3	3,6
From Edison	0,0	0,0	0,0	0,0	0,4	1,2	0,0	0,0	0,0	1,6	0,4	3,6
From others	0,1	0,0	0,0	0,0	0,3	0,0	0,5	0,0	0,0	2,9	0,8	4,6
<b>Change in stocks (Storage)</b>	<b>-0,1</b>	<b>0,0</b>	<b>0,0</b>	<b>1,4</b>	<b>1,1</b>	<b>-1,4</b>	<b>0,2</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>1,4</b>
<b>Consumption and leakage</b>	<b>0,1</b>	<b>0,0</b>	<b>0,0</b>	<b>0,1</b>	<b>0,0</b>	<b>0,0</b>	<b>0,0</b>	<b>0,2</b>	<b>0,1</b>	<b>0,3</b>	<b>0,2</b>	<b>1,0</b>
<b>Total resources</b>	<b>0,4</b>	<b>0,0</b>	<b>0,0</b>	<b>20,3</b>	<b>10,8</b>	<b>5,3</b>	<b>1,9</b>	<b>8,0</b>	<b>3,2</b>	<b>11,7</b>	<b>8,3</b>	<b>70,0</b>
<b>Sales and end consumption</b>	<b>0,4</b>	<b>0,0</b>	<b>0,0</b>	<b>20,3</b>	<b>10,8</b>	<b>5,3</b>	<b>1,9</b>	<b>8,0</b>	<b>3,2</b>	<b>11,7</b>	<b>8,3</b>	<b>70,0</b>
Heat and electricity generation	0,4	0,0	0,0	6,6	10,7	2,7	1,0	0,0	0,1	0,8	0,1	22,5
Large and midsize industry	0,0	0,0	0,0	13,5	0,0	2,6	0,9	1,4	0,6	1,6	0,8	21,4
Commerce and small industry	0,0	0,0	0,0	0,0	0,0	0,0	0,0	2,4	0,5	3,9	2,0	8,8
Residential use	0,0	0,0	0,0	0,0	0,0	0,0	0,0	4,0	2,0	5,4	5,3	16,7
Others	0,0	0,0	0,0	0,2	0,1	0,0	0,0	0,1	0,0	0,1	0,1	0,6

Source: Data provided by companies.

Still on the subject of imports, 2002 witnessed some serious diversification in procurement, with as many as 37 different companies exporting natural gas to Italy. That development mainly reflects the dismantling of Norway's export monopoly imposed by the European Union in 2001, the initial effects of which were felt in 2002. However, the supply from abroad is tightly concentrated (Tab. 20). Eight companies, including Sonatrach, Gazprom and Gasunie covered 93.9 percent of national imports (54.6 billion m<sup>3</sup>), with volumes topping 1 billion m<sup>3</sup> each.

TAB. 20 GAS SECTOR OPERATORS IN 2002

Millions of m<sup>3</sup>

Importers	Volume imported	Exporters	Volume exported	Wholesalers <sup>(A)</sup>	Volume sold
Eni Gas & Power	41 269	Sonatrach	22 228	Eni Gas & Power	60 744
Enel Trade	7 913	Gazexport	16 945	Enel Trade	15 075
Edison Gas	4 345	Gasunie	4 489	Edison Gas	7 976
Plurigas	2 012	Nigeria LNG	3 471	Plurigas	3 572
Energia	800	Eni Gas & Power	3 062	Aem Trading	1 658
Dalmine Energia	575	Lasmo Overseas	1 947	Energia	611
Eni - Divisione Agip	354	Promgas	1 673	Dalmine Energia	574
Energas	231	Statoil	1 611	Edison Energia	423
Eos Energia	198	Distrigaz	372	Blugas	345
Gaz de France	178	Agip Croatia	354	Eos Energia	316
Energetic Source	90	Gaz de France	313	Utilità	298
E Noi	84	RAG Austria	258	Energas	230
Blugas	72	Norsk Hydro Produksjon	226	Gaz de France	203
Altri (7 operatori)	72	Altri (21 operatori)	1 244	Cartiere Burgo	178
				Italcogim Trading	124
				Eurogas	116
				E Noi	100
				others (18 operatori)	459
<b>Total</b>	<b>58 193</b>	<b>Totale</b>	<b>58 193</b>		

(A) Figures include both resales among operators and sales in the final market.

Source: Data provided by operators.

These names include ENI and its subsidiary Lasmo. The remaining 6 percent (3.6 billion m<sup>3</sup>) was exported by 29 companies in amounts ranging from 6 to 800 million m<sup>3</sup>, for an average of about 127 million m<sup>3</sup>.

Tab. 19 also shows a significant volume of transfers. Transfers to wholesalers amounted to about 24 billion m<sup>3</sup>. Most of the transfers were from wholesalers to companies that sell gas on the local networks, for a total of 25.5 billion m<sup>3</sup>. Wholesalers other than ENI (especially the Enel and Edison Groups, Plurigas and Energia) accounted for 29 percent of those sales, compared with less than 3 percent in 2001. In 2002, transfers to distributors that had not yet spun off their marketing companies came to about 8.5 billion m<sup>3</sup>, or 27 percent of total sales on the local distribution networks. In these cases, involving smaller, less dynamic players, the penetration of companies other than ENI was significantly lower (less than 18 percent).



In comparison with 2001, the 2002 figures show a substantial decline for the incumbent in the final sales market, which was inevitable given the caps established by Legislative Decree 164/00.

Penetration of the local distribution market by wholesalers or other competitors of the local companies was significant (about 320 million m<sup>3</sup>), despite the problems they still had in 2002 in accessing the local networks. At any rate, the wholesalers have clearly decided to focus on large-scale clients connected to the regional networks.

Sales on the free market came to 44.2 billion m<sup>3</sup>. Of that figure, sales made through consortiums amounted to 443 million m<sup>3</sup> for a total of 34 consortiums and 569 end users.

## PROCUREMENT: NATIONAL PRODUCTION AND IMPORTS

### Structure of the procurement market (national production and imports)

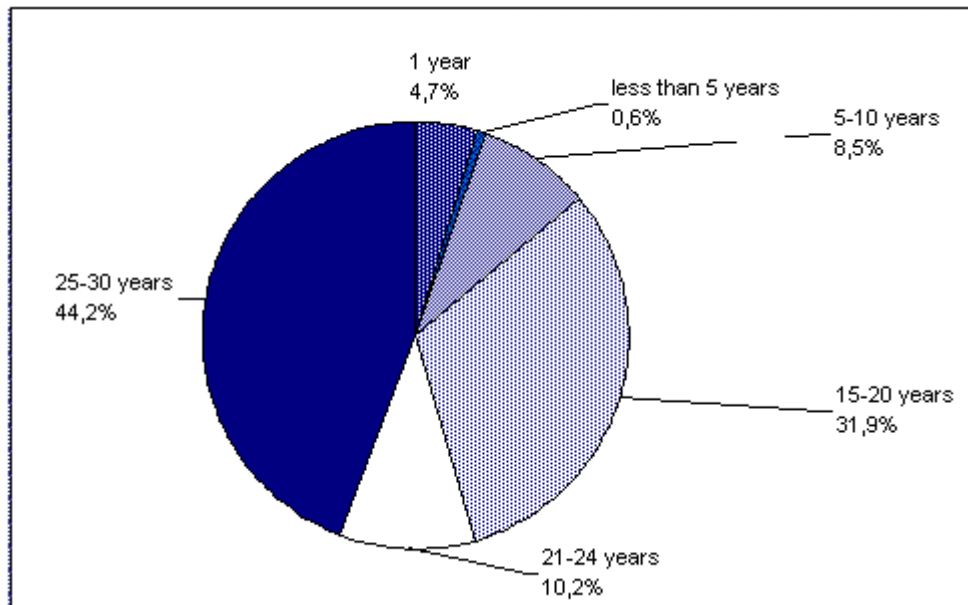
As we saw in the previous section, ENI still dominates the procurement market (production and imports), with over 70 percent of the volumes placed on the network in 2002 (80 percent in 2001)—despite the downsizing forced by the antitrust caps set by Legislative Decree 164/00. In 2002, national output maintained the downward trend that set in a few years earlier. Italian-produced gas fell to 20 percent of total consumption (down from 24 percent the previous year), confirming Italy's increasing dependence on foreign sources.

As for imports, for thermal year 2002-2003, a total of 20 importers obtained transmission capacity at interconnection points with other countries.

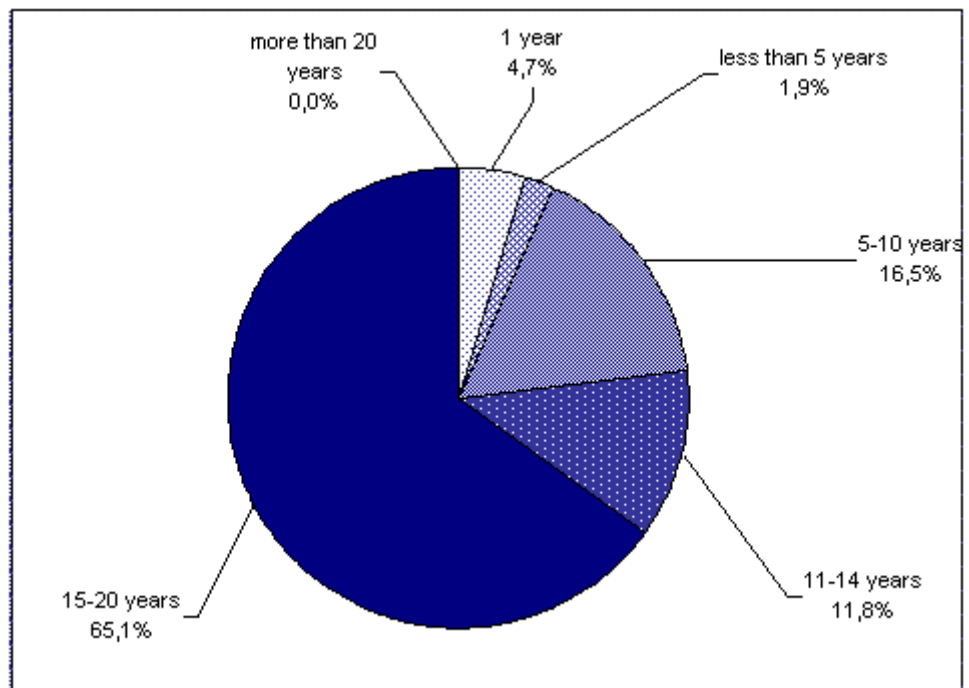
In terms of volume, most import contracts are still long-term, with varying durations as shown in Fig. 5. Fig. 6 reports the time remaining on those contracts, the longest being 20 years.

Therefore, in the gas market the most common type of import contract by far is still the long-term take-or-pay agreement, but contracts for pipeline importation valid for 12 months or less (spot contracts), drawn up in thermal year 2001-2002 and/or in effect until the end of 2002, covered about 2 billion m<sup>3</sup> worth of imports.

