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(summary edition)

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CHANGES IN THE INSTITUTIONAL FRAMEWORK

Significant progress was made in 2000 towards the completion of the new competitive framework for the electricity sector envisaged by Legislative Decree 79 of 19 March 1999 (hereafter Legislative Decree 79/1999).

The liberalisation of energy services went ahead in spite of the strong increase in fuel costs and price volatility on the international markets. To cushion domestic prices from the effects of rising oil quotations, the Government introduced a temporary reduction in taxes on energy products, especially the methane used in industrial processes, and suspended the carbon tax adjustment for the year. The rationalisation of the tax burden on consumers was one of the steps taken to ensure that the development of competition was not held back.

There were significant legislative developments regarding environmental issues. The most significant of these were the measures to counteract electromagnetic pollution and incentives for energy saving projects in the final uses of electricity and gas. In the gas sector the liberalisation process, which will reach a significant milestone in 2003 when all consumers are able to choose their own supplier, was launched with the implementation of European Directive 98/30/EC through Legislative Decree 164 of 23 May 2000 (Legislative Decree 164/2000).

This Decree completely transformed the structure of the sector by establishing that the activities of importing, exporting, transporting, despatching, distributing and selling natural gas should be free and open to competition. These activities, although in effect free, are regulated by the Authority, which is responsible for overseeing the application of the legislation.

With regard to distribution and sales activities, the Authority has launched the reform of natural gas distribution and supply tariffs. This provision brings tariff levels into line with costs and smoothes out excessive geographical differences. It also separates distribution from sales activity to prepare them for liberalisation.

In a Decision issued at the same time as the tariff provision, the Authority set out the conditions governing safety and continuity of supply for the gas distribution networks: these include obligations to investigate gas leaks, monitor the odourisation process and improve the rapid intervention service. These activities were not regulated in the past and were carried out, by the approximately 750 distributors operating in Italy, without any uniform standards.

The publication of the legislative decree was followed by further Government measures, including the definition of the network of national gas pipelines. The Authority used this definition to draw up the network of functionally integrated local pipelines for gas distribution.

In autumn 2000 the Authority issued two consultation papers containing proposals for the reform of the transportation, storage, regassification and distribution tariffs for methane gas. Transportation tariffs on the national network will no longer be based on distance, but on the entry-exit methodology. Booking mechanisms are envisaged for the transportation service to encourage the exchange of un-used capacity and special tariffs for "interruptible" transportation.

In March 2001 the Authority opened a consultation process on proposals to ensure that companies planning to sell gas enjoy access to and use of the transportation networks in conditions of complete neutrality and impartiality. The consultation document defines the criteria that companies offering transportation and despatch services will be required to meet when drawing up their "network codes", the sets of rules and conditions – which include obligations that are binding on companies – to ensure that the network is managed and run in safe conditions. The definition of the network

codes is an essential step in opening up the gas market to a plurality of operators. Companies must submit their codes for approval by the Authority, which will ascertain whether they correspond to the established criteria and comply with the standard model. A procedure for updating the codes is also envisaged to enable them to be easily adapted to market developments.

The Authority's proposals also include the criteria for the regulation of congestion in the case of insufficient transportation capacity. Under the transitional provisions the legislation would be applied in a simplified form for the first two years to accelerate the opening of the market.

The availability of information on import contracts and capacities at connection points will be of great importance in ensuring that the gas sector is effectively opened up. Data on new contractual commitments and the transportation capacity used for international gas trading will be published in the Hydrocarbons Bulletin over a period of not less than 10 years, taking the functional margins of the network into account.

On 27 March 2001 the Ministry of Industry signed two decrees, one on imports and the second on gas storage.

The first provision contains the requirements that must be met to obtain Ministry of Industry authorisation to import gas from non-European Union countries. The decree envisages checks on the economic and financial guarantees that applicants must provide in order to supply and transport gas up to the Italian border.

Measures are also envisaged regarding administrative simplification, arrangements to enable spot supplies through methane pipelines and commitments to guarantee that infrastructure investments are planned with due consideration for the geographical diversification of sources of supply.

The second decree regulates third party access to depleted gas deposits or deposits where exploitation is at an advanced stage, to reconvert them to storage use. The provision is designed to improve storage capacity in the light of the projected growth in imports and domestic consumption. A competitive procedure is envisaged, with the payment of a deposit to compensate previous users. The decree also includes arrangements for deciding which deposits have the potential for transformation into storage and obtaining access to the relevant technical data. It also defines the conditions that applications for concessions must meet and the criteria the Ministry will apply in selecting the new concession holders.

In the electricity sector Government approval of the regulations on the electricity market paved the way for the regulated trading market to become operational. The document drawn up by the Electricity Market Operator and approved by the Ministry of Industry envisages an electricity market divided into a day-ahead market, consisting of one trading session for the following day in which electricity is traded; an adjustment market, consisting of two sessions, the first of which following the day-ahead market and the second at the start of the day to which trading refers, in which the previous day's bids/offers can be adjusted; a congestion management market, consisting of one single session following the first session of the adjustment market, where operators' offers of increases or decreases in inputs or off-takes are collected for use by the Gestore della rete di trasmissione nazionale (National Transmission System Operator – GRTN) for re-despatching to manage congestions and promote the efficient use of the network; a reserve market, consisting of one single session following the congestion solving market, in which the resources providing the reserve power needed by the GRTN to guarantee the safety of the electricity service are selected on the basis of offers submitted by operators; a balancing market, spread over different sessions, to compensate for any mis-matches between actual power inputs and off-takes and the schedules

defined in the day-ahead energy market, the adjustment market and the congestion management market.

The Italian electricity market still has a long way to go before it can be said to be operating in truly competitive conditions, especially if we consider that supply still continues to be highly concentrated even after the completion of the divestment process pursuant to Art. 8 of Legislative Decree 79/1999. The mechanisms introduced through the electricity exchange should help to make the exercise of market power more visible and facilitate the introduction of prevention and control measures. From this point of view the discipline exerted by the market has a useful role to play in revealing, but not necessarily mitigating, the exercise of market power.

On 9 May 2001 the Ministry of Industry approved the operational Guidelines for the Single Buyer. This new body was included in Legislative Decree 79/1999 because there is no guarantee during the early stages of liberalisation that a competitive and well organised market will emerge, and because of the need to achieve specific objectives. The objectives attributed to the Single Buyer are the following:

- Guaranteed supply of electricity in safe, secure conditions through the availability of sufficient quantities of generating capacity;
- Diversification of primary energy sources used for electricity generation.

On the basis of the ministerial Guidelines, the Single Buyer purchases electricity, including through financial contracts, and generating capacity, usually on the electricity market envisaged by Legislative Decree 79/1999. Subject to approval by the Ministry of Industry, the Single Buyer can negotiate bilateral contracts outside the bidding system. Those contracts shall not expire any later than 31 December 2004.

The Guidelines also provide for the Single Buyer to sell availability in excess of its own requirements, a situation that can arise when the requirement is over-estimated. The Guidelines do not envisage different supply conditions for the Single Buyer than those applied to other operators; through the Single Buyer, however, they provide distributors with an additional means of access to the free market.

Direct access to the market could create problems for some small distributors, especially during the early stages of the competitive market, which will necessitate learning and adjustment periods. One of the Single Buyer's roles will be to provide guarantees, protection and support for small distributors who are not equipped to operate directly on the electricity market.

Supply through the Single Buyer encourages a satisfactory volume of transactions. It also involves the use of standardised, and therefore transparent, instruments to carry out these transactions and makes it possible to evaluate clearly and promptly any additional supply costs sustained in pursuing the set objectives. One specific role of the Single Buyer could be to take over from Enel S.p.A. the management of multi-annual electricity import contracts that the company entered into prior to 19 February 1997.

Another way in which the Single Buyer will protect captive customers and, on their behalf, small distributors, is by promoting initiatives to improve energy and cost efficiency in the way they run the service, and in so doing increase and enhance their business awareness.

THE ELECTRICITY SECTOR

The Italian electricity market is still characterised by the strong presence of the former monopoly holder. In 2000 the Enel Group, with its subsidiaries operating in the production, distribution and sale sectors, continued to cover significant shares of their respective markets.

The state of competition in the different segments of the sector

In the generation sector the Enel Group controls about 75% of net power and 77.4% of net production. Once the divestment of the three limited liability companies (Genco) has been completed as envisaged by Legislative Decree 79/1999, Enel is expected to account for over 56% of production in 2001 (net of self-consumption). In 2000 the procedure for the sale of the first of these companies, Electrogen, was initiated. Expressions of interest were received from many Italian and foreign operators in the sector and from large industrial users, banks and financial companies.

In the distribution sector the Enel Group owns over 80% of the medium- and low-voltage network. The year 2000 saw the completion of the procedures for the divestment of portions of Enel's distribution network in some municipal zones. The divestment process was completed in the municipalities of Trieste and Parma and negotiations were opened for the sale of the electricity network of the municipalities of Turin, Milan, Rome, Verona, Turin, Modena and Brescia. In other cases agreements are being drawn up or negotiated. The divestment operations already finalised have resulted in a loss of over 40,000 users for Enel Distribuzione. This has, however, been balanced by an increase of half a percentage point in the total number of customers with respect to the previous year (29,840,000).

A little under half of sales on the free market, which amounted to about 51 TWh (net of self-consumption), was covered by Enel Trade (a trading company in the Enel Group), followed at a long distance by Edison Trade.

Prices – international comparisons

Electricity prices stayed significantly higher than the average European level. Reasons for this included the increase in oil prices in the second half of 2000 and structural characteristics of supply, as Italian technological installations depend more on oil sources than those of other European countries.

In the domestic sector the prices for consumption levels of 600 kWh and 1,200 kWh per year were about half the European levels, while prices for consumers with consumption of over 3,500 and 7,500 kWh were proportionately higher, with differentials of around 60%. In the industrial sector the price differential gross of tax ranges from 25% to 54%, and tends to increase with consumption.

On the demand side preliminary estimates provided by the GRTN indicate that there was an increase of 297.7 TWh in 2000, an increase of 4.1% with respect to 1999. This was higher than the increase recorded last year, when the demand for electricity grew by 2.3%. One reason for the boost in demand, which was covered by a rise in net national production and higher net imports from neighbouring countries, was the expansion of the Italian economy from the second half of 1999.

Consumption and Production

Hydroelectric installations contributed 50.3TWh to net national production, which reached 262.4TWh. Thermal plants contributed 207.2 TWh, geothermoelectric sources 4.4 TWh, and wind and photovoltaic production 0.4 TWh, with net production from wind and photovoltaic plants

marking the greatest increase (10%). Production from geothermal plants (7%) and thermoelectric plants (5.2%) rose considerably, against a fall of 1.6% in hydroelectric production.

Net imports, which amounted to 44.3 TWh, grew by 5.6% with respect to 1999. Half of these imports came from Switzerland, 35.6% from France, 10.1% from Slovenia and the remaining 4.4% from Austria. With respect to 1999, electricity from Switzerland and France lost ground to imports from Austria and, in particular, from Slovenia.

The growing demand for electricity and the high price level provided added impetus to projects for new generating capacity. By 31 December 2000 the GRTN had received applications for connection to the national transmission network equating to 32,900 MW of power, and applications for preliminary feasibility studies for connections equating to 31,400 MW. By the end of March 2001 applications amounted to 77,000 MW. However, many applications were submitted on a precautionary basis and will not translate into actual investments.

