ARERA
Autorità di Regolazione per Energia Reti e Ambiente

Report 321/2024/I

ANNUAL REPORT

TO ACER AND THE EUROPEAN COMMISSION

ON THE REGULATORY ACTIVITIES AND FULFILMENT OF DUTIES CARRIED OUT AND THE TASKS

OF THE REGULATORY AUTHORITY FOR ENERGY NETWORKS AND ENVIRONMENT

30 July 2024

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1 FOREWORD

This document, drawn up by the Italian Regulatory Authority for Energy Networks and Environment, provides the European Agency for the Cooperation of Energy Regulators (ACER) and the European Commission with an annual report on the activity carried out and on the execution of regulatory tasks pursuant to Articles 59.1.i) and 41.1.e) of directives 2019/944/EC and 2009/73/EC respectively.

The consolidated structure of the report was shared with ACER and with the European Commission's Directorate General for Energy, so that the Italian situation presented in this document can be easily compared with similar reports from other Member States.

The year 2023 saw a return to normal energy market prices, after the unprecedented highs recorded in 2022 due to the energy crisis.

Having overcome the most acute phase of the price crisis—which heightened consumers' focus on savings and energy efficiency—the need to ensure the security of supply and redundancy of infrastructure still remains.

The legacies of the crisis include, we must mention, the intense process that led to a profound overhaul of the European regulatory framework, first with regard to the natural gas market and most recently with the reform of the electricity market.

The contribution of regulation will be essential in identifying and promoting best practices to ensure maximum efficiency in pursuing supply security and decarbonization goals. And these are areas where it will be essential to preserve and protect the full integration of national markets in a single European market.

Milan, 30 July 2024 THE CHAIRMAN

Stefano Besseghini

2 MAIN DEVELOPMENTS IN THE ELECTRICITY AND NATURAL GAS MARKETS

2.1.1 Evaluation of market development and regulation

Main changes in Italian legislation

As the acute phase of the energy crisis came to an end, 2023 was first and foremost characterised by the implementation of the emergency measures launched during 2022. The main rulings of the year relating to the energy sectors are summarised below, as usual in chronological order.

Law No. 6 of 13 January 2023, which converted the "Aid *quater*[1]" Decree-Law, contains several measures to tackle the energy crisis. Some of the most important include:

- the possibility, offered to companies with utilities located in Italy, to make payment in **instalments the amounts**[2] due as consideration for the energy component of electricity and natural gas for consumption effected from 1 October 2022 to 31 March 2023 and invoiced by 30 September 2023;
- **the increase in the supply of domestically produced gas to industrial final customers at an affordable price** (introduced by a previous decree in 2022[3]), in order to contribute to the strengthening of the security of natural gas supply and the reduction of climate-changing gas emissions, including methane;
- the **postponement by one year, to 10 January 2024, of the end of standard offer service in the natural gas sector**, as well as the postponement from 31 December 2022 to 10 November 2023 of the final deadline for the supply of natural gas purchased by the GSE as part of the provision of the filling service of last resort;
- the authorisation of expenditure of € 410 million for 2022 to **reinforce the social bonuses** for electricity and gas referred to in Decree-Law No. 115/2022.

Law no. 14 of 24 February 2023[4]:

- **extended to 30 June 2023 the suspension of the effectiveness** of any **contractual clause** allowing the supplier of electricity and natural gas to unilaterally change the general terms and conditions of the contract relating to the definition of the price (Art. 11, paragraph 8). The rule does not apply to contractual clauses permitting the updating of contractual economic conditions upon their expiry;
- has established that, as of 1 January 2023, suppliers and operators of the service of last resort must offer vulnerable customers the supply of natural gas at a price reflecting the actual cost of supply in the wholesale market, the efficient costs of the marketing service and the contractual

[1] Law No. 6 of 13 January 2023, Conversion into law, with amendments, of Decree-Law No. 176 of 18 November 2022, on urgent support measures in the energy sector and public finance.

[2] In excess of the average amount recorded, consumption being equal, during the reference period from 1 January to 31 December 2021.

[3] Art. 16 of Decree Law no. 17 of 1 March 2022.

[4] Law No. 14 of 24 February 2023, Conversion into Law of Decree-Law No. 198 of 29 December 2022, containing Urgent Provisions on legislative deadlines.

conditions and quality of service, as defined by ARERA (art. 11, paragraph 8-bis). It has also been envisaged that, until 30 September 2023, within the limit of the resources actually available, ARERA shall identify the need for resources to be allocated to the limitation of the consequences for end users deriving from price increases in the natural gas sector, giving priority to financing the mechanisms for remedying non-payment of bills in favour of the operators of the default distribution service and the service of supply of last resort and allocating any residual resources to reducing, in 2023, the general charges of the system for the natural gas industry;

- amended an earlier legislative decree[5] on **incentives for biogas and biomethane production**, stipulating that within the scope of the decrees by which the methods for incentivising biomethane produced or injected into the natural gas network are to be implemented and coordinated (to be adopted by 31 December 2023) the incentives may also be extended to the production of gaseous fuels from renewable energy resources, including the production of hydrogen from biomasses, in compliance with the emission limits provided for by the European Union regulations and the rules on government aid (Art. 11, paragraph 8-octies).

Article 51, paragraph 1-*quater*, of **Law No. 41 of 21 April 2023**[6] established that the reimbursements recognised by the European Commission for expenses advanced by the State for measures to reduce energy costs be transferred, together with the national co-financing quotas and the resources of the Revolving Fund for the implementation of community policies, to the Cassa per i Servizi Energetici Ambientali (CSEA[7]) for the financing of rules aimed at recognising economically disadvantaged households or those in serious health conditions with facilitations for the supply of electricity and gas.

The subsequent **Law No. 56 of 26 May 2023**, which converted into law the "Aid-*quinquies*" Decree Law[8], **again strengthened the social bonus** for electricity and gas, for the second quarter of 2023 and within the limit of € 400 million. In 2023, households in economically disadvantaged conditions are identified on the basis of the ISEE value[9] up to € 15,000. From the second quarter and until the end of 2023, € 5 million is also allocated for social bonuses for economically disadvantaged families with at least four dependent children - for which the ISEE value is raised to € 30,000 (instead of the previous € 20,000). The law quantifies the costs of the above-mentioned measures at € 405 million

[5] The amendments concern Article 11 of Legislative Decree No. 199 of 8 November 2021 ("Implementation of Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable energy resources".

[6] Law No. 41 of 21 April 2023, Conversion into law, with amendments, of Decree-Law No. 13 of 24 February 2023, containing urgent provisions for the implementation of the National Recovery and Resilience Plan (PNRR) and the National Plan for Complementary Investments to the PNRR (PNC), as well as for the implementation of cohesion policies and the Common Agricultural Policy.

[7] CSEA – Cassa per i servizi energetici e ambientali is a public economic body whose main mission is the collection of some tariff components and system charges from operators. It collects the proceeds of these components and subsequently distributes them to companies according to the rules issued by the Authority.

[8] Law No. 56 of 26 May 2023, Conversion into law, with amendments, of Decree-Law No. 34 of 30 March 2023, containing urgent measures in support of households and businesses for the purchase of electricity and natural gas, as well as the fulfilment of health and tax requirements.

[9] The Equivalent Economic Situation Indicator (ISEE): this is the tool used to measure the economic condition of households in Italy. It is an indicator that takes into account income, assets and the characteristics of a household (in terms of size and type).

for 2023, from the resources available in the CSEA budget for 2023. The same law also provided for the application of **the reduced VAT rate of 5% to the consumption of methane gas** used for combustion for civil and industrial purposes in bills issued for estimated or actual consumption for the months of April, May and June 2023 (Q2 2023). The costs resulting from this measure are quantified at € 539.78 million. Again, in consideration of the reduction in wholesale natural gas prices, it confirmed for the month of April 2023 only, the negative rates of the UG2c[10] tariff component applied to consumption brackets up to 5,000 m^3 per year (to the extent of 35% of the value applied in the previous quarter), but maintained the **zeroing of the tariff components relating to the other general system charges for the gas sector** for the entire second quarter of 2023. The burdens resulting from these measures are set at € 280 million (paragraph 5).

In order to mitigate the impact of high energy prices on business costs, Article 4 of this law provided for **tax credits**:

- amounting to 20% of the expenditure incurred for the energy component in the second quarter of 2023 by energy-intensive enterprises[11] that experienced a cost increase per kWh of more than 30% compared to the same period in 2019;
- amounting to 10% of the expenditure incurred for the energy component in the second quarter of 2023 by non-energy intensive enterprises with electricity meters with an available power of 4.5 kW or more;
- amounting to 20% of the expenditure incurred for the purchase of gas (consumed for non-thermal uses) in the second quarter of 2023 by companies, if the reference price of natural gas, calculated as the average referred to the first quarter of 2023 of the reference prices of the intra-day market (MI-GAS) published by the GSE, has undergone an increase of more than 30% of the corresponding average price referred to the same quarter of 2019.

The charges for the recognition of tax credits are estimated at € 1,348.66 million for 2023.

Finally, Article 24 creates at the Ministry of Enterprises and Made in Italy a Fund with an endowment of € 2 billion for 2023, aimed at supporting energy-intensive enterprises (identified in a list published by the CSEA) located in island regions and for which a National Crisis Table is established at the Ministry.

The approval of Article 36-ter of **Decree-Law No. 48 of 4 May 2023**, which, in order to safeguard the staff employed in contact centres for the management of activities connected with the electricity standard offer service - a service that is gradually being phased out -, generated some critical issues[12] in arranging for the inclusion of the **social clause** in competitive procedures for switching households from the protected market to the gradual standard offer service. The social clause provides that, in the event of a succession of companies in the contract with the same principal and for the same contact centre activity, the employment relationship continues with the successor contractor, also in accordance with the provisions of collective bargaining agreements. This article was then amended by Article 14 of Decree-Law No. 181 of 9 December 2023, which established that the operators of the standard offer service, on the date on which the provision came into force, would continue to

[10] This is a retail marketing cost compensation component to curb the expenditure of final customers characterised by low consumption, which is made up of a fixed quota, expressed in €/customer/year, and a variable quota (expressed in c€/m^3) applied to consumption between 121 and 200,000 m^3/year, to a differentiated extent according to consumption brackets.

[11] Identified in a list published by the CSEA.

[12] Also noted by ARERA in its recommendation paper of 6 July 2023, 308/2023/I/eel.

make use of contact centre services provided by third parties with the safeguarding of the same employment levels, until the conclusion of the procedures for identifying the suppliers of the vulnerability service, without prejudice to the natural expiry of the contracts governing such services, whichever is earlier.

The subsequent **Law No. 95 of 26 July 2023**[13], intervened on the construction of **new regasification capacity** and, again, on the containment in the third quarter of 2023 of the effects of price increases in the electricity and natural gas sector. Specifically, it established that the authorisation for the construction and operation of facilities aimed at increasing the national regasification capacity through floating storage and regasification units to be connected to the transmission network shall be issued by the competent Extraordinary Commissioner of the Government, following a single procedure that also includes environmental assessments. The containment of the effects of price increases for the third quarter of 2023 saw a new allocation in the limit of € 110 million for social bonuses to be assigned to households with ISEE up to € 15,000; it also provided for the maintenance of the zeroing, for the same quarter, of the rates of the tariff components relating to general system charges for the gas sector, with charges estimated at € 175 million. The resulting total costs (€ 285 million) were to be covered from the resources (from appropriations for the reinforcement of the social bonus for electricity and gas) available in CSEA's 2023 budget. Also confirmed was the reduced VAT rate of 5% for the supply of methane gas for estimated or actual consumption in July, August and September 2023, the costs of which (€ 473.87 million) are covered through the corresponding use of the sums paid to the state budget revenue by CSEA by 31 July 2023.

Law No. 103 of 10 August 2023[14], amending previous provisions:

- on the subject of **electricity interruptibility**, it assigned ARERA the task of defining the criteria and methods for allocating interruptible resources, to be awarded through competitive bidding procedures, based on technical criteria defined by the Electricity Transmission Grid Operator, consistent with the service's immediacy requirements and in compliance with the principles of technological neutrality, in which end users and accumulations participate;
- has established that the **extensions and upgrading of** existing **gas networks** and plants in municipalities already methanised and the new constructions of networks and plants in municipalities to be methanised belonging to climatic zone F and classified as mountainous territories, as well as in municipalities that have submitted an application for a contribution in relation to the completion of the methanisation programme in Southern Italy are assessed, for the purposes of the cost-benefit analysis, taking into account the positive externalities in relation to the contribution of the interventions themselves to the decarbonisation process and to the increase in the degree of efficiency and flexibility of the networks and plants themselves. When determining the tariffs for the aforementioned municipalities, ARERA will have to take into account the higher investment costs, as well as the need to remunerate functional interventions to ensure the feed-in of gas from renewable energy resources;
- ruled that an electricity supplier may charge its individual or aggregate customers a **sum of money in the event of early termination** of a supply contract, provided that the contract is

[13] Law No. 95 of 26 July 2023, Conversion into law, with amendments, of Decree-Law No. 57 of 29 May 2023, containing urgent measures for territorial entities, as well as to ensure the timely implementation of the National Recovery and Resilience Plan and for the energy sector.

[14] Law No. 103 of 10 August 2023, Conversion into law, with amendments, of Decree-Law No. 69 of 13 June 2023, containing urgent provisions for the implementation of obligations deriving from acts of the European Union and from pending infringement and pre-infringement proceedings against the Italian State.

jointly fixed-term and fixed-price, provided that this charge has been expressly, clearly and easily comprehensibly indicated both in the information document communicated prior to the conclusion of the contract and in the contract itself and has been specifically approved and signed by the customer;

- under the rules for the development of **electricity storage** capacity, which provide for a survey by the Electricity Transmission Grid Operator (for the national transmission grid operator) of the need for such capacity and its allocation through competitive, transparent, non-discriminatory auctions conducted by the Electricity Transmission Grid Operator itself, the task for the Electricity Transmission Grid Operator to submit a plan for the direct construction of the missing storage systems for approval by the Ministry for the Environment and Energy Security in the event that, following the auctions, all or part of the necessary capacity is not allocated.

Law No. 169 of 27 November 2023[15] renewed ARERA's task of updating the values of the electricity and gas social bonuses applicable in the fourth quarter of 2023, so that, for each type of customer involved, the target levels of reduction in expenditure expected in the same quarter are equal to 30% of the expenditure for electricity before tax and equal to 15% of the expenditure for natural gas after taxes and fees[16]. ARERA was also entrusted with the task of submitting, by 31 May 2024, with reference to the year 2023, the **report on the actual use of the resources earmarked for the containment of the effects of price increases** in the electricity and natural gas sectors for 2023[17]. Again for the fourth quarter of 2023, the tariff components relating to general system charges for the gas sector and preferential VAT at a rate of 5% on methane gas supplies in bills issued for estimated or actual consumption for the months of October, November and December 2023 were kept at zero; for households with a social bonus for electricity, an extraordinary contribution has been recognised for the same months, increasing with the number of members of the household according to the types already envisaged for the same social bonus, and the system of facilitations for companies with high electricity consumption has been reformed.

Subsequently, **Law no. 170 of 27 November 2023**[18] introduced **new provisions to guarantee the security of the national electricity system**, allowing the operators of coal-fired power generation plants with a nominal thermal capacity of more than 300 MW, who have taken advantage of the derogations necessary for the full use of the plants and who, in view of the ban on imports of Russian coal, are unable to find coal of a quality sufficient to guarantee compliance with the emission limit values on the market, to take advantage of additional derogations provided that the plants are included by the Electricity Transmission Grid Operator in the list of those that are essential for the security of the electricity system, the Electricity Transmission Grid Operator declares that any unplanned unavailability of the same plants would entail a high risk of non-compliance with the security standards of electricity system operation, and that the derogation is limited to what is necessary to allow compliance with the security standards of electricity system operation.

[15] Law No. 169 of 27 November 2023, Conversion into law, with amendments, of Decree-Law No. 131 of 29 September 2023, containing urgent measures on energy, interventions to support purchasing power and to protect savings.

[16] Targets set, respectively, by the Decree of the Minister of Economic Development of 29 December 2016 for electricity and by Art. 3, paragraph 9 of DL No. 185/2008 for gas.

[17] ARERA submitted this report on 28 May 2024 (https://www.arera.it/atti-e-provvedimenti/dettaglio/24/210-24).

[18] Law No. 170 of 27 November 2023, Conversion into law, with amendments, of Decree-Law No. 132 of 29 September 2023, containing urgent provisions on the extension of regulatory deadlines and tax payments.

Law No. 214 of 30 December 2023, the 2022 Annual Market and Competition Law, stipulated that:

- every two years (and no longer annually) Snam Rete Gas (and no longer the grid operators) shall transmit to ARERA and the Ministry of Business and the Made in Italy the ten-year grid development plan, also taking into account the interventions of the other grid operators, and that the Electricity Transmission Grid Operator shall prepare a ten-year plan for the development of the national electricity transmission grid every two years and submit it by January 31 of each two-year period to the Ministry of the Environment and Energy Security and to ARERA it will be the Ministry of the Environment (and no longer the Ministry of Business and the Made in Italy) that will approve the Plan within 18 months of its submission, subject to the opinion of the Regions and Autonomous Provinces territorially affected by the interventions and the assessments of ARERA itself;
- the Ministry of the Environment, in cooperation with ARERA, **promotes information campaigns and training programmes for businesses and customers on the potential of second-generation smart meters**. ARERA is to regulate the obligations of distribution companies to ensure that customers are informed about the functionalities of smart meters, ensuring their full interoperability with final customers' energy management systems and smart grids. The Acquirente Unico (AU[19]), in its capacity as manager of the Integrated Information System (IIS), shall, at the request of the final customer or of a third party formally designated by the latter, make available, through the "Portale Consumi", the supply meter data and prepare a computerised register listing the third parties accessing the final customer's data. The register shall make available to final customers, free of charge, any information concerning access to data by third parties, including the history of such access and the type of data accessed;
- inclusion and permanence on the **list of persons authorised to sell natural gas to final customers** (also relating to the supply of liquefied natural gas by means of tanker trucks and natural gas by means of tank wagons, as well as biogas) are a necessary condition for carrying out natural gas sales activities to final customers. The Ministry of the Environment and Energy Security, on the recommendation of ARERA, after consulting the Market and Competition Authority, defines the conditions, criteria, modalities and technical, financial and good repute requirements for the registration, permanence and exclusion of the subjects registered in the list. The Minister for the Environment and Energy Security shall also regulate a special procedure for the possible reasoned exclusion of members from the list, which shall also take into account violations and irregular conduct in the activity of gas sales, ascertained and sanctioned by the competent authorities;
  when a **remote contract** is **stipulated over the telephone**, consent is not valid if the customer has not first acknowledged receipt of the document containing all the contractual terms and conditions, transmitted on paper or on another available and accessible permanent storage device.

Decree-Law no. 181 of 09 December 2023, converted into Law no. 11 of 02 February 2024:

- introduces some measures to **promote self-generation of renewable energy in energy-intensive sectors**;
- requires that when tendering for the award of the natural gas distribution service, the economic

[19] AU-Acquirente Unico (Single Buyer) is the public company created to supply electricity to domestic customers and SMEs that have not yet switched to the free market. Since 2009, AU's activities have gradually expanded to benefit the correct functioning of energy markets.

conditions offered by each bidder also contain **energy efficiency measures** that can be implemented in the minimum district of reference to achieve additional energy savings with respect to the annual targets (already defined by Legislative Decree 164/2000). If the awarded gas distribution companies do not realise the additional quota of energy savings that they committed to achieve in the tender, they shall pay the local authorities belonging to the district concerned the tariff contribution determined by the national regulator for the remuneration of energy efficiency interventions with the application of a surcharge, as a penalty, commensurate to the quantity of energy not saved per single year;

- entrusts ARERA with the task of regulating, on the recommendation of the GSE, the **procedures for the gradual exit, as of 31 December 2024, of the operating plants applying on-the-spot trading**, in implementation of the provision set forth in Article 9 of Legislative Decree No. 199/2021. This rule provides that the incentive mechanism of on-the-spot trading will be abolished 90 days after the entry into force of the ministerial decrees implementing the new incentives for the production of electricity from renewable energy resources (not yet adopted); new plants that will come into operation after this date will be able to access the new incentive mechanisms, i.e. the dedicated energy withdrawal (with modalities that will refer to market economic conditions);
- establishes a **mechanism for the contracting of electricity generation capacity fuelled by sustainable bioliquids**, to the extent necessary to ensure their contribution to the flexibility of the electricity system;
- entrusts the Electricity Transmission Grid Operator with the task of setting up a **digital portal to ensure the efficient planning of the national transmission grid facilities**, in coordination with the development of renewable energy resource plants and energy storage systems;
- entrusts the Ministry for the Environment and Energy Security with the task of **promoting** – through the Acquirente Unico and for a period not exceeding 12 months – **specific campaigns to ensure adequate information for households**, including those who qualify as vulnerable, on the consequences of the termination of the standard offer service and the start of the gradual standard offer service;
- transfers, with effect from 1 January 2024, to the Ministry of the Environment and Energy Security the Fund set up from the proceeds of the penalties imposed by ARERA for the financing of projects for the benefit of customers of electricity, gas and the integrated water service in order to ensure a high level of coordination of policies and actions to protect energy customers and the integrated water service;
- **regulates the vulnerability protection service** by providing that, as of the date of termination of the standard offer service for the electricity sector, vulnerable customers have the right to be supplied with electricity, as part of the vulnerability service, in accordance with the conditions laid down by ARERA and at a price that reflects the cost of electricity in the wholesale market and efficient costs of the marketing activities of the service itself, determined on the basis of market criteria. It entrusts the Acquirente Unico with the task of performing, according to modalities established by ARERA itself and based on market criteria, the function of centralised procurement of wholesale electricity for subsequent supply to operators of the vulnerability service. This service is provided by suppliers on the list of entities qualified to sell electricity at retail level and identified through competitive procedures carried out by the Acquirente Unico. ARERA must outline the vulnerability service, establishing: the limitation of the service to the sole supply of electric energy; the assignment of the service, for a duration not exceeding four years, by means of competitive procedures relative to homogeneous territorial areas in respect of the principles of transparency, publicity, maximum participation, and non-discrimination; the entity of the maximum consideration for the assignment of the service; the obligation for each supplier to

carry out the activity relative to the vulnerability service in a separate manner with respect to any other activity the prohibition for the supplier to use the marketing channel of the vulnerability service to promote offers on the market, to use the data and information acquired in the performance of the vulnerability service for activities other than the marketing of the service itself and to use the same brand under which it performs activities outside the service itself.
In the event that the vulnerability service is not awarded at the end of the competitive procedures, the Acquirente Unico shall call for a new selection procedure within six months of the conclusion of the previous one. The Acquirente Unico must also carry out specific monitoring activities concerning the electricity supply conditions applied to households after the conclusion of the competitive procedures for the allocation of the gradual standard offer service, as well as the correct application of the service conditions by the operators of the gradual standard offer service. The results of the activities are contained in a report transmitted by ARERA to the parliamentary commissions, competent for the subject matter, by 31 March 2025 and annually thereafter.

The **2024 Budget Law** (Law No. 213 of 30 December 2023, State Budget for Financial Year 2024 and Multi-Year Budget for the Three-Year Period 2024-2026) still recognises for the months of January, February and March 2024 the extraordinary contribution already provided for by the "Aid-*quinquies*" Decree for the months of October, November and December 2023, and in the same manner, to households with the social electricity bonus. To this end, it authorises expenditure of € 200 million.

Finally, it should be noted that Legislative Decree No. 26 of 7 March 2023[20]introduced **new provisions to strengthen customer protection** in the event of unfair terms, unfair commercial practices, unfair competition or untruthful commercial communications, addressing some particularly important issues, such as transparency towards customers, with appropriate communications on price changes, and providing for harmonised sanctions at European level in the event that a trader uses terms defined as unfair, as well as greater protection for unsolicited sales.

Developments in the electricity market

Facilities and main changes in regulation

In Italy, **power transmission** is carried out by approximately 75,450 km of power lines and circuits and more than 900 switching and conversion stations. The operator of the National Transmission Grid (TSO) is the Electricity Transmission Grid Operator (the company called "Terna"), 29.85% owned by the Italian state. The remaining 70.15% of the capital belongs to the market. In 2023, there are eight companies holding National Transmission Network (RTN) assets, one more than in 2022, due to the entry of the company Resia Interconnector, whose assets are part of the interconnection link with Austria that came into operation at the end of 2023. Considering the assets of all the companies belonging to the corporate group, in 2023 the Electricity Transmission Grid Operator group owns 99.6% of the national power lines and 922 power stations that are part of the RTN. In December

[20] Legislative Decree No. 26 of 7 March 2023, Implementation of Directive (EU) 2019/2161 of the European Parliament and of the Council of 27 November 2019 amending Council Directive 1993/13/EEC and Directives 1998/6/EC, 2005/29/EC and 2011/83/EU of the European Parliament and of the Council for better enforcement and modernisation of Union rules on customer protection.

2023, the AC interconnection with Austria came into operation. The new 220 kV power line, 28 kilometres long and built entirely in underground cable, allows Italy and Austria to increase electricity interchange capacity by 300 MW, doubling the current capacity.

As at 31 December 2023, 119 **power distribution** companies were registered in ARERA Registry of Operators, of which only 10 serve more than 100,000 customers and together distribute 98.3% of all energy withdrawn by users. There are four companies with more than 500,000 withdrawal points: e-distribuzione (Enel group), Unareti (A2A group), Areti (Acea group) and Ireti (Iren group). Overall, power distribution in Italy takes place through 1,287,100 km of networks, most of which (69%) are low voltage. The company e-distribuzione is the leading operator, with the dominant share of 85.1% of the distributed energy.

In January 2023, ARERA updated the provisions and minimum requirements for the consultation and preparation of the Ten-Year National Transmission Grid Development Plan. The **Electricity Transmission Grid Development Plan** for 2023 envisages total expenditure over the 2023-2032 reference horizon of approximately € 21 billion (+17% compared to the previous € 18 billion Development Plan 2021). It includes a series of investments in several innovative projects included in the **Hypergrid** project, an extensive modernisation of existing power lines accompanied by new submarine connections, aimed at exploiting direct current transmission (HVDC) technologies to significantly increase transport capacity with a limited impact on the territory. In August 2023, ARERA launched the public consultation of the Plan, which ended in October. With regard to the Ten-Year Network Development Plan, ARERA also has the task of assessing whether it is consistent not only with the needs identified during the public consultation procedure, but also with the non-binding European Ten-Year Network Development Plan (TYNDP). During 2023, this activity was conducted according to ACER's similar activity, which ended with the publication of ACER Opinion 04/2023 in April 2023 on the projects in the TYNDP and the National Electricity Plans.

The output-based regulation of the electricity transmission service in force for the years 2020-2023 provides an incentive mechanism for the realisation of additional transmission capacity up to target values that were determined by ARERA in October 2021. The regulation also provides for an additional bonus in the event that the aforementioned transport capacity is built at investment costs below the reference costs defined by ARERA. In 2023, ARERA determined the financial transactions for the Electricity Transmission Grid Operator for having realised capital-light capacity increases of 527 MW in 2022.