**FIG. 5 STRUCTURE OF CONTRACTS (ANNUAL AND LONG-TERM) IN EFFECT IN 2003, ACCORDING TO FULL DURATION**

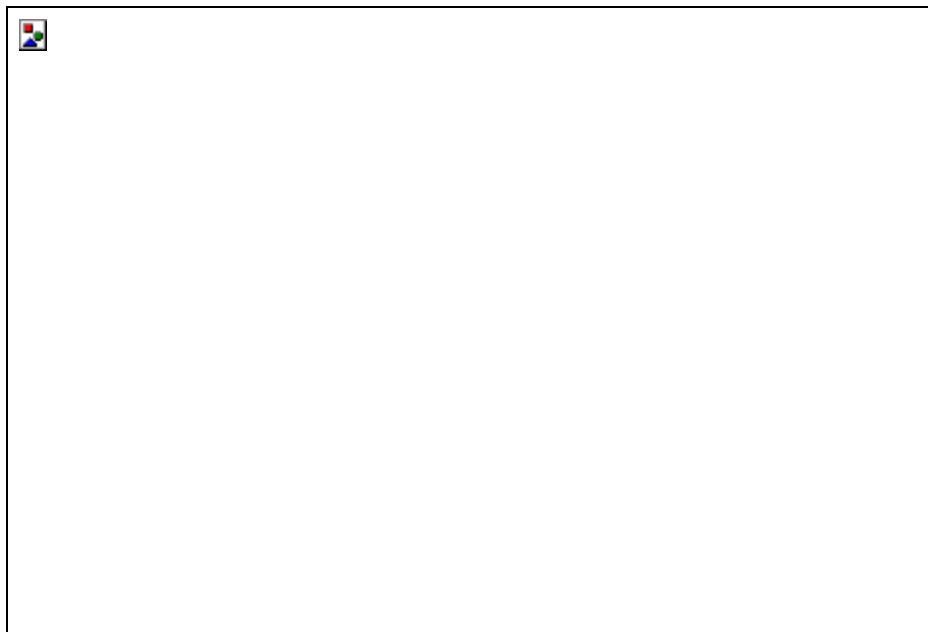


**FIG. 6 STRUCTURE OF CONTRACTS (ANNUAL AND LONG-TERM) IN EFFECT IN 2003, ACCORDING TO RESIDUAL DURATION**



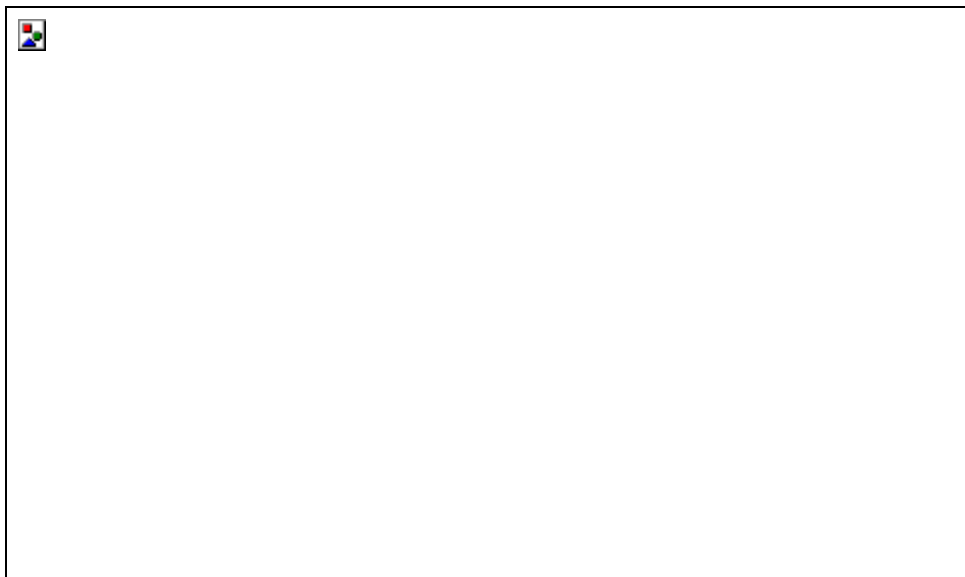
To complete the overview of procurement, we should also mention the extent of the take-or-pay portion of import agreements. This generally covers the full contractual amount in the case of annual contracts. The 2.2 percent reported in Fig. 7 is attributable to annual contracts or in any case those valid for less than five years.

**FIG. 7 BREAKDOWN OF CONTRACTS (ANNUAL AND LONG-TERM) BY RATE OF TAKE-OR-PAY WITH RESPECT TO ANNUAL CONTRACT QUANTITY (2003)**



ACQ: annual contract quantity

**FIG. 8 BREAKDOWN OF CONTRACTS (ANNUAL AND LONG-TERM) BY RATE OF TAKE-OR-PAY WITH RESPECT TO FULL CONTRACT QUANTITY**



ACQ: annual contract quantity

The higher the contract quantity, and especially the longer the duration, the more flexible the agreements are.

Fig. 8 shows how contracts with total take-or-pay come to less than 0.4% if the analysis is extended to all procurement.

Contracts with a take-or-pay rate of around 85 percent of annual contract capacity are the most frequently occurring, with reference to both annual quantity and full contract volume.

## The Authority's efforts to promote competition in the supply of gas

The current transmission capacity of the import facilities (pipelines and LNG terminal) is closely sized to the satisfaction of demand. Even if we include the upgrades already planned, the capacity is sufficient for the short term only. Therefore, we need to encourage works that will help diversify sources of gas in terms of geography and type, and that will stimulate new operators' access to the national market.

The Authority estimates that injections in 2010 from existing and planned facilities, for procurement contracts already signed as of this writing, are as specified in Tab. 21. Of the planned upgrades, the most important are the new import pipeline from Libya, with a capacity of 8 billion m<sup>3</sup> per year, and the pipeline with entry point at Tarvisio in connection with ENI's signature of the fourth purchase contract of Russian natural gas.

In this regard, the Authority has set rules for the construction and upgrading of LNG terminals (Resolution 91 of 15 May 2002); rules for the building of new pipelines for the transmission of natural gas from foreign networks interconnected with Italy's, or for the upgrading of existing pipelines (Art. 11 of Resolution 137/02); and rules for access to existing import facilities (mainly Art. 9 of Resolution 137/02).

**TAB. 21 INJECTIONS FROM EXISTING (AND PLANNED) FACILITIES IN 2010**

INJECTIONS FROM:	BILLIONS OF m <sup>3</sup> /YEAR
Pipeline imports	84,6
LNG imports (Panigaglia)	3,5
National output	8,0
<b>Total injections</b>	<b>96,1</b>

### Resolution 91/02

In setting the rules for priority access to the new LNG regassification terminals, the Authority tried to reconcile the long-term access guarantees demanded by those paying for the construction of the LNG terminals with the rights of other customers who want short- or long-term access to the new capacity.

The maximum quota granted to the plants' sponsors was set at 80 percent of the new regassification capacity of each terminal. The remaining 20 percent and any capacity to which priority access is not granted is available to all the other operators at the tariffs set by the Authority.

This system will remain in effect until Italy's total regassification capacity has reached 25 billion m<sup>3</sup>/year. It takes account of the existing procurement facilities and those already planned, and of the estimated medium/long-term consumption (Tab. 22 and Tab. 23), and concerns only those plants that will be up and running by 31 December 2010.

Resolution 91/02 puts a ceiling on the amount of new capacity that can be built by a single sponsor: one third of the 25 billion m<sup>3</sup>/year total regassification capacity. The purpose of that limit is to prevent monopoly control of the new capacity.

TAB. 22 ESTIMATED WITHDRAWALS IN 2010

ESTIMATED BY:	YEAR ESTIMATED	BILLIONS OF m <sup>3</sup> /YEAR
Authority	2003	90-100
Snam Rete Gas		93
Enel		96
Unione petrolifera	2002	88
Energy Information Administration / U.S. Department of Energy	2002	88
International Energy Agency	2001	85

TAB. 23 ESTIMATED WITHDRAWALS IN 2020

ESTIMATED BY:	YEAR ESTIMATED	BILLIONS OF m <sup>3</sup> /YEAR
Energy Information Administration / U.S. Department of Energy	2002	107
International Energy Agency	2001	109

In accordance with Legislative Decree 164/00, the company that holds the LNG terminal and the customer that funded the new capacity and will also use it (the sponsor/user) must be separate corporate entities.

The resolution allows for the possibility of selling or otherwise transferring one's priority-access capacity to others. It also states that right holders will lose those rights in the event that a portion of the LNG terminal capacity granted on a priority access basis is not used over the course of a year. The portion of unused capacity is specified in Authority provisions governing access to the LNG terminals, as is the portion of new capacity to which priority access does not apply.

#### Article 11 of Resolution 137/02

Article 11 of Resolution 137/02 attributes priority access to the new pipeline transmission capacity coming in from abroad. Priority access is granted to the funders of the new capacity within quantity and duration limits similar to those established for new regassification capacity, and under similar conditions for the enjoyment and maintenance of priority access (e.g. the "use it or lose it" principle by which priority access rights are forfeited on the capacity not used over the course of a year). Indeed, priority access to new transmission capacity over pipelines from abroad cannot exceed 80 percent of the new capacity or a period of 20 years for the users who have paid for the costs.

In order not to hinder the raising of adequate financial facilities, where income flows and guaranteed earnings are of paramount importance, the pricing conditions for providing the transmission service for the new capacity can be negotiated between the transmission company and the holder of the access rights (the sponsor of the new infrastructures). For the

sake of transparency, those conditions must be published on the Authority's Web site or in the *Bollettino Ufficiale degli Idrocarburi e della Geotermia*.

The continuous transmission capacity from abroad published by the Ministry of Production Activities in the *Bollettino Ufficiale degli Idrocarburi e della Geotermia* for thermal year 2002-2003, for the pipeline interconnection points from abroad, amounted to 224.9 million m<sup>3</sup> per day (Tab. 24).

**TAB. 24 CONTINUOUS TRANSMISSION CAPACITY FOR THERMAL YEAR 1 OCTOBER 2002 - 30 SEPTEMBER 2003**

In millions of standard m<sup>3</sup> per day

INTERCONNECTION POINT	DELIVERY/REDELIVERY POINT	CONTINUOUS CAPACITY
Imports from Russia <sup>(A)</sup>	Tarvisio	76,4
Imports from Northern Europe	Passo Gries	61,5
Imports from North Africa	Mazara del Vallo	87,0
LNG regassification plant	Panigaglia	10,0
<b>Total via pipeline <sup>(B)</sup></b>		<b>224,9</b>
<b>Total via pipeline and LNG <sup>(B)</sup></b>		<b>234,9</b>

(A) 64.9 million standard m<sup>3</sup>/day until 31 October 2002.

(B) Not including transmission capacity imported from Slovenia at Gorizia, as this is obtained by reducing the outgoing physical flow to that country.

Source: Ministry of Production Activities.

### Resolution 219 of 19 December 2002

With Resolution 137/02, the Authority established the guarantees for free access to the natural gas transmission service and the rules for the transmission companies' codes.

When preparing its own code in August 2002, Snam Rete Gas S.p.A. inserted a clause (letter B, no. 2) by which it would refuse to assign transmission capacity to applicants who already held transmission contracts for thermal year 2001-2002 and who had not, by the time they submitted their capacity requests, paid past-due transmission invoices amounting to more than the bank guarantees they had issued in connection with those contracts.

The Authority looked into the matter and decided the clause was not allowable, since it set conditions for access to the natural gas transmission service in addition to those laid down in Legislative Decree 164/00. Therefore, with Resolution 219/02, the Authority ordered Snam Rete Gas to remove the clause as a potential violation of users' rights.

## TRANSMISSION AND STORAGE

### Structure and organization of transmission, storage, and regassification terminals

#### Transmission

With the upgrades made to the import pipeline from Russia in 2002 and on the Passo Gries section thanks to the opening of the new compression plant at Masera, the transmission capacity involving the interconnection points between the Italian pipeline network and foreign transmission systems (as well as the Panigaglia regassification terminal) increased by 10 percent with respect to the previous year. The Gorizia interconnection point, previously used only for exports to Slovenia, was also set up for imports.

In the import business, ENI still dominates the market, with over 70 percent of the capacity granted at the entry points mentioned above. New operators, however, are gaining ground. For thermal year 2002-2003, 20 importers obtained transmission capacity at the foreign interconnection points.

**TAB. 25 CONTINUOUS TRANSMISSION CAPACITY GRANTED IN ITALY**

Millions of standard m<sup>3</sup>/day, unless otherwise specified; thermal year 2002-2003

ENTRY POINT	TECHNICAL	GRANTED	AVAILABLE	PERCENT GRANTED/GRANTABLE
Passo Gries	61,5	55,2	6,3	90
Tarvisio	76,4	76,4	0	100
Panigaglia (GNL)	10,0	10,0	0	100
Mazara Del Vallo	87,0	75,9	11,1	87
Gorizia	0,7	0,7	0	100
<b>Total</b>	<b>235,6</b>	<b>218,2</b>	<b>17,4</b>	<b>92</b>

Source: Ministry of Production Activities; data from Snam Rete Gas.

#### Storage

In 2002, Stogit achieved significant increases in working gas capacity in the process of optimizing the capacity of fields managed on a coordinated, integrated basis in accordance with Legislative Decree 164/00.

Partly in response to requests from the Authority and the Ministry of Production Activities aimed at solving the problem of access to the flexible storage service, for which applications filed in April 2002 well exceeded the available supply, Stogit performed a technical review of all its fields and found new ways of increasing its working gas capacity. The technical review raised interesting prospects for upgrading all storage sites in Italy, including with regard to deliverability, optimal management, and the reconstitution process for the conversion of new reservoirs into stockpiles (making the initial reconstitution faster). It should be recalled, in this regard, that the Ministry of Production Activities has nearly finished awarding concessions for the conversion of new reservoirs into stockpiles (the list of concessions was published by the Ministry in the *Bollettino Ufficiale degli Idrocarburi e della Geotermia* of 31 October 2001).

TAB. 26 PLANS FOR NEW REGASSIFICATION TERMINALS IN ITALY

COMPANY	LOCATION OF TERMINAL	CAPACITY G(S m <sup>3</sup> )/y	CURRENT STATUS
Edison Gas	<i>Offshore</i> Adriatic	4,6 ÷ 6	authorized
Edison Gas	Rosignano (Toscana)	3	under review
Enel	Taranto (Puglia)	5 ÷ 8,9	under review
Enel	Vado Ligure (Liguria)	5 ÷ 9	under review
Enel	Muggia (Friuli)	5 ÷ 9	under review
BG Italia	Brindisi (Puglia)	4 ÷ 12	authorized
LNG Terminal	Lamezia Terme (Calabria)	6 ÷ 10	rejected by Region – new project presented for town of S. Ferdinando, 6-12 G(S m <sup>3</sup> )/y
LNG Terminal	Corigliano Calabro (Calabria)	8	rejected by Region
Petrolifera Gioia Tauro	Gioia Tauro (Calabria)	4,2 ÷ 8	under review
<i>Offshore</i> Lng Toscana	<i>Offshore</i> Livorno	3 ÷ 6	under review

Source: Ministry of Production Activities.