Table 1 ELECTRICITY BALANCE SHEET

Millions of kWh and percentage variations

BALANCE SHEET HEADINGS	1999	2000	VARIATION
GROSS HYDROELECTRIC PRODUCTION	51,777	50,925	-1.6
GROSS THERMAL PRODUCTION	209,068	219,800	5.1
GROSS GEOTHERMAL PRODUCTION	4,403	4,705	6.9
GROSS WIND AND PHOTOVOLTAIC	409	451	10.3
PRODUCTION			
TOTAL GROSS PRODUCTION	265,657	275,881	3.8
ELECTRICITY FOR PRODUCTION SERVICES	12,920	13,455	4.1
TOTAL NET PRODUCTION	252,737	262,426	3.8
RECEIVED FROM FOREIGN SUPPLIERS	42,538	44,831	5.4
SOLD TO FOREIGN CUSTOMERS	528	484	-8.3
FOR PUMPING STATIONS	8,903	9,067	1.8
TOTAL DEMAND, Italy	285,844	297,706	4.1

Table 2 NET ELECTRICITY IMPORTS TO ITALY

Billions of kWh, shares and percentage variations

COUNTRY	1999	2000	SHARE %	PERCENTAGE %
FRANCE	15,329	15,771	35.6	2.9
SWITZERLAND	21,632	22,157	50.0	2.4
AUSTRIA	1,686	1,958	4.4	16.1
SLOVENIA	3,362	4,461	10.1	32.7
TOTAL	42,009	44,347	100.0	5.6

Source: Elaboration based on GRTN data

Table 3 SALES ON THE FREE MARKET BROKEN DOWN BY OPERATOR, 2000 Including imports

OPERATOR	ELECTRICITY SOLD	MARKET SHARE
	GWH	%
ENEL TRADE S.P.A	20,761	40.5
EDISON ENERGIA S.P.A.	8,109	15.8
LUMENERGIA SCRL	3,964	7.7
ELECTRAITALIA S.P.A.	2,020	3.9
ASM ENERGIA E AMBIENTE S.P.A.	1,764	3.4
DALMINE ENERGIE SRL	1,485	2.9
ENERGIA S.P.A.	1,369	2.7
OTHER OPERATORS	4,026	7.9
TOTAL SALES /TRADED BY OPERATORS	43,498	85.0
SALES NOT TRADED BY OPERATORS (A)	7,702	15.0
TOTAL SALES TO THE FREE MARKET	51,200	100.0

(A) Estimate.

Characteristics of eligible customers and developments in recognition of eligible status.

In 2000 the quantity of electricity consumed by eligible customers increased by 25%, from about 76.5 TWh to about 95.5 TWh. As a result, the percentage of market opening increased from 28.6% to 35.7%. The number of eligible customers throughout the country consuming electricity at single sites increased from 518 to 601 (+16%), with consumption itself rising less than the previous year (+5%). This reflects the fact that in 1999 a substantial majority of electricity consumers had already obtained eligible status. The results for group consumers (consortia, groups and so on) were very different: this category saw a considerable increase in consumption, with the number of sites recognised as eligible increasing even more, from 3,069 to 7,605 (+148%), for a final market that increased from 20.9 TWh to 37.4 TWh (+79%). The geographical distribution of the customers

¹ Set of linked metering points which are located in a defined area at the disposal of a single consumer and or one single component of a group

granted eligibility status shows that their consumption grew in a fairly uniform fashion between May 2000 and April 2001, although in absolute terms most of the free market is located in the North of the country.

In 2000 there were 93 wholesale and distribution operators on the list of eligible customers, compared with 26 at the end of 1999. Of these operators, who act as intermediaries for the electricity market, most (85) were wholesale purchasers, with only 8 engaged in distribution. Compared with overall consumption of about 85 TWh (net of self-consumption) by eligible customers at the end of 2000, electricity sales in the free market in the same period amounted to about 51 TWh; the structural deficit between demand and supply can therefore be put at over 30

TWh, although a considerable part of the transmission capacity with neighbouring countries was

assigned to the free market.

Activity carried out

Between April 2000 and April 2001 the Authority's activity focused on the implementation of the tariff reform and the duties and tasks connected with the implementation of the provisions contained in Legislative Decree 79/1999 on the liberalisation of the electricity market.

Implementation of the tariff reform

On 1 January 2000 the new tariff system for the distribution and sale of electricity to captive customers, as introduced through Decision 204 of 29 December 1999, came into force. In view of the significant changes introduced by the new tariff order, Decision 204/1999 provided for a transitional tariff system for the first six months of 2000, during which to fine-tune the changeover to the new system.

The Decision established that with effect from 1 July the tariffs in force should cease to operate and the basic tariff options proposed by operators and approved by the Authority should be made available. An obligation was placed on operators to offer at least one basic tariff option for each user category, with the exception of low-voltage domestic users, for whom a system providing greater protection is envisaged. The deadline for submission of the basic tariff options to be applied in the second half of 2000 was 31 March of that year. Decision 112 of 22 June 2000 subsequently extended this deadline to 15 July. In the same Decision the Authority also approved the basic tariff options submitted by operators up to the original deadline and prepared a supplementary tariff system for the period running from 1 July 2000 to 31 December 2000, for operators supplying non-domestic user-categories for whom the basic tariff options were not in place with effect from 1 July 2000. Obligations were also introduced regarding the information to be provided by operators, who are required to publish the approved options through suitable channels of information and according to pre-set timescales. The basic tariff options submitted by operators up to the deadline of 15 July pursuant to Decision 112/2000 were then evaluated by the Authority, which communicated the results of its evaluation in Decision 141 of 3 August 2000.

The Authority evaluated tariff options presented by 171 operators; of these, 13 had one or more options rejected since they did not comply with the criteria laid down in Decision 204/1999. 25 operators did not submit options.

Adjustment of fees and parameters for the captive market

The new tariff order, introduced in Decision 204/1999, also envisaged an annual adjustment of the constraint and tariff parameters for the distribution and sale of electricity to captive customers.

At the end of each year the Authority is required to check for each user-category and operator that the overall revenue from sales to customers belonging to the category in question does not exceed the revenue that the operators would have obtained by applying a tariff set according to a ceiling on annual revenue for the category (constraint V1), called TV1. For low-voltage domestic users Decision 204/1999 envisages a more protective system that includes tariffs which operators are obliged to offer their customers. These tariffs are called:

- tariff D2, applied to contracts drawn up in homes with reserved capacity no higher than 3 kW:
- tariff D3, applied to contracts drawn up in homes with reserved capacity higher than 3 kW or homes that are not the user's principal place of residence;
- tariff D1, the new single tariff for domestic users, which will come into force from 2003.

In accordance with Decision 204/1999, in the period between the introduction of the new tariff order and 1 January 2003 tariffs D2 and D3 will be adjusted periodically to bring them gradually into line with the new single tariff, D1.

Using the price cap method, the Authority has therefore adjusted for 2001 the parameters of constraint V1 and those of the single tariff for domestic users, D1. The components of tariffs D2 and D3 for domestic users have also been adjusted to bring them gradually into line with the single tariff D1 and the fee for transportation over the national transmission network for captive customers. The adjustments to constraint V1 and tariff D1 were implemented through Decision 123 of 19 July 2000 at the inflation rate, calculated from June 1999 to May 2000, of 2.1%. The Authority devoted 0.7% of the adjustment to the creation of an incentive fund (about 50 billion lire) for improvements to the electricity service.

The allowed costs to which the price cap applies correspond to about a quarter of the overall tariff, in which fuel and production costs are also reflected, and to system costs (nuclear, renewable sources, research spending). The allowed costs decided by the Authority for transmission, distribution and sale activities were reduced by 1.4%, taking the costs of fuel to be equal to those in force at the time of the adjustment.

The Authority made the adjustment designed to bring tariffs D2 and D3 into line with tariff D1 in such a way as to preserve as far as possible the current protection system based on electricity consumption profiles. In the same Decision the Authority also made the adjustment for 2001 of the fee for the transportation of electricity for captive customers over the national network (set in Decision 205 of 29 December 1999) and opened an account covering "Costs for the improvement of service quality" within the *Cassa Conguaglio* Compensation Fund. This account covers payments and withdrawals for allowed costs and penalties respectively, as envisaged by Decision 202 of 28 December 1999 (see the section on quality of service).

Subsequent to the liberalisation of electricity production envisaged by Legislative Decree 79/1999 and the new tariff system introduced by the Authority, some provisions contained in previous Decisions proved to be incompatible with the new tariff order, or no longer applicable. These include the system of subsidies for production-distribution companies envisaged by Art. 6 of Decision 70 of 26 June 1997. This system differentiated subsidies according to the type of plant used for electricity production and the quantity of electricity produced with respect to previous years' levels, and is no longer compatible with the new system. In Decision 230 of 20 December 2000 the Authority therefore abolished the subsidies for electricity production paid from the Energy Cost Account and part B of the tariff, with effect from 1 January 2001.

Decision 238 of 28 December 2000 set an interim wholesale price for 2001 for electricity for captive customers to be applied until the bidding system envisaged by Legislative Decree 79/1999 is launched. The price takes into account the mechanism for the recovery of the general costs affecting the electricity system (stranded costs) as envisaged by the Ministry of Industry decree of 26 January 2000. Under this provision the price levels for wholesale electricity are divided along similar lines to those in force in 1999 but are also brought more closely into line with the production costs sustained by operators with efficient production plants. These prices should correspond to the price levels obtaining in a competitive market. The setting of a new price level for wholesale electricity has a double effect on the fees paid by final users. Firstly, the variation in the electricity price involves a variation in the tariff component of constraint V2 and tariffs D1, D2 and D3 to cover generating costs. And secondly, guaranteed coverage of the costs allowed for generating activity through the mechanism envisaged by the decree of 26 January 2000 creates a need to introduce a special tariff component to compensate companies for these costs. Consequently, in the same provision the Authority:

- set the component of constraint V2 and tariff D1 covering generating costs (parameter PG) for 2001;
- adjusted the tariff components of tariffs D2 and D3 covering fixed generating costs for low-voltage supply for domestic use;
- introduced a further tariff component, A6, to be paid by customers in the free and captive markets, to cover the general electricity system costs linked to the recovery mechanism envisaged by the decree of 26 January 2000;
- set up an "Account to compensate production-distribution companies for the costs sustained for the production of electricity during the transition" in the *Cassa Conguaglio* Compensation Fund, to manage the revenue from tariff component A6.

Adjustment of wheeling and transportation fees

Following the definition of the national transmission network, some network structures previously devoted to generation were transferred to the transmission network, causing an increase in costs. In response to this, Decision 108/2000 amended the power and network use fees laid down previously by Decision 13/1999.

Decision 13/1999 had envisaged two surcharges in the wheeling tariff: one covering the decommissioning of nuclear power stations (component A2) and one covering costs connected with the promotion of renewable and assimilated sources (component A3). These surcharges were applied partly to the kWh consumed and partly to the monthly reserved power. As a result of the tariff reform a series of additional general costs were applied to captive users: component A4 covering costs linked to special tariffs and component A5 covering costs for research and development for technological innovation of general interest to the electricity system. To avoid discrimination between captive and eligible users in the conditions applied for access to and use of the transmission and distribution networks, in Decision 109/2000 the Authority adjusted the network access and use fees by applying increases A2, A3, A4 and A5 as indicated in Decision 204/1999.

Moreover, since the structure of the "A" tariff components was penalising customers with low electricity consumption since they were paying unit fees expressed in lire/customer/year in addition to unit fees expressed in lire/kWh, it was decided that for tariff components A2, A3 and A5 only rates expressed in lire/kWh, like those applied to low-voltage supply for domestic use, should be applied to users with reserved capacity of 1.5 kWh or less. For the special tariff systems envisaged by the current regulations for final customers engaged in activities involving high electricity consumption, the part of the fee covering general costs was decreased by applying a reduction amounting to 40% of the rate expressed in lire/kWh for consumption in excess of 8 GWh/month. This reduction was also applied to final customers in the captive market with the same consumption levels. Operators engaged in transmission, despatch, distribution and sales to customers in the captive market were, however, exempted from the application of the components covering general costs (A) and those designed to ensure a gradual transition between the old and new tariff systems (UC). Decision 108/2000 was amended and expanded upon after the adoption of Decision 180 of 4 October 2000. In view of the fact that the rapid and sizable increases in the international prices of oil products have produced significant increases in electricity tariffs, and especially in that part of the tariff designed to cover variable generating costs, the Authority considered that electricity in excess of 8 GWh per month consumed by customers belonging to categories other than lowvoltage, should be exempted from the payment of those parts of the "A" tariff components that are expressed in lire/kWh. In Decision 239 of 28 December 2000 the Authority adjusted the fees for the provision of the wheeling service for 2001. The Decision also provided that the fees for the

wheeling service on medium and low-voltage networks should be paid into the account covering "Service continuity improvement costs" set up in the *Cassa Conguaglio* Compensation Fund pursuant to Art. 4 (4,1) of Decision 123/2000.