In April 2023, ARERA put out for consultation its guidelines for the identification of priorities and performance indicators for a **more selective development of investments in electricity distribution networks** and for the gradual introduction of minimum requirements for the consultation and preparation of **Distribution Network Development Plans**. As a result of the consultation, ARERA established the time-frame and procedures for the preparation and two-year public consultation of the Distribution Network Development Plans for distribution companies with more than 100,000 final customers, for the year 2023 and thereafter from 2025 for each odd-numbered year.

In 2023, for the largest distribution companies (with more than 100,000 withdrawal points), the regulation for the recognition of the costs associated with the **commissioning of 2G smart metering systems**, last set in December 2022 for the three-year period 2023-2025, continued to apply. With regard to the monitoring of the progress and performance of 2G smart metering systems by all distribution companies, in October 2023, ARERA defined the elements to harmonise and systematise the way in which these companies must annually send data and information on the

progress and performance of 2G smart metering systems to ARERA.

On the subject of **tariff regulation** and the consistency of general charges, it is noted that 2023 was characterised, for the electricity sector, by a gradual return to 'normality', since, in the face of a slowdown in energy commodity prices, the Government gradually reduced interventions to support electricity users; this led to a gradual reactivation of the tariff components covering the **general charges of the electricity sector** borne by users. For the first quarter of 2023 only, the tariff components covering the general charges of the electricity sector for household users and for non-household users for other low-voltage uses with available power up to 16.5 kW were cancelled (the loss of revenue from the A_{SOS} and A_{RIM} components for the above-mentioned users was covered by the state, which allocated € 963 million). According to current legislation (2023 Budget Law) from 2023 onwards, nuclear charges are no longer borne by electricity utilities, but directly by the state budget. This is the transfer to general taxation (so-called taxation) of nuclear liabilities, i.e. the costs of decommissioning and territorial compensation for local authorities hosting nuclear sites.

The electricity system is currently going through a phase of profound renewal linked to the decarbonisation objectives envisaged at European level, with an ever-increasing penetration of small-scale production resources spread throughout the territory and a gradual reduction in large-scale production resources concentrated on the large 'nodes' of the transmission network. This entails a radical change in the management of the electricity system: there are both greater reserve requirements to compensate for the volatility of production from random sources, and the need to enable more resources to provide ancillary services, in order to cope with the reduction of the large plants that had been providing these services until now. It is therefore necessary to **significantly innovate the regulatory framework for dispatching**, as the current rules, outlined in 2006, no longer appear capable of intercepting the changes taking place, because they were built around a system based on concentrated programmable resources. In the new context, the function of distribution networks also changes. They become 'active', i.e. capable not only of absorbing energy from the transmission network, but also of delivering energy in the opposite direction to the usual one. ARERA took up this challenge of innovating the dispatching framework back in 2015, opening a specific proceeding dedicated to both global and local ancillary services with the final intention of drafting a new *dispatching integrated text* in line with the evolution of the electricity system to replace the one currently in force. In 2023, **the new *Electricity Dispatching Integrated Text (TIDE)*** was **approved**, which, borrowing from the multi-year experience of pilot projects outlined in 2017, completes the path of innovation, proposing a **merit order dispatch model**, consistent with the European provisions set out in Regulation (EU) 2195/2017 on balancing the electricity system, in which all grid resources (at least in principle) can take on a dual role: the 'main' one of producing or consuming energy and the 'ancillary' one of providing services, consisting of the willingness to change their input and withdrawal profile to meet technical grid management needs. The new TIDE also provided an opportunity to rationalise the provisions on the organisation of the day-ahead and intra-day electricity market that had been stratified over the years and had been adopted in a context characterised by an Italian electricity market managed independently of the European markets and with regulation defined at national level. With market coupling, the rules became European and, following Regulation (EU) 942/2019, were adopted by decisions by ACER: the new TIDE captures these changes by summarising in a single document both the provisions that remained the responsibility of national regulators (such as the specific choice of products, the way in which bids are to be submitted and the specific roles of GME and the Electricity Transmission Grid Operator), and the references to the provisions in the ACER decisions and European regulations. The new TIDE will take effect on 1 January 2025.

The **Capacity Market**, which was established by a legislative decree in 2003, is aimed at achieving and maintaining the adequacy of production capacity, so that the demand for electricity is structurally met in accordance with predefined levels of security and quality. The first Capacity Market tenders were held in 2019 and covered delivery years 2022 and 2023. The technical-economic parameters and methodology for determining the operating price for the 2022-2023 and 2024-2025 delivery periods were defined in 2019 and 2021, respectively: the operating price (representative of the standard variable cost of a hypothetical open-cycle turbo-gas type production unit fuelled by natural gas) is equal to the sum of a set of components, including a component covering the cost for natural gas (natural gas component) and a component covering the burden of emission allowances to be rendered under the Emission Trading System (emissions component). The methodology for determining the Capacity Market price applied in the years 2022 and 2023 was then amended and supplemented as a matter of urgency, to ensure that the aforementioned price would more closely reflect the variable cost of peak technology, irrespective of the declaration of the emergency level of the gas system. To this end, it was decided, among other things, to index-link the natural gas and emission components on a daily basis for the definition of the operating price in the years 2022 and 2023 and to calculate the standard value of natural gas by applying the System Average Price, representative of the daily value of natural gas on the Italian network.

Article 18 of Legislative Decree No. 210 of 8 November 2021 provided for the introduction into the architecture of the Italian electricity market of a new system for the forward procurement of electricity storage resources, to be added to the energy, ancillary services and capacity markets. In 2023, ARERA defined the criteria and conditions for the operation of the **electricity storage capacity forward supply system**, aiming to: promote competition, through competitive, transparent, non-discriminatory procedures geared towards minimising the burden on end-customers; enhance coordination between developments in renewable generation capacity, electricity storage capacity and grid facilities; and promote the efficient use of forward-supplied storage resources, through the definition of contractual obligations that maximise their availability and, at the same time, do not distort the functioning of spot markets in the pursuit of short-term allocative efficiency. Parallel to national activities for the launch of the mechanism, dialogue between the Italian state and the European Commission intensified in 2023. In December 2023, the European Commission declared the mechanism compatible with the internal market, also in consideration of the contribution it will be able to make to achieving decarbonisation targets, allowing the integration of renewable energy resources into the Italian electricity system.

The output-based regulation of electricity distribution and metering services determined the premiums and penalties in October 2023. For the **regulation of the duration and number of unannounced interruptions, € 10.2 million in bonuses were disbursed**. Based on the 2022 electricity service continuity data, ARERA also published the eleventh national ranking of electricity distribution companies regarding the number and duration of interruptions.

In February 2023, ARERA identified **interventions eligible for premiums and/or penalties aimed at increasing the resilience of electricity distribution networks** to the stresses caused by critical risk factors. In September 2023, premiums and penalties were determined for eleven distribution companies, with a total net premium balance of € 13.6 million, related to the resilience enhancement measures completed in 2022 and previously approved by ARERA. Then, at the end of the year, the provisions on this subject were updated for the period 2019-2024; in particular, it was defined that, starting from the February 2024 application, the incentive mechanism would only apply to distribution companies to whose network at least 100,000 final customers are connected and the interventions would be eligible for a premium only, with potential cancellation in the event of a significant delay.

In terms of **distribution quality**, there was a worsening in 2023 compared to the three-year period 2020-2022, both for the average duration of outages without notice (100 minutes) and for the average number of long and short outages without notice per low voltage user (4.87). The deterioration in performance for 2023 is mainly attributed, as for the three-year period 2017-2019 and for the years 2012 and 2015, to the impact of exceptional weather events. The duration of unannounced outages for which the distributors are responsible stands at 44 minutes nationwide, and the number of long and short unannounced outages (which, together, correspond to outages lasting more than a second) for which the distributors are responsible stands at 3.43 outages per low-voltage user nationwide.

With regard to **requests for connection to high and extra-high voltage**, in the year 2023, the Electricity Transmission Grid Operator received 4,693 connection requests for electricity production plants, corresponding to a total power of 442.6 GW. In relation to the applications received during the year, 1,528 quotations were accepted (of the 3,128 made available), corresponding to a total capacity of 101.3 GW. For two of them, a request was submitted to make the Minimum Technical Solution of Detail (STMD) available, which the Electricity Transmission Grid Operator, however, did not make available by 31 December 2023. As far as active connection requests to medium- and low-voltage grids are concerned, in 2023, the distribution companies received more than 398,000 connection requests for power generation plants, corresponding to a total capacity of 38.5 GW, in relation to which over 331,000 quotations of all those made available during the year were accepted in 2023, for a total capacity of about 10.6 GW. Over the year, more than 298,000 connections, corresponding to just over 2.7 GW, were realised in relation to the requests received in 2023. As far as the connections of passive users are concerned, the data collected show that 252,030 connections were made to the distribution networks in 2022, almost all of them in low voltage. For 71% of them, the supply was activated during the year.

As regards **international coordination**, again in 2023, ARERA cooperated actively with other European regulators, through the European Agency for the Cooperation of Energy Regulators (ACER), the Council of European Energy Regulators (CEER) and the regional platforms provided for in the European electricity market regulations, as well as through bilateral meetings to explore topics of common interest, in particular with regulators from neighbouring countries. In continuity with previous years, interaction continued the implementation of the network codes and guidelines adopted as a result of the Third Energy Package and in the transposition of the provisions of the Clean Energy Package.

The CEER's new international strategy aims to broaden global relations between authorities and regulatory agencies, to focus interaction on energy transition and to multiply assistance and cooperation efforts in favour of new and emerging institutional realities. As part of the broadening of the prospects for cooperation between regulators, ARERA's participation in the work of the "***Comité de Prospective***", an initiative for dialogue between institutions and stakeholders on the evolutionary scenarios of the French energy system in terms of transition, energy saving and electrification of final consumption, is noteworthy.

ARERA was also very active, as always, in relations with non-EU countries: given the current international context and the energy and climate crises of recent years, the Mediterranean and Balkan areas continue to be of strategic interest for our country's energy system. ARERA, in fact, is a founding member of the **Balkan Energy School (BES)**, which was set up as a non-profit association under Italian law and based in Milan at ARERA, and in 2023 it continued its activities in support of **MEDREG (Mediterranean Energy Regulators***),* of which it is a permanent deputy chair.

Since 2016, ARERA has also been a member of **NEON - National Energy Ombudsmen Network**,

due to the establishment of the Conciliation Service and as the competent authority for ADR (Alternative Dispute Resolution) under the Consumer Code and, more generally, for customer protection in the energy sectors. The association promotes, in particular, the development and knowledge of ADR tools, also through the exchange of experiences and good practices and the sharing of activity reports among members, also supporting initiatives related to the evolution of the European regulatory framework, both sectoral and cross-sectoral.

Wholesale and retail markets

According to provisional data released by the Electricity Transmission Grid Operator, **electricity demand** in 2023 (287.4 TWh) decreased by 2.9%; the decrease was recorded in all consumption sectors. Energy available for consumption was met just over 84% by net domestic production (minus energy for pumping) and the remaining 16.8% by the balance from abroad. Net domestic production decreased by almost 7% year-on-year, while imports increased by 15.2% and energy for exports decreased by 24.6%. Peak demand was reached on 19 July 2023, when power demand at peak came to 58.5 GW (+1.9% from the peak recorded in 2022 of 57.4 GW). Although 2023 was a hot year, the summer peak did not reach the absolute record for the Italian electricity system, taken in summer 2015 (equal to 60.5 GW).

Gross domestic production fell to 255.9 TWh, a decrease of 6.9% compared to 2022. More specifically, there was a 19.3% decrease in thermoelectric production against a 15.6% increase in energy production from renewable energy resources. In thermoelectric generation, there were significant decreases in generation from solids (-41.5%) and from petroleum products (-26.9%), while generation from natural gas decreased less, by 15.9%. In the area of renewable energy resources, which account for approximately 44% of the national electricity generation mix, only geothermal (-2.5%) and bioenergy (-9.1%) generation decreased. The largest increase occurred in hydropower production (+42.4%) back to the quantities of the years before 2022, a year characterised by a major water emergency. The shares of wind and photovoltaic production increased by 13.7% and 9.2% respectively. The share of gross generation of the top three corporate groups (Enel, Eni and Edison) decreased slightly to 34.4% (from 34.8% in 2022), while those of the two following groups increased slightly. There are four groups with a gross installed capacity share of more than 5%: Enel, A2A, Edison and Eni.

The **amount of incentivised electricity** was approximately 56 TWh in 2023. For 2023, all in all the costs of incentivising renewable energy resources amounted to approximately € 7 billion, which is higher than last year.

Imports increased by about 7.1 TWh over the previous year, from 47.4 to 54.5 TWh (+15%). Since, at the same time, exports decreased by a higher percentage (-24.6%, from 4.4 to 3.3 TWh); the increase in the **foreign balance** was amplified: compared to 2022, in fact, foreign electricity entering the Italian system increased by 19%. Reliance on imports increased due to the need to meet demand against a lower coverage of domestic production, which, in the provisional data released by the Electricity Transmission Grid Operator, declined more (-6.4%) than demand (-2.8%).

In 2023, the amount of **electricity traded on the day-ahead market (MGP) in the Italian system** amounted to 78 TWh, a value that decreased by 3.9% compared with 2022. Exchange-traded volumes decreased (209.9 TWh; -0.5%), albeit to a lesser percentage than bilateral trading on the PCE[21] (68.1 TWh; -13.0%), almost entirely referring to domestic areas. Trade with foreign countries increased,

[21] PCE is the Energy Accounts Platform where electricity forward contracts are registered.

driven by an increase in imports totalling 55.8 TWh (+15%), or 27% of total stock exchange sales, to the detriment of exports, which came to 3.8 TWh (-31%) or 2% of total stock exchange purchases. The share of volumes traded by institutional operators alone, i.e. the Acquirente Unico (18 TWh; -34%) and the GSE (30 TWh; +6%), which together account for 9% of the volumes traded, decreased again.

In 2023, the **average purchase price of electricity (PUN)** dropped considerably to 127.2 €/MWh (-58.1%); this drop was spread across all three hourly bands: 138 €/MWh (-59%) during peak hours, 126 €/MWh (-58%) during off-peak hours on working days, and 117 €/MWh (-57%) on public holidays.

The total volumes traded in 2023 on the **Intra-day Market** (29.1 TWh) increased compared to the previous year; the average prices recorded on this market are strongly correlated to the corresponding values of the MGP. Over the course of the year, average monthly prices (MI1) showed progressive declines to a minimum of 103 €/MWh in May, reflecting the lowest value also recorded in the MGP.

On the electricity **forward market**, with regard to standardised products with physical delivery, in 2023, there were only eight pairings for a total of 27 GWh.

In 2023 there was a significant drop **in prices on European stock exchanges**, which had reached record levels in 2022. The energy crisis that began in 2021 cannot be said to be completely over - so much so that the average prices observed in 2023 are still very high, roughly 2.5 times higher than in 2019 - but it has passed its most acute phase. The Italian PUN, in fact, has once again shown a trend rather distant from the prices that have become established on the stock exchanges of neighbouring countries, Germany and France first and foremost, because it is highly dependent on gas-fired generation and for this reason tends to be more affected by the fluctuations that occur on the international markets for this source.

In 2023, **3 penalty proceedings** were initiated **for violations of** the wholesale market integrity and transparency provisions of **REMIT**. In particular, market manipulative conduct, failure to comply with the obligation to disclose certain inside information to the public in an effective and timely manner, and failure to comply with disclosure obligations to ACER were alleged.

After the slight decline in 2022, the results of the Annual Survey show that just over 241 TWh **were sold to the retail market** in 2023 to 37.3 million customers. Compared to 2022, total electricity consumption therefore decreased by 4.4%, while withdrawal points increased slightly (0.2%). The contraction in consumption occurred proportionally evenly for households and non-households, but in absolute terms it is obviously greater for non-households, who purchased about 8.8 TWh less than in 2022, while household consumption decreased by around 2.3 TWh. The reduction in the demand for electricity from the non-household sector can be explained partly by the modest economic growth (+0.9% change in GDP estimated by Istat), and partly by the weakness observed in the more energy-intensive sectors.

In more detail, Italian households purchased a total of 56 TWh compared to 58.3 TWh in 2022 (-4%), while energy purchased by the non-household sector fell from 193.9 to 185.2 TWh, (-4.5%), thus moving back away from pre-Covid levels (198 TWh in 2019), which had been partly recovered in 2022. In 2023, the number of domestic withdrawal points was 30.2 million, of which just under 8.9 million were served in the standard offer service and around 21.4 million in the free market; households served on the free market have now risen to 70.7%. Looking at the volumes purchased, the free market now accounts for three quarters (75.5%) of the total energy purchased by Italian households. The average unit consumption of households in the standard offer market is slightly

lower than that of households purchasing energy in the free market: 1,548 kWh/year versus 1,977 kWh/year.

It should be mentioned that price protection ended in 2021 for small and micro-enterprises with a committed power of more than 15 kW. For other micro-enterprises (those with a committed capacity of less than 15 kW) and all non-household, non-vulnerable customers, the standard offer service ended on 1 April 2023. Therefore, the total volumes sold under the **standard offer service** in 2023 still include those purchased by micro-enterprises with a committed power of less than 15 kW for part of the year. If the consumption of the household sector is added to the consumption of the latter, the share of electricity sold in the standard offer service is very small, amounting to 6% of the volumes of the entire Italian electricity market (corresponding to 24.2% of the total withdrawal points). In 2023, 14.2 TWh were sold, under the standard offer service, to approximately 9.2 million withdrawal points (calculated on a *pro die* basis). Compared to 2022, consumption fell by 7.4 TWh (-34%), while the number of withdrawal points served decreased by 3 million (-24.2%).

Enterprises for which the standard offer service is terminated by law are supplied within a special **gradual standard offer service** by a supplier selected by tender (respectively called gradual standard offer service for small enterprises and gradual standard offer service for micro-enterprises). In 2023, these two services supplied a total of approximately 919,000 withdrawal points, to which just over 3 TWh were supplied. More specifically, the gradual standard offer service for small enterprises covered about 93,000 customers (about 1.5 TWh), while the one for micro-enterprises included 827,000 withdrawal points (1.5 TWh)[22].

With 219 TWh sold, the share of electricity intermediated by the **free market** rose to 90.6% (73.1% of withdrawal points) in 2023, even though the portion of electricity purchased in the **safeguard service** rose slightly to 2.1% (0.3% of withdrawal points) from the 1.9% recorded in 2022, just like gradual standard offer services, which went from 0.9% in 2022 to 1.2%.

In 2023, as in the previous year, **switching** was very high among customers, for households it grew by one percentage point compared to 2022, whether measured in terms of withdrawal points or in terms of volumes, approaching that of non-household customers. 18.9% of households - about 5.7 million withdrawal points - changed supplier at least once during the year. The volumes corresponding to this portion of customers amounted to 24.5% of the total energy purchased by the household sector, while the volumes corresponding to the 17.9% of households who changed supplier in 2022 corresponded to 23% of the energy withdrawn. The recent context of still high prices, in a moderately growing economy, is undoubtedly a strong incentive to change supplier, but it should also be noted that the gradual removal of price protection has certainly created a climate of ferment and curiosity towards the free market.

On the supply side, the **number of suppliers on the retail market** decreased for the first time in 2023: this is probably due to the 2023 coming into force of the electricity suppliers' list[23] (the "EVE"), which imposed a number of requirements on companies wishing to sell electricity in order to obtain authorisation to operate.

The **average number of commercial offers** that each sales company is able to propose to its

[22] The division between the two services is the result of an estimate made by ARERA on the data collected on the gradual standard offer service without distinguishing between that for small and micro-enterprises.

[23] Established by Law No. 124 of 4 August 2017 and governed by Regulation adopted by Minister of Ecological Transition No. 164 of 25 August 2022.

potential household customers was 26.4 for households and 30 for non-households. Out of the 26.4 offers made available on average to the household, 17.7 are **only available on-line** (11.7 in 2022), i.e. only through the Internet. The success of on-line offers among households remains limited: in 2023, 7.2% of households signed a contract offered in this way. If we look at non-households, on the other hand, of the average 30 offers offered to customers, 19.8 can be subscribed to on-line.

With regard to the preferred **type of price**, it was found that 66.8% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 33.2% chose a variable-price contract, i.e. with the price changing at a time and in a manner determined by the contract itself. The preference for variable price tends to grow over time, albeit at a moderate rate; last year, the variable-price contract was chosen by 23.3% of households. Variable-price contracts are more popular among non-households: 68.3% of them chose the variable price, while the fixed-price contract was chosen by 31.7% of the non-household points. The fall in prices experienced during 2023 nevertheless reverberated to a considerable extent in variable price contracts: in 2023, households with this type of contract paid an average of 227.33 €/MWh for the energy component, i.e. almost 150 €/MWh less than the average in 2022, just as non-households paid an average of 172.68 €/MWh, i.e. 135 €/MWh less than in 2022.

In variable-price contracts, **indexation** to the trend of the average PUN is by far the most frequent modality in both contracts to households (89.9%) and those to non-households (83%). The second most popular price indexation method chosen by households is that of a discount on one of the components set by the Authority for the standard offer service, which concerns 6.8% of customers. Households who signed a dynamic-price contract (which envisages index-linking to the hourly PUN) accounted for 3.3% of the variable-price households, while contracts with limited indexation gathered only 0.05% of households. Dynamic price contracts, on the other hand, represent the second most important mode of indexation among non-households, who chose them in 8.7% of the cases; a small share (1.8%) of non-households chose a contract indexed to some external, controllable variable (which sometimes also refers to gas prices at TTF).

About 33.7% of households have signed a contract that provides a rebate or **discount** of one or more free periods or a fixed sum in cash or volume; amongst non-household customers, the figure is 15.9%.

The Annual Survey also investigated the presence of **additional services**, revealing, as in the past, for fixed-price households a clear propensity to purchase energy with a contract that includes at least one additional service (the share of customers entering into contracts without any additional service is 2.2%, down sharply from 7.3% in 2022); among additional services, as in the previous year, the greatest preference is for contracts with a guarantee to purchase electricity produced from renewable energy resources (51.7%) and for ancillary energy services (37.6%). Even among customers opting for variable-price contracts that include additional services, the greatest interest lies in the guarantee of purchasing electricity produced from renewable energy resources (38.9% of cases). The results collected for non-household customers show a significant lack of interest in additional services. Of those who chose a fixed-price contract, 71.3% signed a contract that is free of additional services; the remaining part of this customer base shows appreciation for the guarantee of energy from renewable resources (25.1%).

In 2023, the level of **concentration in the retail market** decreased slightly, as can be seen from the various measures normally used to measure it. The C3, i.e. the market share of the top three operators (corporate groups), fell to 48.2% from 48.7% in the previous year. The HHI index returned below the first attention threshold (of 1,500), having fallen from 1,515 to 1,376. An HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 identifies a highly

concentrated market (the maximum value of the index is 10,000). The number of corporate groups needed to exceed 75% of total sales increased from 10 to 11. However, the concentration in the Italian electricity market has two opposing sides: in the household segment it is high, albeit steadily decreasing, while in the non-household segment it is low.

The results of the analysis of the data submitted by the operators show that in 2023 the **average pre-tax electricity price** for households was 316 c€/kWh (256 c€/kWh the average value of the component covering procurement costs and marketing services). The usual high variability is, however, still seen, in the unitary expenses incurred by our customers: the average prices charged to households by annual consumption class in fact show values ranging from 248 €/MWh, found for the large customers (consumption in excess of 15,000 kWh/year), to 601 €/MWh, for the smallest class (0-1000 kWh). The price falls steadily as the size of customers increases. The free market is 6.2% higher than the standard offer market; this differential is significantly higher for small consumption classes.

Concerning the **commercial quality of the supply service**, in 2023 the companies that served customers in the electricity sector received a total of 325,681 written complaints, 329,429 requests for information, 6,606 requests for bill adjustments and 1,320 requests for double bill adjustments; 97.95% of the complaints were related to failure to respond to written complaints within the time-frame. In 2023, automatic compensation payments were made for more than € 1.7 million. 57.4% of the compensation was received by households in the free market, 22.4% by non-households in the free market, 10.9% by households in the standard offer market, 5.2% by multi-site customers, 2.3% by non-households in the standard offer market and 1.75% by medium voltage customers.

In 2023, supervisory activities included both **inspections and document control activities**, which made it possible to check the work of a wide range of subjects and new areas of activity.

With regard to **sanction proceedings** in 2023, the following proceedings were also initiated: one proceeding against an electricity distribution company for violation of the provisions on switching, two proceedings for violation of the obligation to participate in ARERA's conciliation procedures, and three proceedings for violation of the provisions protecting final customers in cases where the network user and the commercial counterparty are different parties and the latter is in breach of its contractual obligations to the former.

Developments in the gas market

Facilities and main changes in regulation

In Italy there are eight companies operating the **national** (10,490 km) and **regional** (24,936 km) **gas transmission network**. The largest gas transmission operator company is Snam Rete Gas; in addition to it, two other companies own and operate small sections of the national network: Società Gasdotti Italia and Infrastrutture Trasporto Gas. The Snam group (consisting of Snam Rete Gas and Infrastrutture Trasporto Gas) owns 93% of the networks. The Italian gas transmission network is connected with several international gas pipelines: in the North it connects with the TENP natural gas pipeline for the import of gas from Northern Europe and with the TAG for the import of Russian gas; in the South it connects with the Transmed (Trans-Mediterranean Pipeline) for the import of Algerian gas and with the Greenstream for the import of Libyan gas, it connects with the TAP for the import of Azeri gas. In addition, four **liquefied natural gas terminals** are operational, which are injected into the Italian national transmission network through their interconnection with the national

grid. The maximum total regasification capacity of the four terminals is 22.5 G(m^3)/year.

Natural gas **storage** is carried out on the basis of 15 concessions held by five companies: Stogit, Edison Stoccaggio, Ital Gas Storage, Geogastock, Blugas Infrastrutture. All active storage sites are built at depleted gas fields. In 2023, in view of the criticality for the national gas system resulting from reductions in Russian gas flows, the Italian government authorised the upgrading of two sites by gradually increasing the maximum operating pressure. Stogit, which belongs to the Snam group, is the main storage company owning 10 of the 15 concessions. The Italian gas storage system is of significant size: in the 2023-2024 thermal year, which ended on 31 March 2024, the system offered availability for allocation in terms of total space for active reserve (so-called working gas) amounting to 17.79 G(m^3), of which 4.6 G(m^3) is for strategic storage. The space offered at tender was 100%. The nominal peak delivery achieved during the year was 260 million standard cubic metres/day.

Natural gas **distribution** in Italy takes place through 271,212 km of network (of which 301 km will not be in operation in 2023), 57.1% in low pressure, 42.2% in medium pressure and 0.7% in high pressure. The length of the networks increased by 3,646 km compared to 2022. In 2023, there were 186 companies active in gas distribution (the same number as in 2022), of which six were very large (with more than 500,000 customers. The number of companies with more than 100,000 redelivery points has fallen in recent years (28 units, down from 33 in 2013). However, their share in terms of gas distributed has always remained stable at around 82% and, indeed, has risen to 85% in the last three years. Overall, the 186 operators active in 2023 distributed 25.6 G(m^3), 2.7 G(m^3) fewer than the previous year, to approximately 22 million customers. The service was operated through 6,578 concessions in 7,359 Municipalities.