For thermal year 2003-2004, considering no change in the portion reserved for strategic storage (5,100 million standard cubic metres) by the Ministry of Production Activities, the space and the peak deliverability capacity of all Italian storage sites available for seasonal modulation (including the domestic gas production flexibility) are respectively 7.3 billion standard m<sup>3</sup> and 205 million standard m<sup>3</sup>/day.

### LNG terminals

The plans submitted for the construction of new LNG regassification terminals are summarized in Tab. 26. With the exception of Edison Gas S.p.A.'s project for Rovigo (offshore Adriatic), authorized back in 2000, only British Gas Italia S.p.A.'s plans have obtained—after a long and complicated process—the necessary authorizations:

- an approval decree from the Ministry of Production Activities, dated 21 January 2003;
- a proxy concession agreement from the port authority, dated 21 January 2003.

The terminal, with a planned capacity of 8 billion standard m<sup>3</sup>, should be built in Brindisi by the end of 2007.

### Other activities related to the transmission network

In 2002, the national transmission system was involved in two other controversies, one of which required advice from the Authority. The cases concerned the Transmed pipeline and the environment tax on pipelines introduced by the Region of Sicily.

Art. 30 of Law 273/02, an annex to the 2003 budget specifying “Measures to favour private initiative and competition”, stated that starting in year 2002-2003 the transmission tariffs on the national gas pipeline network determined in accordance with Legislative Decree 164/00 would not apply



to the offshore section of pipelines used to import natural gas from non-European Union countries that lies within Italian waters. This is the case of the pipeline off the coast of Sicily belonging to Transmediterranean Pipeline Co. Ltd.

### The regional gas pipeline tax in Sicily

With Regional Law 2 of 26 March 2002, containing "Planning and financial directives for the year 2002", the Region of Sicily introduced an environment tax "to fund investments aimed at reducing and preventing environmental damage by pipelines installed on Sicilian land". The amount of the tax is fixed, since it is charged on the volume of the natural gas pipelines and not on the quantity of energy transported. Therefore, it is difficult to define as an environment tax, which (like an excise duty) ought to be charged on the amount of energy.

As part of its advisory functions (see Chapter 7 for more details), the Authority issued several warnings about the tax: to Rome, the European Commission, the president of the Italian Senate, the president of the Chamber of Deputies and the prime minister. Snam Rete Gas filed a complaint with the Regional Court of Lombardy, which found the tax to be in violation of EU law and thus irrelevant for tariff purposes, as the Authority had argued. Since December 2002, Snam Rete Gas has no longer paid the tax.

## Economic and technical regulation of the transmission network, stockpiles and regassification terminals

In 2002 and early 2003, economic regulation by the Authority concerned the adjustment of transmission, storage and regassification tariffs; on the technical side it worked on completing the transmission regulations and drafting transmission codes. As part of these efforts, the Authority set up a number of round tables to discuss the more controversial aspects, attended by the Ministry of Production Activities along with representatives from the industry.

Transmission tariffs were adjusted with Resolutions 120 of 26 June 2002 and 146 of 25 July 2002, and tariffs for the use of regassification terminals with Resolution 128 of 2 July 2002. The current storage tariffs, in effect until 2006, were defined with Resolution 49 of 26 March 2002, as described in detail in last year's Annual Report.

### Resolution 120/02: rejection of tariffs charged by Snam Rete Gas

In March 2002, Snam Rete Gas submitted to the Authority its tariff plan for thermal year 2002-2003, requesting permission to recover the environment tax imposed by Sicily's Law 2/02 in its tariffs in the form of the Y variable provided for in Resolution 120/01.

Finding the Sicilian tax invalid due to its violation of directly applicable European laws, with Resolution 120/02 the Authority rejected Snam Rete Gas's proposals and asked the company to submit a new plan that would not incorporate the effects of the Sicilian law.

### Resolution 146/02: approval of transmission tariffs

With Resolution 146/02, the Authority approved the tariffs for the transmission and despatch of natural gas for thermal year 2002-2003, reformulated by Snam Rete Gas on the two assumptions that Sicily's

environment tax on gas pipelines would be repealed or, conversely, confirmed.

The new tariffs (Tab. 27), in effect from October 2002 to October 2003, are a few percent lower than those for thermal year 2001-2002 due to the price cap and the increase in the amount of gas transmitted. With respect to the previous thermal year, the capacity fees on the national network are an average of 4 percent lower at entry points and 14 percent lower at exit points, while on the regional network they are about 7 percent lower. On the other hand, set fees were raised by 0.7 percent.

### TAB. 27 TRANSMISSION AND DESPATCH TARIFFS

Thermal year 2002-2003: assuming no charge for the tax imposed by Sicily's Regional Law 2/02

<b>VARIABLE UNIT FEES (€/GJ)</b>				
CV				0,173371
CV <sup>P</sup>				0,003955
<b>UNIT CAPACITY FEES, NATIONAL NETWORK (€/Sm<sup>3</sup>/g)</b>				
<b>CPe</b>		<b>CPu</b>		
Mazara del Vallo	2,731958	Friuli Venezia Giulia	A	0,767583
Passo Gries	0,301757	Trentino Alto Adige-Veneto	B	0,822427
Tarvisio	0,711128	Eastern Lombardy	C	0,959557
Panigaglia	0,595533	Western Lombardy	D	1,060067
Northwest	0,077469	Northern Piedmont	E1	1,278973
Northeast	0,077469	Southern Piedmont and Liguria	E2	1,060067
Rubicone	0,112715	Emilia e Liguria	F	0,822427
Falconara	0,476509	Lower Veneto	G	0,756084
Pineto	0,698533	Tuscany and Lazio	H	0,669824
San Salvo	0,517729	Romagna	I	0,584786
Candela	0,614680	Umbria and Marches	L	0,432183
Monte Alpi	0,862638	Marches and Abruzzo	M	0,521080
Crotone	1,885737	Lazio	N	0,583876
Gagliano	2,020059	Basilicata and Puglia	O	0,625054
		Campania	P	0,409057
ENI – Agip/Edison Gas Division Storages	0,161823	Calabria	Q	0,387413
Sicilia			R	0,149773
<b>UNIT CAPACITY FEES, REGIONAL NETWORK CRr (€/Sm<sup>3</sup>/g)</b>				
Rete Gas Italia				1,249947
Edison Gas and SGM				1,638625
<b>SET FEE CF (A)</b>		Level 1	Level 2	Level 3
Rete Gas Italia (€/y)		3 120,3909	7 801,0276	17 693,5942
Edison Gas and SGM (€/redelivery point)		5 219,9858	2 156,2891	31,2170

(A) The level is determined on the basis of several variables, which may include the annual consumption of the redelivery point, the type of measurement chain, the cubic metres withdrawn, the type of measuring equipment and the measuring method.

### Resolution 128/02: regassification tariffs

With Resolution 128/02, the Authority approved the tariffs for use of the LNG terminals for thermal year 2002-2003 (Tab. 28). The new tariffs, in effect since 1 October 2002, are an average of 0.8 percent higher than those for thermal year 2001-2002, which expired on 30 September 2002.

**TAB. 28 REGASSIFICATION TARIFF FOR USE OF THE PANIGAGLIA TERMINAL OF GNL ITALIA S.P.A.**

Thermal year 2002-2003

UNIT FEES	UNIT OF MEASURE	AMOUNT
commitment associated with amount of LNG unloaded: CQS	€/liquid m <sup>3</sup>	3,609349
associated with contractual mooring points: CNA	€/no. of mooring points in a year	17 007,119989
variable, for energy associated with regassified volumes:		
CVL	€/GJ	0,064737
CVLP	€/GJ	0,001250
Leakage	per regassified m <sup>3</sup>	2%

### Adjustment of Stogit's storage tariff for 2003: Resolution 21 of 13 March 2003

The Authority, with Resolution 21/03, changed the 2003 storage tariff charged by Stogit by adding another component due by flexible service users, in proportion to the number of end customers they directly or indirectly supply over the distribution networks. The purpose of that component is to reimburse Stogit for the cost of keeping liability insurance against fire and accidents for non-industrial consumers of methane gas.

On the basis of Stogit's documentation, submitted to the Authority, the total cost of insuring 17 million end customers amounts to Euro 6.5 million, or about 38 eurocents per customer.

### Regulation of access to the transmission network: Resolution 137/02

As for the technical regulation of transmission and despatch, with Resolution 137/02 the Authority set the criteria allowing free access to transmission infrastructures and defined the obligations of companies operating in that business, pursuant to Art. 24, par. 5 of Legislative Decree 164/00. The measure contains rules to incorporate immediately into existing contracts and standards for drafting the companies' transmission codes.

### Resolution 137/02: reporting requirements

For new companies to enter the market, they must first have access to the information thus far held by the incumbent alone. Therefore, the Authority now requires transmission companies to issue reports:

- to the benefit of service recipients, in order to correct the imbalance of information that is currently prejudicial to new entries;
- to the Authority, so that it can perform its monitoring and supervisory functions.

By way of example, the information that transmission companies must report to the Authority includes all aspects involving imports. In that regard, and on that subject only, the Authority also requires data from parties other than transmission firms, such as importers of natural gas.

### Resolution 137/02: assignment of capacity

One of the most important and delicate aspects in governing access to natural gas transmission facilities is the assignment of transmission capacity, particularly at the international entry points to the Italian network. The Authority has defined the criteria and established the procedures for assigning transmission capacity in light of the specifics of Italy's gas procurement system and of its heavy dependence on foreign sources, including outside the EU, with most of the incoming gas governed by long-term take-or-pay contracts that are explicitly protected by Legislative Decree 164/00 if signed before the enactment of Directive 98/10/EC.

Under these rules, capacity is assigned on a yearly basis for all points along the national network except entry points from abroad, where capacity is still awarded for 12 months, but two years in advance and with the possibility to extend the assignment to five years for the holders of long-term import agreements.

The Authority has established a preferential order system for access at international entry points:

- first on the list are the holders of take-or-pay agreements signed before the enactment of Directive 98/30/CE, for the average daily volume specified in their contracts;
- next come the holders of "post-directive" long-term import agreements;
- should they require additional capacity, the above two categories can apply in competition with the holders of import contracts valid for one year or less, for the flexible daily withdrawal capacity calculated on top of the average daily volume where specified in the import agreements.

Methods of preventing companies from hoarding capacity include the establishment of a financial guarantee covering the obligations arising from the assignment (this is separate from the guarantee covering the obligations deriving from the consequent provision of the service); the enforcement of the "use it or lose it" principle, which is also recognized at the European level (Madrid Forum); and the transfer of capacity from one user to another if the end customer changes provider.

### Resolution 137/02: provision of service

Minimum standards have been set for the execution of transmission contracts, in terms of the actual provision of service, i.e. the phases of reserving and assigning transmission capacity, commercial balancing and the protection of contracting parties in the event of disputes over the transmission agreement.

Under this provision, the transmission company has to perform its despatch functions guaranteeing the possibility to sell or exchange assigned capacities, as well as the gas that has entered the network, and taking account of this for balancing purposes. The aim here is to achieve a national balancing point made up of the entire national pipeline network, on the example of the United Kingdom.

### Resolution 137/02: balancing

In accordance with Art. 8, par. 6 of Legislative Decree 164/00, transmission companies must oversee the flow of natural gas and the ancillary services, including modulation, that are needed for the system to function. Therefore, they must take care of the physical balancing of the transmission network. The users, however, are responsible for situations in which their own withdrawals are not balanced by their own injections (known as commercial balancing), and in this regard the Authority has set fees to be paid by the user in the case of imbalance. The thresholds are fairly tolerant, so as not to discourage new competitors.

### Resolution 137/02: transmission codes

The principles, criteria and obligations described above must be entered into the transmission companies' codes, after open consultation with all parties involved. In the code outline defined by the Authority (as recommended in the consultation document), the material is organized so as to make the codes uniform in terms of content, structure, terminology and symbols. In part for the purpose of verifying that the transmission companies' codes comply with the standards set by the Authority, there is a minimum table of contents that the code must observe, organized into sections and chapters. The sections concern reporting, access, service provision, service quality, planning, administration, emergencies, and procedures for updating the code.

### Working toward storage codes

Despite the increase in storage capacity described earlier in this report, today's supply of modulation storage is still limited with respect to demand. This means that the Authority should set precise restrictions on access to storage during this phase of regulation.

Resolution 26 of 27 February 2002 already contains rules for the assignment of storage services, which will remain in effect until the Authority establishes the criteria, obligations and priorities for accessing these services and for the drafting of storage codes.

On the basis of its positive experience with assignment procedures for thermal year 2002-2003 and in relation to the requests received for the new year, the Authority, in a circular dated 28 March 2003, clarified how Art. 10 of Resolution 26/02 (on the assignment of storage capacity) should be applied, in order to erase any doubt as to how capacity should be assigned for thermal year 2003-2004.

## DISTRIBUTION AND SALE IN THE FREE AND CAPTIVE MARKET

### Structure of distribution and sale activities for the free and captive market

#### Distributors and vendors

In 2002 there were some important changes to the structure of companies operating in the distribution and sale of natural gas, to both the free and captive markets. The incorporation of the European Directive had two major effects: to force legal changes such as the separation of companies in a group, and to increase the degree of competition, thereby stimulating the creation of new businesses or consortiums of existing businesses that saw new opportunities for profit.