Tariff equalisation

The Authority's work in recent years on the equalisation of distribution costs and other costs paid by electricity distributors was taken forward in two consultation papers entitled Criteria for the definition of equalisation systems for distribution costs and other costs paid by electricity distributors, published in June 2000, and Amounts involved in equalisation systems for distribution and other costs sustained by electricity distributors, published on 20 February 2001. The need for an equalisation mechanism in the Italian electricity system arose as a result of the requirement to standardise tariffs on a countrywide basis and the differences that emerged between the costs different operators applied for the services. These differences arise not from distribution companies' choices or conduct, but from the specific characteristics of each area and type of users served. This can create both advantages and disadvantages for companies, for reasons that are independent of their entrepreneurial ability; for some companies the situation results in service costs that are higher than the tariff revenue intended to cover them, while for others the situation is reversed. Similar considerations apply for other costs sustained by distributors that are unconnected with their operational choices or conduct. The introduction of equalisation systems was intended to even out these differences between distributors: differences in the revenue they obtain from supplies to domestic customers; in the revenue from tariff systems; in the costs sustained for the purchase of wholesale electricity and the transportation of this electricity over networks owned by third parties; and in the cost of distribution over low-, medium- and high-voltage networks. Each equalisation system is managed by the Cassa Conguaglio Compensation Fund through a special account for payments from and to distributors. Different arrangements have been proposed for operators to take part in the various equalisation systems. These include:

- the equalisation system should apply automatically to all operators;
- participation in the equalisation system for electricity distribution costs should only be obligatory for the very big companies, leaving participation optional for other firms. The reasoning behind this proposal is that the equalisation system could require both accounting and disaggregated technical data to be made available, which would result in substantial administrative costs for companies;
- participation in the revenue equalisation systems for supply to domestic customers should be optional for all operators.

The Authority has proposed that smaller electricity companies should be temporarily excluded from the sphere of application of the proposed equalisation systems until new criteria have been drawn up to define the tariff supplements to be applied to them and the proposed regulations for small isolated networks formulated pursuant to Art. 7 of Legislative Decree 79/1999 have been implemented.

For the year 2000, companies were able to choose whether or not to take part in the proposed equalisation systems. These systems are transitional in nature, as they are closely linked to the characteristics of the electricity market and the current tariff structure. As the electricity market is liberalised the system for the equalisation of supply costs will grow less important as the captive market is reduced in size. Once the Single Buyer is fully operational the system should no longer be needed and will presumably be phased out after 2001.

In the case of distribution costs, however, the equalisation system could remain in operation even after the electricity market liberalisation process has been completed; this will depend on the nature of the transportation price system in the distribution networks. The system will in any case need to be monitored, and if necessary reviewed, when the tariff structure for the next regulatory period is defined. The equalisation system linked to transitional tariffs D2 and D3 for domestic users will cease operating in 2003, as soon as the new tariff system for domestic users is fully up and running.

Application of the tariff reform to smaller electricity companies

Still on the subject of tariffs, in 2000 the regulations governing tariff supplements for smaller electricity companies were adjusted as a result of rulings 588, 589 and 590 filed on 5 February 2000 by the Regional Administrative Court (TAR) for Lombardy. The TAR noted that in setting the tariff supplement for smaller electricity companies, a cost component relating to profit had not been recognised.

The Authority subsequently amended the criteria applied in setting the tariff supplements for these companies and arranged for the rate of return on the net assets to be determined using the Capital Asset Pricing Model (CAPM).² With Decision 182 of 4 October 2000 the Authority introduced an automatic adjustment mechanism for the deposit paid to smaller firms as a tariff supplement pursuant to Art. 7 (3) of Law 10/1991. This mechanism provides companies with higher deposits whenever there are significant variations in fuel costs for electricity production. The provisions only apply to 2000.

Bi-monthly adjustment of electricity tariffs

From the fourth two-month period of 2000 to the first two months of 2001 the allowed unit cost of fuel (Vt) increased from 35,688 to 44,081L/Mcal. This increase reflects the different trends in prices in US dollars of fuels on the international markets, and the devaluation of the euro against the US dollar. Subsequently, the reduction in international fuel prices in US dollars and the revaluation of the euro against the US dollar produced a decrease in the allowed unit cost of fuels, which fell from 44,081 L/Mcal in the first two months of 2001 to 39,967L/Mcal in the third two-month period.

The tax element of the allowed unit cost of fuels remained unchanged during the period under consideration.

With regard to 2000, if we take the value of 2290 kcal/kWh for specific consumption, the increase in the allowed unit cost of fuels (Vt) was followed by an increase in the allowed cost for electricity produced by thermoelectric plants using commercial fossil fuels (Ct) from the 81,726 L/kWh of the fourth two-month period of 2000 to the 92,069 L/kWh of the sixth two-month period of 2000. When tariffs were adjusted for the first two months of 2001, specific consumption was set at 2260 kcal/kWh, which made up in part for the impact on tariffs of the increase in the allowed unit cost of fuels. In spite of this, the allowed cost for electricity produced by thermoelectric plants using commercial fossil fuels (Ct) also increased, to 99,623 L/kWh, in the first two months of 2001 compared with the previous two-month period. It then fell over the next four months, reaching 83,545 L/kWh by the third two-month period of 2001.

² For smaller electricity companies a risk level equal to the one taken as average reference level for the Italian electricity sector in the Authority's tariff setting arrangements was used, adjusted for each company to take into account the different financial structure and tax profile.

The variation in the allowed cost of fuels necessitated an adjustment of part B of the tariff for the period between May and December 2000; this was eliminated with effect from 1 January 2001 as it was not compatible with the liberalisation of electricity production.

At the same time the tariff component covering the costs sustained by distributors to purchase electricity increased, including a part covering variable production costs that is commensurate with the allowed unit cost Ct.

In the period under consideration the Authority also adjusted the rates of tariff components A and UC. The former were increased by Decision 113/2000 for all users except for the State Railways, seaside municipalities and franchise holders or users whose water supply has been diminished or interrupted by the construction of a hydroelectric power plant, for whom a special tariff system exists. As a result of Decisions 231 and 232 of 20 December 2000, tariff component UC2 (which is paid into the "Account for the recovery of the greater value of electricity during the transition") was eliminated. With regard to component A3, which is intended to fund the "Account for new plants using renewable and assimilated sources", the higher estimated revenue, with respect to the funding requirements of the account itself, from the increase in the fees for the use of and access to the national transmission network for electricity produced by hydroelectric and geothermoelectric plants made it possible to reduce the average rate by 3.6 lire/kWh for the first two-month period of 2001. The level of this tariff component was increased on several occasions over the subsequent four months. In Decision 244 of 28 December 2000 the average rate of this tariff component was set at 0.9 lire/kWh and was subsequently doubled in the wake of the ministerial decree of 17 April 2001 amending the decree of 26 January 2001 on general system costs. The Decree of 17 April 2001 excluded hydroelectric and geothermoelectric plants from the mechanism compensating production-distribution companies for non-recoverable costs. Although this exclusion reduced the level of allowed costs eligible for compensation, as a result of the different arrangements in place for these plants for the calculation of the higher value of electricity in the transition period, it actually produced an increase in the supplement paid to production-distribution companies.

General system costs

In Decision 131 of 26 July 2000 the Authority defined the arrangements that were put in place subsequent to the implementation of Directive 96/92/EC to allow production-distribution companies to recover costs sustained for the generation of electricity pursuant to Art. 2 (1,a) of the decree of 26 January 2000 (stranded costs). The Decision also listed the data and information which interested parties must transmit to the Authority to enable it to determine the parameters referred to in Art. 5 (1) of the ministerial Decree³.

On 3 August 2000 the Authority published a Note on the general system costs of the electricity system which listed the criteria the Authority intended to follow in order to determine:

a) the parameters enabling the non-recoverable costs of electricity generation to be quantified in accordance with Art. 5 (3) of the decree;

³ Art. 2 (1) of the decree issued by the Industry and Treasury Ministers on 26 January 2000 sets out the general costs of the electricity system. These include:

[•] the return to production-distribution companies of the non-recoverable part of the costs sustained for the generation of electricity further to the liberalisation of electricity generation in implementation of Directive 96/92/EC (Art. 2 (1,a));

[•] compensation for the greater value, deriving from the implementation of Directive 96/92/EC, of electricity produced by hydroelectric and geothermoelectric plants which at 19 February 1997 were owned by or at the disposal of production-distribution companies (Art. 2,1,b)

- b) the greater value of the electricity produced by hydroelectric and geothermoelectric plants; and
- c) the arrangements for calculating the level of non-recoverable costs in cases where plants are sold or transferred.

In the Authority's opinion the arrangements for the calculation of non-recoverable costs envisaged by the decree of 26 January 2000 are very difficult to apply when plants are sold, as in the case of the generating companies that Enel will be required to place on the market to implement Legislative Decree 79/1999 (Genco), whose plants are burdened by stranded costs. The Authority's Note proposes that these costs be quantified on a one-off basis and recognised definitively when the plants are sold or transferred to a different operator. One advantage of this method is that it allows the market to decide whether stranded costs, which only emerge in cases where the purchaser pays less for the plants than they cost the seller, actually exist. Moreover, in the Authority's opinion this "one-off" solution also ensures that the rights and costs transferred to the purchasers of the plants and the costs borne by consumers are calculated accurately and transparently. However, in the case of plant sales the Ministries of Industry and the Treasury expressed a preference for the stranded costs to be allowed on an "instalment" basis, with year-end statements over seven years. Using the method suggested by the ministries, the amount of stranded costs received each year by operators purchasing plants would depend not only on their actual production but also on the generation of electricity by plants still owned by the seller, together with production by plants owned by the other purchasers. This would create a risk of collusive conduct, since all the owners of plants covered by stranded costs would have an interest in keeping the level of stranded costs borne by consumers high.

In Decisions 231 and 232 of 20 December the Authority defined the greater value of the electricity produced by hydroelectric and geothermoelectric plants for the free market in 2000 and the arrangements for the calculation of the greater value achieved by production-distribution companies for the period 2001 to 2006, and set out the arrangements to compensate this higher value. The greater value of the electricity produced by hydroelectric and geothermoelectric plants was determined in such a way that the value allowed for energy produced by these plants was at least equal to the value they would have achieved in the absence of liberalisation. Decisions 231/2000 and 232/2000 also establish that the compensation for the increase in value should be made through an increase in the fees for access to and use of the national transmission network and that the revenue from this increase should be paid into the "Account for the management of the increase in value of electricity in the transition stage". Any funding in excess of the needs of this account will be transferred to the "Account for new plants using renewable and assimilated sources".

In order to clarify and simplify the procedure for the recognition of stranded costs and give consumers a more reliable idea of the costs entailed, in April 2001 the Authority sent the Government a proposal calling for a clarification of the arrangements for the application of the decree of 26 January 2000 in the case of plant sales and asked that the burden on consumers should not be any higher than it would have been if the plants had not been sold, independently of the method used for the calculation of stranded costs.

Promotion of competition and liberalisation of the service

Allocation of interconnection capacity

On the subject of trade with neighbouring countries, in August 2000 the Authority set out the arrangements and conditions for the allocation of interconnection capacity for the import or export of electricity to and from Italy in 2001 in cases where applications are higher than available

capacity (Decision 140 of 3 August 2000). Decision 140/2000 envisaged the allocation of transportation capacity through market mechanisms for 2001. Subsequent to the decision by the Regional Administrative Court of Lombardy, confirmed by the Council of State, to suspend the system then in force, the Authority revoked Decision 140/2000 and approved new rules governing power imports for 2001. These new rules introduce a pro-rata mechanism for the allocation of transportation capacity at the borders: all applications will be accepted, but will be reduced proportionately until they fall within the limits of available capacity. No operator may have more than 5% of import capacity over all borders and more than 10% at any one border.

Final eligible customers cannot ask for quantities higher than their own consumption capacity, while wholesalers will be required to submit self-certification to the effect that their application does not exceed the maximum consumption capacity of the customers they serve. Applications must be formulated in multiples of MW with a minimum threshold of 1MW (which equates to a maximum consumption of about 8 million kWh per year), the lower limit of the electricity bands that can be traded on the international market. In view of the variation in companies' consumption levels over the year, the quantities allocated can be re-sold, in full or in part, on a secondary market. The provision contained in Decision 140/2000 regarding the allocation of part of the interconnection capacity on a monthly basis was confirmed.