During 2023, there were no evaluation activities of the new National Development Plans, however, in March, as a result of the urgent evaluation process started during the evaluation of the 2021 and 2022 **Natural Gas Transmission Network Development Plans**, and after a specific public consultation, ARERA expressed a positive assessment on the development intervention "Upgrading for new imports from the South" (the "Adriatic Line"). In addition, ARERA has ordered the amendment of the minimum requirements for the consultation and evaluation of the Plans and for the cost-benefit analysis of the development interventions of the natural gas transmission network, as a result of the proceedings initiated in October 2022 to implement a Council of State ruling. In the following month of May, provisions were introduced on the optimisation of biomethane connections and the simplification of connection directives, and ARERA made some changes to the minimum requirements for the preparation of ten-year plans for the development of the natural gas transmission network and for the **Cost-Benefit Analysis (CBA)** of interventions. In November 2023, ARERA assessed and approved the recommendations for updating the CBA application criteria submitted by the main transmission operator (after consultation with stakeholders), and at the same time amended the minimum requirements to take into account the aforementioned proposals of the main transmission operator, the comments made during the consultation and the need for progressive convergence between methodologies for the CBA of the gas transmission and electricity transmission sector.

A **new regasification terminal** operated by the Snam Group and currently located **in the port of Piombino** came into operation in 2023. The plant is an FSRU (Floating Storage and Regasification Unit) and has an annual regasification capacity of about 5 billion S(m^3). In January 2023, ARERA approved the recommended procedure for the first allocation of regasification capacity at this terminal. In April 2023, ARERA, also with a view to favouring the increase in the availability of gas to replace that of Russian origin, **amended certain parts of the Regasification Integrated Text** to allow the offer of multi-year capacity products including the thermal year following the allocation

year. Provisions were also introduced on the modalities and prices for the offer of multi-year regasification capacity, offered on the basis of the expressions of interest received for the OLT Offshore LNG Toscana and FSRU Italia terminals in Piombino. Lastly, in September, ARERA approved the amendments to the GME regulations for the Platform for the Allocation of Regasification Capacity (PAR) necessary for the activation of the new management section of the PAR, which is in addition to those already existing for each of the regasification terminals already active in Italy, within which auctions and first come first served procedures will be held for the allocation of the capacity made available at the new terminal in Piombino managed by Snam FSRU Italia.

To cope with the crisis triggered by the conflict between Russia and Ukraine, Regulation (EU) 1032/2022 of the European Parliament and of the Council of 29 June 2022 defined mandatory minimum filling levels of European gas storages. In compliance with EU regulations, measures were also introduced in Italy to speed up the filling of national stockpiles through the **filling service of last resort**. In January 2023, ARERA defined the functional criteria for the implementation of this service for 2023 by the balance responsible entity. With the aim of preserving available stocks and facilitating the new storage filling cycle for the winter of 2023-2024, in March 2023 ARERA asked storage companies to make the counterflow filling service and the residual storage service available to users, which provides for the allocation of space capacity in the supply phase.

On the subject of access to the transmission service, during 2023 ARERA intervened with various rulings to reform the processes for allocating capacity at the redelivery points of the transmission network. At the end of the year, **the introduction in Italy of a Neutrality Charge** (modelled on the German one) to cover the costs of the service of last resort at all exit points of the national transmission network, including interconnection points with foreign countries, was **envisaged (as of 1 April 2024)**.

In May 2023, ARERA adopted new provisions for **optimising the connections of biomethane plants** with the transmission network and simplifying the relevant directives.

In 2023, ARERA approved the **tariff regulation criteria for the LNG regasification service for the 6PR LNG (RTRG 2024-2027)**, in substantial continuity of criteria with respect to the previous regulatory period, and the **tariff regulation** for the natural gas **transportation and metering service** (RTTG) for the period 2024-2027 (sixth regulatory period - 6PRT), confirming the adoption of the weighted distance methodology for capacity and providing for a change in the entry/exit split from 28/72 to 25/75.

In the gas sector, unlike in the electricity sector, **the cancellation of tariff components covering general system charges**, which began at the end of 2021 to compensate for the strongly bullish trend in wholesale energy commodity prices, **was maintained until the end of 2023**, by virtue of the legal provisions described above. Until April 2023, the extraordinary UG2c component has also been confirmed, with a negative sign, to be applied to the lowest consumption, falling in the brackets up to 5,000 sm^3/year, in fact a discount applied to all customers for small to medium consumption, both in the free market and in the protected market. These manoeuvres were financed through allocations from the State Budget set in the first two quarters of 2023.

In December 2023, ARERA, after consultation, approved the **regulatory criteria for the quality of natural gas transportation service** (RQTG) for the period 2024-2027 (sixth regulatory period - 6PRT), in substantial continuity with the previous regulation.

The regulation of the **quality of gas distribution and metering services** has the aim of minimising the risk of explosions, outbreaks and fires caused by distributed gas and, therefore, has as its ultimate goal the safeguarding of persons and property from damage resulting from accidents caused by

distributed gas. In 2023, there was a decrease in the inspection percentage of the high/medium pressure network and a slight increase in the low pressure network compared to the previous year. The arrival time at the (telephone) call location updated to 2023 shows a national average value of almost 38 minutes, slightly increased compared to 2022. In addition, the percentage of compliance with the maximum arrival time within 60 minutes was 99.8% compared to an obligation of at least 90%. Early intervention can prevent gas accidents that could have very serious consequences; however, almost half of all calls to emergency call centres actually turn out to be false alarms.

Data on connections are distinguished according to whether they are connections to transmission pipelines or to distribution networks. In 2023, 67 **connections to transport networks** were made, of which 65 were high-pressure pipelines and 2 medium-pressure pipelines. On average, a wait of 120 working days was recorded for high-pressure pipelines and 132 days for medium-pressure pipelines. Of the total connections made, 57% activated supply during the year. Even in the case of **local distribution networks** in 2023, approximately 10,000 fewer connections were made than in the previous year: their number fell from 71,607 to 61,826. As always, most of the connections involved low-pressure pipelines (94.6%) and the remainder medium-pressure pipelines. There was a slight increase in waiting times both for connections to medium-pressure networks (from 7.7 to 9.2 working days), and for connections to low-pressure networks (from 23.3 to 34.1 working days).

In March 2023, ARERA set out its guidelines on how to manage the extension, for **settlement** purposes, to the smallest smart meters (classes G4 and G6), proposing the adoption of monthly readings for redelivery points that have been in service for more than 12 months and to which a withdrawal profile with a thermal component is associated, and following a gradual adoption path between October 2023 and April 2024.

Taking into account recommendation papers received from operators, in October 2023 ARERA updated and supplemented the regulations previously in force concerning **the liability of distribution companies on the formation of what is termed the "in-out delta"**, i.e. the difference between the quantities injected at the exit points of the transmission network interconnected with distribution networks and the quantities withdrawn by final customers connected to the distribution network.

With regard to **international coordination** activities, it should be noted that in the gas sector, too, ARERA has the task of assessing whether the Ten-Year Network Development Plan covers all investment needs identified during the consultation procedure and whether it is consistent with the non-binding European Ten-Year Network Development Plan (TYNDP). In order to evaluate the TYNDP 2022, ACER requested the national regulators to send comments on their projects, which ARERA sent on the Italian initiatives included in the TYNDP 2022 concerning both traditional gas and hydrogen projects. ACER's work concluded with the publication of ACER Opinion 06/2023 of 14 July 2023 on projects in the TYNDP and national gas plans. In June 2023, ARERA, jointly with the regulators of Greece (RAE) and Albania (ERE), approved the 'Market Test Guidelines 2023' regarding the launch of a new round of incremental capacity requests related to the development of the TAP natural gas pipeline. Then, in October 2023, jointly with the regulators of Greece (RAE) and Albania (ERE), ARERA approved the Project Proposal governing the 'binding second phase' of the Market Test for the TAP natural gas pipeline started in 2021.

Wholesale and retail markets

According to provisional data released by the Ministry of the Environment and Energy Security (MASE), gross natural gas consumption in 2023 decreased by 7 G(m^3), recording a 10.3% decrease (). The decline was due to several factors, such as the reduced demand for electricity, which led to a

reduction in domestic electricity production, the occurrence of winter temperatures that were still among the highest in recent years, and the modest GDP growth (0.9%). Finally, part of the reduction in consumption could be explained by the continuing high level of gas prices, albeit lower than in 2022.

Domestic production fell by a further (-12.2%) to an all-time low of 2.7 G(m^3). Net imports decreased by 12.9 % to almost 8.8 G(m^3), less than in 2022. The drop in net imports occurred entirely due to the 10.8 G(m^3) reduction in **gross imports** only partly offset by the drop in exports (-2 G(m^3)), which had grown abnormally in 2022.

Storage volumes at the end of the year were about 0.5 G(m^3) higher than at the start of the year. The **level of foreign dependence**, measured as the ratio of net imports to the gross value of household consumption, has reduced; in 2023, 96.3% of the gas available in Italy came from abroad. Taking system consumption and network losses into account, **net gas consumption** in 2023 can be estimated at 61.2 G(m^3), 10.3 percentage points below that of 2022.

In the preliminary data released by the MASE, therefore, Italy imported 10.8 G(m^3) less natural gas in 2023 than in 2022 (-14.8%). As a result of the sanctions imposed by the European Union on Russian exports in response to the war against Ukraine, which started on 24 February 2022, **gas imports from Russia** have almost dropped to zero over the past two years. The origin of the 61.2 G(m^3) of imported gas in 2023 sees several countries with significant quantities: 25.5 from Algeria - a historical supplier of Italy -, 10 from Azerbaijan, 6.8 from Qatar, 5.3 from the US, 6.6 from Norway and the Netherlands, 2.5 from Libya and the remaining 2 from other countries.

According to (provisional) data from ARERA's Annual Energy Sector Survey, approximately 58 G(m^3) were imported into Italy in 2023, 10 less than in 2022. The decrease is thus higher than the data from the Ministry of the Environment and Energy Security. 6.6% of the total gas supplied abroad is purchased on European stock exchanges.

Five corporate groups each own more than 5% of the total gas supplied (i.e. produced or imported): Eni, Edison, Azerbaijan Gas Supply Company Limited, Royal Dutch Shell and Enel (the same as in 2022); together they imported 45.7.1 of the 57.7 G(m^3) of foreign gas that entered the Italian market. The five groups are also the only ones that have a share of more than 5% of the available gas (which in addition to imports and production also includes gas in storage), with an overall share of 81.8% (slightly higher than the share of gas supplied).

The analysis of import contracts (annual and multi-year) active in 2023 in terms of **residual life** shows that 55.7% of the contracts will expire within the next five years (the same share was 32.4% in 2022) and 61.7% will expire within the next ten years. Of the contracts in force today, 4.4% have a residual life of more than 15 years. This share has fallen sharply (it was 39% in 2021 and 15% in 2022) and concerns a now very small total quantity of 3.8 G(m^3).

In 2023, **total demand in the gas sector**, understood as the sum of gas volumes sold in the wholesale market (including resales) and in the retail market plus self-consumption, decreased again (-5.5%), having dropped to 265.7 from the 281.3 G(m^3) recorded in 2022. This is due to the significant reduction in both self-consumed gas and gas traded in the total sales market (wholesale and retail market).

The **wholesale market** handled 210.7 G(m^3), a decrease of 2.6% compared to 2022, the retail market handled 42.8 G(m^3), a decrease of 1.6% compared to 2022, and fuel gas amounted to 12.1 G(m^3), also a sharp decrease (-13.8%).

In 2023, the **number of companies** that operated in the wholesale market grew by 46 (303 compared

to 257 in 2022), but it is important to note that the count of operators - which is based on companies that respond to the Annual Survey - is the phenomenon that is most affected by the different rate of response to the Survey from one year to the next. The volume of gas they sold in the wholesale market, on the other hand, decreased by 5.6 G(m^3), with the result that the average unit sales volume dropped by 17%, from 842 to 695 M(m^3); this is the third consecutive year that this market has shrunk, following the already significant drops observed in 2021 and 2022. The **level of concentration** in this market remained substantially unchanged: the share of the top three companies (Engie Global Markets, Shell Energy Europe and Eni) was 26.1% compared to 25.3% in 2022. The cumulative share of the top five companies (the three already mentioned plus Engie Italia and Eni Global Energy Markets) went from 37.5% to 37.3%. The HHI index calculated on the wholesale market alone also went from 450 to 448.

The main trading platform in the wholesale market in Italy is the **Virtual Trading Point** (PSV), operated by the transmission network operator, Snam Rete Gas. Alienations that can be registered are both those that take place through bilateral contracts and those that take place within the regulated markets managed by the GME. In 2023, 311 entities traded, sold and acquired gas at the PSV only 55 of these were traders, as they were not users of the transmission system. The number of PSV subscribers stood at 374 (+8%). The number of subscribers who traded increased significantly (+24%), from 251 to 311. Even more so was the number of pure traders, which rose from 39 to 55, an increase of 41%.

Trading volumes in the markets decreased by 10.8%. The volumes traded on the stock exchange in fact dropped to 31.6 G(m^3) from 35.5 the previous year, due to a reduction in volumes handled in the centralised markets (-11.6%), which was accompanied by a fair reduction in gas traded too as clearing house (-4.2%). Nevertheless, the average number of daily transactions increased slightly compared to 2022 (+6%), while the average daily number of OTC transactions fell slightly (-2.8%).

In the **markets organised and managed by the GME**, total volumes of 155 TWh were traded in 2023, a clear reduction compared to 2022 (-13%).

Liquidity in the **Day-Ahead Market** remained high (69%) despite a decline in traded volumes (106.5 TWh; -16.3% on 2022). The monthly trend also showed higher levels in the earlier months of the year. The AGS segment of the MGP traded a total of 27.9 TWh, which is a sharp decrease compared to 2022 (-45.6%).

The share of volumes traded in the **Intra-day Market** increased moderately (29%; in 2022 it was 24%) to a total of 44.5 TWh, up 3.3% compared to 2022; trades in continuous trading (44.4 TWh; +9.5%) continued to be predominant while, in the AGS segment, volumes were even more marginal than the previous year (0.2 TWh; -93.9%). Negotiations in the Market for Gas in Storage (MGS) were also down, with trades amounting to 3.3 TWh (-36.2%), while - as in the past - Snam did not activate any sessions in the Market for Locational Products. There was also no trading in forward-traded products in MT-GAS, while allocations to the 'Royalties' segment of P-GAS amounted to 0.6 TWh.

The **prices recorded on the various platforms** can all be traced back to an annual average of around 42 €/MWh, in line with the annual average price of over the counter transactions at the PSV (43.05 €/MWh; -65%). In particular, the average prices of the two declining M-GAS segments, respectively 41.87 €/MWh for MGP-GAS and 42.72 €/MWh for MI, showed an interim trend that mirrors that of the PSV price.

The provisional results of the Annual Survey showed that **just under 43 G(m^3) were sold in the retail market** in 2023, to which must be added 635 M(m^3) supplied through last resort and default services. Overall, therefore, the value of final sales was 43.5 G(m^3), a decrease of 8.1 G(m^3) over 2022.

However, in order to have a figure comparable with that of the final gas consumption published by the MASE, and commented on in the previous pages, it is necessary to take into account the volumes relating to self-consumption, 12.1 G(m^3), which brings the value of total consumption resulting from the Annual Survey to 55.6 G(m^3), i.e. a value comparable to the 60.3 G(m^3) from the ministerial source. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. In the Annual Survey data, the **level of total consumption in 2023 is thus 15.3% lower** than in 2022.

In 2023, the **number of** active **suppliers** in the retail market decreased, for the first time since the early 2000s, substantially (-34 units) to 481; as the volume of gas sold decreased by 15.9 %, and the number of suppliers decreased to a lesser extent (-6.6 %), the average unit sales volume decreased by almost 10 %, from 99 to 89 M(m^3) and reached a new all-time low. Of the companies active in the end market, 5.4%, i.e. 26 out of 481, sold more than 300 M(m^3) in 2023; together, these companies cover 84.1% of all the gas purchased on the retail market.

Analysing the sales performance of corporate groups, instead of individual companies, however, allows a more accurate assessment of market shares and the **level of concentration in the retail market**. 2023 highlights some significant innovations. The Eni group, for the first time, was not in first place, having been overtaken in overall sales quantities by the two historically trailing groups, Edison and Enel, which this year moved into first and second place respectively. The data shows, however, that the sales quantities of the first three groups are very close: 167 M(m^3) separate Edison's volumes from those of Enel and 92 M(m^3) separate Enel's sales from Eni. There is therefore little differentiation in market shares: 14.3% that of the Edison group (was 15.4%), 13.9% that of the Enel group (was 13%) and 13.7% that of the Eni group (was 16%). Given the reduction in the distance between the top three groups and the decline of two of their three shares, the average level of concentration in the gas end-supply market in 2023, historically low, decreased slightly, albeit with differentiated levels between the types of customers served. Using metering calculated on the volumes sold, it can be seen that the number of groups with a share of the total market of more than 5% rose to 7. Moreover, in 2023, the top three groups control 41.9%, while in 2022 the share was 44.3%. The Herfindahl-Hirschman Index (HHI) calculated on the sales market was 769, lower, therefore, than the 2022 index, which was 809. The highest concentration is found in sales to electricity generation, industry and households, where C3 is above 50%; the lowest is observed in sales to apartment blocks and trade customers. Compared to 2022, slight increases in the level of concentration are observed (via the C3 and HHI indicators) in the household and trade sector, while a decrease is observed in all other sectors.

Net of last resort and default supplies, as described, previously approximately 55 G(m^3) - of which 12 were for fuel gas and 51 for supply - were sold to 21.7 million redelivery points in 2023. In all, compared with 2023, **gas supply on the end market** reduced by 15.4%; in detail, fuel gas, which mostly belong to the industrial and electricity generation sectors, recorded a decrease of 13.8%; the quantities of gas sold in the free market, at 39.6 G(m^3), showed a decrease of 14.7%, while sales in the market with a reference price, at 3.2 G(m^3), fell by 45%. The total quantities supplied in default and last resort services decreased slightly in 2023, to 630 M(m^3) compared to 675 M(m^3) in 2022 (-6.6%). If default and last resort services are also considered, the gas sold in the market with a reference price rises to approximately 3.9 G(m^3). Consumption of the household sector dropped by 11.2% and that of condominiums by 15.6%. The consumption of the production sectors (industry and thermoelectric generation) decreased from 42.2 to 34.8 G(m^3), thus recording an decrease of 17.5%. Tertiary sector consumption (trade and services, together with public service activities) dropped by 11.3%, from 7.5 to 6.7 G(m^3). Considering sales in the strict sense and thus excluding fuel gas, 92.5% of gas is purchased on the free market and the remaining 7.5% in the standard service. In

terms of customers, however, 26.3% purchase on the market with a reference price, while 73.7% on the free market.

Considering only the **household sector**, it can be seen that the share of volumes purchased on the free market in 2023 reached 74.1% for households and 89.6% for condominiums (both shares are calculated net of fuel gas). In terms of withdrawal points, in 2023, the share of households that acquired gas in the standard service dropped to 27.9%; in 2022, it was 33.2%. The breakdown of sales to the end market (net of fuel gas) by consumption sector and customer size shows that on average the class with annual consumption up to 5,000 m^3 buys 29.9% of all gas sold in the retail market.

On the basis of data provided by transmission operators and data from the IIS, the **switching** percentage, i.e. the number of redelivery points that changed supplier in the calendar year 2023, was 15.2% overall, or 17% when assessed on the basis of the consumption of customers who switched (the percentages are increasing for all customers), the increase in switching rates of households, in particular, may partly be due to the imminent cessation of the standard offer service. Switching by household customers in 2023 increased by another percentage point: just under 2.5 million customers, equivalent to a share of 14.6% (and corresponding to a volume share of 20.9%), had made at least one switch. Far greater, at 27.6%, was the fraction of condo households that turned to a new supplier, for volumes corresponding to 41.1% of the relevant consumer sector. A total of 37% (equivalent to 57% in terms of volumes) of the entities operating a public service activity chose to change to a new supplier, while the 'other uses' that changed their supplier accounted for 21.2% of the total in terms of customers, and 14.1% in terms of volumes (corresponding to approximately 6.2 G(m^3)).

Also in the gas sector, as already mentioned for electricity, the Annual Survey asked suppliers a number of questions aimed at assessing the quantity, types and modalities of offers that companies make available to customers who have chosen to supply in the free market. The **average of the commercial offers** that each gas seller is able to propose to its potential customers is 17.1 for households, 7.7 for condominiums with domestic use and 14.1 for non-households. Of the offers made available to the household customer on average, 13.8 **can only be purchased on-line**; the interest of households in such offers in 2023 grew, as it turned out that 113.4% of customers signed a contract offered via this mode (in 2022, this share was 10.1%). Considering condominiums, instead, of the 7.7 offers on average proposed to these customers, 3.1 are subscribed through the network. However, only 2% of the redelivery points of condominiums actually subscribed online. Finally, in the case of non-households (other uses), of the 14.1 offers made available to them on average, 4.9 are subscribed to on-line; among these customers, however, the success of on-line offers is more significant, since 20.2% of customers are reported to have subscribed to the type of offer discussed here.

With regard to the preferred **type of price**, it was found that 44% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 56% chose a variable-price contract, i.e. with the price changing at a time and in a manner determined by the contract itself. The percentages are reversed in the case of condominiums, among which variable-price contracts are by far the most popular ones (86.8%). Even among non-households, those who prefer variable-price contracts are more numerous (76.7%) than those who have signed a fixed-price contract (23.3%); the percentage of customers who chose a variable price contract has increased considerably compared with 2022.

Looking at the supply cost component of the price of these contracts, it can be seen that variable-price contracts are less convenient for all types of customers. However, the differential with a variable-price contract is very significant for non-households, while it is relatively small for

condominiums and households.

For all customer types, the most frequent price **indexation mode** in variable-price contracts is the one linked to the PSV price trend, which, however, is not the one with the most advantageous economic conditions. Next, the type of variable price most chosen by households was that with indexation to the trend in TTF quotations, while for condominiums and non-households it was that with a discount on one of the components established by ARERA for the standard offer service. The cheapest contract (for the procurement cost component) is the one with limited indexation, which, however, is chosen by a negligible percentage of customers. For all customer categories, the type with indexation to the performance of markets managed by the GME also emerges as particularly convenient.

Of households, 40.2% have signed a contract with a **rebate or discount**; lower percentages are found for other customers (18% of both condominiums and non-households).

Among households, the **presence of additional services** in natural gas sales contracts is more prevalent among those with fixed prices (76.5%) than among those with variable prices (41.6%). In fixed-price contracts that provide an additional service, there is a clear preference (43.6%) for those that allow participation in a points programme and the guarantee of 100% "green" energy (10.5%) as well as a good preference (9.4%) for those that offer additional energy services. Concerning the cost of additional services (assessed through the price component that covers procurement and sales costs), it can be observed that the cheapest fixed-price contract for households is the one with a free gift or gadget, although it is chosen by practically no customers. For households with variable prices, on the other hand, the most popular options for contracts with at least one additional service turn out to be those with a 100% green energy guarantee (17.6%), right after contracts with additional energy services (8.7%). Finally, as far as non-households are concerned, the choice of contracts without additional services is by far the most widespread, on average, about 79% of such customers, whether fixed-price or variable-price, choose a contract without other options. The price of such contracts is slightly higher than the average price in comparison with all the additional services available.

An analysis of the data collected in the *Annual survey* shows that last year, the average gas price net of taxes (weighted by quantities sold), charged by sales companies to final customers was 77 c€/m^3. This price is a third less (-31%) than the previous year (111.2 c€/m^3). The decrease, which stems from the sharp drops in the cost of raw materials in wholesale markets after the peaks reached in 2022, does not affect all customer categories in the same way, being related to their size class.

Price trends since 2012 for households (households and condominiums), broken down according to the main contractual conditions under which supply can take place, i.e. the standard offer service and the free market, show lower values for the standard offer service for all years and all dimension classes, with the exception of 2022. In 2022, in fact, the free market was cheaper than the standard offer service (-17.6%) due to the major diffusion of locked-price contractual formulas that have delayed, in the immediate future, the transfer to final customers of the strong growth in raw material gas prices that occurred during the months following the start of the Russia-Ukraine conflict. This transfer took place, at least in part, in 2023, when the price on the free market rose by more than 10%, while in the standard offer service it fell by almost 30%; consequently, in this last year, the convenience ratio was completely reabsorbed and reversed, as the free market again became significantly more expensive (+28%).

From the analysis based on the data communicated by the 401 suppliers for the gas sector, the **actual average times for replies to complaints and bill adjustments** were 21.65 and 27.03

calendar days respectively, below the minimum standards set by ARERA (30 and 60 days respectively). The **actual average response time to enquiries** was also well below the general standard, i.e. a total of 8.87 calendar days. As far as **double bill adjustments** are concerned, the actual average correction time is 18.02 calendar days, far lower than the standard of 20 days set by ARERA.

In 2023, sales companies serving the reference price and free market of natural gas received a total of 169,739 written complaints, 159,044 enquiries, 9,341 bill adjustments and 269 double-bill adjustments. There were 22,165 (+36.2% compared to 2022) cases of non-compliance with the standards set for services relating to the commercial quality of sales in the gas sector, which resulted in customers being entitled to compensation; 96.6% of these cases were due to failure to meet response times to customer complaints. During the year, compensation for gas customers totalling more than € 977,000 was paid out (+39.9% vs 2022).

In 2022, **customers with dual fuel contracts** sent 31,203 written complaints, down 11.8% year-on-year, and 48,397 written requests for information, also down 5.7%. Bill and double-bill adjustments amounted to 2,121 (-16.8% vs 2022) and 37 (+32.1% vs 2022) respectively. Overall, there were 3,384 cases of non-compliance with standards that resulted in the right to automatic compensation in the bill for services related to the commercial quality of sales. Overall, compensation amounting to € 140,980 was paid to the dual fuel customer segment.

Consumer protection and dispute resolution

The consumer protection system in the sectors regulated by the Authority consists of two macro-areas: the first concerns information and assistance to customers (basic level); the second concerns the resolution of problems and disputes that may arise between customer and service provider (second level). The **Energy and Environment Consumer Help Desk** and the **Conciliation Service** are operated on behalf of ARERA by the Acquirente Unico . The Help Desk provides answers to calls to the call centre, written requests for information, requests to activate special information procedures and second-level complaints.

In 2023, the Help Desk and the Conciliation Service recorded a marked increase in incoming volumes: 1,546,809 calls were received at the Help Desk call centre during working hours (+23% compared to 2022); of these, 1,209,482 calls were actually handled. The average duration of conversations in the year was 252 seconds, up from 238 seconds in 2022.

Almost all the calls handled by the call centre concerned the electricity and gas sectors (97% of the total). By far the most discussed topic in the phone calls received by the Help Desk is the social bonus (67%), the other topics discussed in order of importance are dispute resolution methods (13%) and information on the status of the handling of files at the Help Desk (6.5%).