At the end of 2002, on the basis of the eligibility thresholds in effect before the market was fully opened, there were 18 consumer consortiums encompassing about 300 companies in northern Italy.

Over the past two years, several new importers have come into play to sell gas wholesale on the liberalized national market. At this time, however, there are also four non-importing wholesale customers and 11 distributor consortiums that resell gas to captive and eligible customers connected to their own distribution networks.

With regard to how the distribution and sale businesses are operated, it is important to note that in accordance with Legislative Decree 164/00, the following was supposed to be accomplished by 1 January 2003:

- the local companies were supposed to call for bidders to take over the distribution service, or in any case transform their directly managed businesses into joint-stock companies or limited liability cooperatives (Art. 15);
- all natural gas companies that operate in distribution and sales (including those supplying fewer than 100,000 end customers) were supposed to spin off those particular branches (Art. 21);
- companies planning to sell natural gas to end customers had to be authorized by the Ministry of Production Activities (Art. 17).

The Ministry of Production Activities reported on the situation at 30 April 2003 concerning the requests submitted for authorization to sell gas to end customers, as summarized in Table 5.11, on the basis of the lists of companies—divided into four status categories—that had been authorized (or not) as vendors.

Due to the changes underway, at 31 December 2002 the Authority's calculation of companies in operation was as follows:

- 449 pure distributors
- 244 distributors/vendors
- 149 pure vendors.

## Customers

Turning now to the customers' side of the market, in 2002 more than 1700 companies, including 300 distributors, asserted their rights as eligible customers either by switching supplier or renegotiating their existing contract conditions.

The initial figures on the number of customers who switched supplier are telling: in the intermediate phase of the market, more than 70 vendors or distributors entered into a wholesale purchase contract with a company other than ENI, and in the final phase of the market there are over 900 eligible customers served by operators other than the incumbent or the local distributor, including about 600 individual customers or consortiums supplied by new arrivals.

## Regulation of distribution and sales in the free and captive market

### Tariff adjustments and supplements (Resolution 122 of 26 June 2002)

Resolution 122/02 was adopted to comply with three definitive rulings by the Lombardy Regional Court, which called for a change in the criteria used to determine the cost of invested capital as established in the previous resolution, 237/00, for parties with concrete financial statement data.

More specifically, distributors with certified financial statements available from the business year ended prior to 1 January 1991 that are sufficiently detailed as regards their business in the natural gas sector were given the option to use an alternative method of calculating the capital invested in the distribution business, based on revalued historical cost as opposed to the formula contained in Resolution 237/00.

Resolution 122/02 was also impugned by some operators before the Lombardy Regional Court. The Court, with Ruling 171 of 19 December 2002, struck down Art. 2, par. 2, letters a), c) and e) as "violating the obligations to participate in the proceedings."

With Resolution 36 of 17 April 2003, the Authority initiated a process for complying with Ruling 171/02, aimed at the adoption of a measure that would define the way distributors could determine their own tariff options on the basis of concrete data if they were able, "by virtue of their own efficiency, to demonstrate the costs incurred for investments".

### Resolution 195/02: new indexing

Considering the merit of setting general supplementary criteria for the calculation of tariffs by the Authority, aimed at limiting the inflationary pressures that shift from energy costs to the final pricing system, the government approved the prime minister's decree of 31 October 2002 which contained such criteria for the definition of gas and electricity tariffs.

In applying the supplementary criteria, in consideration of the fact that merely reducing the frequency of gas tariff adjustments would not limit inflationary turmoil and would thus fail to meet the government's main objective, with Resolution 195/02 the Authority decided as follows:

- to adjust gas tariffs on a quarterly basis as opposed to every two months;
- to extend the period of reference for tracking changes in international fuel prices from six to nine months;
- to bring the tariff adjustment periods into line with the calendar year, making the first quarter begin on 1 January;
- to keep the no-adjustment threshold at 5 percent.

### Consumer protection and Resolution 207 of 12 December 2002

In accordance with Legislative Decree 164/00, on 1 January 2003 all customers became eligible, i.e. permitted to "enter into supply, purchase and sale contracts with any producer, importer, distributor or wholesaler in Italy or abroad."

Since, from the start of the year, end customers consuming up to 200,000 cubic metres per year would find themselves negotiating in the free market for the first time, some sort of measure had to be taken to protect their economic positions, at least initially. The Authority deemed it urgent to

intervene on behalf of the approximately 17 million newly eligible customers.

### Resolution 207/02: protection of the eligible customer

The Authority's Resolution 207/02 is a set of instructions for natural gas vendors that states as follows:

- for end customers who were ineligible at 31 December 2002, vendors will continue to apply all conditions in effect to that date—determined pursuant to Resolutions 237/00 and 195/02—in order to ensure that the new conditions are chosen in a reasonable period of time and that service is not interrupted;
- such protection is extended to end customers who were eligible at 31 December 2002 but who have not negotiated new contracts;
- in order to protect end customers who were ineligible at 31 December 2002, natural gas vendors will propose—together with offers they themselves have arranged—contracts with economic terms based on the Authority's standards;
- vendors will publicize all conditions offered to their customers, who can therefore choose on the basis of clear, non-discriminatory information.

The Authority also intervened concerning the right of withdrawal, in the form of an amendment to Resolution 184 of 7 August 2001. Resolution 207/02, in fact, states that unless otherwise agreed between the parties, end customers defined as eligible as from 1 January 2003 (in accordance with Legislative Decree 164/00) could withdraw from their contracts respecting notice periods of no longer than 30 days.

### Consultation document on pricing conditions for the supply of gas

On 12 December 2002, the Authority issued a consultation document in order to define the pricing conditions that vendors, pursuant to Resolution 207/02, are required to offer to the end customers needing protection during the transition to the free market. These measures apply to vendors of natural gas who already serve or who wish to serve such customers.

The pricing conditions proposed for newly eligible customers amount to the sum of the components laid down in Resolution 237/00 (QE, QV1, QL, QT, QS, TD, QF and QVD). They refer to the individual costs in this phase of the production and supply chain that add up to the final charge for the supply of gas.

**Component QE**, which covers the sourcing cost of natural gas, is calculated with reference to the marginal gas procurement cost for the national system, taken as the marginal import cost given Italy's strong dependence on imports. It is adjusted on a quarterly basis in accordance with Resolution 195/02.

**Component QV1** recognizes wholesale commercialization costs and represents the following gas sourcing costs that go above and beyond the raw material itself:

- the importer's charge for international transmission from the foreign delivery point to the point of entry to the Italian pipeline network;
- the wholesale selling cost;



- the sales margin, which covers the business risks associated with the trading of natural gas.

**Component QT** recognizes the cost of transmission over the national and regional networks and is based on the tariffs determined pursuant to Resolution 120/01.

**Component QS** covers the cost of seasonal modulation storage and is based on the tariffs determined in accordance with Resolution 26/02. The Authority recommends that components QT and QS be calculated per distribution network, in relation to the total sales volumes.

The cost for use of the LNG terminals, represented as **component QL** in Resolution 237/00, is included in components QE and QV1.

**Components TD, QF and QVD** consist, respectively, of the variable and fixed portion of the distribution tariff and the portion representing the retail selling costs of the distributed gas, as provided for in Resolution 237/00. For purposes of determining the pricing conditions for the provision of natural gas, the Authority recommends that these components continue to be calculated per tariff area on the basis of the criteria laid down in Resolution 237/00.

### Consultation on guaranteed access to the distribution networks

On 3 April 2003, the Authority issued a consultation document on its recommendations for regulating guaranteed access to the gas distribution service on municipal networks and for the drafting of distribution codes by the companies operating in that business. To make the complex issues in the document more readily understood, a possible resolution was outlined in an appendix.

Below are some of the more important topics addressed in the document:

**a) Definition of reporting requirements**

The liberalization of the gas market has changed the role of operators and introduced a need for additional information in connection with their new responsibilities.

**b) Adoption of standard withdrawal profiles**

The structure of the distribution service includes, in addition to the distributor itself, a number of trade companies that sell gas to a well-diversified set of customers in terms of the quantity and frequency of consumption. Lacking hourly or at least daily measurements, it is necessary to establish procedures and criteria for the estimation of proxy figures based on the category of consumption.

One method of estimating withdrawals in the absence of suitable historical data is to devise standard withdrawal profiles for the various types of end consumer. The standard profiles are developed using regression functions that link withdrawals by a certain type of end customer on a given day to outside variables, such as weather conditions, and to the specifics of that category of user. The regression curves are determined on the basis of sampling from representative groups of end customers in each category for which historical measurement data are available.

**c) Assignment of capacity**

On the transmission network capacity is assigned at both the entry and exit points, but on the distribution network it only needs to be assigned at the points of redelivery to

the end customer. Unlike the transmission service, in the distribution business capacity is assigned for a period of time ending with the definitive termination, for whatever reason, of the purchase and sale contract for which access is requested. Capacity is not assigned at pre-established intervals and customers can request a review of their allocation at any time.

**d) "Overdraft" charges**

If the distribution network is to be run efficiency, the assigned capacities at redelivery points must not be exceeded. As such, users need a clear economic signal that will encourage them to ask for the redelivery capacity they actually need. That signal takes the form of fees charged to users who exceed their assigned capacity. Since it is impossible to quantify the precise hourly redelivery capacity actually used (especially with regard to end customers), redelivery points to end customers with annual withdrawals of less than 200,000 cubic metres are exempt from this charge and from the obligation to indicate a specific hourly capacity.

**e) Allocation of charges for unbilled gas and for self-consumption by the distribution plant**

Since gas leaks are an inevitability of any distribution plant, since the measurement devices are not error-free and since unauthorized gas withdrawals may occur, the official measurement of the gas travelling through the delivery points does not generally coincide with the actual amount withdrawn.

Resolution 237/00 allows the distributor to recover a leakage and self-consumption volume amounting to 0.7 percent of the gas injected into the plant. It is assumed that at an efficiently run plant, unbilled gas net of leakage (self-consumption excluded) will not exceed more than 1.3 percent of the total injected volume. Beyond that limit, the cost of unbilled gas is the responsibility of the distributor, who must pay the supplier a fair amount for the gas that was not redelivered.

**f) Uniformity of distribution codes**

The opening of the market and the arrival of many new users on the scene, in contrast with the complex and varied situation of distributors, raises the need for the codes adopted by the distributors to be as uniform as possible. Under current regulations, each distribution company must draw up its own code on the basis of criteria to be established by the Authority.

To satisfy this need for uniform content, the Authority has offered to detail the regulations on free access to the distribution service and to issue easily self-implemented measures.

## Tariff control

Companies have submitted their proposed tariffs for thermal year 2002-2003 in the form of a questionnaire drawn up by the Authority and published on its Web site. With the questionnaire, figures are collected in a uniform format and computations are done automatically, making it easier for the companies to submit their data and make their tariff proposals.

The Authority has made sure that the submitted proposals comply with Resolution 237/00 and, in particular, that the basic tariff option does not entail a profit exceeding the limit set for distribution. The tariff proposals submitted by 570 distributors have been approved (with Resolutions 217 of 19 December 2002, 11 of 12 February 2003 and 45 of 30 April 2003) and published on the Authority's Web site. At 15 May 2003, the Authority was reviewing the tariff proposals of another 76 companies, including 18 that calculated their tariffs on the basis of Resolution 122/02. Review of the

latter has been suspended due to the fact that the Lombardy Regional Court has struck down the resolution in question. The Authority will comply with that ruling by issuing a consultation document that will recommend a new, individually based method of calculating invested capital.

At 15 May 2003, six companies had not yet submitted their tariff proposals for thermal year 2002-2003. Their tariff options are being determined by the Authority, in accordance with Art. 13, par. 7 of Resolution 237/00.

### Bimonthly adjustments

Resolution 25 of 27 February 2002, in addition to establishing the adjustment of gas tariffs for captive customers for the period March-April 2002, converted the base figures presented in Resolution 52/99 from lire into euro. It also redefined the basket to reflect the fact that some types of crude had no longer been quoted since 1 January 2002. Later, in keeping with the prime minister's decree of 31 October 2002, the Authority issued Resolution 195/02 which changed the method of calculating periodic gas tariff adjustments in connection with fluctuations in international fuel and raw material prices. For liquefied petroleum gas and other gases as well, the frequency of adjustment was lengthened to every three months. It was also established that adjustments would be calculated with reference to a three-month period for the tracking of international prices.

In 2002 and the first half of 2003, the Authority registered the tariff adjustments summarized in Tab. 29.

**TAB. 29 TARIFF ADJUSTMENTS FOR 2002 AND THE FIRST HALF OF 2003**

Authority Resolution	Effective date	Change in natural gas tariff (A)		Change in LPG tariff (A)	
		€cent/MJ	€cent/m <sup>3</sup>	€cent/MJ	€cent/m <sup>3</sup>
no. 320 of 27 December 2001	1 January 2002	-0,0310	-1,1930	-0,0475	-4,7566
no. 25 of 27 February 2002	1 March 2002	-0,0285	- 1,0978	0,0581	5,8141
no. 70 of 23 April 2002	1 May 2002	-0,0170	- 0,6548	-0,0296	-2,9621
no. 121 of 26 June 2002	1 July 2002	0,0166	0,6394	----	----
no. 229 of 23 December 2002	1 January 2003	0,0277	1,0670	0,1229	12,2986
no. 24 of 24 March 2003	1 April 2003	0,0211	0,8128	0,1148	11,4880

Assumptions:

M (altitude and climate zone coefficient) = 1

superior calorific value = 38.52 MJ/ m<sup>3</sup> (9,200 kcal/ m<sup>3</sup>) for natural gas and 100.07 MJ/ m<sup>3</sup> (23,900 kcal/ m<sup>3</sup>) for LPG.