Completion of the wheeling regulations

The regulations governing wheeling activity were completed with the adoption of various provisions including: criteria to assess the admissibility of wheeling applications with respect to network capacity and their implications for operational safety (Decision 109/2000); the definition of the general rules that must be included in wheeling contracts (Decision 119/2000); the adoption of provisions to speed up the installation at re-delivery points not located on the national transmission network of suitable metering devices; and the adjustment of the exchange and balancing parameters designed to regulate cases where electricity inputs and off-takes are not concurrent or equal in quantity, net of transportation losses (Decision 240/2000).

Decision 109 of 15 June 2000 confirmed the principle that the safety of the service is the only consideration under which operators are entitled to refuse access to networks. In the same Decision the Authority also set out the information that should be included with applications for access and which will be used for safety checks.

With regard to the standard wheeling contract, Decision 119 of 12 July 2000 defined the rules for access to the network and the arrangements for the measurement and calculation of the fees to be applied in the different periods of the year and at different times of the day. In view of the particular importance in wheeling contracts of the economic treatment of any excess power inputs or off-takes, the Authority has decided on an introductory period of one year to enable free customers to minimise their costs. During this period the penalty applied if off-takes are higher than the programmed levels may be reduced.

Electricity off-takes and inputs need to be measured on an hourly basis in order to apply the provisions for the balancing of increases of power with respect to the reserved levels. In Decision 139 of 3 August 2000 the Authority opened a fact-finding enquiry to examine the state of implementation of the interventions to up-grade and renew electricity metering devices in order to apply Articles 7 and 10 of Decision 13/1999 and Articles 4 (4.2) and 5 (5,2,a and b) of Decision 225/1999. It emerged from the documentation the Authority gathered during this enquiry that the meters installed in re-delivery points not connected to the national transmission network are not always suitable for measuring withdrawals on an hourly basis, as they only allow electricity to be

measured for each time band and in some cases (typically, the low-voltage re-delivery points) can only measure the electricity withdrawn overall on a monthly basis.

The lack of suitable metering devices and the expected increase in volumes and users of the wheeling service in 2001 have made it necessary to introduce provisions to speed up the installation of suitable metering devices at re-delivery points. As a result, Decision 240 of 28 December 2000 envisaged that in place of the requirement imposed on the network operator in accordance with Decisions 13/1999 and 119/2000, users would be given the option of providing directly themselves for supplying and installing metering devices, without affecting distributors' responsibility to read the amounts metered and meet the connected costs. This option only applies if the network operator fails to meet the requirement to provide, and if applicable install and activate, the metering equipment within the set timescale.

Again through Decision 240/2000, the Authority has adjusted the exchange and balancing parameters regulating cases where electricity inputs and off-takes do not take place at the same time and for equal quantities net of transportation losses; this adjustment is particularly important both to ensure that the relative value of the electricity in the different time bands is equal for eligible and captive customers, and to make the balancing regulations less burdensome.

With Decision 63 of 22 March 2001 the Authority took steps to amend the procedure envisaged by Art. 4 (4,4) of Decision 13/1999 regarding the supply of the wheeling service, partly to allow operators to use the interconnection capacity allocated for the period from 1 April 2001 to 31 December 2001 as soon as the capacity actually becomes available. As a result of this amendment prior authorisation is no longer needed to draw up wheeling contracts in derogation; such contracts may be stipulated directly and then submitted to the Authority for approval.

Finally, with Decision 224 of 13 December 2000 the Authority liberalised the production of electricity by small photovoltaic plants and set out the conditions under which people producing electricity from photovoltaic plants of up to 20 kW of power can exchange energy with their electricity distributor (Enel and the municipal companies). As a result of this liberalisation measure it is now possible to proceed with the "10,000 photovoltaic roofs" project promoted by the Ministry for the Environment and the ENEA (*Ente Nazionale Energie Alternative* – National Agency for New Technologies, Energy and the Environment). This project envisages grants for people installing photovoltaic equipment. To encourage this first example of small-scale electricity generation by a wide user base, the Authority has ruled that self-produced energy should be equal in value at any time and on any day of the year to the energy normally obtained from distributors.

Regulation of the electricity market and Single Buyer

On the subject of electricity market regulation the Authority submitted to the Government and Parliament a document containing its observations and proposals on the organisation of the electricity exchange pursuant to Art. 5 of Legislative Decree 79/1999. The proposals concern organisational models, solutions and procedures that the Authority considers to be effective and appropriate features for inclusion in a market regulation framework. The organisational model proposed is based on a non-discriminatory auction and suggests that the marginal price be used to set the clearing price. In addition to a day-ahead market, the Authority suggests that at least two on-the-day markets should be introduced, as near as possible to the time the electricity enters the network, with the close a few hours in advance of real time. With regard to the format of bids, the Authority proposes an exchange model based on simple bids. The combination of on-the-day adjustment markets and simple bids will enable sellers to benefit from flexibility in bidding and consumers to adjust demand on the basis of the prices set the previous evening. As adjustments of power inputs/off-takes will also make it possible to reduce the need for intervention by reserve

capacity plants, whose electricity is normally more expensive (regulation of primary, secondary and tertiary frequency), the Authority considers that a real-time physical electricity market, run by the Market Operator, should be introduced. This market would enable the Market Operator to perform the task for which it has sole responsibility, which is to ensure that electricity inputs and off-takes are balanced continuously under conditions that are compatible with the utmost efficiency and cost-effectiveness.

The electricity market can also include a market or remuneration mechanism for the provision of long-term capacity. The Authority has recommended that if a market or mechanism of this type were considered necessary it should be required to interfere as little as possible with the functioning of the daily electricity markets. For this reason the Authority has also proposed that it should coincide with a market in which each buyer purchases "capacity rights" amounting to a multiple of its electricity demand. Demand side operators include the Single Buyer, who would guarantee the availability of productive capacity for the customers of the captive market as envisaged by Art. 4 (1) of Legislative Decree 79/1999. On the capacity supply side, capacity rights are sold by generating plants that undertake to supply the electricity on the daily electricity market. Capacity rights, even for future periods where compatible with the development of new generating capacity, if necessary, are traded in a "long-term capacity market" set up specifically for this purpose and managed by the Market Operator.

Another important aspect of the organisation of the wholesale markets is the management of network congestions which occur when electricity flows corresponding to the input and off-take schedules drawn up in the exchange, or the flows resulting from the execution of bilateral contracts, are not compatible with the transportation capacity available in conditions of network safety. The Authority considers that the most efficient mechanism for the cost-effective management of network congestions and the reduction of generating costs to the lowest compatible level should take into account the actual nature (concentrated or diffused), frequency and importance of the congestions in the national transmission system. For this purpose the nodal value of the electricity needs to be determined. The Authority has proposed that as part of the despatching process the Network Operator should calculate and publish the nodal prices as soon as the electricity exchange begins operating. In view of the price volatility of the day-ahead market it would be advisable to create financial instruments providing cover and arbitrage mechanisms for the different operators, as has been done in other countries.

To ensure that the bidding system is compatible with bilateral contracts, the rules on despatching will need to be defined. The regulation of despatch operations is an essential step to allow merit order despatch (based on the lowest price offered) envisaged by the liberalisation decree in association with the launch of the electricity exchange, and to ensure that transactions carried out within the exchange are compatible with those concluded through bilateral contracts (outside the exchange), in order to guarantee that the electricity system functions safely. In Decision 95 of 30 April 2001 the Authority set out the conditions for the supply of the public electricity despatching service throughout the country, with particular reference to the handling of congestions (insufficient network transportation capacity), maintaining the balance between demand and supply, and the management of reserved capacity, all with due regard for the safety and security of the national electricity system. On the basis of the conditions laid down by the Authority, the GRTN will draw up the rules for despatch, an activity that it carries out under licence. These rules will apply to all network users, suppliers and customers.

Decision 96 of 30 April 2000 defined a set of general principles with which the organisation, management and functioning of the electricity market must comply. To enable the Authority to monitor the conduct of operators in the electricity exchange, the provision also sets out the information requirements the Market Operator will be required to meet. These include periodic

reports on the functioning of the various operational stages of the electricity market, while negotiations will be followed by the Authority through a direct IT link with the exchange.

On 27 March 2001 the outline ministerial Guidelines for the operation of the Single Buyer was sent to the Authority, which expressed a favourable opinion.

In a note also dated 27 March 2001 the Minister of Industry sent the Authority a document on the *Regulation of the electricity market pursuant to Art. 5 of Legislative Decree 79/1999* drawn up by the Market Operator. The outline market regulation framework includes many of the suggestions advanced by the Authority, but also contains some provisions that do not comply with the aims it had expressed in its documents on the subject. The Authority therefore expressed a favourable opinion on the outline regulations, in Decision 97 of 30 April 2001, but requested that additions and corrections be made

New procedures for eligibility to purchase electricity on the free market

With Decision 66 of 22 March 2000 the Authority simplified the procedures for the annual confirmation of eligible customer status, which entitles large consumers to purchase electricity on the free market and to choose their supplier. Unlike the previous procedure, which required eligible customers to apply for declarations attesting to their electricity withdrawals for onward transmission to the Authority, the new procedure shifts the onus for submitting the annual data on the electricity withdrawals of eligible customers connected to the networks directly to distributors.

Eligible customers are no longer required to submit any form of notification, with the exception of about 250 such customers who, within their own consumption sites, self-produce part of the electricity they use. For these customers too, however, the procedure has been simplified by replacing the declaration attesting to the quantities of self-produced electricity that previously had to be requested from the tax authorities with a simple self-certification.

Renewable and assimilated sources

The decree published by the Minister of Industry on 21 November 2000 envisages that until the bidding system begins operating the GRTN will sell the electricity produced from renewable and assimilated sources, and electricity produced by production-distribution companies under the terms of CIP (Interministerial Committee on Prices) provision 6 of 29 April 1992, through competitive procedures regulated by the Authority. The Authority set out the conditions for these competitive procedures in Decision 223/2000 and introduced a mechanism allocating the electricity on an annual basis and a series of auctions for allocation on a monthly basis. The Authority has laid down that the opening price of the auction must, as a result, be divided at least into time bands, in order to reflect the different value attributed to the electricity in each band. On the basis of the abovementioned Ministry of Industry decree, eligible customers can take part in the bidding, as can the Single Buyer as soon as it is fully operational. The same Decision also envisages that any production capacity not allocated at the end of the auctions should be sold on the captive market. The Authority subsequently provided for a tariff adjustment to make up for the lower revenue obtained from the sale on the free market of the incentivised electricity produced from renewable and assimilated sources, with respect to the revenue that could be obtained from the sale of the same energy on the captive market.

On 3 August 2000 the Authority published a consultation document on the criteria for the definition of cogeneration. The document also proposes a review of the technical conditions for the assimilability of electricity production plants with those using renewable sources as envisaged by Art 22 of Law 9/1991. The new definition of cogeneration makes it possible to identify which

existing and newly constructed plants guarantee a significant saving of electricity with respect to separate production. Legislative Decree 79/1999 exempted cogeneration from the costs connected with the promotion of renewable sources through the "green certificate" mechanism. Electricity produced by cogeneration plants would also be given despatching priority with respect to the electricity produced by conventional plants, while for the excess electricity produced by assimilated plants an obligatory purchase mechanism is applied to franchise holders at prices set by the Authority under the avoided cost criterion laid down by Art. 3 (12) of the same decree.

The Authority has also proposed technical conditions for assimilability in relation to the characteristic yields of the more recently constructed electricity production plants.

Gestore della rete di trasmissione nazionale (National Transmission System Operator – GRTN)

Finally, with regard to the activity of the *Gestore della rete di trasmissione nazionale* (National Transmission System Operator – GRTN) the Authority has laid down the funding arrangements for 2001; it has approved, with some amendments, the technical licensing rules adopted by the Operator under the terms of Legislative Decree 79/1999 and the guidelines issued by the Authority in an earlier Decision of March 1999; and has issued instructions for the adoption of technical rules for electricity metering and service continuity.

With regard to the funding arrangements, to cover its operating costs for 2000 Decision 241/2000 allocated to the Operator:

- a) for electricity for captive customers, part of the fee for the transportation of electricity on the national transmission network (which includes a fee to cover despatching costs);
- b) for wheeled electricity, a part of the power fee referred to in Art. 7 of Decision 13/1999, regarding the conventional route travelled by the wheeled electricity and the component of the fee for the use of the system to cover despatching costs.

This quota is paid by operators applying for wheeling no more than thirty days after the power fee has been collected for the conventional route component of the wheeled electricity.