The number of **written requests for information** related to the energy sectors received by the Help Desk was 49,930, a decrease of 10% compared to the previous year. Again, the absolute majority of requests for information concerned the social bonus 45%, followed by billing (14%), the market (12%), contracts (11%) and non-payment of bills and suspension (7%).

Special information procedures make it possible to provide information without the need for assistance of the Help Desk staff. They are operational as of 1 January 2017 only for some specific topics in the energy sectors. Compared to the previous year, in 2023 the Counter received 44,929 requests for the activation of special information procedures (+7%), of which 64% concerned electricity, 23% gas, and 13% both sectors.

Activities relating to the second level of the protection system concern the **resolution of issues and disputes** arising in the relationship between the customer and the regulated service supplier. They can be settled through the special settlement procedures of the Help Desk or through conciliation procedures. The latter may be brought before the Authority Conciliation Service or ADR entities registered on the Authority's special list.

Similarly to what happens for special information procedures, also for **special resolution procedures**, the Help Desk accesses information encoded in centralised databases. Unlike information procedures, special resolution procedures allow the outcome of the dispute to be determined. They imply assistance of the Help Desk staff, in case further information is needed to consult databases, or to verify the correct fulfilment of the regulation following the resolution of the dispute. In 2023, 31,638 requests for the activation of settlement procedures were received at the Help Desk (+40% compared with 2022). The social bonus procedure was confirmed as the most frequently used (93.5%), while the sector most affected by the special termination procedures was electricity, with almost half of the requests (49%), followed by gas with 29%; the other procedures concerned both energy sectors and dual fuel customers. 87% of the above-mentioned special procedures concerned the household sector, while in 89% of the cases these procedures were initiated by final customers without the help of proxies (90% in 2022). The most frequently used modality of access is the e-mail channel (66% of cases), followed by the One-Stop Portal of the Help Desk (30%).

ARERA's Conciliation Service is a dispute resolution procedure that can be activated by final customers of electricity and natural gas for issues arising with energy operators (suppliers and distributors), in case of missed or unsatisfactory response to a complaint. The procedure takes place entirely on-line and in the presence of a third-party, impartial mediator experienced in mediation. Any final agreement has settlement effect between the parties pursuant to art. 1965 of the Civil Code. Moreover, with the approval of art. 141, par. 6, letter c) of the Consumer Code, the attempt at conciliation has become a condition for proceeding before the courts for disputes arising in the sectors regulated by ARERA. The condition of admissibility does not apply when the disputes concern tax or fiscal matters, as well as in cases of urgent and precautionary legal rulings. In 2023, customers and end users in the energy sectors submitted 28,693 requests to the Conciliation Service (+36% compared with 2022). The increase is mainly due to the number of applications for the electricity sector (16,216 applications), followed by applications for the gas sector (8,420 applications) and those submitted by dual fuel customers (3,817 applications); finally, 240 applications were submitted by prosumers. Concerning the outcome of the requests received by the Service, 81% of the cases resulted in admission to the procedure; the procedures concluded with an agreement between the parties accounted for 70%; these percentages are almost identical to the previous year. It took the parties an average of 56 calendar days to reach agreement, 2 less than in 2022.

As an alternative to ARERA's Conciliation Service, the final customer may make a compulsory attempt at conciliation for judicial purposes also with recourse to other parties. ARERA, in implementation of the rules, established in December 2015 the **List of Organisations entrusted to handle ADR (Alternative Dispute Resolution procedures)**. On 31 March 2024, 30 ADR entities were registered in the Authority's List. The information transmitted by ADR entities shows a significant increase in the number of conciliation applications relating to the energy sectors received, compared to the previous year (+26%), 68% of the applications submitted, for all sectors, are attributable to ADR entities for joint conciliation.

Since 2009, a protection mechanism has been in place for households in situations of economic hardship or serious health conditions who receive a **bonus, i.e. a discount on the supply of**

electricity and/or natural gas. In order to bridge the gap between the potential beneficiaries and the actual bonus recipients, which has always remained at considerable levels, Decree-Law No. 124 of 26 October 2019 innovated the regulatory framework by providing, *inter alia*, that from 1 January 2021, bonuses will be recognised automatically to those entitled to them (which are the persons whose valid ISEE[24] is within the limits provided for by the legislation) and, therefore, without the need for them to submit a special request to the Municipalities and/or tax assistance centres. In February 2021, ARERA approved the methods for requesting the regime for the automatic recognition of electricity, gas and water social bonuses for economic hardship, entirely replacing the regulation of the previous 'on request' system. However, the social electricity bonus for physical hardship does not fall within the scope of the measure, which remains 'on request' and continues to be managed through a separate system.

2023 was therefore the third year during which the system of automatic recognition of social electricity, gas and water bonuses, to help address the economic difficulties, came into effect. In view of the continuing price tensions in the wholesale markets (after the significant increase in electricity and gas prices experienced in 2022), in 2023 too there were numerous government interventions that introduced important innovations aimed at providing increasing protection and safeguards for economically disadvantaged households, in order to support their energy expenditure. ARERA implemented these rules by providing:

- the inclusion of a supplementary compensatory component from the state budget for the first and second quarters of 2023 for all claimants;
- that as of 1 January 2023, the normal value of the ISEE for access to social bonuses for economic hardship would be updated to € 9,530 (ARERA must update this value every three years on the basis of the average value of the national consumer price index for blue- and white-collar households in each three-year reference period);
- that for 2023 only, the ISEE threshold value required to access the social electricity and gas bonuses would be raised to € 15,000;
- that the value of bonuses be differentiated on the basis of the ISEE value, introducing a new bonus class (class d), for households whose ISEE is between € 9,530 and € 15,000, to which an electricity and gas bonus equal to 80% of the economic compensation established for households with ordinary ISEE (within € 9,530) be awarded;
- the introduction of an additional new class of bonus claimants (class b-bis) for large families with four or more children and ISEE between € 20,000 and € 30,000.

In 2023, the number of customers who obtained the social bonus for electricity supplies increased by 22% compared to the previous year, from 3,818,281 to 4,641,449, of which 4,576,621 (+21.5%) for economic hardship and 64,828 (+24.2%) for physical hardship. The total amount of bonuses disbursed for the electricity sector for economic hardship was approximately € 1,313 million, stable compared with the previous year. The extending of the pool of beneficiaries is partly due to the automatic bonus recognition mechanism, but mainly to government interventions.

As specified, on 31 December 2023, there were 64,828 households with a bonus for the use of electrical life-sustaining equipment (hardship bonus), an increase of 24.2% over the previous year. The **hardship bonus** is divided into three bands to take into account the type of equipment used, the average hourly consumption of each type of equipment and the average hours of use per day.

[24] Equivalent Economic Situation Indicator: this is the tool used to measure the economic condition of households in Italy. It is an indicator that takes into account income, assets and the characteristics of a household (in terms of size and type).

In 2022, the number of households benefiting from the **social bonus for gas supplies** due to economic hardship also increased considerably, going from 2,441,158 to 3,005,197 (+23.1%). The amount of bonuses paid out for the gas sector in 2023 was approximately € 849 million. Concerning the percentage breakdown by number of components of households benefiting from the gas bonus for economic hardship, 87.6% concerned households up to 4 members, 15.2% over 4 members.

Also in 2023, the actions of ARERA continued, aimed at accompanying end consumers on the **path to overcoming standard prices**. As established by ARERA, therefore, the communications included in the bills continued to inform customers that changing contract or supplier is simple and free of charge and that continuity of service is guaranteed; they also provided the elements that should prompt the customer to make use of the tools aimed at making an informed and aware choice, such as the "Portale Consumi", the "Portale Offerte luce e gas" and the PLACET offers.

There were 8,505 offers in the "Portale" database as of 31 December 2023, of which 5,854 were free market offers, 2,170 PLACET (free price offers under uniform contractual conditions) offers and 481 offers without the calculation of the estimated annual expenditure. For the electricity sector, a total of 4,100 offers were available, for natural gas, 3,873; there were 44 dual fuel offers. For the electricity sector, 42.4% of offers for households were fixed-price offers, while for non-households this percentage dropped to 25.9%. Similarly for the natural gas sector, the available offers are mainly variable price. Households account for 76.4% of the available offers, condominiums for 72.2% and non-households for 71.5%.

With a view to further strengthening the information and the empowerment of final customers, in 2023 ARERA approved measures to update and streamline the relevant **Code of Business Conduct**:

- adaptation to the new provisions on early withdrawal charges for electricity final customers, introduced by Legislative Decree No. 210 of 8 November 2021, which implemented Directive (EU) 2019/944;
- the information obligations of suppliers in the event of renewal of economic conditions with modification of the same conditions in electricity and natural gas supply contracts.

At the end of 2023, ARERA started a procedure for the organic revision of the **Bill 2.0,** aimed at improving it from the point of view of simplicity, comprehensibility and uniformity; in view of the importance of this procedure and the need to ensure the widest participation of stakeholders, it is subject to the application of the regulatory impact analysis (AIR).

The **"Portale Consumi"** evolves continuously, aimed at both verifying and improving its performance and implementing its specifications. As in previous years, therefore, in 2023 new functions were further made available, including the indication of the maximum power absorbed in the period, and in-depth studies continued the evolution of the Italian and EU regulatory framework to allow data access to third parties authorised by final customers.

2.1.2 Implementation of the Clean Energy Package

Law No. 53 of 22 April 2021 is the ruling that defined the principles and guiding criteria for the delegation of powers to the Government for the implementation of the Clean Energy Package standards in the Italian legal system, with particular reference:

- to Directive 2018/2001/EU on the promotion of the use of energy from renewable energy resources (art. 5);
- to Directive 2019/944/EU concerning common rules for the internal market in electricity and

amending Directive 2012/27/EU (recast) (art. 12);

- to the adaptation of national legislation to the provisions of Regulation (EU) 943/2019, on the internal market in electricity (recast), and Regulation (EU) 941/2019, on risk preparedness in the electricity sector and repealing Directive 2005/89/EC (art. 19).

In implementation of this law, the following were then enacted: Legislative Decree No. 199 of 8 November 2021, on the 'Implementation of Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources' (so-called Decree Red II); Legislative Decree No. 210 of 8 November 2021 on 'Implementation of EU Directive 2019/944 concerning common rules for the internal market in electricity and amending Directive 2012/27/EU, as well as laying down provisions for the adaptation of national legislation to the provisions of EU Regulation 943/2019 on the internal market in electricity and EU Regulation 941/2019 on risk preparedness in the electricity sector and repealing Directive 2005/89/EC' and other decrees transposing European directives.

At the beginning of 2020, the **Energy and Climate Integrated National Plan (PNIEC)** was also published, which was sent to the European Commission by the Ministry of Economic Development in agreement with the Ministry of Environment and the Protection of Land and Sea and the Ministry of Infrastructure and Transport, pursuant to the so-called governance regulation (Regulation (EU) 1999/2018). The Plan, which is extensively described in the Annual Report 2020 (to which we refer) contains objectives, policies and measures that Italy intends to adopt in the coming years to achieve the European energy and climate targets for 2030. The Italian government is now working on its implementation.

The actions carried out in 2023 closely related to the Clean Energy Package concerned the approval of the new Electricity Dispatch Integrated Text (see par. 3.1.5) and the adaptation to the new provisions on early withdrawal charges for electricity final customers, introduced by Legislative Decree No. 210 of 8 November 2021, which implemented Directive (EU) 2019/944 (see par. 5.1.5).

3 THE ELECTRICITY MARKET

3.1 Infrastructure regulation

3.1.1 Unbundling

In 2015, the Authority renewed[25] the provisions on functional unbundling obligations for the electricity and gas sectors, approving the Integrated Functional Unbundling Text (TIUF), in compliance with the provisions of Legislative Decree No. 93 of 1 June 2011 and Directives 2009/72/EC and 2009/73/EC. The new aspects introduced by the TIUF, in force as of 1 January 2016, include the introduction of new unbundling obligations in relation to communication and branding policies for the generality of electricity and natural gas distributors, regardless of their size or corporate form, imposing a complete separation, without any risk of confusion, between the activity of supplying and distributing electricity and natural gas.

3.1.2 Network extension and optimisation

In Italy, **power transmission** is carried out by approximately 75,450 km of power lines and circuits and more than 900 switching and conversion stations. The Electricity Transmission Grid Operator (TSO) is the company Terna. Terna's controlling shareholding of 29.851% is held by CDP Reti, a subsidiary of Loans and Deposits Bank[26]. The remaining 70.15% of the capital belongs to the market.

In 2023, eight companies own National Transmission Grid (RTN) assets, one more than in 2022. In addition to Terna and Rete, the Terna group company into which the facilities acquired from the Italian State Railways have been merged, are present in power transmission: Seasm of the A2A Group, Eneco Valcanale[27], the company that built a high-voltage line connecting with the Austrian national grid APG (Austrian Power Grid), the company Terna Crna Gora, a full subsidiary of Terna, as well as the companies Monita Interconnector, the company Piedmont Savoy (Pi.Sa.), set up by Terna to build and manage interconnection facilities and, finally, the company Resia Interconnector, whose assets are part of the interconnection link with Austria, which came into operation at the end of 2023.

The company Monita Interconnector was established for the construction of the Italy-Montenegro power line, operative since December 2019, and now manages its maintenance and operation. The company Piemonte Savoia Pi.Sa. holds the authorisation for the construction and operation of the merchant line of the HVDC Piossasco-Grand-Île link from Italy to France, which will be put into service in November 2022. Both companies were sold by the Terna Group to private financiers. The assets owned by Monita Interconnector and Pi.Sa. are both exempt from third-party access for a period of ten years from the time the merchant line enters into commercial operation; at the end of the

[25] With Resolution No. 296/2015/R/com of 22 June 2015, which replaced the previous Resolution No. 11 of 18 January 2007.

[26] The capital of CDP Reti is owned by Loans and Deposits Bank for 59.1%, 35.0% by State Grid Europe Limited, a subsidiary of State Grid Corporation of China, and 5.9% by other Italian institutional investors.

[27] Eneco Valcanale, which owns 6.6 km of the ≤ 150 kV lines, is considered among the grid operators despite the fact that it has not yet applied to Terna for the inclusion of the Austria merchant line in the RTN, as provided for in exemption decree No. 290/ML/3/2010.

exemption period, ownership of the portion of the grid covered by the exemption and falling within Italian territory must be transferred to Terna.

In December 2023, the AC interconnection with Austria came into operation. The new 28 kilometre long 220 kV power line has been built entirely in underground cable and connects the Nauders power station in Austria with the Glorenza power station in the Vinschgau Valley. The project enables Italy and Austria to increase electricity interchange capacity by 300 MW, doubling the current capacity; it also improves the efficiency and reliability of the electricity grid, resulting in higher quality and continuity of supply. On the Italian side, the intervention, which falls within the regulatory framework defined by Art. 32 of Law No. 99/2009, was promoted by the company Resia, with which Terna signed a contractual framework regulating its construction, operation, and maintenance.

Considering the assets of all the companies belonging to the corporate group, in 2023 the Terna group owns 75,140 km of cables, i.e. 99.6% of the national power lines and of the 922 power stations that are part of the RTN.

As at 31 December 2023, 119 **power distribution** companies (four fewer than in 2022) were registered in the Authority's Registry of Operators, of which only 10 serve a number of customers exceeding 100,000; together these companies supply 98.3% of all the energy distributed in Italy to 98.5% of all users. There are four companies with more than 500,000 withdrawal points: e-distribuzione (Enel group), Unareti (A2A group), Areti (Acea group) and Ireti (Iren group): they all changed their names in 2016 to comply with the provisions on functional unbundling, which forced distribution companies belonging to a vertically integrated corporate group, also engaged in marketing activities, to distinguish themselves from the other companies in the group in terms of identity, branding and communication policies.

Overall, power distribution in Italy takes place through 1,287,100 km of networks, most of which (69%) are low voltage. In 2023, the length of the power distribution networks grew by almost 5,600 km, of which about 2,600 km were low voltage and about 2,900 km were medium voltage, while the high and extra-high voltage networks remained essentially unchanged (+18 km). The company e-distribuzione is the leading operator, with the dominant share of 85.1% of the distributed energy. They are, in the same order as 2022: Unareti with 4.1%, Areti with 3.6%, Ireti with 1.1% and V-Reti (Agsm Aim group) with 1%. All other distributors have a share of distributed volumes of less than 1%.

3.1.3 Investment in new transmission infrastructures

Assessment of the outline of the ten-year transmission grid development plan

The Electricity Transmission Grid Development Plan for 2023 envisages total expenditure over the 2023-2032 reference horizon of approximately € 21 billion (+17% compared to the previous € 18 billion Development Plan 2021).

In addition to the measures already envisaged in the 2021 Development Plan, the 2023 Development Plan envisages investments in several innovative projects within the Hypergrid project, amounting to approximately € 11 billion, which should enable the increase of approximately 15 GW of transmission capacity between grid zones. More specifically, the Hypergrid project aims to exploit direct current transmission (HVDC) technologies to significantly increase transport capacity with a limited impact on the territory (and the resulting authorisation problems) in order to pursue energy transition and

security objectives. This is a massive modernisation of existing power lines, accompanied by new 500 kV submarine connections.

The national transmission grid operator has applied for a two-stage assessment for a large part of the Hypergrid (four out of five backbones), based on the approach introduced[28] by the Authority in January 2023. In order to allow flexibility in investment choices, this approach provides for an initial phase in which only project development expenditure is approved, and a subsequent phase of tariff approval of project implementation expenditure.

On 7 August 2023, the Authority launched the public consultation of the Electricity Transmission Grid Development Plan for 2023, making available the documents relating to the outline of the 2023 Plan and the additional accompanying documents, as well as the two-stage assessment application for the Hypergrid project.

In the context of this consultation, which ended on 16 October 2023, the transmission grid operator organised[29] a public session on 2 October 2023 in Milan, aimed at presenting and deepening specific aspects of the Plan as well as answering questions from stakeholders.

Compliance of the National Transmission Grid Development Plan with the Union Development Plan

The Authority has the task[30] of assessing whether the Ten-Year National Transmission Grid Development Plan is consistent with both the needs identified during the public consultation procedure and with the non-binding European Ten Year Network Development Plan (TYNDP).

During 2023, this activity was conducted by the Authority according to ACER's similar activity, which ended with the publication of the Opinion[31] in April 2023 on the projects in the TYNDP and the National Electricity Plans.

In particular, with regard to Italian projects, the following elements were highlighted:

- the absence in the 2022 TYNDP of the Italy-France HVDC, which was scheduled for completion in 2023;
- the absence in the 2022 TYNDP of the Italy-Switzerland project ("S. Giacomo project"), which was present in previous Italian Development Plans but absent in the 2023 TYNDP;
- the absence in the 2022 TYNDP of the new Dobbiaco-Austria interconnection project;
- the absence in 2022 TYNDP of the Volpago station, which had been indicated in previous Plans as having an impact on transmission capacity;
- the absence in the 2022 TYNDP of the new Regoledo (IT)-Switzerland project; the inclusion of this project as an amendment to the TYNDP is expressly requested;
- the absence in the 2022 TYNDP of the project to increase the voltage of the Nava (IT)-S. Dalmas (FR) line;
- the opportunity to present the TYNDP project Code 150 (Italy-Slovenia) as a cluster of two

[28] Resolution 24 January 2023, 15/2023/R/eel (also detailed below in the text).

[29] Initiative carried out under a mandate from the Authority.

[30] Task envisaged by Art. 36 of Legislative Decree No. 93 of 1 June 2011.

[31] ACER Act 04/2023 of 4 April 2023.

interventions, one related to short- to medium-term activities, including the potential installation of a Phase Shifting Transformer, and one related to the possible HVDC Salgareda (IT)-Bericevo (SI) connection;
- the need to adjust the expected date of entry into operation of the second HVDC Italy-Montenegro pole project (indicated at 2026 in the 2022 TYNDP), as the project is "under evaluation", i.e. without any implementation activities within the horizon of the Italian Development Plan;
- numerous differences on some projects, e.g. technical characteristics, expected year of commissioning, project progress, expected investment costs.

Finally, the Authority indicated its disagreement with all the calculations of the expected benefits for the 2022 TYNDP projects concerning Italy, due to the unrealistic assumptions concerning the plan scenarios.

Update of the minimum requirements for the ten-year national electricity transmission grid development plan

In January 2023, the Authority updated[32] the provisions and minimum requirements[33] for the consultation and preparation of the Ten-Year National Transmission Grid Development Plan.

The changes introduced mainly concerned:

- the introduction, on an experimental basis, of a two-stage approach for the approval of priority projects to achieve energy transition objectives: a first stage, aimed at the Authority's assessment of the "line of development of the intervention", as well as recognising the preliminary (efficient) expenses incurred by Terna in defining the project and the related authorisation procedure; and a second stage, aimed at providing an opinion on the final implementation of the project and the recognition of the related investment expenses, if the need to which the project responds is actually confirmed;
- the introduction of a progress monitoring report that the transmission system operator must prepare by 28 February of even-numbered years (i.e. those "without" the Development Plan) with reference to progress as at 31 December of the previous year; only for the first edition of this report a different deadline was set, to take account of the novelty of the preparation process;
- a stronger link between the identification of target transport capacities and planned development interventions;
- the updating of some detailed and applicative aspects of the requirements for Development Plans and Cost-Benefit Analyses (ACBs), also for alignment with regulatory developments at national and European level.

In relation to this last point, the additions mainly concerned:

- updating the investment threshold above which the ACB is to be applied: € 25 million for interventions consisting mainly of one or more new network elements; € 50 million for network rationalisation and reorganisation;
- an explanation of the projected discounting of benefits and costs to the year of preparation of

[32] Resolution of 24 January 2023, 15/2023/R/eel.

[33] Resolution of 4 November 2016, 627/2016/R/eel.

the Development Plan;
- the introduction of two new sub-indicators: benefit B1.b, relating to the reduction of generation operating costs in the case of new interconnections with isolated systems; benefit B5.s, relating to the reduction of system overgeneration as a result of the dispatching service market (MSD) in the absence of double counting with other benefits.

Incentives to build new transport capacity and promote efficiency of investment costs

The "Integrated text of output-based regulation of the electricity transmission service"[34] concerning the 2020-2023 regulatory half-period provides for an incentive mechanism for the realisation of additional transmission capacity, up to target values that were determined[35] by the Authority in October 2021 for each section between network zones and for each border. In addition, the regulation provides for an additional bonus in the event that the aforementioned transport capacity is built at investment costs below the reference amounts defined by the Authority.

In 2023, the Authority determined the financial transactions in favour of Terna for making available the following capacity increases between grid sections during 2022:

- countries to the north (aggregation of France, Switzerland and Austria)-Italy: 277 MW;
- from South to Centre-South: 250 MW.

In detail, the interventions carried out by Terna during 2022 that allowed for increases in capacity are as follows:

- the capital light interventions on the northern border, allowing an increase in transit limits of 277 MW (total) on the market sections with France, Switzerland and Austria and 23 MW on the market section with Slovenia;
- the capital light interventions that allowed the increase of the 100 MW transit limits from South to South Central;
- the Deliceto-Bisaccia 380 kV power line, which made it possible to make the 150 MW from the South zone to the Centre-South zone structural and permanent out of the 400 MW already released on 1 January 2021 with the capital light interventions carried out in 2020.

The capacity increases were made available through a series of capital-light interventions, based on innovative technological solutions and optimisation of operational procedures:

- upgrading of the Defence System, achieved through the subordination of a greater number of renewable energy resource production units to remote tripping logics, the installation of new peripheral monitoring units (UPDM) and/or the adaptation of existing units and the use of new logics for stability control;
- installation of Dynamic Thermal Rating (DTR) systems on the 380/220/150 kV network to maximise the utilisation of the main transmission lines, while improving the real-time estimation of the actual maximum current flow rate, while respecting safety constraints;
- targeted resolution of flow rate limits for those network elements that act as "bottlenecks" in the transit of energy flows or for which there was interference with other lines.

[34] Annex A to resolution 567/2019/R/eel of 27 December 2019.

[35] Resolution of 26 October 2021, 446/2021/R/eel.

Promoting the unification of the national transmission grid

With the output-based regulation of transmission, as of 2020 the Authority has introduced a mechanism that encourages the promotion of the full unification of the national transmission grid (RTN), as provided for by law. The effects of this mechanism ended on 31 December 2022.

In the 2020-2023 incentive period, the mechanism introduced led to the acquisition of five RTN portions of the six potentially eligible for the bonus (four RTN owners and two merchant lines with no obligation to sell to Terna at the end of the exemption). Table 3.1 provides an overview of acquisitions and their bonuses.

Table 3.1 Overview of acquisitions and associated bonuses for the unification of the national transmission grid

MERCHANT LINE/RTN OWNER	ACQUISITION DATE	% BONUS	BONUS (euros)
Arvedi Trasmissione	31 May 2021	6%	570,613
Tirano (IT) – Campocologno (CH)	25 June 2021	6%	993,421
Megareti	28 December 2021	4%	853,178
Mendrisio (CH) – Cagno (IT)	28 October 2022	6%	563,991
Edyna Transmission	29 December 2022	2%	256,840
TOTAL			3,238,043

Source: ARERA

There remains one RTN owner other than the Terna Group companies: Brulli Trasmissione (formerly Brulli Service), which acquired in March 2022 the majority share (67%) from A2A in the company SEASM (formerly RTN owner). Brulli Trasmissione is the owner of the 380 kV Voghera electrical station (single busbar, with three stalls), which was commissioned in 2004 following a competitive tendering procedure.

Distribution network development plans

In April 2023, the Authority released[36] its guidelines for the identification of priorities and performance indicators for a more selective development of investments in electricity distribution networks and for the gradual introduction of minimum requirements for the consultation and preparation of Distribution Network Development Plans.

Following the consultation, the Authority took two actions. In June 2023, it provided[37] the procedures for the preparation and two-year public consultation of the Distribution Network Development Plans for distribution companies with more than 100,000 final customers, for the year 2023 and thereafter from 2025 for each odd-numbered year. In December 2023, it went on to stipulate[38] that the distribution companies should draw up a number of common documents, instrumental in the preparation of the Development Plans.

[36] Consultation document of 20 April 2023, 173/2023/R/eel.

[37] Resolution of 28 June 2023, 296/2023/R/eel.

[38] Resolution of 27 December 2023, 617/2023/R/eel.

In greater detail:

- with regard to timing, in 2023 the distribution companies shall carry out a public consultation of the Development Plan, the outcome of which shall be included in the final plan sent to the Authority by 30 November 2023; then, from 2025, the distribution companies shall carry out a public consultation of the Development Plan and submit it to the Authority, possibly updated on the basis of the outcome of the consultation, by 30 June of each odd-numbered year;
- on how the plans are to be drawn up, namely:
  - in coordination with Terna and in line with the National Transmission Grid Development Plan;
  - taking into account both the evolutionary dynamics of the electricity sector such as the expected development of electricity production and demand, including charging points for electric vehicles, and the possible expected distribution network congestion and the resulting potential need for flexibility services;
  - indicating planned network investments with a time horizon of at least five years, making explicit for this purpose the methodology used to identify investments and their granularity;
  - explaining, for each investment, the cost and progress characteristics, giving reasons for any delays exogenous to the company or voluntary postponements by the company;
- with regard to the common documents, functional to the preparation of the Development Plans, in particular, the Authority has established a harmonised structure of the contents of the Development Plan and the punctual identification of the accompanying documents; it has imposed the drafting of a common document describing the methodological approach adopted for the identification of the investments, also in the case of the possible application of cost-benefit analysis techniques, and of a common document defining the elementary investment categories, for the purpose of estimating the unit investment costs.