## GAS PRICES AND TARIFFS

### Trend in the Istat Index

Despite two major reductions in mid-2001, ISTAT statistics show that the price of natural gas for Italian households (gas used for heating, cooking and hot water) rose by an average of 7.3 percent with respect to the year

2000 (Tab. 30). In 2001, however, general inflation came in at 2.8 percent, meaning that the real increase in the price of gas was 4.4 percent. The extent of overall inflation caused by gas declined throughout the year to almost zero in the month of December.

In 2002 the price of gas was practically unaffected by the substantial upswing in international fuel prices. The index, which includes gas in canisters, declined steadily until June and then increased by nearly one percentage point in July with respect to the preceding month, but thereafter the increases were tiny as a result of the tariff freeze ordered by the government with Decree Law 193 of 4 September 2002 (converted into Law 238 of 28 October 2002). The year closed with a steep reduction: -5.3 percent with respect to December 2001.

In terms of average figures for the year, in 2002 the price of gas for Italian households fell by nearly 5 percent with respect to 2001. The reduction is even more substantial—7 percent—when measured in real terms, i.e. against the sharp increase in general prices.

### Average national gas tariff

The ISTAT figures are confirmed by the average national tariff per typical household, published by the Authority. The first half of 2002 saw the price of methane fall several times, while during the second half of the year and early 2003 the trend was upward, due to soaring international oil prices.

**TAB. 30 MONTHLY GAS PRICE INDEX**

Index (1995 = 100) and percent change

MONTH	NOMINAL PRICE	% CHANGE 2001/2000	REAL PRICE (A)	% CHANGE 2001/2000	NOMINAL PRICE	% CHANGE 2002/2001	REAL PRICE (A)	% CHANGE 2002/2001
<b>January</b>	129,2	15,4	112,7	11,9	124,7	-3,5	106,3	-5,7
<b>February</b>	129,8	15,7	112,9	12,3	124,7	-3,9	105,8	-6,3
<b>March</b>	130,1	12,8	112,9	9,6	122,8	-5,6	104,1	-7,9
<b>April</b>	130,2	13,2	112,6	9,7	120,7	-7,3	101,9	-9,5
<b>May</b>	127,5	8,1	110,0	4,9	119,4	-6,4	100,6	-8,6
<b>June</b>	127,3	7,9	109,6	4,7	119,3	-6,3	100,5	-8,3
<b>July</b>	125,1	4,2	107,7	1,2	120,3	-3,8	101,2	-6,0
<b>August</b>	124,9	4,0	107,5	1,1	120,3	-3,7	101,0	-6,0
<b>September</b>	124,8	1,5	107,3	-1,1	120,7	-3,3	101,2	-5,7
<b>October</b>	124,8	2,5	107,1	-0,1	121,0	-3,0	101,2	-5,6
<b>November</b>	127,7	2,1	109,4	-0,3	121,1	-5,2	100,9	-7,8
<b>December</b>	128,0	2,2	109,6	-0,1	121,2	-5,3	100,9	-7,9
<b>Average for the year</b>	<b>127,5</b>	<b>7,3</b>	<b>109,9</b>	<b>4,4</b>	<b>121,4</b>	<b>-4,8</b>	<b>102,1</b>	<b>-7,1</b>

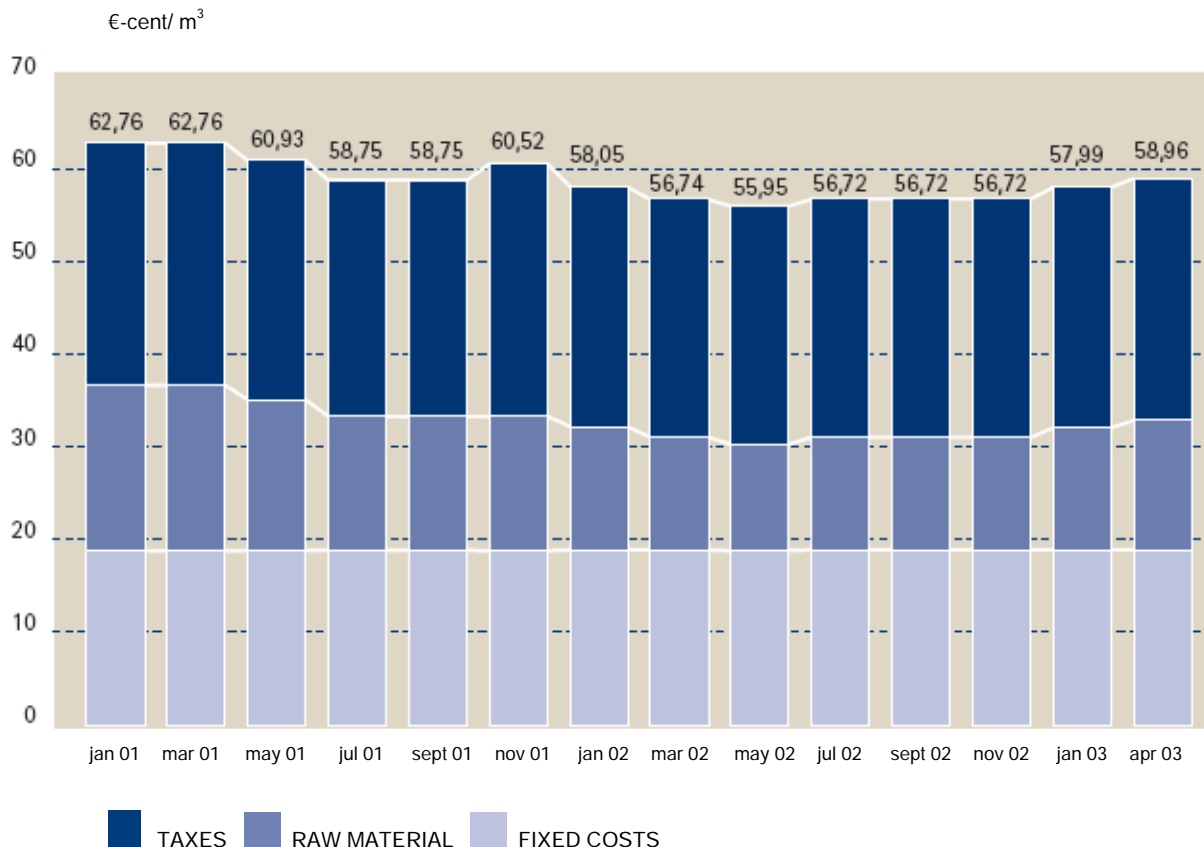
(A) Gas price index as percentage of the general index (excluding tobacco products).

Source: Calculations on ISTAT data, national indices for entire population.

Meanwhile, excise duties on gas (Tab. 31), which had been adjusted as from 1 November 2001 to those established in the prime minister's decree of 15 January 1999, were reduced with a Ministerial Decree of 25 March 2002 (effective retroactively to 1 January 2002) and confirmed for 2003 by decree of the Ministry of the Economy dated 13 January 2003.

Fig. 9 shows the trend in the average natural gas tariff, gross of taxes and distinguished by price component.

**FIG. 9 AVERAGE NATURAL GAS TARIFF IN ITALY**



TAB. 31 GAS TAXES

€-cent/ m<sup>3</sup>; rates in effect in 2002 and 2003

TARIFFA	T1	T2		T3	T4
USE	COOKING AND HOT WATER	INDIVIDUAL HEATING		CENTRAL HEATING LIGHT INDUSTRY AND COMMERCE	INDUSTRIAL
CONSUMPTION		<250 m <sup>3</sup> /y	>250 m <sup>3</sup> /y		
Excise tax					
Standard	4.00	4.00	17.00	17.00	1.25
Subsidized (Southern Italy)	3.87	3.87	12.42	12.42	1.25
<b>Regional surcharge (A)</b>					
Piedmont	2.00	2.00	2.58	2.58	0.62
Lombardy(B)	0.00	0.00	0.00	0.00	0.00
Veneto	0.52	0.52	1.29	1.29	0.62
Liguria(C)	2.00	2.00	2.58	2.58	0.62
Emilia Romagna	2.00	2.00	3.10	3.10	0.62
Tuscany	2.00	2.00	2.60	2.60	0.60
Umbria	0.52	0.52	0.52	0.52	0.52
Marches	1.55	1.55	1.55	0.62	0.62
Lazio	2.00(D)	2.00(D)	3.10	3.10	0.62
Abruzzo	1.93	1.93	2.58	2.58	0.62
Molise	0.52	0.52	0.52	0.52	0.52
Campania	1.93	1.93	2.58	2.58	0.52
Puglia	1.93	1.93	2.58	2.58	0.62
Basilicata	1.93	1.93	2.58	2.58	0.62
Calabria	1.93	1.93	2.58	2.58	0.62
<b>VAT rate (%)</b>	<b>10</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>20</b>

- (A) The regions with special autonomy did not add a regional surcharge.
- (B) No longer due as from 1 January 2002 (Art. 1, par. 10 of Regional Law 27 of 18 December 2001)
- (C) Reduced to 1.55 for towns in climate group "E" and to 1.03 to those in group "F".
- (D) Reduced to 1.57 for towns in the former subsidized area of Southern Italy ("Cassa del Mezzogiorno"). That area consists of the regions of Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicily and Sardinia; of the provinces of Frosinone and Latina; of certain municipalities in the province of Rome located within the Latina reclamation district; towns in the province of Rieti included in the former district of Cittaducale; certain towns in the province of Ascoli Piceno included in the reclamation area of Tronto; and the islands of Elba, Giglio and Capraia.

## PUBLIC SERVICE OBLIGATIONS, QUALITY AND CONSUMERS' RIGHTS

### REGULATORY REPORT: 1996 TO THE PRESENT

Before Italy's Regulatory Authority for Electricity and Gas was founded, the conditions of business between the electric and gas utilities and their customers stemmed mainly from unilateral decisions by the utilities.

In the electricity sector, consumers' rights were traditionally defended only by the government concessions and programming agreements that were periodically signed between utilities and government agencies.

In the gas sector, some consumers' rights were protected in the concession agreements or in their annexes or related documents. In this field, the experience varies widely, given the high number of concessions—each one unique—drawn up at the municipal level.

As for quality of service, in both sectors the utilities had introduced certain individual or general standards, in the form of their Charters of Service. The system was weak, however, since the standards that the companies set were very different from one location to another and were usually rather ineffectual. What's more, only a handful of customers ever demanded refunds for sub-standard service, although many thousand would have been entitled to do so.

Protecting consumers' rights and ensuring adequate quality of service are among the primary goals of the Authority, which has been given the responsibilities and decision-making powers to make a difference. Both of these goals are also typical of regulatory activity in other countries.

Therefore, the Authority has intervened with specific measures, valid for all electricity and gas utilities, to even out the terms of service. The most important of these terms are now set by the regulator; they include meter reading obligations, billing frequency, minimum payment facilities, past-due interest, the provision of notice before interrupting service due to non-payment, the security deposits that customers have to pay before they receive power, and various other aspects of the service contract. The terms of service set by the Authority are mandatory for captive customers and constitute a basis for eligible customers too, although the latter can be offered alternative conditions that they may accept at will.

Electricity and gas utilities are now required to meet minimum disclosure standards in their bills, so that the information provided therein is thorough and uniform, although companies are free to present it in any format they wish. The Authority has also issued memos explaining end users' rights and the effects of market liberalization on the various parties.

Codes of conduct have been introduced to govern the way terms of service are proposed to customers, in order to prevent the problems that may arise from improper conduct or the withholding of information. The Authority's role of guarantor has been played, within Parliamentary and Cabinet measures, regarding to the potential damages incurred by the customers of regulated services (for example, due to the transition from the lira to the euro).

The Authority has devoted much attention to quality of service, working toward the dual goal of promoting quality improvements and setting

minimum compulsory standards. In implementing general provisions decided by the Cabinet or Parliament, the Authority has also developed recommendations and measures concerning the safety of gas plants downstream from the meter and the rational use of energy.

All of the Authority's interventions concerning service guarantees, customers' rights and the promotion of quality and efficiency are developed with the input of consumers' associations, mainly through consulting processes carried out prior to the issue of important measures. Joint efforts in training and in the education of end users are conducted under a protocol of understanding between the Authority and the National Council of Consumers and Users (CNCU).

The Authority, while working to promote competition and gradually extend the benefits of liberalization to all end users, is thus also active as a guarantor and promoter of service quality. Its interventions in this regard are stricter for activities not subject to competition, such as the transmission and distribution of gas and electric power, and more respectful of the right to choose when it comes to activities where competition is real.

To make sure that liberalization does not translate into weaker protection, especially for the more vulnerable parties, the Authority has the ongoing task of monitoring its effect on competition and of introducing more selective measures so that the competitive process will not be able to abuse consumers' rights.