For 2001 these quotas amount respectively to 0.60 lire/kWh, for the fee referred to at a), and 0.30 lire/kWh for the two fees mentioned at b).

With Decision 39 of 28 February 2001 the Authority approved, with some amendments, the connection rules adopted by the GRTN pursuant to Art. 3 (6) of Legislative Decree 79/1999, on the basis of the guidelines issued in Decision 52 of 9 March 2000.

In view of the fact that to regulate wheeling in the run-up to the new electricity market it was necessary to account for electricity flows on the basis of impartial, non-discriminatory criteria in order to ensure that the costs borne by the different operators are identified and attributed correctly, Decision 52/2000 envisages the adoption of further provisions so that the GRTN can draw up and adopt technical rules to meter electricity and measure service continuity at connection points with the national transmission network and at points within other networks where these measurements serve for transmission and despatching activities.

Lastly, with Decision 138 of 3 August 2000 the Authority provided that the GRTN should issue technical rules for the metering of electricity at network connection points where this is necessary to carry out transmission and despatch activities. These rules must contain projections regarding the measurement of interruptions in the electricity service and other voltage characteristics.

The same Decision envisaged the adoption by the GRTN of transitional rules for the installation and activation of electricity metering devices until the definitive technical rules, for which Authority approval is envisaged, are issued.

At present the transitional technical rules published by the Network Operator on its Internet site on 18 October 2000 are still in force.

THE GAS SECTOR

In 2000 final consumption of methane rose to 69.6 billion m³ in Italy, a smaller increase than the previous year (3.9% compared with 8.4%). Factors contributing to this lower growth rate included the mild winter, which resulted in a reduction of about 0.4 billion m³ in civil consumption. Consumption was also lower in the thermoelectric sector (2.2 billion m³ in 2000 compared with 3.5 billion in 1999), although this needs to be seen in the light of 11.6% rise in consumption with respect to 1999. Most of the increased consumption for electricity generation was created by Enel. Consumption in the industrial (including chemical synthesis) and transport sectors increased significantly, albeit at a lower rate than the previous year (3.2% compared with 5.5%). Overall, the role of natural gas in meeting the country's primary energy needs continued to increase and reached 32% in 2000, compared with 31% in 1999.

Domestic natural gas production fell to 16.6 billion m³ with respect to the 17.4 billion registered in 1999 as a result of lower production by Eni, down from 15.4 billion m³ in 1999 to 14.6 billion. Production by other operators remained almost constant (2.0 billion m³ in 2000 compared with 2.1 billion in 1999), although significant changes emerge if production is broken down by producer, as some increased their output. Imports rose strongly, to almost 59 billion m³. The most substantial growth involved gas of Dutch origin (3.2 billion m³), but Eni's imports from Russia and Algeria also grew considerably (in the former case, partly as a result of new contracts). Supplies to Enel from Nigeria and to Edison from Russia, which started up in 2000, also contributed to the increase in imports, as did spot supplies from other countries. The 9.4 billion m³ increase in imports is not reflected fully in the increase in consumption, which amounted to just 2.5 billion m³, even taking the fall of about 0.8 billion m³ in domestic production into account.

There were no marked changes in the market shares taken by new operators in 2000. The dominant operator retained a substantially unchanged market share of around 90%, although some signs of change are beginning to emerge with respect to 1999. Eni contributed barely 0.2 billion m³ to the overall increase of about 2.5 billion m³ in final consumption. This increase was entirely concentrated in the industrial sector, with deliveries to Enel remaining largely unchanged with respect to 1999 and deliveries to other thermoelectric users actually falling. Deliveries to distributors also fell significantly, especially as a result of the milder winter. New competitors have begun to penetrate this sector, but not yet to any marked extent.

Table 3 NATURAL GAS BALANCE SHEET

2000, billions of m³

	ENI. S.P.A.	SNAM S.P.A.	ENEL S.P.A.	EDISON S.P.A. AND OTHER	DISTRIBUTION COMPANIES	TOTAL
DOMESTIC PRODUCTION	14.6	0.0	0.0	2.0	0.0	16.6
IMPORTS	0.0	50.7	6.3	1.8	0.0	58.8
RUSSIA	0.0	21.0	0.0	1.0	0.0	22.0
ALGERIA	0.0	23.6	4.1	0.0	0.0	27.7
HOLLAND	0.0	6.1	0.0	0.0	0.0	6.1
NIGERIA	0.0	0.0	2.2	0.0	0.0	2.2
OTHERS	0.0	0.0	0.0	0.8	0.0	0.8
DOMESTIC SALES	0.0	10.1	0.0	0.0	31.3	41.4
BY ENI S.P.A.	0.0	10.1	0.0	0.0	0.0	10.1
BY SNAM S.P.A.	0.0	0.0	0.0	0.0	31.0	31.0
BY ENEL	0.0	0.0	0.0	0.0	0.0	0.0
BY EDISON S.P.A. AND	0.0	0.0	0.0	0.0	0.3	0.3
OTHERS						
VARIATION IN STOCKPILES	4.3	0.0	0.0	0.1	0.0	4.5
RESOURCES	10.3	60.8	6.3	3.7	31.3	-
TOTAL DOMESTIC SALES	-10.1	-31.0	0.0	-0.3	0.0	-
GROSS AVAILABILITY	0.2	29.9	6.3	3.3	31.3	70.9
NETWORK CONSUMPTION	0.2	0.4	0.1	0.1	0.5	1.3
AND LOSSES						
FINAL SALES AND	0.0	29.4	6.2	3.2	30.8	69.6
CONSUMPTION						
ENEL S.P.A.	0.0	7.1	6.2	0.0	0.0	13.3
OTHER THERMOELECTRIC	0.0	5.8	0.0	2.2	0.0	8.0
USERS						
INDUSTRIAL USERS	0.0	16.5	0.0	0.9	6.3	23.7
CIVIL USERS	0.0	0.0	0.0	0.2	24.5	24,6

Thermoelectric consumption includes self-production; industrial consumption includes uses for chemical synthesis and traction.

Source: Elaboration based on Ministry of Industry data and on published data provided directly by gas companies

In May 2000, two months in advance of the European deadline, Italy adopted national provisions, in the form of Legislative Decree 164 of 23 May 2000 (hereafter Legislative Decree 164/2000), to implement Directive 98/30/EC concerning common EU rules for the internal market in natural gas. The decree completely transformed the structure of the gas sector in Italy and provided a new impetus to the reorganisation of the sector.

In recent months, for example, there have been numerous acquisitions of distribution companies by the major energy companies in order to increase their market share. First in the list is Enel, which began to expand in 2000 through the acquisition of Colombo Gas S.p.A., a company which operates both directly and through subsidiaries (Camigas S.r.l., La Metanifera S.r.l., and Energas Impianti S.r.l.) in various municipalities of Lombardy, Piedmont and Emilia Romagna, and accounts for a

volume of about 270 million m³. During the first three months of 2001 Enel went on to purchase other distribution companies (Gruppo Brianza Gas, Gruppo Eurogasud, Gruppo Sogegas, Gruppo Sicim Edilgeo, la Metanifera Verbanese-Comedigas and Agas S.p.A.) which, taken together, distributed about 660 million m³. Overall, therefore, Enel now accounts for nearly 1 billion m³ of gas distribution.

Edison Gas too carried out important acquisitions in the distribution sector. In December 2000 it created Blumet, a new company for the supply and sale of gas in Emilia Romagna, together with Agac Reggio Emilia, Aimag Miraldola, Meta Modena and Sat Sassuolo. In 1999 the four companies distributed a total of about 1.15 billion m³ of gas to over 400,000 users, a figure that is expected to grow further. In June 2000 Edison signed an agreement with the public network companies in Trieste (Acegas), Gorizia (AMG) and Udine (AMGA) to provide a competitive and integrated framework for the distribution and sale of natural gas in Friuli-Venezia Giulia by creating the joint company Estgas. The deed of incorporation of Estgas, which had an initial capital of 500,000 euros, was signed at the beginning of August. Acegas and Amga each have a 34% interest, while Edison and AMG have 22% and 10% respectively. Estgas expects to achieve sales revenue of about 300 billion lire by the end of 2001 and to acquire a market share of about 23% in an area with overall consumption of about 1.4 billion m³ per year, the longer-term aim being to increase its market share to 40% by 2005. In mid-December 2000 Edison Divisione Gas acquired 100% of the capital of Veneto Gestione Servizi Pubblici Metano S.p.A., the holders of licences in ten adjacent municipalities in the Province of Vicenza, with over 11,000 civil clients and about 23 million m³ of gas sold annually. As a result of this operation Edison DG now reaches about 150,000 residential customers, both directly and through linked companies, concentrated in the North-East, Emilia Romagna and Lazio.

Camuzzi Gazometri, Italy's leading private distributor after Italgas, increased its market share in the distribution sector through the acquisition of the entire capital of Mariani Energia which, directly and through its subsidiary Medigas, carries out secondary distribution of natural gas in Piedmont, Friuli-Venezia Giulia and, to a marginal degree, in the Veneto Region; it also acquired Basil Gas, Brembo Gas, Metanodotti Gescoservizi, Idraulica and a 90% stake in Natural Gas. Basil Gas has in turn undertaken to acquire and subsequently transfer to Camuzzi the 50% share of Sodgas not yet in its possession. Through this operation Camuzzi will also acquire exclusive control over Codmeta, currently controlled by Gescoservizi, and Sodgas, controlled by Basil Gas.

Distribution company mergers that are worth mentioning include the creation of Gas Plus and Plurigas. Both cases involve the creation of consortia of companies whose objective is to acquire the critical mass required to deal on an equal footing with the major national and international suppliers of natural gas and in this way obtain more favourable purchasing terms for the raw material.

Set up in July 2000 by Gas It (the association of private companies who produce and/or distribute gas over urban networks), Gas Plus is a consortium of small and medium-sized distribution companies whose overall requirement is more than 4 billion m³ per year. Gas Plus has signed a preliminary agreement with British Gas International for the supply of one million m³ of imported gas per year and a similar quantity is to be provided by Snam under conditions defined as competitive.

Plurigas is the company through which Aem Milano, with a 40% stake, and Amga Genova and Asm Brescia, each with 30%, have formed a consortium. Created to import natural gas for the wholesale market, Plurigas has a requirement of over 3 billion m³ per year.

Gas-using companies have also set up consortia with the similar aim of purchasing gas on competitive terms. These include the Consorzio Orobie Energia, promoted by the Unione Industriale (Industrialists' Association) of Bergamo, the Eneco 3 Consortium, which has signed an agreement with Snam, and the Libera Energia Consortium, formed by oil product retailers in Lombardy, which has begun to supply the thermal power stations operated by customers of consortium-members with an initial 40 million m³ of LNG purchased from Enel Fuel Trading Logistics S.p.A. in September 2000.

The reorganisation of the gas sector is also producing changes in contractual conditions: at the end of July Snam and Assolombarda signed a protocol of agreement for the stipulation of contracts for the supply of natural gas to consortiums of firms that have access to the free market as eligible customers. This is to offer firms a stable frame of reference in which to draw up natural gas supply agreements and promote the development of purchasing consortiums by the members of Assolombarda, allowing for a reduction in costs for final customers with respect to current prices.

The local market for LPG and other types of gas

The increase in the country's methane coverage over the last twenty-five years has led to a strong growth of medium- and low-pressure networks, which increased over the period from just over 40,000 km to about 175,000 km in 2000. Over the same period the number of users rose from 6.5 million to over 15 million.

Major methanisation projects are currently under way or being launched in Sardinia, the inland areas of Sicily and some areas of Puglia (Gargano, Salento, Daunia) and Calabria, including the city of Reggio Calabria. In this last case state grants are envisaged.

In municipalities where gas distribution is still not available (mainly areas in Val d'Aosta, Trentino Alto Adige, Campania, Puglia, Basilicata, Calabria and Sicily that in general are mountainous, hilly or rural, and characterised by their low population density and distance from gas pipelines) the LPG service channelled through local networks has been gaining ground for some years as an alternative to the installation of small LPG tanks or tanks for gasoil or fuel oil by individual users. At present (to 31 December 2000) LPG is distributed over networks, in 407 localities out of a total of 6,067, to up to 30,000 users, with an average annual consumption per user of 400-600 kg of gas, the equivalent of 550-800 m³ of natural gas. At the end of 2000 there were 69 companies distributing LPG, out of a total of 775. The tariff system for LPG covers 161 tariff zones out of a total of 1,259. The average price of LPG is higher than that of natural gas: expressed in lire per cubic metre, it was around 4,214 lire in 2000, compared with 1,130 lire for methane. However, the much higher heating power of LPG compared with methane needs to be taken into consideration. If the price is expressed in lire per MJ, the difference between the prices of the two types of gas is much less marked (about 12 lire per MJ).