The Authority has also imposed that, in even-numbered years, each distribution company shall publish and transmit to the Authority a progress report on the interventions presented in the Development Plan (with the first edition by 30 September 2024), while in odd-numbered years this progress monitoring shall be included directly in the relevant edition of the Development Plan.

Modernisation of metering systems - 2G smart metering

For the largest distribution companies (more than 100,000 withdrawal points), the application of the regulation for the recognition of costs associated with the commissioning of 2G smart metering systems continued, which was ordered in July 2019[39] for the period 2020-2022 and in December 2022[40] for the three-year period 2023-2025. In particular, the request for admission to the incentive scheme and the 2G smart metering (PMS2) Commissioning Plan submitted by the distribution company Deval was evaluated.

[39] Resolution of 16 July 2019, 306/2019/R/eel.

[40] Resolution of 27 December 2022, 724/2022/R/eel.

In September 2023, the Authority approved[41] the PMS2 submitted by Deval, providing:

- the commissioning of more than 161,500 2G meters over the period (2022-2036) of PMS2;
- the initial commissioning of approximately 149,500 2G meters and the replacement of just over 12,000 "2G on 2G" meters mainly due to failures, tampering and commercial requests;
- a planned capital expenditure of just under € 23 million, expressed in constant 2021 prices, over the fifteen-year period of PMS2 (including 2G expenditure prior to 2021);
- an expected unit cost of € 138.15 per 2G meter put into service, expressed in constant 2021 prices.

With regard to the monitoring of the progress and performance of 2G smart metering systems by distribution companies serving up to 100,000 withdrawal points[42] and those with more than 100,000 withdrawal points[43], in October 2023 the Authority defined[44] the elements to harmonise and systematise the way in which distribution companies annually send data and information on the progress and performance of 2G smart metering systems to the Authority.

3.1.4 Tariffs for connection and network access

Tariffs for transmission, distribution and metering services

In December 2019, the Authority approved[45] the regulation of tariffs and quality of power transmission, distribution and metering services, for the years 2020-2023 (NPR2). As before, the NPR2 continues to provide for the decoupling of the single tariff applied to final customers (the "mandatory tariff") and the reference tariffs defined to set revenue constraints for each distribution company. In December 2023, the tariffs for transmission, distribution and metering services applied to final customers (mandatory tariffs) for 2024 were determined[46].

General system charges of the electricity sector: transposition and implementation of the measures adopted by the Government to support final customers

2023 was characterised, for the electricity sector, by a gradual return to "normality", as, in the face of a slowdown in energy commodity prices, the government gradually reduced interventions to support electricity users. This has led to a gradual reactivation of the tariff components covering the general electricity sector charges borne by users.

[41] Resolution of 12 September 2023, 397/2023/R/eel.

[42] Resolution of 16 March 2021, 106/2021/R/eel.

[43] Resolution 724/2022/R/eel.

[44] Determination of the Energy Facility Directorate, 26 October 2023, 3/2023.

[45] Resolution of 27 December 2019, 568/2019/R/eel.

[46] Resolutions of 28 December 2023, 630/2023/R/eel and 632/2023/R/eel

Table 3.2 General system charges accrued in 2023: A_{SOS} and A_{RIM} components and related elements (in € millions)

RATE	DESCRIPTION	ANNUAL CHARGE FROM USERS	FROM STATE BUDGET	
			2023 BUDGET LAW	DL No. 131/2023
A_{SOS}	Charges related to the support of energy from renewable energy resources and CIP 6/92 cogeneration	7,070.26	707.13	-
A_{3*SOS} (A)	Support for renewable energy resources and CIP 6/92 cogeneration	6,054.69	707.13	-
A_{ESOS}	Charges resulting from breaks for energy-intensive companies	1,107.96	-	-
$A_{91/14SOS}$ (B)	Discounts under Decree Law No. 91 of 24 June 2014	-92.39	-	-
A_{RIM} (C)	Remaining general charges	1,160.26	255.87	203.22
A_{3RIM}	Charges related to production from non-biodegradable waste	-	-	-
A_{4RIM}	Special rail tariff schemes	467.50	159.76	-
A_{5RIM}	Research financing	62.32	7.42	-
A_{SRIM}	Social bonus	436.85	54.79	203.22
A_{uc4RIM}	Minor electricity companies	77.27	8.57	-
A_{uc7RIM}	Energy efficiency in end use	73.13	20.13	-
A_{SVRIM}	Technological development	43.19	5.20	-
TOTAL		8,230.52	963.00	203.22

(A) Including discounts to energy-intensive companies.
(B) Element $A_{91/14SOS}$ is negative as it concerns rebates granted to low- and medium-voltage users not included among electricity-intensive companies.
(C) As of 1 January 2023, the A_{2RIM} and A_{mctRIM} elements of the A_{RIM} tariff component have been abolished, as the "nuclear charges" have been charged to general taxation by the 2023 Budget Law.

Source: ARERA, processing of CSEA (Cassa per i Servizi Energetici e Ambientali) data.

In particular, in relation to the cancellation of the general charges of the electricity sector, which in 2022 was generalised for all types of users and for all quarters, for 2023 the Government intervened[47] only for the first quarter, establishing that in this quarter the tariff components covering the general charges of the electricity sector for households and for non-households for other low voltage uses with power available up to 16.5 kW would be cancelled. This cancellation was ordered[48] by the Authority in December 2023. The resulting revenue shortfall of the A_{SOS} and A_{RIM} components for the above-mentioned utilities was covered by the resources made available[49] by the State, which allocated € 963 million.

For non-households other than the above, there was a reactivation[50] of general charges as of 1 January 2023, while as of 1 April 2023, the reactivation[51] affected all other electricity users.

[47] Law No. 197 of 29 December 2022 (2023 Budget Law).

[48] Resolution of 29 December 2022, 735/2022/R/com.

[49] Article 1, paragraph 12 of Law No. 197 of 29 December 2022 (2023 Budget Law).

[50] Resolution 735/2022/R/com.

[51] Resolution of 30 March 2023, 134/2023/R/com.

Nuclear system charges

The 2023 Budget Law stipulated[52] that, from 2023 onwards, nuclear charges are no longer borne by electricity utilities, but directly by the state budget.

This is the transfer to general taxation (so-called taxation) of nuclear liabilities, i.e. the costs of decommissioning and territorial compensation for local authorities hosting nuclear sites are to be borne by the state as of 1 January 2023. Until the end of 2022, these charges were borne by the electricity user and financed by the A_{2RIM} and A_{mctRIM} elements of the A_{RIM} tariff component, respectively. This allowed the Authority to abolish[53] these elements of the A_{RIM} tariff component as of 1 January 2023.

Since this provision is not strictly related to the price emergency, it is therefore a structural measure that also applies to the years after 2023.

3.1.5 Regulation of network security and reliability

Dispatching service

The electricity system is currently going through a phase of profound renewal linked to the decarbonisation objectives envisaged at European level, with an ever-increasing penetration of small-scale production resources spread throughout the territory and a gradual reduction in large-scale production resources concentrated on the large "nodes" of the transmission network. This entails a radical change in the management of the electricity system: there are both greater reserve requirements to compensate for the volatility of production from random sources (such as wind, solar and run-of-river hydro) and the need to enable more resources (such as loads, diffuse storage devices such as batteries, small generation plants) to provide ancillary services to cope with the reduction of the large plants that had been providing these services to date. It is therefore necessary to significantly innovate the regulatory framework for dispatching, as the current rules, outlined in 2006[54], no longer appear capable of intercepting the changes taking place, because they were built around a system based on concentrated programmable resources, referred to as "production units" or "enabled consumption units".

In this new context, the function of distribution networks also changes, as they become "active", i.e. capable not only of absorbing energy from the transmission network, but also of delivering energy in the opposite direction to the usual one (referred to as "flow inversion", a reality that is already concrete in some areas of the country characterised by a significant penetration of distributed generation). Furthermore, in some configurations, such networks may experience new phenomena, such as sudden voltage variations or overloads, which must be resolved locally. This is a new approach with respect to the national regulatory framework: it is no longer, in fact, only Terna that needs ancillary ("global") services to ensure the safe operation of electricity grids, but also distribution companies must be able to procure appropriate ("local") services from the (diffuse) resources connected to their grids.

[52] Article 1, paragraphs 20, 21 and 22 of Law 197 of 29 December 2022.

[53] Resolution 735/2022/R/com.

[54] From resolution 111/06 of 9 June 2006.

Ultimately, if renewable, distributed and random sources replace traditional, concentrated and programmable sources, the need for regulation (in the technical sense) of the grid increases considerably, both in quantitative terms (more services are needed; therefore, everyone must/cannot contribute) and in qualitative terms (services also take on a distributed character). The Authority took up this challenge of innovating the dispatching framework back in 2015, opening[55] a specific proceeding dedicated to both global and local ancillary services with the final intention of drafting a new integrated electricity dispatching text to replace the one currently in force. The ultimate goal is to define a dispatching regulatory framework in line with the evolution of the electricity system.

In 2023, the new Integrated Electricity Dispatch Act (TIDE) was then approved[56], which, building on the many years of experience of the pilot projects outlined in 2017[57], completes the path of innovation. A merit order dispatch model has been outlined, consistent with the European provisions set out in Regulation (EU) 2195/2017 on balancing the electricity system, in which all grid resources (at least in principle) can take on a dual role: the "main" one of producing or consuming energy and the "ancillary" one of providing services, consisting of the willingness to change their input and withdrawal profile to meet technical grid management needs.

The new Integrated Text, in particular:

- defines the roles and tasks of the Balancing Service Provider (BSP), responsible for the provision of ancillary services, and of the Balance Responsible Party (BRP), responsible for the scheduling of units, both production and consumption, and for the regulation of imbalances; the roles may be entrusted to the same entity or to different entities, according to the free choice adopted by the owner of each resource;
- promotes competition among all units in the provision of global ancillary services based on the principle of technological neutrality: all resources that meet Terna's technical requirements for a given service may go towards providing it;
- differentiates services according to the delivery perimeters, either nodal (coinciding with a node or an aggregate of neighbouring nodes) or zonal (coinciding with a market area), aligning them with the nomenclature of European regulations and grouping within the extraordinary modulation service all services of an emergency nature required by Terna outside the market for dispatching service, such as load interruptibility, remote disconnection of renewable production, and implementation of RIGEDI procedures;
- redefines the criteria for qualifying resources for the provision of global ancillary services, either as a single unit (Individually Enabled Unit) or in aggregate with other units at the nodal (Nodal Enabled Virtual Unit) or zonal level (Zonal Enabled Virtual Unit), going beyond the previous criteria of relevance (installed power not less than 10 MW) and minimum size (1 MW); with the TIDE, even smaller aggregates can qualify and participate in the ancillary services market;
- redefines the relevant aggregates for the purpose of unit scheduling and imbalance regulation, consistent with the enabling criteria mentioned in the previous point;
- rationalises the purpose of the market for dispatching service in line with the European regulatory framework stemming from the Clean Energy Package and the central dispatch provisions of Regulation (EU) 2195/2017. The market for dispatching service thus acquires the form of a market for balancing and redispatching, articulated in a nodal Integrated Scheduling Process (ISP) and

[55] By Resolution 393/2015/R/eel of 30 July 2015.

[56] By Resolution 345/2023/R/eel of 25 July 2023.

[57] As per Resolution 300/2017/R/eel of 5 May 2017.

in the platforms for the exchange of balancing products developed at the European level; the ISP in turn sees an *ex-ante* scheduling phase and a real-time balancing phase;
- separates the scheduling phase of the units from the trading phase on the day-ahead and intraday energy markets;
- revises the settlement of the dispatching service, separating the competences of the BRP and the BSP; the former is responsible for basic scheduling and imbalances with respect to this scheduling, the latter is responsible for the movements requested by Terna on the market for balancing and redispatching and for any failures in real time. Countertrade fees between BSPs and BRPs are introduced as well as, for BRPs, counterdrade fees for activations related to the extraordinary modulation service; finally, all financial transactions (CCTs, CCCs, proceeds from foreign interconnection auctions, adjustments) that are not strictly related to the supply of global ancillary services are separated from the uplift fee.

The review of the TIDE also provided an opportunity to rationalise the provisions on the organisation of the day-ahead and intra-day electricity markets that had been stratified over the years and had been adopted in a context characterised by an Italian electricity market managed independently of the European markets and with regulation defined at national level. With market coupling, the rules became European and, following Regulation (EU) 942/2019, were adopted by decisions by ACER: the new TIDE captures these changes by summarising in a single document both the provisions that remained the responsibility of national regulators (such as the specific choice of products, the way in which bids are to be submitted and the specific roles of GME and the Electricity Transmission Grid Operator), and the references to the provisions in the ACER decisions and European regulations.

Finally, the new TIDE defines the criteria with which the grid models and algorithms determining the optimal dispatching solution must be prepared, in order to pursue continuous improvement by Terna in line with the evolving state of the art. There are also important innovations on the transparency side: Terna will, in fact, be obliged to publish not only the grid model used for the ISP, but also the precise operating status, i.e. the availability of lines and plants, the estimated need for ancillary services, and the expected inputs and withdrawals at each node.

The new TIDE will take effect on 1 January 2025.

Capacity market strike price

The Capacity Market, which was established by legislative decree No. 379 of 19 December 2003, is aimed at achieving and maintaining the adequacy of production capacity, so that the demand for electricity is structurally met in accordance with predefined levels of security and quality[58].

The first Capacity Market tenders were held in 2019 and covered delivery years 2022 and 2023. The auction for the year 2024 was then held in 2022. Therefore, as of January 2022, the recognition of the fixed consideration to the assignees began and the application of the rules on the obligation to offer and return the commodity-based charge, equal to the difference between the reference price and the strike price, began.

The technical-economic parameters and methodology for determining the strike price for the 2022-

[58] For a more detailed description of the regulatory framework of the Capacity Market, please refer to the Annual Reports of previous years.

2023 and 2024-2025 delivery periods were defined in 2019 and 2021, respectively[59]: the strike price, representative of the standard variable cost of a hypothetical open-cycle turbo-gas type production unit fuelled by natural gas, is equal to the sum of a set of components, including a component covering the cost for natural gas (natural gas component) and a component covering the burden of emission allowances to be rendered under the Emission Trading System (emissions component).

The methodology for determining the Capacity Market strike price applied in the years 2022 and 2023 was then amended and supplemented as a matter of urgency[60], to ensure that the aforementioned price would more closely reflect the variable cost of peak technology, irrespective of the declaration of the emergency level of the gas system. To this end, it was decided, *inter alia*, to:

- index link the natural gas and emission components on a daily basis for the definition of the strike price in the years 2022 and 2023;
- calculate the standard value of natural gas by applying the System Average Price, representative of the daily value of natural gas on the Italian network.

With regard to the natural gas component and the emissions component for the purpose of calculating the Capacity Market's strike price for the year 2024, the Authority, after the necessary consultation[61], modified the methodology for determining the strike price for the year 2024 in line with the methodology for the years 2022 and 2023.

Electricity storage capacity forward supply system

Article 18 of Legislative Decree No. 210 of 8 November 2021 provided for the introduction into the architecture of the Italian electricity market of a new system for the forward procurement of electricity storage resources, to be added to the energy, ancillary services and capacity markets.

In August 2022, the Authority outlined[62] its guidelines on the aspects within its competence that pertain to the new system of forward procurement of electricity storage resources[63].

As a result of the consultation, the Authority[64] defined the criteria and conditions for the operation of the system for the forward provision of electricity storage capacity, confirming the general approach by confirming the guidelines expressed in the consultation, but making some changes, also in the light of the elements that emerged during the consultation. In particular, the Authority provided, *inter alia*, that:

- in the presence of reference technologies that differ significantly, Terna can enjoy greater flexibility in defining standard contracts than the orientation expressed during the consultation, to take into account the possible outcomes of the study on reference technologies and technological evolution;

[59] With Resolutions of 3 September 2019, 363/2019/R/eel and of 28 September 2021, 399/2021/R/eel.

[60] By Resolution 83/2022/R/eel of 4 March 2022.

[61] Consultation document of 17 October 2023, 471/2023/R/eel

[62] Consultation document of 2 August 2022, 393/2022/R/eel.

[63] The issues addressed in the consultation are described in detail in last year's Annual Report .

[64] By Resolution 247/2023/R/eel of 6 June 2023.

- where the reference technologies differ significantly at least with respect to both time parameters (useful life and realisation time), Terna defines separate standard contracts meeting the specific technical characteristics of each of these technologies and reserves participation in the relevant procedures for the reference technologies associated with each standard contract;
- in the competitive procedures for the procurement of electricity storage capacity by Terna, the valuation of selected bids is based on the discriminatory auction mechanism (referred to as "pay-as-bid");
- Terna may adopt a mechanism for selecting bids to isolated areas in an initial phase of application of the measure, defining the needs associated with the different areas with an optimisation process that provides for the full use of the transit limits between them;
- dispatching users holding contracted storage capacity may freely submit offers on the market for dispatching service within a price range, characterised by a maximum upward price and a minimum downward price defined by Terna within the framework, and retain part of the contribution margins obtained on the same market (including European platforms for trading dispatching resources). This is to avoid distortions in the price signal on the market for dispatching service and to facilitate efficient management of contracted capacity, while limiting over-remuneration of capacity;
- Terna has the option - rather than the obligation - to establish a mutual guarantee fund within the guarantee system;
- penalties are defined (as proposed by Terna) at least on the basis of the maximum bonus applied to the specific reference technology to which the breach relates, rather than on the basis of the annual bonus actually received by the contracted capacity, with the aim of countering opportunistic conduct;
- Terna may define thresholds of breach of contractual obligations beyond which there is a definitive breach of contract and which, if exceeded, entail termination of the contract;
- in relation to standard contracts for contracted capacity characterised by a useful life beyond the delivery period, Terna may propose to the contractual counterparty, well in advance of contract expiry, the extension of the period of application of contractual obligations and the revision of the bonus in accordance with the degree of amortisation and extraordinary maintenance requirements of the plant; the purpose of the extension is to ensure that the system, subject to agreement between the parties, continues to use the supplied resource;
- the possible participation of existing electricity storage capacity in the provision of time-shifting products and the definition of the criteria for Terna's direct development of electricity storage capacity be postponed until after further investigation;
- the fee to cover the net charge arising from the forward provisioning of electricity storage capacity is applied to dispatching users on a withdrawal basis according to the amount of electricity withdrawn, in line with the current way in which dispatching fees are applied;
- the regulation of the Capacity Market is integrated in order to ensure that the adequacy requirements to be procured through this Market or the related capacity offerings discount the contribution made by the storage resources contracted through the forward electricity storage capacity supply system.

The provisions became effective with respect to Terna and the GME as of 6 June 2023 for the purposes of carrying out the preparatory activities for the implementation of the measure, which, pursuant to Article 18 of Legislative Decree No. 210/2021, was subject to approval by the European Commission.

With Decree Law No. 69 of 13 June 2023, as converted by Law No. 103 of 10 August 2023, the

provisions of Article 18 of Legislative Decree No. 210/2021 were repealed, which obliged Terna to formulate a plan for the direct construction of the missing storage systems if, following the holding of competitive procedures for the procurement of electricity storage resources, all or part of the storage capacity requirements had not been awarded.

On the basis of the criteria defined by the Authority, Terna drew up the study on reference technologies and put it out for consultation in August 2023, while in October 2023 it launched the consultation in connection with the regulation of the mechanism for the forward supply of electricity storage capacity.

Parallel to national activities for the launch of the mechanism, dialogue between the Italian State and the European Commission intensified during 2023, with the aim of enabling the latter to complete the process of verifying the compatibility of the mechanism for the forward supply of electricity storage capacity with EU regulations on State aid. In particular, after an articulated pre-notification process, the Ministry of the Environment and Energy Security notified the measure to the European Commission in November 2023 and, on 21 December, the mechanism was declared compatible with the internal market, also in consideration of the contribution it will be able to ensure to the achievement of decarbonisation objectives, allowing the integration of renewable energy resources into the Italian electricity system.

3.1.6 Quality and output standards for distribution and transmission services

Regulation of the continuity of the electricity distribution system

In October 2023, the Authority determined[65] the bonuses and penalties for the output-based regulation of the electricity distribution service for 2022. With regard to the regulation of the duration and number of unannounced interruptions, € 10.2 million in bonuses were disbursed, divided up as follows:

- net bonuses of € 7.4 million for long unannounced interruptions (i.e. lasting more than 3 minutes), as the balance of € 15.4 million in bonuses and € 8.0 million in penalties;
- net bonuses of € 2.8 million for the number of long and short unannounced interruptions (i.e. duration between 1 second and 3 minutes), as the balance between € 31.8 million in bonuses and € 29.0 million in penalties.

With reference to the 2022 electricity service continuity data, the Authority published the eleventh national ranking of electricity distribution companies regarding the number and duration of interruptions. For the purposes of better comparability between companies, use of a "synthetic index of duration and number of interruptions" was confirmed (introduced from the tenth ranking on), which gives equal weight to the duration and number of interruptions and has a value of 10 as the national average: a value below 10 indicates a better performance than the national average, while a value above 10 indicates a worse performance; in addition to this index, the average annual duration of long unannounced interruptions and the average number of long and short unannounced interruptions were published.

[65] Resolution of 24 October 2023, 485/2023/R/eel.

Resilience of the electricity distribution system

In February 2023, the Authority identified[66] the interventions eligible for bonuses and/or penalties aimed at increasing the resilience of electricity distribution networks, assessed in terms of greater network robustness in case of stresses caused by critical risk factors, with particular reference to the formation of ice sleeves due to snow or wind, heat waves, flooding and falling plants due to excessive snow load.

In September 2023, bonuses and penalties were determined[67] for eleven distribution companies, with a total net bonus balance of € 13.6 million, related to the resilience enhancement measures completed in 2022 and previously approved by the Authority.

In December 2023, the regulation provisions to promote the resilience of electricity distribution networks for the period 2019-2024 were updated[68]. Among other things, it was stipulated that, starting from the February 2024 application, the incentive mechanism would only apply to distribution companies to whose network at least 100,000 final customers are connected and the interventions would be eligible for a bonus only, with potential cancellation in the event of a significant delay.

Quality of electricity distribution: duration and number of interruptions

In 2023, there was a worsening compared to the three-year period 2020-2022, both for the average duration of outages without notice (100 minutes - Figure 3.1), and for the average number of long and short outages without notice per low voltage user (4.87 - Figure 3.2).

The deterioration in performance for 2023 is mainly attributed, as for the three-year period 2017-2019 and for the years 2012 and 2015, to the impact of exceptional weather events (floods, wind storms and heat waves) that contributed substantially to the increase in the duration of outages; the regions most affected by such exceptional weather events are Friuli-Venezia Giulia and Emilia-Romagna in the North, Tuscany in the Centre, and Abruzzo, Molise, Campania and Sicily in the South.

Analysing in detail the indicators for 2023, which are still being verified by the Authority, the duration of unannounced interruptions for which distribution companies are responsible stands at 44 minutes per low-voltage user nationwide.

The number of long and short unannounced outages (which, together, correspond to outages lasting more than a second) for which the distribution companies are responsible stands at 3.43 outages per low-voltage user nationwide (Figure 3.2).

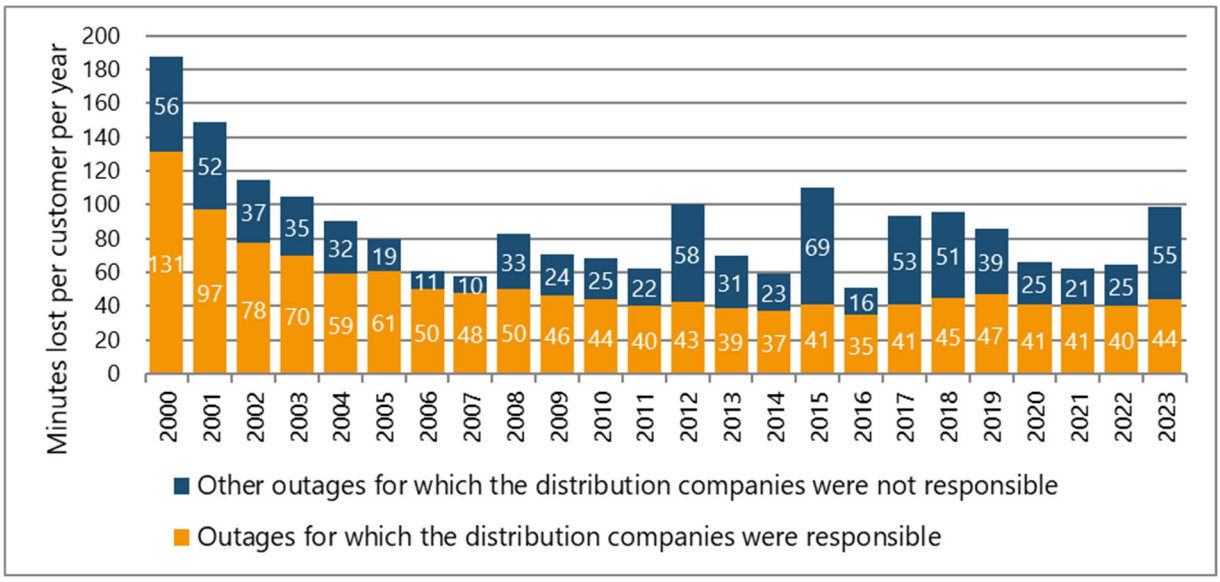
In calculating these values, interruptions originating on the RTN and on the high-voltage network, exceptional interruptions occurring during periods of disturbed conditions and on days with exceptional lightning strikes (identified according to two specific statistical methods), as well as interruptions due to exceptional events, acts of public authority and theft are deducted.

[66] Resolution of 28 February 2023, 69/2023/R/eel.

[67] Resolution of 26 September 2023, 422/2023/R/eel.

[68] By Resolution 614/2023/R/eel of 27 December 2023.