Below is a more detailed analysis of the Authority's interventions during the first six years of its activity, in each of the areas mentioned. Where the measures have been in effect long enough and where enough data are available, the results achieved thus far are also described.

On the whole, the Authority's actions have led from a system in which service standards were set by the utilities to a system governed by rules established by the regulator, including minimum service standards whose neglect entails a fine, and incentives to improve where appropriate. The main effects of its actions began to take root in the year 2000. Therefore, many results are already apparent, as described in detail in the following section.

## QUALITY IN THE ELECTRICITY AND NATURAL GAS SECTORS

The Authority's actions to promote quality of service have taken a number of different directions, each discussed further below:

- new quality of service regulations for gas and electricity;
- new continuity of service regulations for electricity distribution;
- new safety and continuity of service regulations for gas distribution;
- new safety regulations for gas installations at the user's premises;
- customer satisfaction surveys for residential electricity and gas users;
- regulations for the measurement of gas for end users.



## Quality of service for the distribution and sale of electricity and gas

### The new quality of service regulations

Quality of service refers to how promptly requests (e.g. for estimates, hook-ups, activation, technical inspections), written complaints and queries are addressed, whether utility representatives are on time for appointments, how often meters are read, and how the services are billed. These aspects apply to gas and electricity alike.

To overcome the limitations of the Charter of Service system, the Authority has established a new regulatory framework for quality standards in both sectors:

- Resolution 201 of 28 December 1999 for the distribution and sale of electricity;
- Resolution 47 of 3 March 2000 for the distribution and sale of natural gas.

The purpose of regulating quality of service is to set minimum national standards that are mandatory for all utilities, with a view to protecting consumers and improving the average quality of the system.

#### Quality standards

Quality standards are divided into guaranteed and overall standards.

Guaranteed quality standards refer to the individual services of which the customer is guaranteed and are expressed as the maximum amount of time in which the service has to be provided. For example, when a gas hook-up must be activated within five working days.

Overall quality standards refer to the services as a whole; unlike guaranteed standards, they specify the minimum percentage of users to whom the requested service has to be provided within a given amount of time. For example, at least 90 percent of written complaints and queries must receive a reply within 20 working days.

The new quality of service regulations are a major improvement with respect to the previous Charter of Service system, including for the following reasons:

- after consultation with the interested parties, national standards of quality have been defined that apply to all utilities. This overcomes the problem of each utility defining its own standards in its own Charter of Service, usually without input from others and resulting in widely disparate standards applicable to users in different parts of the country. The standards set by the Authority are close to the best ones found in the sector;
- automatic refunds are now paid by utilities that fail to meet guaranteed quality standards for any reason other than force majeure or causes attributable to the customer or third parties. This supersedes the previous system of refunds at the customer's request, which proved to be ineffective;
- the procedures for recording speed of service are now uniform, eliminating the discrepancies in measurement between one utility and another.

The national quality of service standards defined by the Authority constitute the minimum that each utility must assure to its captive market customers.

Utilities can set their own standards only if they are better than (or in addition to) the Authority's.

The amount of refunds is defined by the Authority, and is higher for the categories of user who pay more for energy and use of the network. Automatic refunds must be given by deducting the amount due from the first subsequent bill, and in any case within 90 calendar days from the initial deadline for providing the requested service. A utility that fails to meet the refund deadline has to pay double or quintuple the standard amount, depending on the extent of the delay.

Payment of the automatic refund does not prevent the customer from seeking additional damages in court. A special notice to that effect is printed on the bill from which the refund is deducted.

Each year, as part of its own survey on quality of service in the gas and electricity sectors, the Authority publishes the real average speed with which services are provided (as declared by the utilities), and the rate of sub-standard performance by cause.

### Effects of the new regulations on quality of service

With the introduction of automatic refunds and with the new standards set by the Authority, the number of refunds actually paid to customers for sub-standard service has gone up sharply (see Tab. 32).

**TAB. 32 NUMBER OF REFUNDS PAID TO CUSTOMERS, 1997-2002**

REFUNDS PAID	CHARTER OF SERVICE			NEW REGULATIONS		
	1997	1998	1999	2000	2001	2002
Electricity sector (A)	21	54	22	4 771	12 437	52 229
Gas Sector (B)	1 237	707	1 640	3 709	12 090	13 356

(A) In the electricity sector the new regulations took effect on 1 July 2000; the figure for 2000 refers to the second half of the year only.

(B) In the gas sector the new regulations took effect on 1 January 2001; the Italgas Group gave automatic refunds on its own initiative from 1997 to 2000.

Source: Utilities' declarations to the Authority.

## Continuity of service for electricity distribution

### New continuity of service regulations for electricity

Continuity of service (i.e. lack of interruptions) is the most important quality factor in the electricity business, in terms of both relevance for the user and the cost of the investments required to improve continuity. The purpose of the new regulations is to protect consumers' rights and give utilities the incentive they need to reduce blackouts.

Because the methods used by utilities started out so different from one another, before any continuity of service regulations could be introduced it was essential to establish a uniform system of indicators, which would allow valid comparison of the utilities' data and make spot checks a feasible practice. To that end the Authority has instituted the mandatory logging of blackouts, based on the widest possible use of automatic recording systems that note the exact time a blackout begins (via remote control devices), in

conjunction with certain manual records. The objectives of regulating blackouts are as follows:

- to bring the average continuity standard in Italy closer to the best average levels found in other European countries, in a time as short as possible;
- to reduce the gaps among Italian regions after adjusting for the degree of user concentration, without impairing the situation in regions that currently have the best continuity standards;
- to defend consumers by introducing individual or collective automatic refunds; collective refunds would be calculated in relation to the average continuity level recorded in a given geographical area and awarded to all customers in that area, in proportion to their consumption.

Rules concerning unplanned interruptions of more than three minutes (defined as "long interruptions") were introduced for the period 2000-2003 with Resolution 202 of 28 December 1999, and were the first of their kind in this country.

To account for the sharp geographical disparities that remained even after adjusting for user concentration, the rules define the areas to which the general continuity of service levels apply. In 2000, each area was assigned target continuity levels for the years 2000-2003, which set a mandatory course of improvement with respect to the average continuity recorded in that area in 1998-1999. The worse the initial continuity, the more the area had to improve, in order to achieve a convergent trend.

For three southern Italian regions (Campania, Calabria and Sicily), whose continuity of service data for 1998-1999 were not taken as valid, the target continuity levels set for 2001-2003 entailed a stricter rate of improvement than those in the rest of Italy (Tab. 33).

For areas where continuity standards were already excellent, a system of incentives was designed to encourage them to maintain those levels.

Under the system of distributor incentives and fines, for each of the approximately 300 areas in question, the incentive or fine is determined in relation to the specific continuity target set for each year on the basis of a moving two-year average. The two-year average helps prevent weather conditions from affecting continuity of service data, and the system does not count blackouts due to force majeure or to the actions or neglect of third parties.

The mechanism also provides incentives for areas that improve beyond their targets, and fines for those whose results are negative, with a 5 percent leeway in either direction that gives rise neither to incentives nor penalties.

**TAB. 33 COMPULSORY CONTINUITY IMPROVEMENTS FOR THE ENEL GROUP**

Total duration of long, unplanned interruptions; minutes lost per consumer per year (A) and percent average improvement (B)

	BASE LEVEL 1998- 1999	TARGET 1999- 2000	TARGET 2000- 2001	TARGET 2001- 2002	TARGET 2002- 2003
North	100	93	86	81	76
<i>Average improvement</i>	-	7%	14%	19%	24%
Centre	192	168	149	133	120
<i>Average improvement</i>	-	13%	23%	31%	38%
South(C)	277	237	205	180	159
<i>Average improvement</i>	-	14%	26%	35%	43%
South(D)	324	269	237	181	140
<i>Average improvement</i>	-	17%	27%	44%	57%
Enel	188	163	146	124	108
<i>Average improvement</i>	-	13%	23%	34%	43%

(A) Net two-year average.

(B) With respect to the base level for 1998-1999.

(C) Abruzzo, Molise, Puglia, Basilicata and Sardinia (base level provided for 1998-1999)

(D) Calabria, Campania and Sicily (base level provided for 2000; 1998-1999 figures are estimates).

### Effects of the new continuity of service regulations for electricity distribution

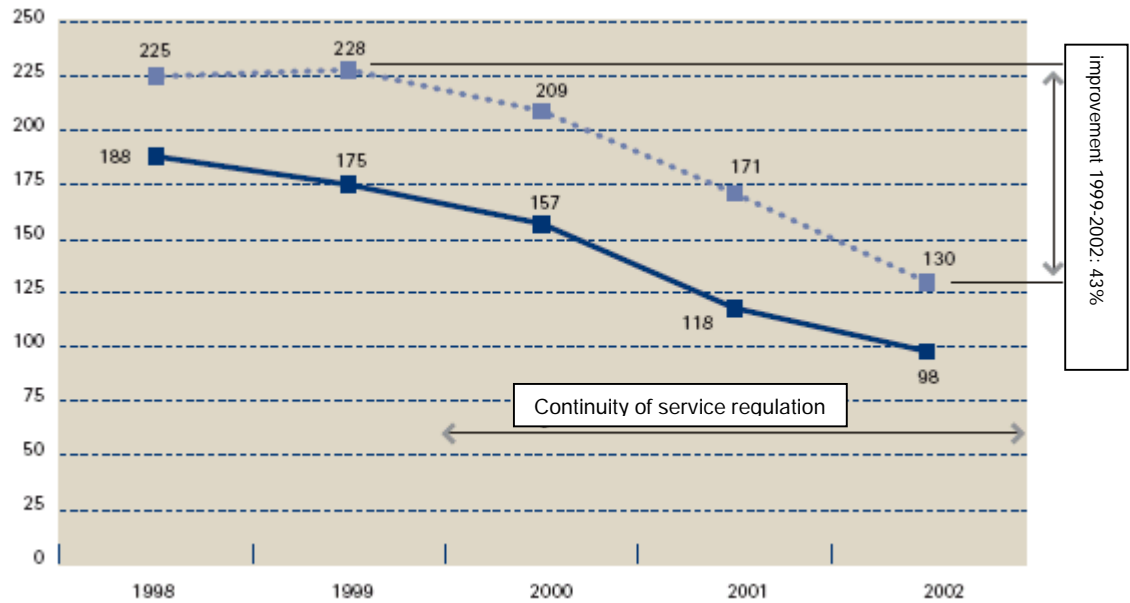
The results achieved during the first phase of economic regulation for long, unplanned blackouts (2000-2002) indicate that the rules were effective in reducing the number and length of power outages (One of the goals of the continuity of service regulations for electricity distribution was to reduce geographical disparities, especially between the northern regions and those in central and southern Italy. In this regard as well, the new system has been highly successful (Table 6.6). Data by region and by distributor can be found on the Authority's Web site.

Fig. 10). Improvements were reported both for Enel and for most of the local distributors.

The continuity figures show that the total length of outage per customer, counting all long, unplanned interruptions, fell from 228 minutes lost in 1999 to 130 minutes lost in 2002. The improvement came from a reduction in the reference variable (total duration of long, unplanned interruptions per LV customer) excluding blackouts due to force majeure, external causes or factors originating on the high-voltage networks or on the national transmission grid: this reduction went from 175 minutes lost in 1999 to 98 minutes lost in 2002. The improvement in the total blackout duration per customer also entailed a benefit in terms of the number of interruptions per customer, which dropped from 4.2 in 1999 to 2.9 in 2002.

One of the goals of the continuity of service regulations for electricity distribution was to reduce geographical disparities, especially between the northern regions and those in central and southern Italy. In this regard as well, the new system has been highly successful (Table 6.6). Data by region and by distributor can be found on the Authority's Web site.

FIG. 10 IMPROVEMENT IN CONTINUITY OF SERVICE, 1998- 2002



— TOTAL CUMULATIVE DURATION (including interruptions due to force majeure or third parties or originating on HV networks)

... NET CUMULATIVE DURATION (excluding interruptions due to force majeure or third parties or originating on HV networks)

From an economic standpoint, the improvement in service will raise tariffs by very little. On the basis of a simulation conducted by the Authority, for the entire period 2000-2003 the estimated tariff hike due to the incentives, net of fines paid by utilities that fail to meet their continuity targets, is less than three euro per year per customer.

Lastly, an assessment of the effects of continuity of service regulations for the period 2000-2003 must also take account of the number of distributors progressively subject to the new rules. In 2000, continuity of service regulations applied to seven distributors, for a total of 24.1 million customers (in 230 geographical areas). In 2003, they are expected to apply to 24 distributors (out of 41 with more than 5,000 customers), for a total of 33.4 million customers, who amount to over 99 percent of total consumers including those served by distributors with fewer than 5,000 customers.

TAB. 34 ELECTRICITY SERVICE CONTINUITY: REDUCTION IN REGIONAL DISPARITY FROM 1999 TO 2002

	Length of interruption(minutes lost per customer)		Number of interruptions per customer	
	1999	2002	1999	2002
North	136	92	2,6	2,0

Centre	224	111	5,0	2,9
South <sup>(A)</sup>	356	195	6,0	4,2
<b>Italy</b>	<b>228</b>	<b>130</b>	<b>4,2</b>	<b>2,9</b>

(A) For the regions of Campania, Calabria and Sicily, 1999 figures were estimated by the Authority due to the lack of valid data from the utilities.