Activity carried out

Reform of the Tariff system

In Decision 237 of 28 December 2000 the Authority published the new criteria to determine the tariffs for gas distribution and supply to the customers of the captive market, pursuant to Art. 23 of Legislative Decree 164/2000.

The new tariff system completely separates distribution from sales to captive customers. The distribution tariffs refer to an activity that will be carried out in monopoly conditions on a local basis, following competitive tenders by local authorities. Sales tariffs, on the other hand, refer to a permit-based activity. The sales tariffs set by the Authority will only be applied to captive customers (those with consumption no higher than 200,000 m³ per year), who account for about 36% of the market, until the market opening process is completed by 1 January 2003.

Decision 237/2000 envisages that the tariffs should be divided into *tariff zones*, normally made up of *distribution plants* (interconnected networks managed by one or more operators). Local permitissuing bodies can, however, agree on forms of association through which single tariffs can be set for all member municipalities. The constraints on revenue are calculated using formulae that take into account the principal cost determinants (number of clients connected, length of the network, geographical features of the locality served, volumes of gas distributed). The coefficients for these formulae have been set in a way that ensures that the operating costs of the most efficient half of a sample of companies providing satisfactory quality of service are covered, and provides a suitable return on the net capital of the sample companies, taking an average economic and technical plant lifespan of 50 years.

Revenue constraints are adjusted annually to take into account the expansion of the customer-base and distribution networks, inflation and a pre-determined productivity increase of 3% per year over a period of three years and six months starting from 1 January 2001.

Again within the context of revenue constraints, the operator is required to submit its proposals, containing the regulated tariff (basic tariff option) along with any special tariff options being offered to users, to the Authority, which has three months to decide on approval. A code of commercial conduct guaranteeing transparency in the tariff options on offer must also be respected.

The new tariff system also envisages:

- a six-month transition period during which the existing constraints on revenue are brought into line with the new ones, taking the existing levels as a starting point and maintaining the previous tariff categories. The new tariffs will enter into force with effect from 1 July 2001;
- the introduction of a national compensation fund to the benefit of high-cost tariff zones, for a maximum period of three years (not renewable), funded by a 1.9% levy on the tariffs applied in the other zones;
- the possibility for local administrations to apply for an additional 1% share of distribution tariffs to subsidise the costs of the gas service for low-income customers;
- the possibility for operators to increase the constraints on distribution revenue by 1% to finance initiatives to check and inspect the safety measures in final customers' installations; this would apply until specific regulations on the subject have been introduced.

One effect of the reform will be an average reduction of 1.4% in the tariffs applied to captive customers in the first six months of 2001. Distribution tariffs will decrease by an average 15% by the end of the transition period (second half of 2003). In specific situations tariffs may increase or decrease, in some cases considerably, compared with their various starting levels. However, increases will only be authorised subject to verification that operators are complying fully with the current legislation on the quality of the service.

Tariffs for transportation, despatch, storage and LNG terminals and local distribution for captive customers.

On 24 October the Authority approved two consultation papers containing proposals for the reform of methane gas transportation, storage, regassification and distribution tariffs. Consultations have been opened with all the interested parties.

The provisions issued by the Authority at the end of the consultation process will set out the conditions for the transparent and non-discriminatory use of the principal infrastructure required by operators.

The gas transportation and storage system, hitherto reserved for network owners and a few other users (oil and electricity companies), will be made available to all eligible customers, who can choose their provider under economic and contractual conditions that are in line with the actual costs of the service. Customers with consumption of less than 200,000 m³ per year (households and small industrial, commercial and craft businesses) are at present captive. From 2003 all customers will acquire eligible status.

The separation, in tariff terms also, of transportation, storage and regassification of liquefied gas is a necessary precondition for operators to gain access to the system infrastructure. The new tariff system will distinguish between the overall revenue allowed for transportation, storage and regassification respectively. As transportation revenue will to a large extent be independent of the quantities transported, the expected increase in gas consumption in Italy will contribute, along with other factors working towards increased productivity of the services (pre-determined through the price-cap mechanism), to gradual tariff reductions in subsequent years. Incentives to develop and make better use of the network infrastructure will be left to operators in order to create the right conditions to encourage the market liberalisation process. The expected growth in natural gas consumption will need to be accompanied by improvements to the infrastructure.

For the national network the criterion of distance-based tariffs will be abandoned in favour of a new entry-exit methodology: this is a simpler solution than a point-to-point tariff, which is economically unjustified and difficult to set objectively in a tightly meshed network such as Italy's. A "postage-stamp" tariff, on the other hand, would not reflect the real difference in cost between the various possible gas pathways throughout the country.

Booking mechanisms will be introduced for the transportation service to encourage the exchange of un-used capacity between users and special tariffs will be introduced for "interruptible" transportation, which is a useful means of increasing the flexibility of the system and therefore the development of competition.

Storage

In the consultation paper the issue of storage tariffs, a service that until now has been managed internally by the ENI group, is tackled in Italy for the first time. The paper analyses the main aspects of the cost of the service and some critical points such as the evaluation of cushion gas

(reserves of gas potentially extractable but left in fields in order to provide the storage service). The new tariff system proposed by the Authority will enable customers to use storage activities in the way that best meets their requirements.

Regassification

Another new development for the national gas system is the set of Authority proposals regarding tariffs for the use of liquefied natural gas (LNG) regassification terminals. A system that encourages the creation of new entry points, with gas imported by ship, is envisaged; at present Italy only has one plant of this type, belonging to Snam, at Panigaglia (in the Province of La Spezia). The incentive-based approach is justified by the important role that LNG can play in the development of competition, with the entry into play of new suppliers.

Two-monthly adjustment of the raw material component of gas tariffs

In accordance with Authority Decision 52 of 22 April 1999, which came into force on 1 May 1999, the tariff variations set out in Table 2 were recorded in 2000 and the early months of 2001.

Table 4 SUMMARY OF THE MOST RECENT TARIFF VARIATIONS PURSUANT TO DECISION 52/1999

Authority Decisions	Start of implementation	Variation in Natural gas tariffs Lire/m³	Variation in LPG tariffs Lire /m³
No.195, 22 December 1999	1 January 2000	+ 27.0	
No.40, 24 February 2000	1 March 2000	+ 28.5	+ 165.8
No. 82, 21 April 2000	1 May 2000	+ 27.0	+ 80.6
No. 114, 22 June 2000	1 July 2000	+ 19.6	- 105.9
No. 160, 28 August 2000	1 September 2000	+ 21.8	+ 140.1
No. 199, 24 October 2000	1 November 2000	+28.0	+ 227.7
No. 245, 28 December 2000	1 January 2001	+ 44.1	+102.1
No. 28, 20 February 2001	1 March 2001		- 119.0

These variations were produced by the strong price increases on the international oil markets which started in the early months of 1999 and continued throughout 2000, a trend that was only reversed in December 2000. The depreciation of the euro, and therefore of the lira, against the dollar was another factor fuelling the increases.

With regard to taxes it should be noted that after the cuts already decided with effect from 1 November 1999, 4 January 2000 and 1 March 2000, the government introduced further reductions in the tax rates for both natural gas and LPG distributed through networks with effect from 24 March and 3 October 2000.

Promotion of competition and new market structures

Self-certification for eligible customers

Article 22 of the decree implementing the European Directive on the internal market in natural gas sets out the categories to which eligible customer status applies. In order to oversee the application of this Article, as it is required to do, the Authority drew up criteria whereby gas companies can ascertain whether their customers have eligible status; this helps to ensure the correct functioning of the entire gas system and the transparency of the market. Decision 193 of 18 October 2000 introduced a requirement for companies to ask their eligible customers to submit a document that will replace the official certification originally required. The new self-certification must include the metering points of the gas, in cases where the natural gas is sold to another eligible customer or where consumption for own use takes place downstream of such points. With a subsequent communication of 13 December 2000, entitled Clarification of the regulations for the recognition of eligible customer status in the natural gas market, the supervisory role of the Authority and access to the distribution networks, the Authority took steps to explain some unclear points which could have obstructed access to the gas system by new operators during the early stages of market liberalisation. The document also pointed out that the minimum threshold for final customers or consortium members can also be reached by totalling the off-takes from various points, as long as consumption at these points is for own use and not for re-sale to non-eligible customers. The Authority also established that until companies have adopted the network code, those companies carrying out distribution activities should, in agreement with their eligible customers, define all other conditions of the contract, except for the tariff, with due consideration for current practice. In cases where the parties fail to reach agreement, and on receipt of notification from one of these parties, the Authority will take steps to define these conditions and enable users, with immediate effect, to exercise the right of access to the system.

Technical regulatory activity for the operation of the system (network codes, storage and distribution)

In March 2001 the Authority published a consultation paper on provisions to guarantee that all users of the transportation network enjoy free access under equal conditions, neutrality and the utmost impartiality in transportation and despatch activities. The document also contained the obligations transportation companies must meet pursuant to Art. 24 (5) of Legislative Decree 164/2000.

At the end of the consultation process the Authority will issue a provision on the above criteria and obligations.

No later than three months from the date of issue of this provision transportation companies must submit their own network codes to the Authority, which will evaluate whether they comply with the set criteria.

In related provisions the Authority has also defined:

- with regard to *connection*, the technical and economic feasibility criteria which, if satisfied, would make connections to the transportation networks obligatory if requested by users;
- with regard to *distribution*, the criteria guaranteeing freedom of access under equal conditions and the utmost impartiality and neutrality of distribution activity under normal operating conditions for all users of the distribution networks;
- with regard to *storage*, the tariff conditions, plus the criteria and priorities for access, that guarantee freedom of access under equal conditions and the utmost impartiality and

neutrality of the storage service for all users under normal operating conditions, and the obligations of the parties carrying out storage activities;

- with regard to *liquefied natural gas regassification terminals*, the tariff conditions plus the criteria guaranteeing freedom of access under equal conditions and the utmost impartiality and neutrality for all users in the use of LNG terminals under normal operating conditions, and the requirements for operators with LNG terminals.
- with regard to *operating information*, the minimum information that companies carrying out transportation and despatch activities, companies running liquefaction plants or LNG terminals, distribution companies and storage companies are required to exchange with other companies carrying out the same activities.

In order to meet the objectives of protecting the interests of users and consumers, providing effective and efficient service, and fostering competition and guaranteed freedom of access, impartiality, and neutrality, the subjects covered in the network codes, and the symbols and terminology used, will need to be based on standard criteria for all operators in the sector. Given the specific nature of transportation and despatching activities, the Authority has proposed that the subject matter be organised along the following lines:

- information, with specific paragraphs on: the legislative context, a description of the network, a description of the transport service, and information systems;
- access to the transportation service, with specific paragraphs on: requirements for access to
 the service, granting of the service, set-up and management of delivery and re-delivery
 points, procedures for refusal of access;
- use of the transportation service, with specific paragraphs on: booking and allocation, reallocation, operational balancing, administrative balancing, management of deliveries and re-deliveries, responsibilities connected with the use of the service;
- quality of the service, with specific paragraphs on: service quality standards, documentation of the service, un-recorded gas and network consumption;
- planning, with specific paragraphs on: demand projections, planning of up-grades, planning and management of maintenance;
- administration, with specific paragraphs on: tax and customs responsibilities, billing and payment;
- emergencies, with specific paragraphs on: management of emergencies, conditions for the changeover from normal mode to general emergency mode, conditions for the changeover from general emergency mode to normal mode;
- transitional arrangements and up-dating procedures.

The network code should be viewed as a clearly defined set of general conditions for the supply of the transportation service, with the exception of any elements that are specific to individual contracts, such as: names of contractors, choice of services from the range envisaged in the code, choice of duration from the range of options on offer, quantity etc.

Obligations concerning access, on the other hand, are defined according to the following criteria:

• informational obligations: information for the regulator, accessibility of plants and premises for inspections by the Authority, evaluation of the neutrality of new diversification and expansion initiatives, operational and up-grading plans, register for off-takes and metering equipment;

• operational obligations: environmental certification, system quality certification, last-resort supply, emergency plan, rapid intervention, coordination with the other network codes and the storage and LNG codes.