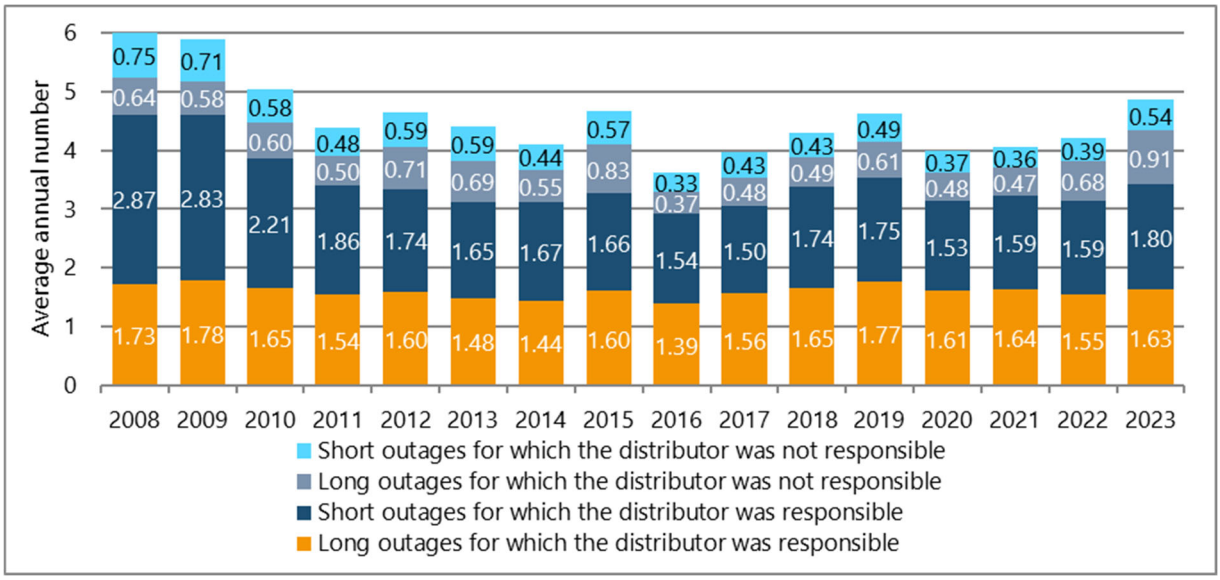
Figure 3.1 Duration of long unannounced interruptions per low-voltage customer(A)



(A) Excluding major incidents on the RTN, defence system interventions and interruptions due to theft.

Source: ARERA. Processing of declarations of operators.

Figure 3.2 Number of long and short unannounced interruptions per low-voltage user(A)



(A) Excluding major incidents on the transmission grid and defence system interventions.

Source: ARERA. Processing of declarations of operators.

Network connection times

User connections to the network can be active or passive. "Active connections" are those required by power generation plants to the transmission network or distribution networks, primarily to enable these plants to feed energy into the electricity system. "Passive connections", on the other hand, are those requested by final customers to the transmission or distribution networks to allow energy withdrawals from the electricity system.

The data on the connection of active users with the transmission network reported on these pages refer to activities that were carried out by Terna, while the data on the connection of active users with distribution networks refer exclusively to activities that were carried out by distribution companies with more than 100,000 customers[69]. The values for the connections of passive users, on the other hand, were collected by Terna and the distribution companies as part of the customary Survey of regulated sectors, carried out annually by the Authority.

With regard to active connections with the transmission network, in 2023 Terna received 4,693 connection requests for electricity production plants, corresponding to a total power output of 442.6 GW, for which it made 3,128 quotations available in the same year, corresponding to a total power output of 244.7 GW. The average time for making the quotation available, net of permitted interruptions, was 44 working days. During the year, 1,528 quotations were accepted, corresponding to a total power of approximately 101.3 GW. For only two of these quotations, corresponding to a total power of 66 MW, the request for the provision of the Minimum Technical Detail Solution (STMD) was submitted. Terna has not made the STMD available by 31 December 2023 for either of these two requests; therefore, the corresponding connections have not been constructed and activated by that date.

In 2023, distribution companies received more than 398,000 connection requests for power generation plants to be connected to the low- and medium-voltage grids[70], corresponding to a total capacity of 38.5 GW. For the same requests, they made just over 346,000 quotations available in the same year, corresponding to a total power output of 24.1 GW. The average time for making the quotation available, net of permitted interruptions, was:

- 16 working days, for required feed-in power up to 100 kW;
- 42 working days, for required feed-in power of more than 100 kW and up to 1,000 kW;
- 55 working days, for required feed-in power of more than 1,000 kW.

More than 331,000 quotations out of the total of those made available were accepted in 2023, for a total power of 10.6 GW. During the year, in relation to the requests received in 2023, more than 298,000 connections were made, corresponding to more than 2.7 GW, with average connection times, net of permitted interruptions, of:

- 22 working days in the case of simple works[71];
- 66 working days in the case of complex works[72];
- while the average time for connection activation, net of permitted interruptions, is 9 working days.

[69] The calculations made are based on data made available by distribution companies with more than 100,000 customers. In particular, with reference to 2023, the data provided by Areti, Deval, e-distribuzione, Edyna, iReti, Set Distribuzione and Unareti was used, which transmitted to the Authority, in due time for the preparation of this *Report*, the information on the connections of electricity production plants; on the other hand, data not communicated in due time was not considered.

[70] Please note that the data reported refer exclusively to activities that were carried out in 2023 by distribution companies with more than 100,000 customers and that transmitted the relevant information to the Authority in time for the preparation of this *Report*.

[71] Simple works are the professional implementation, modification or replacement of the grid operator's installation carried out with an intervention limited to the socket and possibly the metering unit.

[72] Complex works are the implementation, modification or replacement in a professional manner of the system of the grid operator in all cases not included in the definition of simple works.

As in 2022, also in 2023 e-distribuzione is the only distribution company to have received connection requests for power generation plants to be connected to the high-voltage grids. In greater detail, e-distribuzione received 836 connection requests, corresponding to a total power output of about 13.5 GW, for which the company made 323 quotations available in the same year, corresponding to a total power output of about 5.3 GW, with an average time for making the quotation available, net of permitted interruptions, of 62 working days. Of the quotations made available, 116 of them, corresponding to a total power output of 2.3 GW, were accepted during the year; for nine of them, a request was made to make the Minimum Technical Solution of Detail (STMD) available by 31 December 2023. Two connections with a total power output of 9.1 MW were realised in 2023.

As far as the connections of passive users (Table 3.3) are concerned, in 2023, 252,030 connections were made to the distribution networks, almost all of them in low voltage. For 71% of them, the supply was activated during the year. The average time to connect customers was 13.2 working days. In particular, the average time for making low-voltage connections was 9.9 working days. The average time taken to obtain a medium voltage connection is slightly longer and amounts to 21.5 working days.

The data showed a slightly decreasing number of connections (-1.6%) compared to 2022 and also a slight overall worsening of connection times: from 11.3 to 13.2 days. More specifically, in medium voltage, where it took an average of 20 working days in 2022 to obtain a connection, it took 21.5 days in 2023; in low voltage, the connection took an average of 1.5 days longer in 2023 than in 2022. It should always be pointed out, however, that the days indicated do not include the time spent in obtaining any authorisations and the time needed for any formalities to be carried out by the final customer.

In 2023, each distributor made an average of 2,136 connections during the year. If we exclude from the calculation those operators who did not make a single connection (71 subjects out of 118), the average number of connections made by each distributor in the year is 5,362 (a value that shows a clear increase on 2022).

In 2023, Terna also realised 3 passive high and extra-high voltage connections with an average time of 280 working days.

Table 3.3 Connections of passive users with electricity distribution networks

VOLTAGE LEVEL	NUMBER OF CONNECTIONS		AVERAGE TIME (WORKING DAYS)(A)	
	2022	2023	2022	2023
Low voltage	254,841	250,395	8.4	9.9
Medium voltage	1,302	1,635	20.0	21.5
TOTAL	256,143	252,030	11.3	13.2

(A) Value calculated net of operators who have not made any connections, excluding the time spent in obtaining any authorisations and/or for any formalities to be fulfilled by the final customer.

Source: ARERA. Annual survey of regulated sectors

3.1.7 Monitoring the electricity supply and demand balance

Monitoring the balance between electricity supply and demand does not fall within the competence of the Authority: according to Art. 1 of Legislative Decree No. 93/11, this competence is attributed

to the Ministry for the environment and energy security (MASE).

3.1.8 Monitoring investments in generation and storage capacities from a security of supply perspective

Pursuant to Legislative Decree No. 93/11, the following functions regarding the monitoring of capacity investments have been assigned to the MASE:

- operational network security (Art. 7 directive 89/2005/EC);
- investments in interconnection capacities in the next 5 years or more (Art. 7 directive 89/2005/EC);
- supply and demand forecast for the next 5 years and 1-15 years (Art. 7 directive 89/2005/EC).

3.1.9 International coordination on the topics of electricity and natural gas

Coordination between EU Member States and with Switzerland

For years, the Authority has been actively cooperating with other European regulators, both multilaterally, through the Agency for the Cooperation of Energy Regulators (ACER), the Council of European Energy Regulators (CEER) and the regional platforms provided for in the European electricity market regulations, and through bilateral meetings to explore topics of common interest, in particular with regulators from neighbouring countries. In 2023, in continuity with previous years, interaction continued on the implementation of the network codes and guidelines adopted as a result of the Third Energy Package and in the transposition of the provisions of the Clean Energy Package.

European agency for the cooperation of energy regulators (ACER)

ACER is the agency introduced with the Third Energy Package to foster cooperation between the regulatory authorities of EU countries and assist them in the exercise, at Community level, of the regulatory functions performed in the Member States. The operational set-up is currently governed by Regulation 942/2019, which made some changes to the governance and competences of the Agency. In particular, ACER is now responsible for all the decisions concerning the implementing acts of the network codes originally submitted for approval by all authorities at European level: these recommendations are then directly sent to the Agency, which gives its own decision within six months of receipt. On the other hand, the primary competence of the regulatory authorities remains unchanged with regard to implementing acts of regional competence. ACER is also responsible for adopting a set of methodologies under regulation 943/2019 concerning the adequacy of the system and the tasks of the Regional Coordination Centres.

At the organisational level, ACER has a director, currently Christian Zinglersen from Denmark, and a Board of Regulators (BoR) with representatives from the regulatory authorities of the 27 European countries. Late 2023, Clara Poletti, member of the Authority's board, was re-elected chair of the BoR. The Director recommends the decisions that the Agency intends to take to the BoR, which delivers a binding opinion by a qualified two-thirds majority: under regulation 942/2019, the members of the BoR may also formulate amendments to the Director's recommendations which, if approved by a qualified majority, must be taken into account by the director. The Agency also has a Board of Appeal,

a first-tier court body, competent to hear appeals against decisions taken by the Agency.

The Authority has been actively cooperating with ACER for some time now, often assuming leading roles in the working groups entrusted with the preparation of the various dossiers under the Agency's responsibility: in particular, in 2023, the Authority saw its representatives active as leaders of specific task forces relative to the electricity sector (system operation and facilities) and actively participated in the discussion in the various working groups by providing suggestions and comments.

Council of European energy regulators (CEER)

The CEER, the independent association of national energy regulators, includes among its members not only representatives of the EU countries, but also those of the UK, Norway, Iceland and, as observers, of Albania, Switzerland, Montenegro, North Macedonia, Kosovo, Moldova, Bosnia-Herzegovina, Georgia and Serbia. Since December 2018, the role of Chairman has been held by Annegret Groebel of the German Regulatory Authority.

The Authority has always been actively involved in the activities promoted by the CEER. For the three-year period 2022-2025, the CEER's activity is focused on three fundamental aspects: ensuring the functioning of the market with a view to flexibility; putting customers at the centre of the market, favouring their active participation; and enabling the integration of energy systems, favouring the use of renewable energy resources and innovation.

Through its participation in the CEER International Relations Working Group (IRG-CEER), the Authority contributed to the elaboration of the international positioning of the Council of European Energy Regulators. The CEER's new international strategy, formulated by the IRG and approved by the Board Meeting, aims to broaden global relations between authorities and regulatory agencies, to focus interaction on energy transition and to multiply assistance and cooperation efforts in favour of new and emerging institutional realities. The IRG also inaugurated bilateral relationships and collaborations with European and global study and research entities (in 2023, the International Energy Agency) and developed joint work with related associations. Relevant in this context is the Authority's participation in the 2023 Annual Meeting as well as in the related conference at the global association of French-speaking regulators, "REGULA-E", which brings together regulatory agencies from all over the world. The Authority presented its report on the prospects for gas interconnections in the Mediterranean area, where the transition from a "South-North, producer-to-customer" model to a more complex, "East-West" model is becoming increasingly important, and between countries on the southern shore of the Mediterranean which, from being mere producers or transit countries, are themselves becoming importers and customers due to the growing demand for primary energy.

As part of the broadening of the prospects for cooperation between regulators, the Authority's participation in the work of the "*Comité de Prospective*", an initiative for dialogue between institutions and stakeholders on the evolutionary scenarios of the French energy system in terms of transition, energy saving and electrification of final consumption, is noteworthy. Although national in character, the initiative has the merit of addressing, even in technical detail, issues of European relevance. The originality of the context piqued the interest of the Authority, which participated in the dialogue and contributed to the scenario design work at the invitation of the French regulator, the *Commission de Régulation de l'Énergie* (CRE). The latter, which is the coordinator of the technical tables, organised the conference on 17 March 2023 to present the results, at which the President of the Authority participated with a report on the integration of renewable energy resources and the changing role of the customer in a context of radical change.

The CEER is also the promoter of several courses, open to both its own members and external

participants, in which Authority staff are often involved as lecturers and/or testimonials.

Relations and initiatives with non-EU countries

In 2023, the Authority stood out for its commitment to fostering cooperation and technical-institutional collaboration at both bilateral and multilateral levels, consolidating its role as a reference in the international arena. In the energy sector, it continued to promote the exchange of technical knowledge and best practices, in order to promote market development and integration. Given the current international context and the energy and climate crises of recent years, the Mediterranean and Balkan areas continue to be of strategic interest for our country's energy system.

Energy market in south-eastern European countries

With the aim of providing support for the Euro-Balkan market integration process, in 2023 ARERA continued the activities undertaken in previous years. More specifically, it took part in the works of the Energy Community Regulatory Board (ERCB), thereby continuing to coordinate and support the implementation of the *acquis communautaire* for the Parties to the Energy Community Treaty.

2023 did not see any particular progress with regard to the process of the development of the energy markets of the Balkan countries, as there was no complete transposition and implementation (which had to take place by 31 December 2023) of the electricity integration package previously adopted at the Ministerial Council meeting of 15 December 2022. The package establishes the regulatory basis to enable the full integration of the markets of the Contracting Parties to the Energy Community Treaty to the European market. The measures adopted are based on the principle of reciprocity between Member States and Contracting Parties, and provide for the large-scale inclusion of renewable energies and the phasing out of coal. The Ministerial Council, at its meeting on 14 December 2023, urged the Contracting Parties to transpose the electricity integration package by the first quarter of 2024.

On 7 and 8 June 2023, the 28th Electricity Forum was held in Athens, during which a number of pressing issues were discussed, including emergency and energy demand reduction measures, electricity market reforms and new design elements, as well as the need for the Energy Community to align with the conditions for CBAM (Carbon Border Adjustment Mechanism) exemptions. Participants engaged in discussions on market coupling and regional cooperation of TSOs (Transmission System Operators) as building blocks for European security of supply and market integration. The Forum addressed the challenges of integrating renewable energy resources into the grid and the market.

On 28 September 2023, the 18th Energy Community Gas Forum took place in Vienna, discussing the main gas procurement security measures. Participants discussed approaches to source diversification, joint gas purchases, and the importance of storage to strengthen Europe's energy security.

Establishment of the Balkan Energy School - BES

The Balkan Energy School (BES) was established as a non-profit association under Italian law and is based in Milan at ARERA. Its founding members, in addition to ARERA, are the regulators of Albania (ERE), Bosnia and Herzegovina (SERC), Montenegro (REGAGEN) and North Macedonia (ERC). As of 2023, the Greek regulator (RAEWW) also became a member of the Association, while the Serbian

regulator (AERS) is an observer. The geographical area of reference for the BES activity includes the countries that are signatories of the Energy Community Treaty, those of the European Union bordering with the signatory countries and those that have or may have an interest in the said geographical area. The aim of the Association is to promote debate and the exchange of knowledge in the field of energy with particular reference to market development, regulation and integration, also taking into account sustainability parameters. The Association manages a training school that organises technical seminars fostering the acquisition and transfer of knowledge and the development of regulatory capabilities in the energy sector with special reference to the Balkan region and South-Eastern Europe. The BES also operates in an inclusive, stable and continuous institutional and capacity building action for the benefit of the Balkan region and in support of the Euro-Balkan market development and integration process, including through providing technical, regulatory and institutional support in respect of energy.

On 29 March 2023, the BES organised, at the Italian residence in Tirana, a meeting to present the activities of the project co-funded by the Central European Initiative for the benefit of the Albanian regulator ERE, "Supporting the Albanian Regulatory Authority to improve the efficiency of the wholesale electricity market", which will end in June 2024. Project activities were implemented through the following BES seminars:

- the seminar "Risks and challenges of the entry into operation of a Power Exchange" was held on 30 March;
- the seminar "Current design of the electricity balancing, comparison and interactions with day ahead and intraday markets" was held on 29 and 30 May. It was divided into two sessions: the first focused on how balancing regulation is being implemented in European countries, and the second focused on presentations by Balkan countries on the state of the art of balancing markets;
- on 13 and 14 September, there was a seminar "Implementation of relevant provisions of FCA Regulation", hosted by the Greek regulator (RAEWW) as part of the annual international trade fair in Thessaloniki, concerning the allocation of long-term capacity under the European FCA (Forward Capacity Allocation) Regulation, with a panel discussion on the role of the regional allocation platform;
- on 30 November, the seminar, hosted by the Authority, "How to set up market coupling local implementation projects" took place as part of the Energy Community's framework for the development of the package of measures for the electricity market, in compliance with European energy forecasts. During the meeting, it was announced that BES had been awarded a new capacity-building and best-practices exchange project under the KEP (Know Exchange Programme), co-funded by the Central European Initiative for the benefit of BES members.

Energy market in Mediterranean countries

In 2023, the Authority continued its activities in support of the MEDREG (Mediterranean Energy Regulators), of which it is permanent Vice-Chairman, by participating in the following meetings:

- On 14 June in Rhodes, at the Greek regulator RAEWW, the third workshop of the Chairmen of the MEDREG member regulators, "The Role of a Coherent Regulation in Promoting Energy Transition in the Mediterranean Region", focused on the main critical issues and challenges related to the energy transition in the Mediterranean area and possible solutions to accelerate the decarbonisation process of the energy sector in the region, in line with the regulatory framework. ARERA moderated the round table "Challenges and Way Out in the Mediterranean Region";
- on 15 June in Rhodes, the 35th MEDREG General Assembly, during which the 28th member of the

association, the North Macedonia Energy and Water Services Regulator (ERC), was approved;
- the 36th General Assembly was held on 4 and 5 December in Valletta at the Malta Energy and Water Services Regulator (REWS).

Finally, meetings of the technical working groups were held regularly during 2023, and *ad hoc* workshops and training sessions were organised for their members, to which this Authority contributed its participation:

- for the electricity sector, the working group drew up the report "Smart Metering and Smart Grid", in the definition of which the Authority participated with data and information on the situation and prospects in Italy. Activities also focused on the development of relations with other associations and organisations (Union for the Mediterranean, MED-TSO), analyses of electricity price trends in the area, and the organisation of events and seminars to present previous activities (in particular, the results of the MEMO - Mediterranean Electricity Markets Observatory in 2022);
- to promote the development of renewables, the "Renewable Energy Resources and Energy Efficiency" working group produced its annual report on "Energy Efficiency Mechanisms and Energy Labelling"; assistance was provided to members on the integration of renewables; appointments and seminars were organised on environmental sustainability developments in the area, with particular reference to the potential for energy savings and the effects of intermittent renewables on the production/price profile of electricity generation. In this regard, a seminar was organised to present the work done on the deployment of renewable energy resources in the Mediterranean region "Role of Energy Efficiency in Energy Transition" in September 2023 in Beirut;
- for activities of an institutional nature, the report "NRA's Role in Opening the Market to Competition" was produced, which examines the role of national regulatory authorities (NRAs) in promoting competition in energy markets, with a focus on the development of wholesale markets and their monitoring. A workshop "Rules to Manage Conflicts of Interest" was also organised in October;
- for the gas sector, the report "Tackling Security of Supply Concerns in the Current Gas Crisis" was drafted with the aim of analysing the measures that have been put in place to ensure the security of energy supplies in the Mediterranean area, assessing the role of LNG in comparison with pipeline supplies and discussing the role of regulators through specific case studies. In addition, the work of an *ad hoc* task force on the development of hydrogen use in the Mediterranean area started in 2023. MEDREG attended the Gastech Forum on 5-8 September 2023 in Singapore;
- concerning customer protection, the working group updated the report "Guidelines of good practices on consumer protection rules and communication strategies".

Eastmed Gas Forum (EMGF) Advisory Committee of Independent Authorities

The Regulatory Authority Advisory Committee (RAAC) or Advisory Committee of the Eastmed Gas Forum (EMGF) - an international organisation that brings together Cyprus, Egypt, France, Jordan, Greece, Israel, Italy and the Palestinian Authority with the aim of promoting the exploitation of the area's natural gas resources and the creation of an integrated regional market - became fully operational in 2023. The RAAC drafted papers on the role of regulation in promoting the regional integration of natural gas markets, promoted discussions on the prospects for the development of gas resources in the area and discussed possible models for the construction, operation and development of international gas transport facilities, also with reference to the potential developments of green hydrogen and the ability of new facilities to convey decarbonised gas to consumption areas. In detail, the Authority directly contributed, in cooperation with the Cypriot

Chairmanship of the Forum and the Board of Regulators, to:

- define the medium- to long-term agenda of the RAAC, through the elaboration of the work programme and the definition of discussion topics for the Committee meetings;
- improve the effectiveness of the drafting and decision-making process, through proposals to amend the Committee's internal rules of operation, as well as the size and use of any resources allocated to the Committee;
- specify, in the context of the study "Gas Monetisation in the Euro-Mediterranean Region", the need for approximation/harmonisation of national regulatory frameworks in support of regional integration, with particular reference to the regulatory dialogue on user fees and facilities capacity allocation.

The activities of the EMGF regulators were inevitably affected by the slowdown in the general activities of the Forum caused by the crisis in the Middle East.

National Energy Ombudsmen Network (NEON)

Since 2016, the Authority has also been a member of NEON - National Energy Ombudsmen Network, due to the establishment of the Conciliation Service and as the competent authority for ADR (Alternative Dispute Resolution) under the Consumer Code (for more information in this respect, see Chapter 5) and, more generally, for customer protection in the energy sectors. In addition to Italy, the Ombudsmen association includes [73]Extra-judicial dispute resolution bodies, operating both in the EU and non-EU territory, at national or regional level, from the following countries: Belgium (*Service de Médiation de l'Energie/Ombudsdienst voor Energie*), Ireland (*Commission for Regulation of Utilities*), UK (*Ombudsman Services*), France (*Le Médiateur National de l'Energie*), Greece (*The Greek Ombudsman*), Georgia (*Energy Ombudsman*), Catalonia (*Sindìc El defensor de les persones*) and Walloon (*Commission Wallonne pour l'Energie* - CWAPE).

The association, whose organisational set-up has been further simplified and streamlined in accordance with the network's objectives, promotes, in particular, the development and knowledge of ADR instruments, also through the exchange of experiences and good practices and the sharing of activity reports among members, in particular at General Assemblies (the last one, for 2023, was held in November), while also supporting initiatives related to the evolution of the European regulatory framework, both sectoral and cross-sectoral.

Bilateral relations

In order to promote exchanges and to foster, in accordance with strategic planning indications, the dissemination of good regulatory practices as a function of ever greater integration of the energy markets, in 2023 the Authority also carried out capacity-building and regulatory practice review activities, as well as institutional comparisons with the regulatory authorities of non-European countries, indicated below:

- Brazil: On 23 May, the Authority met with the technical delegation from Brazil as part of an initiative promoted by the GSE to foster the transfer of knowledge on energy transition, climate

[73] Ombudsmen, in addition to their individual dispute resolution activities, aim, more generally, at improving the relationship between customer and operator, also by means of appropriate recommendations to the relevant (national and international) public bodies, for the streamlining of the rules and regulations applicable to the sectors they deal with.

change and the role of regulators in the smart grid integration process.

- Palestinian Authority: On 23 June 2023, the Authority met with the technical delegation of the Palestinian Authority within the framework of an initiative promoted by the GSE on the same issues that were addressed with the Brazilian representatives.

Multilateral relations

During 2023, the Authority participated in both meetings organised by the OECD's Network of Economic Regulators (NER), held on 27 April and 1 December, where good governance indicators of regulators were discussed and preliminary results of a NER research on the contribution of regulators to environmental sustainability were presented.

3.2 Competition and the functioning of markets

3.2.1 Wholesale Electricity Market

Table 3.4 shows the electricity balance in Italy in 2023 compared to the previous year; the data is from Terna and is provisional for 2023.

Table 3.4 Terna's balance of electricity in Italy

AVAILABILITY AND USE (GWh)	2022	2023(A)	VARIATION
Gross production	283,953	264,273	-6.9%
Auxiliary services	9,345	8,329	-10.9%
Net production	274,608	255,944	-6.8%
Received from foreign suppliers	47,391	54,572	15.2%
Sold to foreign customers	4,404	3,320	-24.6%
Intended for pumping	2,586	2,199	-15.0%
Availability for consumption	315,008	304,997	-3.2%
Network leakages	19,155	17,620	-8.0%
Consumption net of leakage	295,853	287,377	-2.9%

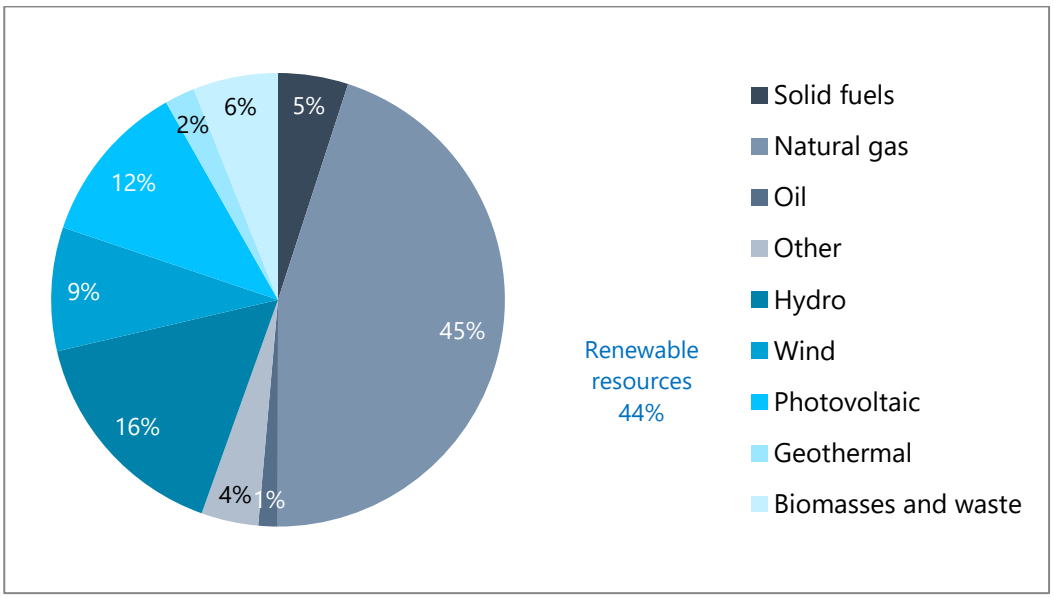
(A) Provisional data.