Source: utilities' declarations.

## Technical inspections

Twelve spot checks were performed in 2002, for a total of 49 during the period 2000 to 2002. With Resolution 7 of 23 January 2003, the Authority calculated for each geographical area the improvements in service continuity achieved by the utilities over the course of the previous year, on the basis of reported continuity data and the outcome of the technical inspections.

As part of that process, the Authority looked into the blackouts that occurred during a wave of bad weather that struck some regions of northern Italy on 13 and 14 December 2001 and then moved to southern Italy. After requesting information on power outages during that time from the utilities operating in the areas hit by the storm, the Authority decided that Enel Distribuzione S.p.A. and Amps S.p.A. (Parma) had improperly attributed the entire duration of the blackouts to force majeure. On the basis of the documentation received from the utilities, the Authority decided to attribute to other causes only the duration of interruptions corresponding to the historical average downtime on those plants, and the remainder of the downtime to force majeure. It was therefore necessary to calculate, for the utilities that had mistakenly attributed service interruptions to force majeure, the benchmark for the areas affected by the bad weather. The Authority also invoked the general provision at Art. 25, paragraph 2 of the Consolidated Continuity of Service Act, which states that if the Authority has to define the annual benchmark, the costs normally eligible for reimbursement are no longer recognized.

## Safety and continuity of service regulations for gas distribution

Safety refers to the protection of people and things from damage due to explosions, bursts and fires caused by distributed gas. Key safety features include the artificial odourization of gas so that its presence in the air can be detected; the reduction of gas leaks through the inspection of distribution networks and the cathode protection of steel pipes; and the establishment of an emergency response service.

Continuity of service is defined as a lack of interruptions in the supply of gas to customers. Ideally, gas should be provided continually, since interruptions in the service not only damage customers' interests and inconvenience them, but also expose them to risks when the service is restored. However, it is not technically possible to eliminate interruptions altogether.

In late 2000, the Authority issued Resolution 236 of 28 December 2000, which established regulations for the safety and continuity of the gas distribution service. The aims of the decision were as follows:

- to ensure the physical safety of people and things and to protect the environment by reducing the amount of methane gas emissions;
- to defend consumers' rights by reducing the number and duration of interruptions;
- to narrow the gaps in performance levels among distributors operating throughout the country, without worsening those situations where the best safety and continuity standards are already being achieved.

The resolution introduced a system of obligations and checks to regulate the safety and continuity of the service, and set country-wide basic and benchmark levels for each of the safety and continuity indicators for 2002-2003. Distributors were encouraged to improve their safety and continuity standards through the Authority's publication of comparative data on the levels achieved and of the scores, broken down by indicator, for each plant and distributor.

The safety and continuity regulations for the gas distribution service require each distributor to define operating procedures for the handling of emergencies (malfunction of power supply sub-stations or entire stretches of medium- or low-pressure network, etc.) and incidents caused by the use of the gas distributed. Distributors are required to inform the Comitato Italiano Gas (Italian Gas Committee - CIG) of each emergency or incident in which they have been involved.

The measures regulating safety and continuity were phased in gradually, as follows:

- for all distributors, the obligation to provide emergency intervention including in response to calls reporting gas leaks in customers' installations took effect in 2001;
- from 1 January 2002, all distributors with more than 5,000 users (and each plant they manage with more than 1,000 users connected) have been required to keep an up-to-date register of safety and continuity data;
- for all distributors with more than 5,000 users (and each plant they manage with more than 1,000 users connected):
  - up-to-date floor plans had to be in their possession by 1 July 2001;
  - the safety and continuity regulations had to be observed as from 1 January 2002.

### Effects of the new safety and continuity of service regulations for the gas distribution service

Data on the technical quality of the service that supplies gas for civil use by way of urban networks are collected by the Authority each year, from the gas utilities themselves, and published on the Authority's Web site.

### Activities during the year

Since 2003, utilities with more than 5,000 connected customers have been required to submit data on the safety and continuity of the gas distribution service to the Authority by 31 March of each year. Utilities with up to 5,000 connected customers must only report data on emergency calls received. The Authority, to make it faster for the utilities to submit data and easier for it to perform its supervisory function, has set up a system for the electronic transmission of data and the direct, on-line crediting of each utility.

In 2002 the Authority also focused on developing technical standards for activities related to safety and continuity of service. Taking initiative from the Authority, the Association for Protection from Electrolytic Corrosion (APCE) and the Italian Technical Gas Association (ATIG)—in collaboration with the CIG—drew up the Guidelines necessary for implementing Resolution 236/00, in accordance with Art. 28 thereof.

The recommendations contained in the Guidelines constitute the basic prerequisites for taking the steps addressed by the resolution on the aspects of gas safety and continuity of service that are not covered or sufficiently regulated by national or European technical standards. The Guidelines will be reviewed and updated periodically to take account of technical advances and regulatory changes in the field.

## New safety regulations for users' gas installations

The Authority has always placed great importance on the safe use of gas downstream from the delivery point. To that end, it has issued a series of resolutions aimed at promoting the safety of users' installations.

Of particular note are the rules introduced in 2000 by Resolution 47/00, on the commercial quality of the gas distribution and sale service, and by Resolution 236/00, on the regulation of safety and continuity in the gas distribution service.

Of fundamental importance to safety downstream from the gas delivery point are the obligations that distributors have to meet with regard to checking odourization and providing an emergency intervention service that must also respond to reports of gas leaks downstream from the meter. These rules give distributors a first-hand role in the safety of users' gas installations, and require them to suspend service in the event of localized leaks beyond the delivery point.

## Activities during the year

In accordance with Art. 16, par. 5 of Legislative Decree 164 of 23 May 2000 and with the responsibility attributed by the founding law regarding the equal protection of end users including in terms of safety, the Authority published a consultation document entitled "Rules governing checks on the safety of users' gas installations" in June 2002.

In the document, the Authority suggests defining a user installation as everything downstream from the gas delivery point (piping, air vents and flues, excluding appliances and similar equipment) and dividing user installations into three categories:

- installations already in operation;
- modified installations;
- new installations.

Under the proposed rules, the local distributor would have its employees or external staff inspect the documentation that must be drawn up under safety laws and regulations, and conduct a direct inspection on the installation only if the papers provided are incomplete or incorrect.

The consultation document places much emphasis on the enforcement of competition. It includes rules disqualifying certain parties from inspecting



individual installations; for example, an installation cannot be inspected by the company that designed it or built it.

As for cost coverage, the Authority has set up a mechanism that rewards customers' "good conduct" by:

- refunding inspection costs to customers whose documentation is found to be in order;
- charging the customers for inspections if their papers are incomplete or incorrect.

The Authority, on the basis of available data and assuming full enactment of the regulation, set an average annual cost per final customer of no more than 4 euro.

The Authority also intervened on the matter of insurance coverage, with benefits payable to civil-use end users in the event of damage caused by the use of gas. Since Eni S.p.A. expressed a willingness—albeit on a temporary basis, for 2003 only—to renew the expiring policy taken out in 1991 by the company Snam S.p.A. that paid benefits to natural gas customers connected to urban distribution networks (excluding industrial users and hospitals with respective annual consumption of over 200,000 and 300,000 cubic metres), the Authority, with Resolution 21 of 13 March 2003, provided for coverage of the relative costs incurred by Stogit S.p.A.

With Resolution 47 of 30 April 2003, the Authority initiated the procedure for identifying the type of insurance coverage that would best achieve, on a stable, definitive basis, the goals set by the current policy. In doing so it took account of the need for a policy that would apply to all civil-use end users, regardless of the standards and conditions set for the supply of gas. The solution will be found with input from all interested parties operating in the natural gas sector.

## Customer satisfaction surveys

From 1998 to 2002, as part of a multi-purpose household survey entitled *Aspects of Everyday Life*, ISTAT asked a sample of more than 20,000 families representing every region in Italy questions designed to assess user satisfaction and the quality of services in the electricity and gas sectors.

**THE GENERAL DEGREE OF SATISFACTION WITH THE TWO SERVICES WAS GOOD, ALTHOUGH THERE WAS A CERTAIN AMOUNT OF VARIANCE FROM ONE GEOGRAPHICAL AREA TO THE NEXT (TAB. 35 AND**

Tab. 36).

### **TAB. 35 OVERALL SATISFACTION WITH THE ELECTRICITY SERVICE**

Percent replying "highly satisfied" or "moderately satisfied"

	1998	1999	2000	2001
Northwest	94,6	94,5	94,1	94,5

Northeast	93,1	94,1	92,0	94,3
Centre	89,4	91,3	89,6	91,1
South	86,4	88,1	88,7	89,2
Islands	83,7	83,9	84,5	84,5
<b>Italy</b>	<b>90,3</b>	<b>91,2</b>	<b>90,6</b>	<b>91,7</b>

Source: Istat multi-purpose study, 1998-2001.

### TAB. 36 OVERALL SATISFACTION WITH THE GAS SERVICE

Percent replying "highly satisfied" or "moderately satisfied"

	1998	1999	2000	2001
Northwest	95,0	95,0	94,6	94,7
Northeast	94,5	94,7	94,0	94,5
Centre	94,5	95,7	94,9	94,3
South	94,5	95,1	94,9	96,0
Islands	89,8	95,6	91,5	96,3
<b>Italy</b>	<b>94,5</b>	<b>95,2</b>	<b>94,5</b>	<b>94,9</b>

Source: Istat multi-purpose study, 1998-2001.

## CONSUMER PROTECTION IN THE ELECTRICITY AND GAS SECTORS

Founding law 481/95 gave the Authority responsibility for promoting and protecting users' and consumers' interests, as part of the general policy objectives set by the Italian Cabinet and Parliament.

The Authority's activities in this regard during the six years since its founding can be summarized in the following points:

- examination of complaints, queries and reports from individual or groups of users;
- issue of new terms of supply regulations for the distribution and sale of electricity and gas;
- issue of information on the terms and conditions of service in order to improve transparency and reduce the knowledge gap between consumers and utilities;
- involvement of consumers' associations in the gas and electricity sectors through their participation in regular hearings, in the consultation phase before general provisions are issued, and in the definition of a protocol of understanding with the CNCU.

## Examining complaints, queries and reports

Since its foundation the Authority has received a growing number of complaints, queries and reports concerning the electricity and gas sectors, from both individual customers and consumers' associations. From a total of some 200 communications received in 1998-1999, the volume grew to over 700 in 2002-2003 (Tab. 37). As shown in the table, however, there has been little change over time in the ratio of new complaints, reports and queries concerning the distribution and sale of electricity and those concerning the distribution and sale of gas. That ratio stems first from the different numbers of customers served (there are almost twice as many electricity users as gas customers), and also from the fact that problems with the electricity service (outages, power surges, etc.) are more readily perceived by the customer.

In the electricity sector, the examination of complaints—focused initially on pricing issues—has gradually expanded over the last couple of years to problems with service continuity and billing procedures, particularly the reconstruction of usage data when meters malfunction. In the gas sector, the evaluation of complaints, queries and reports has concentrated on billing procedures, hook-ups and contracts, although at varying rates over the years.

### Activities during the year

Net of tariff complaints (which are not addressed in this chapter), from 1 May 2002 to 30 April 2003 the Authority received 718 communications, of which complaints made up 83 percent, queries 11 percent and reports 6 percent. Of the total, 67.96 percent concerned the electricity service and the remainder concerned the gas service (Tab. 37)

**TAB. 37 COMPLAINTS, QUERIES AND REPORTS RECEIVED BY THE AUTHORITY FROM MAY 1999 TO APRIL 2003**

	COMPLAINTS	QUERIES	REPORTS
<b>1999-2000</b>			
Total	221	79	23
Electricity	155	48	14
Gas	66	31	9
<b>2000-2001</b>			
Total	375	124	38
Electricity	270	85	32
Gas	105	39	6
<b>2001-2002</b>			
Total	449	77	45
Electricity	323	36	30
Gas	126	41	15
<b>2002-2003</b>			
Total	596	79	43
Electricity	422	36	30
Gas	174	43	13

**TAB. 38 MAIN ISSUES ADDRESSED BY COMPLAINTS, REPORTS AND QUERIES RECEIVED BY THE AUTHORITY FROM MAY 2002 TO APRIL 2003**

Issue addressed	TOTAL CASES (number)	TOTAL CASES %
<b>ELECTRICITY</b>		
Interruptions	131	30,0
Billing procedures	86	21,0
Hook-ups	70	16,0
Contracts	40	9,3
Quality of service (commercial and technical)	28	6,5
Meters	27	6,3
Tariffs	19	4,4
Bills	16	3,7
<i>Call center</i>	12	2,8
<b>GAS</b>		
Contracts	58	28,0
Billing procedures	57	27,0
Hook-ups	43	21,0
Bills	18	8,6
Quality of service (commercial and technical)	12	5,7
Tariffs	6	2,6
Meters	6	2,6
<i>Call center</i>	5	2,3
Taxes	4	2,2

## Regulating terms of service for the supply of electricity and gas

During its first three years of operations, the Authority found that consumers and utilities in both the electricity and gas sectors had mismatched contractual power, due to the lack of specific legal and administrative standards and to the parties' unequal footing. The Authority determined that the relationship between consumer and utility was governed solely by a supply contract drawn up unilaterally by the utility and by a number of practices that were at the utility's total discretion and not formalized in the contracts at all.