The safety obligations and emergency despatching rules are set out in provisions published by the Ministry of Industry.

Once the companies have drawn up their network codes they are required to submit them for examination by the Authority, which has three months to approve them. Any subsequent amendments must be submitted to the Authority for approval.

Opinion on the definition of the national network of gas pipelines

Art. 9 of Legislative Decree 164/2000, implementing Directive 98/30/EC, envisages that "the national network of gas pipelines, including connected auxiliary services, shall be defined within six months of the date of entry into force of this Decree through a further Decree issued by the Ministry of Industry, which will also ensure that it is up-dated either annually or at the request of any company carrying out transportation activity".

In Decision 186 of 12 October 2000, the Authority published its opinion on the outline decree sent by the Ministry of Industry on 4 August 2000.

The national network of gas pipelines is defined on the basis of six technical and functional criteria and categories, as described below:

- *underwater gas pipelines*: gas pipelines crossing the Strait of Messina and the Canale di Sicilia, or at least those sections situated within territorial waters;
- gas pipelines for imports and exports and connected lines needed for them to function: this category includes the major transportation network pipelines. These are the pipelines for imports from Algeria (Mazara del Vallo-Minerbio), Russia (Tarvisio-Sergnano, Tarvisio-Zimella, Pordenone-Istrana), and Holland (Gries-Mortara); the pipeline for the transportation of gas from the LNG regassification terminal (Panigaglia -Cortemaggiore); and the pipelines for exports to Switzerland, the Republic of San Marino and Slovenia. This category also includes connected lines needed for these pipelines to function. These pipelines enable the import and export pipelines to operate fully and securely by enabling the interchange of gas from different sources and guaranteeing the supply to major off-take points even during supply emergencies, should one of the import sources be interrupted;
- *pipelines linked to storage depots*: this category includes the pipelines linking the storage depots of Brugherio, Cellino, Collalto, Cortemaggiore, Minerbio, Ripalta, Sabbioncello, San Salvo, Sergnano and Settala to the pipelines listed in the previous points;
- inter-regional pipelines needed for the national gas system to function: this category includes pipelines sharing inter-regional structures, a feature that occurs where these pipelines belong to the same network structure as the import pipelines and are subject to the same system of supervision, coordination and constant monitoring. Sharing occurs mainly in abnormal operating conditions, such as might arise from unplanned maintenance work or when other pipelines are unavailable, or under particular off-take conditions. This category includes pipelines in the Adriatic trunk line system running from Mestre to Brindisi, with its major connection nodes to the pipelines for importation from Russia and Algeria, the

pipelines linking Emilia Romagna and Lombardy to Piedmont, and other pipelines with a degree of inter-regional sharing;

• Pipelines needed directly or indirectly for the national gas system to function: this category includes pipelines linking the principal hubs for the collection and treatment of national production to the rest of the national network. In defining the network both the infrastructure aspect and the operational aspect, whereby the functioning of the network depends on the conditions under which gas enters the network, need to be considered.

The principal national sources of production play a crucial role in determining the general structure and balancing of the national network and in guaranteeing its safety and curbing its running costs, and require close coordination with the national network despatching services. With regard to the crucial features listed above the Authority has proposed that production sources providing at least 0.5 Gm³/year at a single input point be taken into consideration. With regard to functional requirements, and in particular the requirement for structures to function in conditions that ensure the technical safety and security of the national gas system, the Authority has proposed that the Tmpc, Tenp, Tag, Transitgas and trans-Tunisian pipelines should be considered as functional to the national gas system, in relation to the rights of use held by these companies.

• pipelines meeting the above criteria and currently under construction or for which the required permits have been granted: this category includes the Masera-Mortara, Bernalda-Brindisi, Zimella-Poggio Renatico, and Pontremoli-Parma pipelines.

The decree defining the national network of gas pipelines was issued on 22 December 2000 and published in Official Gazette no. 18 of 23 January 2001. The network thus defined extends for 8,337 kilometres, of which 463 are still under construction or awaiting authorisation.

Administrative and accounting unbundling

On 13 March 2001 the Authority for Electricity and Gas published a document for consultation by all interested parties on the accounting and administrative unbundling of the more than 750 companies operating in the natural gas sector and the other companies distributing gas through networks. The deadline for interested parties to submit comments, suggestions and other proposals was 25 May 2001.

The Authority proposed the criteria to be followed for company unbundling, where required by the current legislation, to ensure that the administrative and management activities of the gas sector are kept separate in order to avoid discrimination, crossed subsidies and distortions of competition, and to promote efficiency and satisfactory quality levels.

The aim of accounting separation is to provide greater transparency in the disaggregation of companies' assets and financial accounts in order, for example, to determine any costs that have a bearing on the universal gas supply service and ensure that the balance sheets of the operators providing the services follow a standard format. Specific information requirements have been envisaged to enable the Authority to carry out its regulatory functions and monitor the costs of the services provided, while fully respecting the confidentiality of company data.

The Authority's proposals would affect all companies and, as they are considered to be sufficiently flexible, do not envisage derogations on the basis of size. The provisions approved by the Authority at the end of the consultation process must be adopted with effect from the accounts for the financial year ending between 1 July 2002 and 30 June 2003.

For the purpose of administrative and accounting separation, the Authority's proposal concerning the limits to, and content of, the various activities involved in the gas sector is of particular importance. These activities are: exploitation, importation, LNG, storage, transportation and despatch, exportation, wholesale procurement and trading, distribution and sales to final customers. Further activities include: electricity, services to natural gas companies, international projects and other activities.

QUALITY OF SERVICE AND CONSUMER PROTECTION

Regulation and monitoring of the quality of the services

In the year 2000 the activity carried out by the Authority on the quality of the services followed three main directions:

- the new rules for measuring and regulating commercial quality for the electricity and gas services were finalised. The new guaranteed national quality standards for the electricity service and the new system whereby operators make automatic compensation payments to users in cases where the operators themselves are responsible for failures to meet these standards were introduced with effect from 1 July 2000. The overall quality standards for the electricity service and the commercial quality standards for the gas service came into force with effect from 1 January 2001;
- for the electricity distribution service, the new regulations covering continuity standards for long unplanned outages were implemented through measures including inspections and formal investigations, with penalties for operators who provide erroneous continuity data;
- after wide consultation the regulations for the safety and continuity of the gas distribution service were defined.

The new regulation of commercial quality

"Commercial quality" refers to the speed with which the services requested by users are provided (for example quotes, connections etc), punctuality in keeping appointments with users, the frequency with which users' consumption levels are read and the existence of satisfactory billing arrangements.

Before the Authority introduced the new regulations, the rules governing commercial quality did not provide sufficient guarantees of users' rights, leaving operators wide scope to define quality standards at their own discretion.

In 2000 the Authority completed the new regulatory system for commercial quality in the gas sector, along similar lines to the system introduced for the electricity sector by Decision 201 of 28 December 1999. In Decision 47 of 3 March 2000, the Authority defined the overall and guaranteed quality standards through which commercial quality is regulated for the distribution and sale of gas over urban networks. The purpose of regulation is to define minimum, national and universally applicable standards that are intended on the one hand to protect users, and on the other to bring about improvements to the system as a whole. The new regulatory framework for the quality of the service is a considerable advance on the previous system of regulation through the Service Charter, since a) the Authority has drawn up national quality standards that apply to all operators with more than 5000 users; b) automatic penalty payments have been introduced for cases where operators fail to meet the guaranteed standards for causes for which they can be held responsible; and c) the arrangements for recording the time taken to provide services have been standardised and previous differences in measurement standards eliminated.

The new national commercial quality standards drawn up by the Authority establish a minimum basic level of service that each operator must undertake to provide for its customers in the captive

market. Operators have the option of drawing up their own standards only if these improve on or add to those drawn up by the Authority.

The new national commercial quality standards, which are intended to even out the wide variations in the treatment users receive in the different parts of the country, are being phased in gradually: 1) the guaranteed standards for the electricity service came into force with effect from 1 July 2000; 2) the guaranteed quality standards for the gas service, and the overall quality standards for both the electricity and gas services, came into force with effect from 1 January 2001.

In cases where the guaranteed standards drawn up by the Authority fail to be respected for causes other than *force majeur* or the responsibility of third parties or users themselves, the operating company must make an automatic penalty to customers affected.

This compensation amounts to 50,000 lire for domestic users and small gas consumers, 100,000 lire for users of the gas service with average consumption levels, and 200,000 for users of the medium-voltage electricity service and high-consumption users of the gas service.

The guidelines on commercial quality devote particular attention to the information on the overall and guaranteed standards that operators must provide for users:

- once a year, all users must be provided with information on the overall quality standards and the results actually achieved by the company during the year;
- operators must inform all users requesting a service to which guaranteed standards apply of the maximum time it will take and any compensation envisaged if the standards are not met;
- each year, as part of its survey of the quality of the service in the electricity and gas sectors, the Authority publishes the average times taken to provide the services, as declared by operators, and the parameters for monitoring the relevant standards (percentage of cases not meeting the standards, sub-divided by cause).

Implementation of the new system for regulating continuity in the electricity distribution service

In 1999 the Authority issued two provisions on the regulation of continuity in the electricity distribution service: Decision 128 of 1 September 1999 defining the requirements for the recording of outages in the electricity distribution service and service continuity indicators, and Decision 202 of 28 December 1999 on the rules for guaranteed standards with respect to long unplanned outages in the electricity distribution service.

Both these provisions took effect from 2000, when further measures were introduced to implement the new regulations on electricity service continuity. These included, in particular, Decision 143 of 3 August 2000, containing amendments and additions to Authority Decisions 128/1999 and 202/1999, and Decision 144 of 3 August 2000, which set both the basic levels actually achieved and the performance improvement levels for service continuity applied in each part of the country for each year in the period 2000-2003.

With Decision 144/2000 the Authority defined the standards for the reduction of outages in the service. These standards apply to small distribution companies covering a total of about 30 million low-voltage users (households and the craft, commercial and small firm sectors). The service continuity standards laid down by the Authority set the obligatory performance improvement target that each distribution company must work towards each year from 2000 to 2003. The average

overall improvement target over the period is 34%, but the rate is differentiated to achieve more rapid improvements where service continuity is at present poorest. The continuity requirements for 2000-2003 will encourage distributors to invest in improving the service, especially in those areas of the country where continuity levels are less satisfactory. Over the next four years users of the electricity service should therefore enjoy a substantial improvement in average service continuity levels.

Distribution companies must ensure that they meet the performance improvement targets without deviating from the existing single national tariff. Distributors who manage to improve on the targets set by the Authority will be able to recover any higher costs they incur. Conversely, companies will be required to pay a penalty if they fail to meet the improvement target in any areas. Payments to cover any higher costs sustained by distribution companies will be covered by a national fund, using the revenue from these penalties and a small portion of the tariff. The fines paid by operators who fail to meet the annual improvement targets in each area of the country will be proportionate to the difference between the level actually attained and the standard required. The aim of the Authority's provision is to bring all areas with similar characteristics up to the same level of service continuity, even where the initial differences are very pronounced.

The approval of Decision 144/2000 was preceded by a programme of technical inspections of operators, carried out on a sample basis, to check on the accuracy and precision of the continuity data provided for 1998 and 1999, on the basis of which the Authority had set the basic and target continuity levels for the following four years.

With Decision 225 of 13 December 2000 the Authority opened a formal investigation against Enel Distribuzione S.p.A. for providing incorrect information on the continuity indicators for 1998 and 1999 for the electricity distribution service, as envisaged by Art. 2.2.3 of Decision 202/1999, in the Regions of Calabria, Campania and Sicily. As a result of this investigation, which took place in the early months of 2001, the Authority imposed a fine of 90 billion lire on Enel Distribuzione (Decision 99 of 3 May 2001). The Authority also opened a further investigation to set new continuity improvement rates for the zones in the three regions in question (Decision 100 of 3 May 2001). This additional investigation was necessary because the Authority had already used the erroneous data provided by Enel in formulating Decision 144 of 3 August 2000, which will need to be partly revoked as a result.

The new system for regulating the safety and continuity of the gas distribution service

At the end of 2000 the Authority published Decision 236 of 28 December 2000, in which it defined the system regulating the safety and continuity of the gas distribution service.