Source: ARERA processing of Terna data.

Electricity demand decreased by 2.9% in 2023; the decline affected all consumption sectors (see below). Energy available for consumption was met just under 84% by net domestic production (minus energy for pumping) and the remaining 16.8% by the balance from abroad. Domestic production decreased by almost 7% year-on-year, while imports increased by 15.2% and energy for exports decreased by 24.6%.

Gross domestic electricity production also decreased by 6.9% to 255.9 TWh from 274.6 TWh in 2022. More specifically, there was a 19.3% decrease in thermoelectric production against a 15.6% increase in energy production from renewable energy resources.

Figure 3.3 Gross production by source in 2023



Source: Terna, provisional data.

Within thermoelectric generation, the largest decreases occurred in generation from solids (-41.5%) and petroleum products (-26.9%), while generation from natural gas decreased less, by 15.9%.

In the case of renewable energy resources, which account for about 44% (Figure 3.3) of the national electricity generation mix (the same share in the previous year was 35.4%), there was only a decrease in geothermal generation (-2.5%) and bioenergy generation (-9.1%).

The largest increase occurred in hydropower production (+42.4%), which with 40.4 TWh, is back to the quantities of the years before 2022, a year characterised by a major water emergency. The shares of wind and photovoltaic production increased by 13.7% and 9.2% respectively.

Table 3.5 shows for thermoelectric, renewable and mixed sources the number of producers, the available power and the related production in 2023, using the data collected from the Authority's Annual Survey on Regulated Sectors, which this year covers 93% of the gross generation indicated by Terna. The table shows that mixed-type operators, with both thermoelectric and renewable generation, account for most of the total power, i.e. 48,366 MW (45% of all power), and represent, as usual, about 3% of the power producers (they are 506 out of 15,864); their percentage contribution to the total generation has decreased further compared to the previous year, having dropped from 40.9% to 37.6% (92.3 TWh out of the total 245.6 TWh).

Table 3.5 Producers, plants and electricity generation in 2023

PRODUCERS, PLANTS AND GENERATION BY SOURCE	THERMOELECTRIC	RENEWABLES	MIXED	TOTAL
Number of producers	483	14,875	506	15,864
Gross power (MW)	22,065	37,991	48,366	108,422
Gross generation (TWh)	69.8	83.5	92.3	245.6

Source: ARERA. Annual survey of regulated sectors.

The share of gross generation of the top three corporate groups, Enel, Eni and Edison, decreased very slightly to 34.4% (it was 34.8% in 2022), due to the decrease in Enel's share (from 18% to 16.9%), while those of the two trailing groups increased slightly. Indeed, the share of the second group, Eni as in 2022, rose slightly to 9.5% from 9.2% in 2022. With a share of 7.9%, the third group was Edison, which had 7% of production in 2022 and, thanks to this increase, overtook the A2A group whose share dropped to 5.9% from 7.5% in 2022. By contrast, the EPH group remained in fifth position, this year with 4.8% (it had 5.4% in 2022). The concentration indices in gross electricity generation all decreased: the C5 dropped from 47.2% to 45.1%, as did the Herfindahal-Hirschman index (HHI) in 2023 dropping to 537, while in 2022 it was 577.

In 2023, total gross power stands at 128.6 GW (provisional figure), which is split between 54% renewables and 46% thermoelectric. Peak demand was reached on 19 July 2023, when power demand at peak came to 58.5 GW (up 1.9% from the previous year's peak, equal to 57.4 GW recorded on 15 July 2022). The summer peak in any case failed to reach the absolute peak for the Italian electricity system, recorded in the summer of 2015 (equal to 60.5 GW).

There are four groups with a gross installed capacity share of more than 5%: Enel, A2A, Edison and Eni; in 2022 they were the same four. The share of capacity held by the first three groups is 25.7%. The HHI index for gross capacity is 586.

Table 3.6 Evolution of demand and installed capacity in the electricity sector

YEAR	REQUEST(A) (TWh)	PEAKING DEMAND (GW)	NET INSTALLED CAPACITY (GW)	CORPORATE GROUPS WITH >5% SHARE IN NET GENERATION	% SHARE OF TOP 3 GROUPS IN NET GENERATION
2001	304.8	52.0	76.2	4	70.7
2002	310.7	52.6	76.6	3	66.7
2003	320.7	53.4	78.2	4	65.9
2004	325.4	53.6	81.5	5	64.4
2005	330.4	55.0	85.5	5	59.4
2006	337.5	55.6	89.8	5	57.1
2007	339.9	56.8	93.6	5	54.7
2008	339.5	55.3	98.6	5	52.0
2009	320.3	51.9	101.4	5	50.6
2010	326.2	56.4	106.9	5	48.2
2011	332.3	56.5	118.4	4	43.6
2012	325.5	54.1	124.2	3	41.2
2013	316.0	53.9	124.7	3	39.1
2014	308.2	51.6	121.8	3	41.2
2015	315.0	60.5	118.3	3	40.1
2016	311.8	56.1	114.2	4	43.9
2017	318.1	56.4	114.2	5	35.6
2018	319.1	57.6	115.2	4	35.4
2019	317.2	58.8	116.4	5	33.3
2020	298.5	55.4	116.4	5	31.7
2021	317.0	56.1	116.6	5	33.6
2022	312.4	57.4	117.9	5	34.4
2023(B)	302.8	58.5	n.a.	4	34.3

(A) Net of energy for pumping and gross of network leakages.
(B) Provisional data.

Source: ARERA processing of Terna data and Annual survey on regulated sectors.

In Italy, multiple incentive mechanisms coexist for electricity production plants fuelled by renewable energy resources, ranging from all-inclusive incentive tariffs (feed-in tariff[74]) to feed-in-premium incentive tools[75]. The annual cost for the community of incentive instruments depends not only on the amount of electricity incentivised, but also on the average market prices of the year in which the support takes place: when the latter are high, the cost can also become negative.

Overall, the incentivisation of renewable energy resources cost around € 7 billion in 2023, an increase compared to the previous year when, due to high electricity market prices and incentive mechanisms, the cost of some incentive instruments was cancelled out. Resources for the support of renewable energy resources are generally placed in the Account for new installations powered by renewable

[74] Feed-in tariff means that the incentive recognised for electricity fed into the network includes the sale of the electricity, which, therefore, does not remain at the producer's disposal. The electricity fed into the network is taken back at a price that already includes the incentive.

[75] Feed in premium means that the incentive recognised for the electricity produced does not include the sale of the electricity, which remains at the producer's disposal.

and assimilated resources, fed by the A_{SOS} tariff component. The account for new plants powered by renewable and assimilated resources also includes the costs of special commercial schemes (guaranteed minimum prices and on-the-spot trading). In the period between 1 October 2021 and 31 March 2023, these costs were charged to general taxation.

In 2023, the incentive instruments have allowed the incentivisation of an amount of electricity that stands at around 56 TWh, 36% of which was produced by photovoltaic plants, 29% by wind power plants, 21% by biomass, 12% by hydroelectric plants and, finally, 2% by geothermal sources. Compared to 2022, hydro and wind power increased by 1.2 and 0.9 TWh, respectively, while the other sources decreased. In particular, subsidised production from biomass (-1.8 TWh) and solar (-1.1 TWh) decreased.

In 2023, imports increased by about 7.1 TWh over the previous year, from 47.4 to 54.5 TWh (+15%). Since, at the same time, exports decreased by a higher percentage (-24.6%, from 4.4 to 3.3 TWh); the increase in the foreign balance was amplified: compared to 2022, in fact, foreign electricity entering the Italian system increased by 19% (+8.2 TWh). Reliance on imports increased due to the need to meet demand against a lower coverage of domestic production, which, in the provisional data released by the Electricity Transmission Grid Operator, declined more (-6.4%) than demand (-2.8%). In 2023, domestic generation will see the cessation of some coal-fired generation as a consequence of the end of initiatives to maximise the use of coal-fired power plants (activated as a response to the gas crisis), as well as a reduction in gas-fired thermoelectricity. During the year, imports also benefited from the resumption of French nuclear production after the 2022 freeze. Indeed, compared to 2022, in 2023 we imported around 5 TWh more from France, almost 1,000 GWh more from Switzerland, 1.3 TWh from Montenegro, 657 GWh from Greece and 294 GWh from Slovenia, partly to compensate for the drop in volumes from Austria, partly due to the interconnection blockade to that country for almost a month and a half. The share of domestic needs covered by the external balance increased clearly from 13.6% in 2022 to 16.8%, the highest value since the turn of the century.

The changes in volumes have, in turn, resulted in a slight change in the import shares: Switzerland remained the country from which most (39.5%) of our foreign balance came in 2023, although the share decreased by 5 percentage points compared to 2022. Another 36% of net imported electricity comes from France (30.7% in 2022), 12.7% from Slovenia (14.4% in 2022), 8.1% from Montenegro (6.6% in 2022), 2.4% from Austria (3.5% in 2022) and 2.6% from Greece (1.6% in 2022).

The structure of the electricity market

The Energy Markets Operator (GME) is in charge of managing the energy markets, which are divided into the Spot Energy Market (MPE) - in turn divided into the Day-Ahead Market, the Intra-Day Market and the Day-Product Market - and the Forward Electricity Market with the obligation of physical delivery of energy. Finally, the GME collects offers on the Dispatching Service Market (MSD) operated by Terna[76].

During 2023, no changes occurred in the process of extending the coupling of the Italian day-ahead

[76] For a detailed description of the Italian electricity market, refer to the *Annual Report to the Agency for the Cooperation of Energy Regulators (ACER) and the European Commission on the activities and tasks of the Regulatory Authority for Energy Networks and Environment 2022*.

market with the day-ahead markets of other European states (market coupling), which began in 2011 with the coupling of the Italian and Slovenian markets. By the end of 2022, therefore, there were still 26[77] participating states in Single Day-Ahead Coupling (SDAC). With reference to national borders, the explicit allocation of transmission capacity between Italy and Switzerland and between Italy and Montenegro remains.

On 1 June 2022, the European Platform for the Exchange of Balancing Energy from Reserves for Frequency Restoration with Automatic Activation, better known as PICASSO (Platform for the International Coordination of Automated Frequency Restoration and Stable System Operation), became operational, while on 5 October 2022, the European Platform for the Exchange of Balancing Energy from Reserves for Frequency Restoration with Manual Activation, better known as MARI (Manually Activated Reserves Initiative), became operational. Terna started using the PICASSO platform on 19 July 2023[78], while for access to the MARI platform it has an exemption until 24 July 2024.

To date, 381 operators have been admitted to the electricity market.

Stock exchange and bilateral contracts

In 2023, the amount of power swap on the MGP in the Italian system amounted to 278 TWh, a value that decreased by 3.9% compared with 2022.

Exchange-traded volumes decreased (209.9 TWh; -0.5%), albeit to a lesser percentage than bilateral contracts on the PCE (68.1 TWh; -13.0%), almost entirely referring to domestic areas (Table 3.7).

Trade with foreign countries increased, driven by an increase in imports totalling 55.8 TWh (+15%), or 27% (+4 percentage points) of total stock exchange sales, to the detriment of exports, which came to 3.8 TWh (-31%) or 2% (+ 1 percentage point) of total stock exchange purchases. The share of volumes traded by institutional operators alone, i.e. the Acquirente Unico (18 TWh; -34%) and the GSE (30 TWh; +6%), which together account for 9% of the volumes traded, decreased again (-1% vs 2022) (Figure 3.4).

The total volumes sold on the domestic areas amounted to 222 TWh (-7.6%) and accounted for 80% (-3 percentage points) of the sales on the whole system. Supplied volumes decreased in all zones, particularly in the South (44 TWh; -14% on 2022), Centre-South (25 TWh; -14% on 2022) and Sicily (15 TWh; -12% on 2022).

57% (-8% vs 2022) of domestic sales were generated by thermal plants 127 TWh (-19% vs the previous year), with declines for all relevant fuel sources: the use of coal (9 TWh; -33%) declined particularly in the North (-45%), natural gas (97 TWh; -17%) declined particularly in the Centre-South (-34%), while fuel oil (4.6 TWh; -52%) declined particularly in the South (-54%).

[77] Austria, Belgium, Bulgaria, Czech Republic, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Italy, Ireland, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain and Sweden.

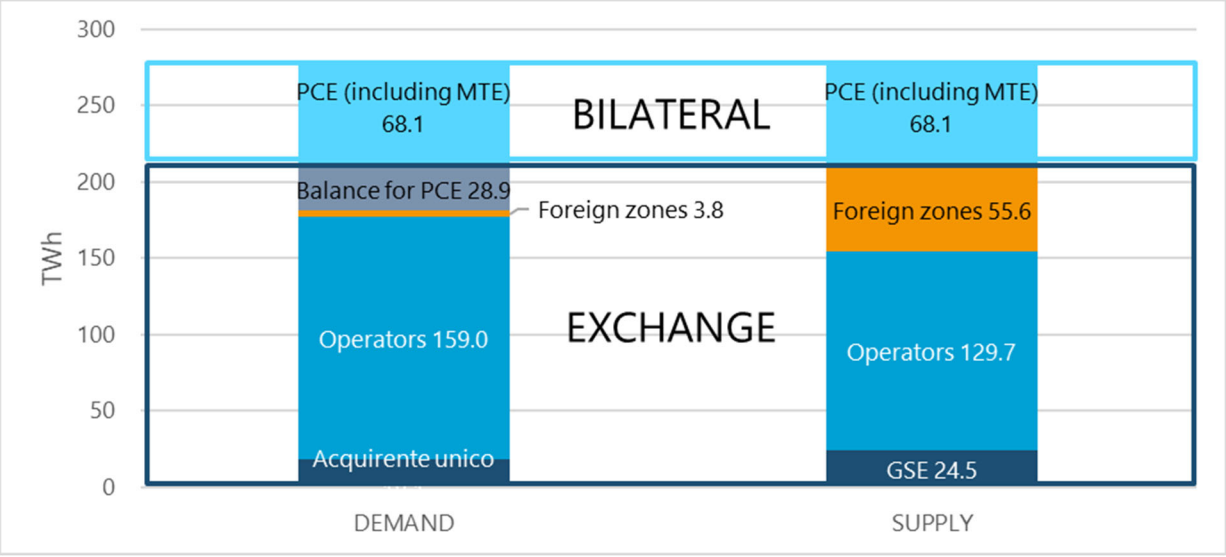
[78] Following the requirements of Resolution 60/2024/R/eel of 27 February 2024, the operational participation in the PICASSO platform was suspended on 15 March 2024.

Table 3.7 Day-ahead electricity market

YEAR	CONTRACTS ON THE MGP (TWh)		
	Comprehensive	*of which Stock Exchange*	*of which bilateral*
2004	231.6	*67.3*	*164.3*
2005	323.2	*203.0*	*120.2*
2006	329.8	*196.5*	*133.3*
2007	330.0	*221.3*	*108.7*
2008	337.0	*232.6*	*104.3*
2009	313.4	*213.0*	*100.4*
2010	318.6	*199.5*	*119.1*
2011	311.5	*180.4*	*131.1*
2012	298.7	*178.7*	*120.0*
2013	289.2	*206.9*	*82.3*
2014	282.0	*185.8*	*96.1*
2015	287.1	*194.6*	*92.5*
2016	289.7	*202.8*	*86.9*
2017	292.2	*210.9*	*81.3*
2018	295.6	*213.0*	*82.6*
2019	295.8	*213.3*	*82.6*
2020	280.2	*209.8*	*70.3*
2021	290.4	*221.3*	*69.1*
2022	289.2	*210.9*	*78.3*
2023	278.0	*209.9*	*68.1*

Source: ARERA processing of GME data.

Figure 3.4 Breakdown of electricity supply and demand in 2023



Source: ARERA processing of GME data.

On the other hand, sales from plants fuelled by renewable energy resources grew (93 TWh; +13%), amounting to 42% of total sales (+8% compared to 2022); the share of hydro with the exclusion of pumping (42 TWh; +25%) increased by 5 percentage points, particularly in the North (+35%), as did the share of wind power (21.5 TWh; +7%), increasing by one percentage point, particularly in the North (+45%). By contrast, the share produced by solar energy remained stable (1.9 TWh; -9%).

Table 3.8 Bilateral contracts purchased in the electricity sector

CONTRACTS (GWh)	2018	2019	2020	2021	2022	2023
National	136,867	129,368	114,745	112,531	106,736	96,914
of which Acquirente Unico	2,459	-	-	0.02	-	186
of which other operators	134,408	129,368	114,745	112,531	106,736	96,728
Foreign	0	-	4	34	19	2
PCE programme balance	-54,233	-46,804	-44,403	-43,445	-24,490	-28,861
Bilateral contracts	82,635	82,564	70,346	69,121	78,265	68,055

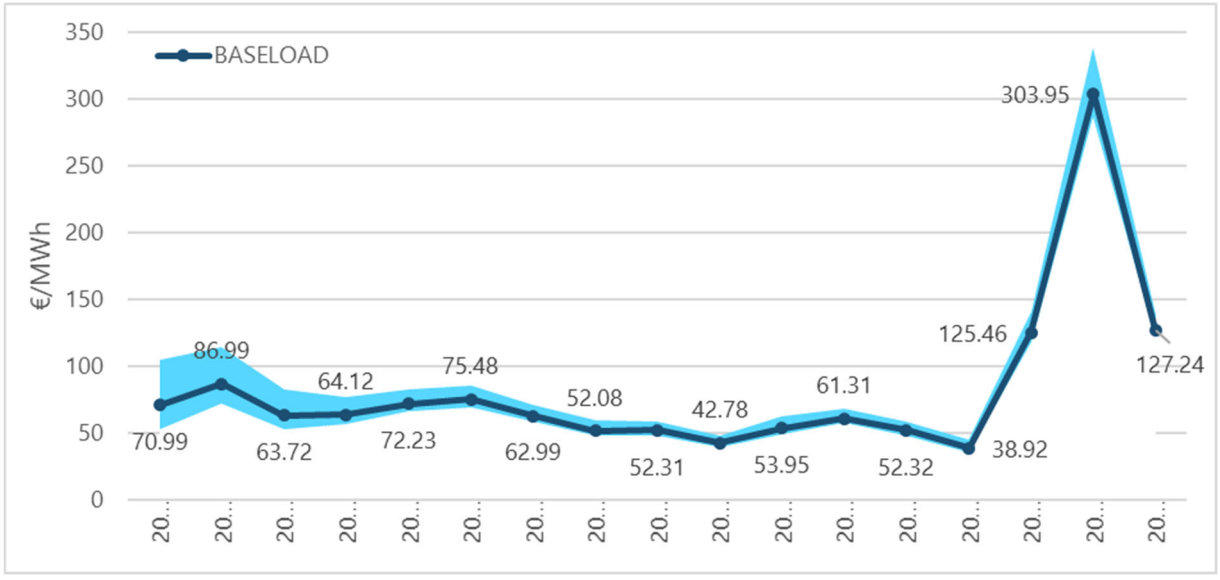
Source: ARERA processing of GME data.

3.2.1.1 Monitoring of wholesale market prices

The day-ahead market

In 2023, the average purchase price of electricity (PUN) dropped considerably to 127.2 €/MWh (-58.1% compared with 2022) (Figure 3.5); this drop was spread across all three hourly bands: 138 €/MWh (-59%) during peak hours, 126 €/MWh (-58%) during off-peak hours on working days, and 117 €/MWh (-57%) on public holidays.

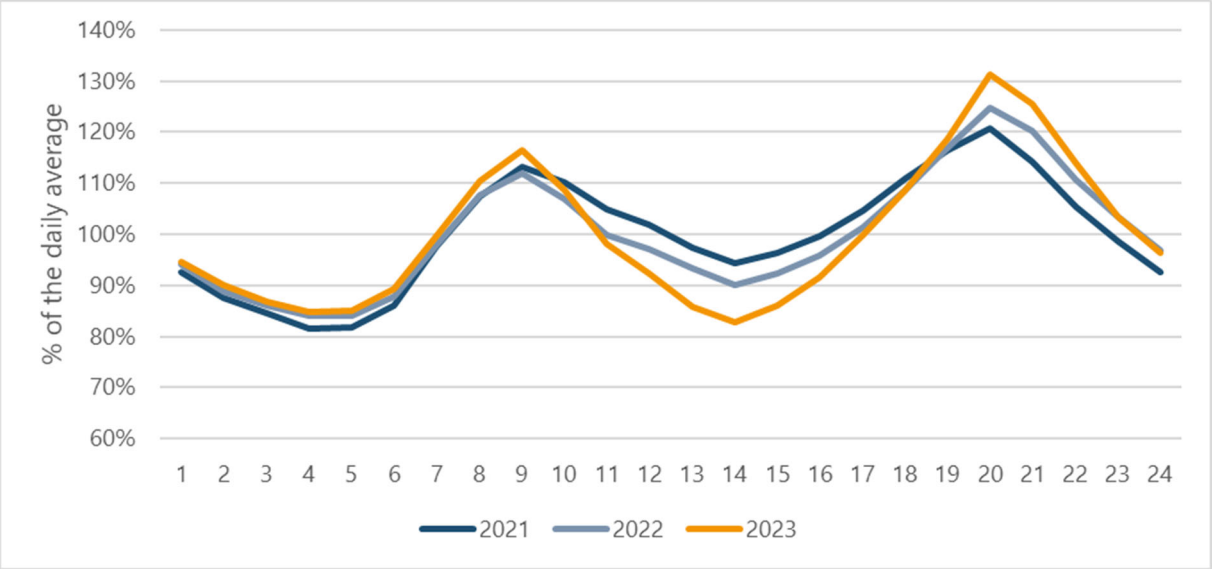
Figure 3.5 Annual PUN and peak/off-peak differential trends



Source: GME.

Looking at the time profile in 2023 (Figure 3.6), it can be seen that the deviation from the daily average of the morning hours "1-8" remained constant (91%; +0.7 percentage points over 2022), while the differential between the peak hours "9-19" (97%; -2.9 percentage points over 2022) and the evening hours "20-24" (112%; +2.2 percentage points over 2022) widened.

Figure 3.6 24-hour average hourly PUN trend compared to daily average

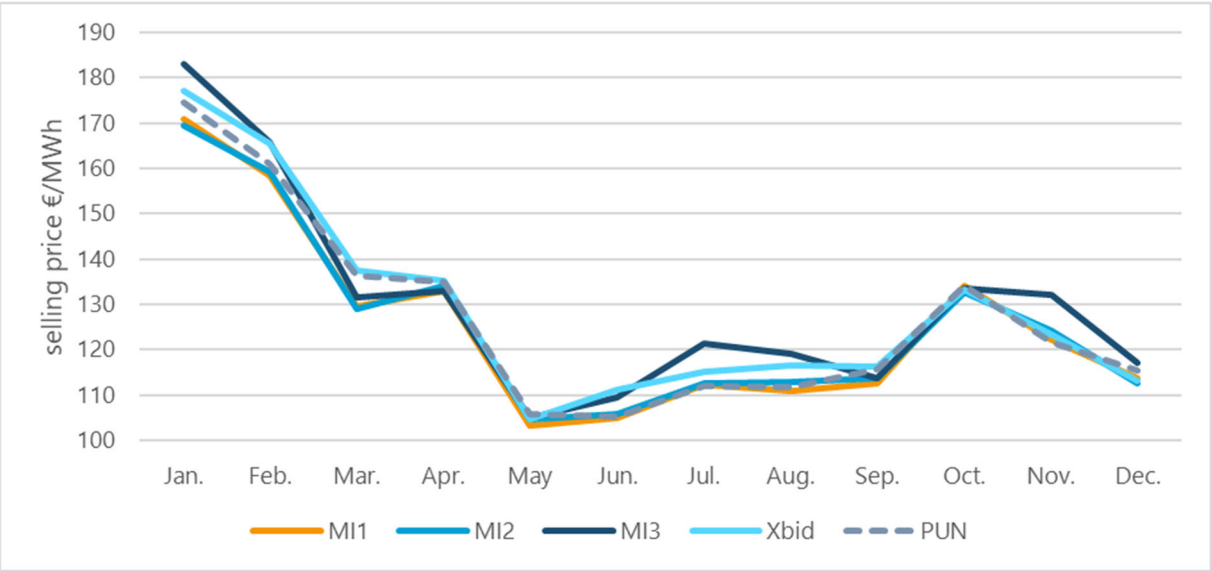


Source: GME.

Intra-day market

The total volumes traded in 2023 on the intra-day market (29.1 TWh) increased compared to the previous year (+12%). Most of these volumes (49%; -5 p.p.) were traded in the first MI-A1 auction session (14.4 TWh; +3% on 2022), a smaller share in the remaining auction sessions, respectively 18% in MI-A2 (5.3 TWh) and 9% in MI-A3 (2.6 TWh) while the remaining volumes (23%; +7 p.p.) were traded in the continuous XBID session (6.8 TWh; +68% on 2022).

Figure 3.7 Monthly price development in MI in 2023



Source: GME.

The average prices recorded on the MI (Figure 3.7) remain strongly correlated with the average levels of the MGP, particularly in the first 2 auction sessions for which the average annual differential with

the latter is negative and less than one percentage point in all zones; this differential is instead positive for all zones in the last available auction session of MI3, which we recall refers only to the hours 13-24, and reaches +4.4% in the Sardinia zone. Over the course of the year, average monthly prices (MI1) showed progressive declines to a minimum of 103 €/MWh in May, reflecting the lowest value also recorded in the MGP.

Forward energy market

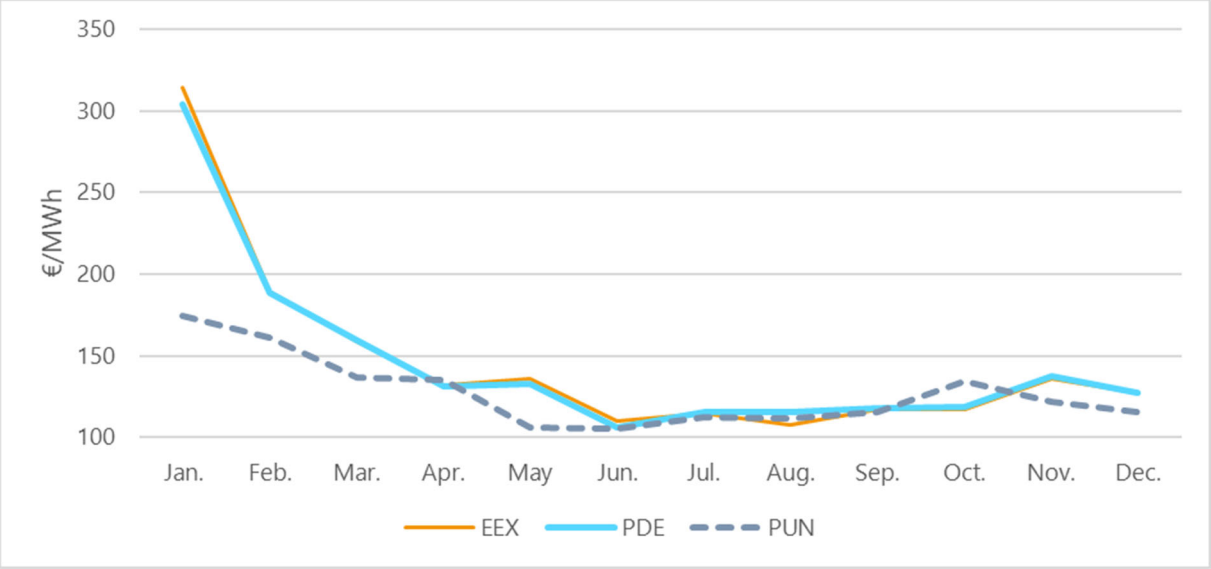
On the electricity forward market, with regard to standardised products with physical delivery, in 2023, there were only eight pairings for a total of 27 GWh. The volume is up from the previous year, but still well below pre-2022 levels; exchanges only involved the baseload profile for monthly (14 GWh) and quarterly (16 GWh) maturities.