Although the gas and electricity sectors shared this lack of uniformity, there are important differences between the two. The gas sector is made up of a high number of utilities and a more elaborate institutional context than that of the electricity sector, given the local entities' control on distribution and

sale activities and the huge variety of supply conditions that such a situation entails. Note, in any case, that since 1 January 2003, as established by Legislative Decree 164/00, the local entities have controlled the distribution business only.

To overcome this state of inequality, the Authority issued Resolution 200 of 28 December 1999 for the electricity sector, which sets the minimum contractual conditions guaranteed to all captive customers and leaves the utilities free to improve on those terms.

The new standards regulate and limit the occasions on which the utility can cut off power; eliminate the advance payment on the power supply and require utilities that ask for a security deposit to pay interest on that amount; define a procedure for the reconstruction of usage data if the meter is found to be malfunctioning; allow the customer to make instalment payments on large bills that square previous estimates; set the interval for meter reading; and determine the billing frequency and procedures.

With Resolution 229/01, the Authority established similar contractual standards for the supply of gas to end users. At that point, the liberalization process was accelerating; since 1 January 2003 all gas consumers have been recognized as eligible, and the sale of gas has been completely deregulated.

Therefore, given the particular characteristics of the gas sector and with a view to establishing a minimum degree of protection even in the liberalized market, Resolution 229/01 states that the contractual guarantees determined by the Authority must be offered clearly and unambiguously to all customers. The utility can offer alternative conditions as well, which the customer is free to accept or negotiate.

### Activities during the year

In view of the complete opening of the gas market, the Authority adopted another measure to help defend consumers' interests. Since it is impossible to impose an immediate state of competition, with Resolution 207 of 12 December 2002 the Authority ruled that for all customers who were ineligible at 31 December 2002 and for all those who were eligible at that date but who had not exercised their right to negotiate new contracts, gas utilities had to supply them under the same conditions in effect at that date, without prejudice to the provisions of Resolutions 47/00, 184/01 and 229/01. It should be emphasized that the effect of Resolution 207/02 on Resolution 229/01 was that the contractual terms specified in the latter took automatic effect in all contracts with such customers that existed at 31 December 2002.

### Informing consumers

The Authority's duties include ensuring that conditions of service are broadly publicized and that information is easily available, in order to guarantee transparency, competition and consumer choice. Knowing exactly what a service entails and how much every item costs gives consumers the power to make informed choices among various offers, and lays the foundations for market growth that does not violate consumers' rights.

In this regard, the Authority's basic tool is the general directive, which sets transparency rules for bills and contracts and standards of conduct for the

utilities, so that customers are treated fairly at all stages of business and informed via institutional communications.

## Bill transparency

The Authority's measures to ensure the clarity and unambiguity of gas and electricity bills converge in Resolution 42 of 14 April 1999, concerning natural gas distributed over urban networks, and Resolution 55 of 16 March 2000, on bills for the distribution and sale of electricity.

With those measures the Authority aimed to streamline and simplify billing documents by imposing minimum standards that would apply without exception to all utilities. The standards concerned both the form and the content of bills, and supplemented some existing rules set by the Interministerial Price Committee (CIP). Under the new resolutions, bills must contain information not only on consumption and charges but also on certain other terms of service, such as the consequences and assurances for customers whose bills are not paid on time. In particular, Resolution 55/00 requires the utility to provide the customer with detailed information on the tariff options in force.

## Code of conduct

To protect customers in their dealings with the utility, the Authority also decided to require electric companies to write a commercial code of conduct that would ensure that customers are informed about pricing conditions in a fair and transparent manner. In adopting the code of conduct, the utility makes specific promises about disclosure to its customers, guaranteeing that they will be given the information they need to analyze the various offers and choose the tariff option that best suits their needs.

To prevent this from creating a disparity between electricity customers served by utilities whose codes of conduct have been approved by the Authority and those served by others, the Authority drew up a code of conduct for the utilities that had not submitted one on their own.

Conversely, in the gas sector, the Authority intervened with Resolution 237/00, which requires all utilities to adopt an identical code of conduct matching the one drawn up for electricity utilities that had not submitted their own for approval. This decision was made considering the particular structure of the gas market, with its more than 750 distributors—many of them small—and the need to guarantee uniform standards of information and transparency.

The obligations to inform and assist customers imposed by the commercial code of conduct required by Resolution 237/00 remain in effect, for distribution companies only, even after the complete liberalization of the gas market.

## General information

To make sure that the sudden and widespread liberalization of the gas market mandated by Legislative Decree 164/00 would be beneficial to end users, including those who use gas for purposes other than manufacturing (i.e. residential consumers), the Authority decided to provide users with practical information on the sector's new arrangement and on the business relations between the consumer and the supplier, with a special focus on

the role of the vendor and on the customer's option to choose the vendor that makes the best offer. This information was published on the Authority's Web site, in the form of Frequently Asked Questions (FAQ), early in 2003.

As an additional measure to publicize the new rights of consumers, the Authority has gradually published a series of writeups explaining the various decisions taken with regard to tariffs, service continuity and terms of service. These are available on the Authority's Web site and are also distributed to consumers' associations.

## Involving consumers' associations

Another way to defend users' interests is to find ways of directly or indirectly involving consumers' associations in the regulatory process, in the form of consultations, user satisfaction surveys, quality of service reviews, and the joint dissemination of news and information on the gas and electricity sectors. Such involvement not only helps the Authority take effective decisions and thus fulfil its official purpose; it also fosters a more socially balanced transition to the complete liberalization of public utilities.

In a monopoly-dominated market, utility customers have come to be regarded as passive users with no real bargaining power and no ability to influence how services are supplied. This situation has done little to encourage utilities to improve their efficiency and quality. Therefore, in consideration of each party's institutional role, the Authority seeks the active participation of consumers and their associations by consulting them for their input on regulatory matters.

In signing the Protocol of Understanding with the CNCU on 17 October 2001, the Authority also paved the way for joint initiatives designed to inform consumers of the rights and guarantees they enjoy as customers of the electricity and gas service, and to make the most of the consumer associations' experience and effort in these sectors.

The Protocol of Understanding, in addition to confirming the Authority's commitment to dialogue with the consumers' associations, calls for a number of new initiatives. These include information campaigns geared toward consumers and associations that work in close contact with the public, ways of using to best advantage the associations' monitoring activities in the electricity and gas sectors, and the possibility to attempt of out-of-court conflict resolution.

## ENERGY EFFICIENCY AND CONSERVATION AND THE DEVELOPMENT OF RENEWABLE SOURCES

Social and environmental protection and the efficient use of resources are general aims of the Authority, as stated in Art. 1, paragraph 1 of its founding law. During its first few years of activity, the Authority pursued these goals transversally by developing regulatory standards for the gas and electricity sectors, starting with the reform of the tariff system.

In spring 2001, the Ministry of Industry, Commerce and Trade (now the Ministry of Production Activities), in concert with the Ministry of the Environment, issued the decrees of 24 April 2001 that were published in Ordinary Supplement no. 125 to the *Official Gazette*, General Series no. 117 of 22 May 2001. The decrees revolutionized Italy's legislation on the promotion of energy efficiency and conservation, introducing a system that

was both ambitious and highly innovative including on an international scale. The Authority was given complex new functions involving regulation and the management of the new legal framework.

The main new features were as follows:

- introduction of a market approach as opposed to government intervention, which is poorly suited to a liberalized market in which electricity and gas services are provided by several competing parties;
- legislative reach extended to a vast range of interventions and uses of energy;
- involvement of many more parties;
- completion of pricing instruments and introduction of administrative sanctions.

## Ministerial decrees of 24 April 2001 and the tasks assigned to the Authority

The ministerial decrees of 24 April 2001 implemented the energy efficiency and conservation measures contained in Legislative Decrees 79 of 16 March 1999 and 164/00. They defined, for the period 2002-2006, annual primary energy conservation targets to be met by distributors that served more than 100,000 end users at the end of 2001. The aims, determined in relation to national targets (Tab. 39) and to the share of the distribution market held by every utility, are part and parcel of the new "National Plan for the Reduction of Gas Emissions Responsible for the Greenhouse Effect: 2003-2010". The autonomous regions and provinces can set additional quantitative and qualitative objectives within the framework of the decrees, taking account of their extra economic resources.

Distributors that fail to reach their targets are fined. The distributors act on their obligations by carrying out projects entailing interventions that fall under the types listed in the decrees. The range of possible interventions is huge and encompasses all categories of use, but distributors must achieve no fewer than half of their objectives through efforts to reduce the consumption of the form of energy they distribute. The conservation projects can also be carried out by energy service companies, and must be developed and evaluated (in terms of the amount of energy conserved) on the basis of standards defined by the Authority after seeking advice from various parties and consulting the autonomous regions and provinces.

**TAB. 39 NATIONAL QUANTITATIVE TARGETS FOR ENERGY CONSERVATION ESTABLISHED BY THE MINISTERIAL DECREES OF 24 APRIL 2001**

YEAR	TARGET (Mtoe/year)	
	ELECTRICITY DISTRIBUTION	NATURAL GAS DISTRIBUTION
2002	0,10	0,10
2003	0,50	0,40
2004	0,90	0,70
2005	1,20	1,00
2006	1,60	1,30



Source: Ministerial decrees of 24 April 2001.

Distributors that would rather not develop their own conservation projects can choose to meet their obligations by purchasing energy efficiency certificates (also known as "white certificates"), which certify the energy conservation achieved by other parties. These are issued by the Authority, following an examination process that ensures that the projects have really been carried out in compliance with the decrees and with its own set of rules. White certificates can be traded under bilateral agreements or in a special market set up by the electricity market manager (GME S.p.A.), which is regulated on the basis of rules agreed between GME and the Authority.

If not covered by other resources, the costs incurred by the distributors in meeting their targets can be financed through gas and electricity transmission and distribution tariffs according to rules set by the Authority.

## The Authority's role in implementing the ministerial decrees of 24 April 2001

In April 2002 the Authority issued a consultation document with proposals for implementing the ministerial decrees of 24 April 2001.

In making its suggestions, the Authority aimed to combine the simplicity and clarity of standards and implementation procedures—a must, in order to reduce the burden on the parties to a minimum—with the guarantee of certainty and reliability that utilities need in order for the market of energy products and services to develop. The proposals are also designed to promote efficiency and technological innovation and to safeguard the growth of competition.

The consultation document recommends three ways of evaluating how much energy is conserved thanks to the projects carried out under the decrees:

- standardized evaluation methods, whereby the average savings attained by each physical unit installed (e.g. energy-saving lightbulbs and high-efficiency boilers) is pre-determined;
- engineering methods, which allow savings to be quantified on the basis of a pre-determined algorithm and the direct measurement of certain variables;
- comparison methods, which allow savings to be quantified by measuring consumption before and after the intervention on the basis of an energy monitoring plan approved by the Authority in advance.

All three of the methods take account of the impact of technical and behavioural factors on whether the potential savings brought about by the interventions will be maintained over time. They are also designed to assess the additional conservation attained, i.e. net of what would have been achieved without the interventions thanks to technological progress and the evolution of the market. Nine examples of the calculation of the primary energy savings achieved with nine different kinds of intervention allowable under the ministerial decrees of 24 April 2001 are provided as an annexe to the consultation document.

The Authority also proposes setting a minimum size for each intervention and establishing rules to ensure competition and non-discrimination against the various categories of customer in the offer and execution of projects.

After controls and examination of the project documents submitted to the Authority or kept at the company's premises, the Authority would issue white certificates to acknowledge the actual savings achieved by the interventions. To ensure that the white certificate trading market is accessible to as many companies as possible, the Authority recommends that the certificates be available to energy service companies and to all electricity and gas distributors, including those not subject to the obligations established in the decrees. Issued in three different types, the certificates would be good for five years so that if a distributor held any in excess of its target for a given year, it could use them to meet its objectives for the four years thereafter.

As for fines in the event of non-compliance, the consultation document suggests that their unit amount (€/toe not saved) be the higher of a pre-defined parameter and the average market price of white certificates during the year of non-compliance, multiplied by a coefficient greater than 1. This guarantees that the fine is proportional and always higher than the cost of the investments required to compensate, as established in the decrees. It also prevents the amount of the fine from distorting white certificate trading prices, by leaving it up to the market to determine the real cost of energy conservation.

Lastly, the Authority recommends that distributors have the possibility to recover through the tariff mechanism the portion of costs incurred in meeting their quantitative targets that are not covered by other resources. Distributors would not be entitled to recover all costs declared; the recognized amount would be based on standard criteria, in order to promote efficiency in conservation projects, and would be limited to the primary energy savings achieved by the distributors through their efforts to reduce the consumption of the form of energy they distribute. They would recover their recognized costs from the variable portion of the tariff, on a presumed basis, with any discrepancies settled after inspection of their target compliance.