The safety of the service consists of safeguarding people and things from damage resulting from explosions, bursts and fires caused by the gas distributed. Key safety measures include the odourisation of the gas, the reduction of leaks through inspections of the distribution network, the cathodic protection of steel pipeline networks, and a rapid intervention service that is able to respond promptly when called out.

Service continuity consists of the absence of interruptions in supplies to customers. Ideally, gas should be supplied continuously, as interruptions in the service not only damage customers' interests and inconvenience them, but can also expose them to risks when the supply is re-activated. However, it is not technically possible to eliminate interruptions altogether.

The provision issued by the Authority therefore set the following objectives:

- with regard to safety, to ensure the physical safety of people and things, and to protect the environment through the reduction of methane gas emissions;
- with regard to continuity, to protect customers through improvements to service continuity by reducing the number and duration of interruptions;
- in general, to reduce the existing gaps in performance levels between the various distributors operating throughout the country, without worsening those situations where the best safety and continuity levels are currently being achieved.

The provision introduced a system of obligations and checks to regulate the safety and continuity of the service and set countrywide basic and benchmark levels for each of the safety and continuity indicators for the period 2002-2003.

In order to regulate the safety and continuity of the service with a satisfactory degree of precision, the Authority has chosen individual distribution plants as the local units for the calculation of the safety and continuity levels actually achieved. For each local unit and for each of the indicators shown in Tables 5 and 6, and taking as a starting point the data submitted by distributors, the Authority will calculate the actual level for each safety and continuity indicator (for example, the amount of low-pressure network actually inspected for a given distribution plant). A score ranging from zero, for an actual level equal to or less than the basic national level, to 100, for levels greater than or equal to the benchmark level, will be assigned for each indicator. The publication of comparative data on the levels achieved, and the scores for each distribution plant and distributor, broken down by indicator, will encourage distributors to improve their safety and continuity standards.

Table 5 BASIC AND BENCHMARK LEVELS FOR SAFETY INDICATORS

SAFETY INDICATOR	BASIC	BENCHMARK
Annual percentage of high- and medium pressure network	30%	90%
inspected		
Annual percentage of low-pressure network inspected	20%	70%
Annual number of leaks located per kilometre of network	0.8	0.1
inspected		
Annual number of leaks located after reports by third parties per	0.8	0.1
kilometre of network inspected		
Annual number of measurements of degree of odourisation of gas		0.5
per 1,000 final users		
(calculated on basis of number of users served and total length of network)		

Table 6 BASIC AND BENCHMARK LEVELS FOR CONTINUITY INDICATORS

CONTINUITY INDICATOR	BASIC	BENCHMARK
	%	%
Number of final customers with notice of not less than	70	95
3 working days for announced interruptions		
Number of final customers with duration of long announced	70	90
interruptions no greater than 4 hours		

The regulation of the safety and continuity of the gas distribution service introduces a requirement for each distributor to define operating procedures for the management of emergencies (faults affecting network, 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 they have been involved with.

The measures regulating safety and continuity will be phased in gradually as follows:

- for all distribution companies, the obligation to provide rapid intervention services in response to calls reporting gas leaks in customer's installations takes effect from 2001;
- from 1 January 2002 all distribution companies with more than 5,000 users (and each installation they manage with more than 1,000 users connected) will be required to set up a regularly up-dated register to record safety and continuity data;
- the obligation to respect the new safety and continuity regulations will take effect from 1 January 2002.

By 31 December 2003 the Authority will carry out a series of checks based on the data provided by distributors under the safety and continuity regulations. On the basis of these checks, the Authority will be able to extend the regulations to distributors who were exempted at the time of initial implementation, identify further service safety and continuity indicators and modify the service obligations or introduce new ones.

User protection – contractual relations

Contractual conditions for the electricity supply service: effects of the new regulatory framework

Decision 200 of 28 December 1999 entered fully in force on 1 July 2000. This Decision sets the minimum guaranteed contractual conditions for all captive customers in the electricity market. Full implementation of the Decision has unified the main clauses contained in supply contracts and put relations between customers and operators on a surer footing. Some aspects of these contractual relations have been set out more clearly and re-balanced in customers' favour, while others have been changed in status from mere company practices defined by operators themselves to rules which operators are required to respect, with failure to do so resulting in penalties.

The new conditions include procedures and constraints to regulate and limit the circumstances in which operators can disconnect customers' supply and, most importantly, a requirement to inform customers before disconnecting them; a ban on disconnections on holidays or the eve of holidays, or disconnections for a debt that is lower than or equal to the value of the deposit; the elimination of the advance payment on supply and a new requirement for any operators demanding a deposit to provide for remuneration of the same; clear and unambiguous procedures for the reconstruction of consumption in the case of meter faults; and the possibility for customers to pay particularly high round-up bills by instalments.

In order to publicise the new rights of electricity consumers the Authority has drawn up an information sheet setting out the contents of Decision 200/1999. This has been published on its Internet site and sent out to consumer associations.

Contractual conditions for the supply of the gas service

As it had previously done for the electricity service, the Authority drew up a consultation paper, approved on 6 December 2000, entitled *Contractual conditions for the sale of natural gas to final customers over local gas pipeline networks*. This paper proposed guidelines for the definition of minimum binding contractual conditions that all sales operators must guarantee for their customers in the captive market and propose to their customers in the free market. Other contractual conditions can be regulated by the Authority, including during the tariff regulation period.

The natural gas sector is undergoing a profound transformation that involves final customers as well as operators. Legislative Decree 164/2000, which liberalised the natural gas market, provides that with effect from 1 January 2003 all final customers of the gas service will acquire eligible status. Bearing in mind the fact that during the transition period most final customers will continue to belong to the captive market, the Authority deemed it necessary to introduce a requirement for operators to respect a series of obligations to protect the interests of users and consumers. In its consultation document the Authority proposes that guaranteed contractual conditions meeting protective criteria that are, in effect, minimum binding obligations on operators, should be provided for captive customers. Operators may improve on these conditions if this would be to customers' benefit. The same contractual conditions are proposed for customers in the free market to enable them to reach agreement with operators on the contractual conditions that best suit their needs. The conditions to be applied to the sales service, which are particularly important for captive customers and which in the Authority's view needed to be regulated, include the following:

- frequency of metering unit readings;
- frequency and conditions for billing and payment;

- penalties in the case of delayed or non-payment;
- conditions, terms and duration of suspension of supply by operators;
- payment by instalments of sums owed by customers;
- deposit;
- complaint procedures;
- clause for withdrawal from supply contract.

The consultation paper envisages that the proposed guidelines will continue to apply even after all customers have acquired eligible status, because operators in a dominant position who could obstruct the formation of a competitive supply environment will probably continue to operate in the liberalised market. Another important consideration is that consumers with low demand may have difficulties in coping with a range of supply options.

Code of commercial conduct

Decision 204 of 29 December 1999 radically modified the tariff system for the supply of electricity to captive customers by introducing a degree of flexibility in the relationship between operators and their customers. In particular, the system of administered prices was replaced by a new system whereby operators submit for Authority approval the tariff options they intend to propose to their customers, in compliance with the rules laid down by the Authority. The new tariff system enables operators to offer additional tariff options to those set by the Authority to domestic users also.

To protect customers in their relations with operators, the Authority deemed it necessary to supplement the tariff regulation mechanisms envisaged by the current legislation with a requirement for companies to draw up of a code of commercial conduct, an instrument designed to facilitate customers in their choices and ensure that they select the tariff option best suited to their needs from the range on offer.

The Code of Commercial Conduct must contain standards of conduct designed to ensure that the basic and special tariff options on offer to captive customers are sufficiently transparent and fair. To this end operators undertake through the Code of Commercial Conduct to respect specific commitments to their customers. The informational requirement that operators must comply with covers all stages of the commercial relationship and the offer of tariff options to customers: from promotional campaigns for new options to negotiations with customers; from the time the basic information on a specific type of user category becomes available to personalised proposals addressed to individual customers; from the stipulation of the contract to its expiry.

In 2000 128 electricity distribution and sales operators submitted Codes of Commercial Conduct for Authority approval. However, to avoid disparities emerging between the conditions offered to captive customers served by these operators and the conditions offered to all other clients, the Authority itself introduced a Code of Commercial Conduct, which took effect on 1 January 2001, for those operators who had not submitted their own Code by 31 December 2000.

The provisions for the gas market were handled differently, in that the Authority drew up a Code of Commercial Conduct at the outset that all operators are required to follow when making different tariff options available to their customers. This choice was determined by the structure of the sector, which has more than 750 distributors, some of whom very small, and by the need to ensure that customers enjoy uniform conditions of information and transparency.

The Code of Commercial Conduct for the gas sector, which came into force with Decision 237/2000, contains the same requirements as the one drawn up by the Authority for those electricity operators who had not submitted their own code by 31 December 2000: the objective is the same in both sectors.

Set fee and change of contract for the supply of electricity

The decree issued by the Ministry of Industry on 19 July 1996 containing changes to the CIP (Comitato Interministeriale Prezzi – Interministerial Committee on Prices) provisions on connection payments, the Cassa Conguaglio Compensation Fund for the electricity sector and surcharges for new installations using renewable and assimilated sources, provides that "for changes to or transfers of contracts resulting from applications submitted by users which do not involve uprates, the supplying company is due a set fee of 98,000 lire". Changes to contracts include applications by users to change tariffs. Under the tariff system that was in force prior to Decision 204/1999, such changes only occurred on an occasional basis since the administered tariffs were applied to all user categories and were usually associated with a given level of reserved capacity.

Under the new system captive customers may choose from basic and special tariff options and, in the case of domestic users, between basic and additional tariff options. This enables customers to evaluate the tariff options that best respond to their consumption requirements on an on-going basis.

As one fundamental element of the new tariff system introduced by the Authority is the requirement to provide opportunities for customers to select the most appropriate choice of tariff, the requirement for users wishing to change their tariff options to pay a fixed fee created an impediment that needed to be removed. Decision 170 of 13 September 2000 was designed to bring the 1996 provision into line with the new tariff order. For this purpose Chapter I.IV of the decree was amended to exempt customers from the requirement to pay the set fee when the contractual changes merely involve a change of tariff option or a change from tariff to tariff option, where these do not involve increases in the maximum power available or transfers from one type of use to another. Any administrative costs arising from the change of option, which do not involve increases in the maximum reserved power or changes in type of use, are included in the sales-related commercial costs already allowed for in the tariff.

Evaluation of complaints, appeals and reports

Between May 2000 and 30 April 2001 the Authority received 551 communications from consumers and their associations containing complaints, requests for information and reports on the electricity and gas services.

68.6% of these communications contained complaints, while requests for information and reports accounted for 24.7% and 6.7% respectively. These data echo the trend seen during the same period of the previous year. If we take a break-down by sector of the total number of communications, the electricity sector accounts for a higher percentage (70% compared with 68% last year) of the total communications submitted.

Generally speaking, the number of consumers and users contacting the Authority's offices increased: with respect to the same period of the previous year the number of complaints submitted rose by 77.5% and requests for information by 86.3%.

A sectorial analysis (Table 7) of the issues brought to the Authority's attention shows that the following aspects of the service predominate in the electricity sector: interruptions in supply (21.5%); tariffs (18.1%); problems connected with billing (12.2%); questions relating to connections (10.9%) and the correct application of contractual clauses (9.8%). Turning to the gas sector, complaints accounted for 65.4% of the cases notified, requests for information 31% and reports 3.6%. The most common causes of these communications were contracts (18.8%), billing (18.2%); connections (9.9%) and delayed or non-payment (8.5%).

TABLE 7 PRINCIPAL SUBJECTS OF COMPLAINTS, REPORTS AND REQUESTS FOR INFORMATION RECEIVED BY THE AUTHORITY

May 2000 to April 2001

SUBJECT OF COMPLAINTS	TOTAL CASES	TOTAL CASES
	Number	Percentage
ELECTRICITY		
Interruptions	83	21.5
Tariffs	70	18.1
Billing	47	12.2
Connections	42	10.9
Contracts	38	9.8
Disconnections	22	5.7
Reconstruction of consumption	16	4.1
Late or non-payment	5	1.3
GAS		
Contracts	31	18.8
Billing	30	18.2
Connections	15	9.9
Late or non-payment	14	8.5
Tariffs	25	15.2
Safety	7	4.2
Taxes	10	6.2