After an eight-year period of inactivity, bilateral transaction registrations for clearing purposes only resumed on the MTE, totalling 107 GWh in 16 pairings.

Looking at the price development of the generally more liquid forward product, i.e. the monthly baseload with maturity in the month immediately following (M+1), traders' negotiations resulted in falling prices for 2023 from the January high (319 €/MWh) to the August low (108 €/MWh). This trend is in line with the trend recorded during the year by the underlying PUN, whose greatest gap was observed precisely in January (+130 €/MWh) (Figure 3.8).

In 2023, trading on the day-product market (MPEG) increased, recording 299 transactions (just short of triple the figure recorded for 2022), with a total of 549 GWh traded, almost exclusively with a baseload profile. With regard to the latter, the average daily product price was at an all-time high of 1.25 €/MWh.

Figure 3.8 Average prices in 2023 of M+1 product forward quotations per month of delivery



Source: Processed by ARERA on GME (PUN, PDE) and Refinitiv (EEX) data.

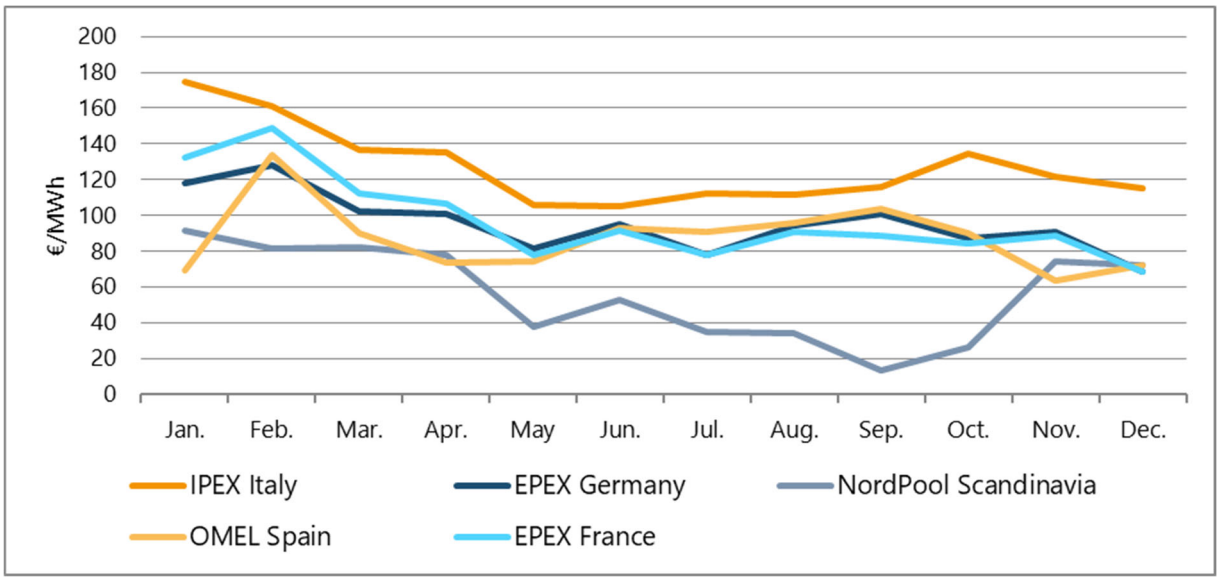
The Italian market in the European context

In 2023 there was a significant drop in prices on European stock exchanges, which had reached record levels in 2022. The energy crisis that began in 2021 cannot be said to be completely over - so much so that the average prices observed in 2023 are still very high, roughly 2.5 times higher than in 2019 - but it has passed its most acute phase.

During the course of the year, prices in all European stock exchanges maintained the downward trend, which had already begun in the second half of 2022, at least until May (Figure 3.9). During the summer months, the descent came to a halt and quotations remained essentially stable until the autumn, when they started to rise again, partly due to renewed international tensions triggered by the Middle East events.

On average for the year, European electricity prices ranged between 95 €/MWh, the lowest price recorded on the German EPEX exchange, and 127 €/MWh, the average price on the Italian exchange, in fact replicating the historical differences related to the characteristics of national generation parks. The Italian PUN, in fact, has once again shown a trend rather distant from the prices that have become established on the stock exchanges of neighbouring countries, Germany and France first and foremost, because it is highly dependent on gas-fired generation and for this reason tends to be more affected by the fluctuations that occur on the international markets for this source.

Figure 3.9 Monthly average price trend on major European stock exchanges in 2023 (average baseload figures)



Source: ARERA processing of data from European Electricity Stock Exchanges.

The annual average value of the spot price recorded on the German exchange (95.18 €/MWh) was almost identical to the French exchange price of 96.86 €/MWh, although both remained rather distant from the Spanish price (87.10 €/MWh). This is probably due to the tensions in the northern electricity markets due to the continued unavailability of the French nuclear park and the closure of the last nuclear plants in Germany. A lower price was also observed in the Scandinavian area (56 €/MWh), which, however, historically shows different and lower prices than the countries surveyed.

The highest price drop was seen on the French stock exchange, where the average annual price fell by 65% from 2022. Slightly smaller declines of a very similar magnitude affected the prices of the German (-60%), Scandinavian (-58%) and Italian (-58%) stock exchanges. The smallest descent was

in the Spanish stock exchange, where prices fell 48% since 2022.

The lowest points were reached in the last months of the year in Germany, Spain and France, where quotations fell below 70 €/MWh. In the Italian and Scandinavian stock exchanges, on the other hand, the lowest points were reached in the summer months, albeit at very different levels: around 105 €/MWh in the Italian exchange and around 14 €/MWh in the case of NordPool.

3.2.1.2 Monitoring of the level of transparency, including compliance with obligations on transparency and on the degree and on the efficiency of market opening and competition

Monitoring of the wholesale market

At an advanced stage of regulation, the wholesale market monitoring function is the main tool the Authority has for assessing the structure of markets and their proper functioning, as well as the behaviour of operators and the adequacy of the system. In the electricity sector, the Authority has therefore equipped itself[79], since 2008, with the Integrated Text on the Monitoring of the Wholesale Electricity Market and of the Dispatching Service Market (TIMM), in order to strengthen its monitoring function in the sector.

The TIMM establishes the modalities and criteria for the performance by the Energy Markets Operator (GME), the TSO (Terna) and the Energy Services Manager (GSE) of the activities instrumental to the exercise of the electricity market monitoring function by the Authority. More specifically, each of them carries out the activities of acquiring, organising and storing data for monitoring (established by the Authority), the activity of sharing the same data with the Authority, as well as the necessary processing and analysis activities, as instrumental to the exercise of the monitoring function by the Authority.

In addition:

- the GME draws up and transmits to the Authority, on a weekly basis, a report on the structure and performance of the wholesale electricity market, as well as on the conduct of the relevant market operators active in that market; in drawing up this report, GME shall report as promptly as possible any anomalous data or situation of which it has become aware in the course of providing the utility service. In addition, at the Authority's request, it carries out *ad hoc* analyses in support of the investigative activities conducted by the Authority;
- Terna (the TSO) prepares and submits to the Authority, on a weekly basis, a weekly report on the structure and outcome of the market for dispatching service as well as on the conduct of the relevant dispatching users active in the same market; in preparing this report, Terna is required to report as promptly as possible any anomalous data or situations of which it has become aware in the course of its public utility service.

[79] By Resolution ARG/elt 115/08 of 5 August 2008, as amended.

Implementation of REMIT

The importance of the monitoring function carried out by the regulatory authorities at national level - and already provided for ARERA by its founding law - is also recognised at European level: in addition to the directives on energy markets, regulation (EU) 1227/2011 on Wholesale Energy Market Integrity and Transparency (REMIT) has strengthened and expanded the monitoring powers of national regulators. In particular, the monitoring function envisaged by REMIT is aimed at increasing the general transparency of markets and promoting a more level playing field among operators, intercepting abusive conduct relating to market manipulation and insider trading, including cross-border and cross-product practices (spot and forward, physical and financial products); this important function is therefore coordinated at European level by the Agency for the Cooperation of Energy Regulators (ACER).

Pre-investigation activities resulting *ex officio* from market monitoring activities or external reports of suspicious orders and/or transactions in the wholesale electricity and natural gas markets, potentially abusive concerning the integrity and transparency of wholesale energy markets, were conducted in 2023. These activities, in some cases, were preparatory to the initiation of sanction proceedings.

The Authority also participated in the process of revising the REMIT regulation, exchanging views with ACER and the national regulatory authorities of other European countries on the issues to be amended and coordinating its position with the offices of the Ministry of the Environment and Energy Security.

Penalty proceedings in the wholesale market and dispatching services

In 2023, 3 penalty proceedings were initiated for violations of the wholesale market integrity and transparency provisions of REMIT.

In the first proceeding, an operator in the natural gas market, the company Enet Energy, was charged with violation of Art. 5 of the REMIT, for having engaged in market manipulative conduct, consisting in the conclusion of transactions and/or the transmission of buy and sell orders in wholesale energy products using, or attempting to use, a fictitious instrument or any other form of deception or artifice that sends, or is likely to send, false or biased signals regarding the supply, demand or price of wholesale energy products. In the second proceeding, the company Enel Produzione was charged with failing to comply with the obligation, laid down in Article 4 of REMIT, to disclose certain inside information to the public in an effective and timely manner. More specifically, the company was accused of not having correctly published information about a production plant over a period of about four months, as well as of not having timely published information about an unavailability of the same plant. In these proceedings, the company submitted a proposal for commitments that is currently being examined by the Authority. The third proceeding, on the other hand, concerned non-compliance with Articles 8 and 9 of REMIT: the company EC Energy Clean is accused of not having provided ACER with a register of transactions carried out on the wholesale energy markets, including buy and sell orders, and of not having registered with the national REMIT register.

In 2023, the Authority also concluded a proceeding for the redetermination - following an annulment ruling by the Council of State - of a penalty concerning non-diligent scheduling strategies within the electricity dispatching service.

3.2.2 Retail market

In 2023, according to provisional data published by Terna, total consumption (net of leakage) amounted to approximately 287 TWh, a decrease of 2.9% compared to 2022. The decline affected all sectors (broken down according to a new breakdown required by Eurostat), except for transport and fishing, which increased by more than 5% (Table 3.9).

Table 3.9 Breakdown of national electricity consumption by end sector

PRODUCTION SECTOR (GWh)	2022	2023(A)	VARIATION
Energy	8,852	8,730	-1.38%
Industry	111,638	107,135	-4.03%
Transport	9,009	9,510	5.56%
Household	64,640	62,680	-3.03%
Trade and public services	94,967	93,005	-2.07%
Agriculture/Forestry	6,387	5,970	-6.53%
Fishing	230	242	5.22%
Other	117	105	-10.26%
TOTAL	295,840	287,377	-2.86%

(A) Provisional data.

Source: Terna.

In the Authority's Registry of Operators, they declared that in 2023 (even for a limited period of the year) they were engaged in the business of supplying electricity: 106 in the standard offer market, 7 in the gradual standard offer service for micro enterprises, 3 in the safeguard service and 707 in the free market.

594 free market companies responded to the Survey (i.e. 84% of those in the market), 48 of which reported that they had been inactive during the year. Taking into account the fact that 47 companies sell energy in both the free market and in the market with a reference price, as well as the fact that the companies operating in the safeguard and gradual standard offer services also sell energy in the free and/or in the standard offer market (and are therefore already counted in those segments), the number of companies active and operating in the end market for electricity supplies in 2023 is 653.

Table 3.10 presents the breakdown of final sales of electricity (net of fuel gas and network leakages) together with the total number of customers[80] by type of market, determined on the basis of data from the Authority's Annual Survey provided by electricity operators: producers, operators of the standard offer, gradual standard offer and safeguard services, wholesale suppliers and suppliers on the free market. The results of the Survey reach a coverage of approximately 91% of the final consumption estimated by Terna for 2023[81], but this percentage is indicative, taking into account the pre-consumptive nature of the data used, both from Terna's source and from the Authority's annual survey of suppliers.

[80] Approximated by the number of withdrawal points always counted on a *pro die* basis (i.e. counted for the fractions of the year for which they were served).

[81] In order to obtain the percentage indicated, it is necessary to add to the final consumption shown in Table 3.10 also the quantities declared in the Survey as fuel gas (own and group) which are not included in the table.

Table 3.10 Final electricity sales market (net of fuel gas and leakage)

MARKET AND CUSTOMERS	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2022	2023	CHANGE	2022	2023	CHANGE
Standard offer service	21,858	14,422	-34.0%	12,161	9,219	-24.2%
Household	18,374	13,728	-25.3%	10,602	8,866	-16.4%
Non-household	3,485	694	-80.1%	1,559	353	-77.4%
Gradual standard offer service for small enterprises(A)	2,303	1,506	-	136	93	-
Gradual standard offer service for micro enterprises(A)	-	1,547	-	-	827	-
Safeguard service	4,843	5,119	5.7%	89	98	10.0%
Free market	223,239	218,566	-2.1%	24,841	27,072	9.0%
Household	39,939	42,263	5.8%	19,522	21,382	9.5%
Non-household	183,300	176,302	-3.8%	5,319	5,690	7.0%
END MARKET	252,244	241,159	-4.4%	37,227	37,308	0.2%

(A) Estimates based on data collected indistinctly between gradual standard offer service for small enterprises and gradual standard offer service for micro enterprises.

Source: ARERA. Annual survey of regulated sectors.

After the slight decline in 2022, electricity consumption fell further in 2023: according to data collected, just over 241 TWh were sold to the end market last year to 37.3 million customers. Compared to 2022, total electricity consumption therefore decreased by 4.4%, while withdrawal points increased slightly (0.2%).

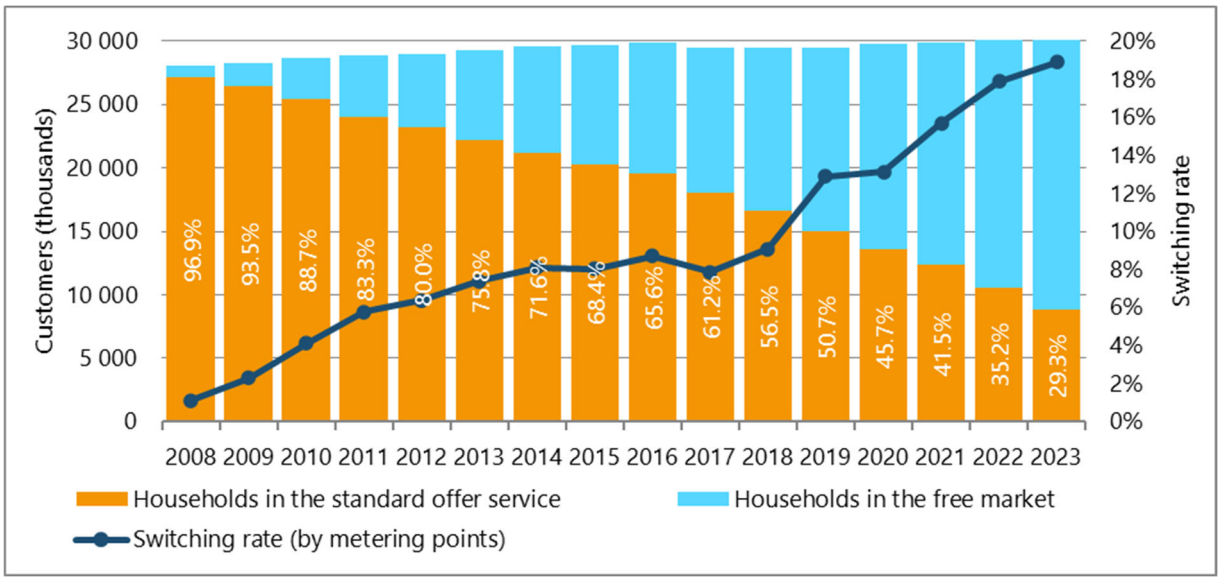
The contraction in consumption occurred proportionally evenly for the two types of customers, but in absolute terms it is obviously greater for non-households, who purchased about 8.8 TWh less than in 2022, while household consumption decreased by around 2.3 TWh.

The reduction in demand for electricity from the non-household sector can be explained partly by the modest economic growth (GDP increased by 0.9% in 2023 according to the latest ISTAT data) and partly by the weakness observed in the more energy-intensive sectors. The continuation of high price levels in 2023 (albeit lower than in 2022) is certainly a factor that explains a large part of the decline in household consumption, along with the spread of energy saving instruments.

In more detail, Italian households purchased a total of 56 TWh compared to 58.3 TWh in 2022, thereby recording a decline of 4%, while energy purchased by the non-household sector fell from 193.9 to 185.2 TWh, thus showing a reduction of 4.5% and moving back away from pre-Covid levels (198 TWh in 2019), which had been partly recovered in 2022.

In 2023, the number of household withdrawal points was 30.2 million, of which just under 8.9 million were served in the standard offer service and around 21.4 million in the free market; households served on the free market have now risen to 70.7% (Figure 3.10). Looking at the volumes purchased, the free market now accounts for three quarters (75.5%) of the total energy purchased by Italian households. The transition to the free market is, however, a lengthy process: fifteen years after the complete opening of the electricity market on 1 July 2007, the household withdrawal points that are supplied in the standard offer service are still just short of a third of the total.

Figure 3.10 Households in the standard offer service and in the free market since 2008



Source: ARERA, Annual survey on regulated sectors.

The average unit consumption of households in the standard offer market is slightly lower than that of households purchasing energy in the free market: 1,548 kWh/year versus 1,977 kWh/year.

For the electricity supply of small enterprises and micro enterprises with a committed power of more than 15 kW, price protection ended on 1 January 2021. The other micro enterprises (those with a committed power of less than 15 kW) and all non-households (including some apartment blocks) can no longer be supplied in the **standard offer service** from 1 April 2023. Therefore, the total volumes sold under protection in 2023 still include those purchased by micro enterprises with a committed power of less than 15 kW for part of the year. If the consumption of the household sector is added to the consumption of the latter, the share of electricity sold in the standard offer service is very small, amounting to 6% of the volumes of the entire Italian electricity market (corresponding to 24.2% of the total withdrawal points).

Small enterprises and micro enterprises that have not chosen a supply in the free market will be supplied from 1 April 2023 as part of a special **gradual standard offer service**, by a supplier selected by tender (respectively called gradual standard offer service for small enterprises and gradual standard offer service for micro enterprises). In 2023, the two gradual standard offer services served a total of around 919,000 withdrawal points (2.4% of all customers in the electricity market), to which it supplied just over 3 TWh, or 1.3% of the energy sold in the total market. In more detail, in 2023 the gradual standard offer service for small enterprises covered about 93,000 customers, who purchased approximately 1.5 TWh, while that for micro enterprises included 827,000 withdrawal points with a total consumption of just under 1.6 TWh[82].

With 219 TWh sold, the share of electricity intermediated by the **free market** rose to 90.6% (73.1% of withdrawal points) in 2023, despite the fact that the portion of electricity purchased in the **safeguard service** rose slightly to 2.1% (0.3% of withdrawal points) from the 1.9% recorded in 2022, just like gradual standard offer services, which went from 0.9% in 2022 to 1.2% (2.5% of withdrawal

[82] The division between the two services is the result of an estimate made by the Authority on the data collected in the survey on the gradual standard offer service without distinguishing between that for small and micro enterprises.

points).

In a final market that overall decreased by 11.1 TWh compared to 2022, sales volumes decreased by 7.4 TWh in the market with a reference price (-34%) and by 4.7 TWh in the free market (-2.1%), while energy supplied in gradual standard offer services increased by 750 GWh (+33%), and that in the safeguarded regime increased by 276 GWh (+5.7%).

The total number of customers increased in 2023 by 81,000 to 37.3 million: standard offer lost 2.9 million points, while the free market gained 2.2 million, safeguarding around 9,000 points and gradual standard offer services gained a total of 783,000 more than in 2022.

Switching

On the basis of data provided by distributors in the Annual Survey and data from the SII[83], the switching rate was again very high among customers in 2023, as was to be expected in a period of falling prices, but still high compared to pre-crisis prices, as well as at a time when the end of standard offer is imminent (for non-vulnerable household customers) or has just occurred for all other customers.

Household switching has grown by one percentage point compared with 2022, both in terms of withdrawal points and volumes (Table 3.11), approaching that of non-households. 18.9% of households - about 5.7 million withdrawal points - changed supplier at least once during the year. The volumes corresponding to this portion of customers amounted to 24.5% of the total energy purchased by the household sector, while the volumes corresponding to the 17.9% of households who changed supplier in 2022 corresponded to 23% of the energy withdrawn.

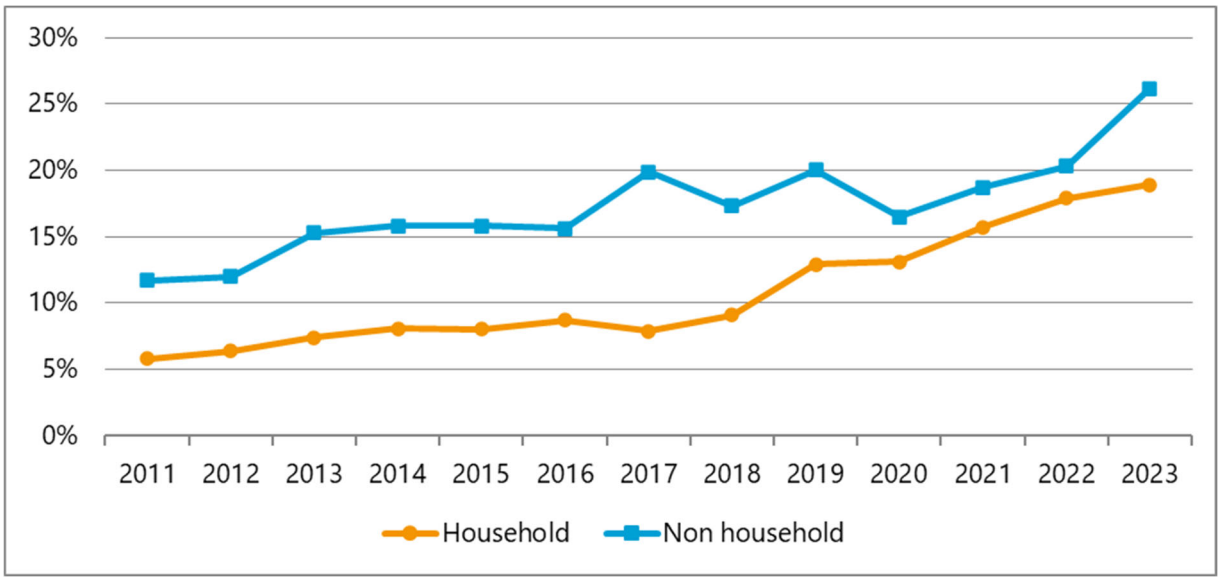
Table 3.11 Electricity customer switching rates

CUSTOMER TYPE	2022		2023	
	VOLUMES	WITHDRAWAL POINTS	VOLUMES	WITHDRAWAL POINTS
Household	23.0%	17.9%	24.5%	18.9%
Non-household	25.5%	20.3%	28.2%	26.2%
of which:				
- low voltage	31.7%	20.3%	33.8%	26.2%
- medium voltage	24.1%	22.2%	29.3%	23.2%
- high and extra-high voltage	16.1%	33.8%	13.0%	25.9%
TOTAL	24.9%	18.3%	27.3%	20.2%

Source: ARERA. Annual survey of regulated sectors.

[83] Integrated Information System (SII): this is an information system, set up at the Acquirente Unico by Law No. 129 of 13 August 2010, with the aim of managing information flows between the entities (mainly distributors and suppliers) participating in the electricity and gas markets according to the rules and proceedings defined by the Authority. It is based on a database, called the Official Central Register, which contains the complete list of national withdrawal points and the basic data for the management of the related processes.

Figure 3.11 Switching rates (of withdrawal points) in the electricity sector since 2011



Source: ARERA, Annual survey on regulated sectors and processing on SII data.

In recent years, household switching has shown a certain acceleration from a more modest trend maintained until 2018 (Figure 3.11). As just noted, the recent context of still high prices, in a moderately growing economy, is undoubtedly a strong incentive to change supplier, but it should also be noted that since 2018, expectations of the removal of price protection, although postponed several times and now definitively set for July 2024, have certainly created a climate of ferment and curiosity towards the free market.

The gradual exclusion *ex lege* from the standard offer service of non-households connected to low voltage, which began in 2021 and ended in 2023 (from 1 April also for micro enterprises) has certainly had an impact on the switching activity of these customers, which in the last three years have shown a rather high and continuously rising rate of switching: the rate of switching of these customers has, in fact, risen from 18.4% in 2020, to 29.4% in 2021, to 31.7% in 2022, reaching 33.8% in 2023.

Other non-household customers also showed a significant (and rising) rate of switching with respect to last year: 23.2% of customers connected to medium voltage (for a total of 29.3%) and 25.9% of customers connected to high or very high voltage, for a volume of approximately 13%, changed supplier. In total, almost 1.8 million non-household withdrawal points changed supplier in 2023, which corresponds to 28.2% of non-household withdrawal in terms of volumes (about 52 TWh).

Standard offer service

In 2023, household customers who had not yet entered into a purchase and sale contract in the free market benefited from the **market at standard conditions** or the **standard offer service**; for the first few months of the year, as mentioned above, they also benefited from this service for a part of the micro enterprises[84] and the other users[85] served at low voltage with a committed power of less

[84] Companies with fewer than 10 employees and an annual turnover not exceeding € 2 million owning only withdrawal points with a commitment to contracted power exceeding 15 kW, are considered as micro enterprises.

[85] Non-households other than micro enterprises.

than 15 kW for whom, under the current regulation, the standard offer service ended on 31 March 2023. Indeed, the gradual standard offer service for micro enterprises has been activated for these customers as of 1 April 2023. In 2021, the service ended for small enterprises[86] and larger micro enterprises[87]; for these, the small enterprise gradual standard offer service has been active since 1 July 2021 (see below). According to the law[88], the standard offer service will finally end for non-vulnerable households as well, starting in July 2024.

The standard offer service is provided by specific sales companies or by distribution companies with less than 100,000 users connected to their network, on the basis of economic and commercial quality conditions indicated by the Authority. Under the standard offer regime, a single buyer (the company "Acquirente Unico") is responsible for the supply of electricity on the wholesale market, which it resells to the operators at a price reflecting the costs it has incurred, including those for energy materials. The higher standard offer prices are set by the Authority on the basis of wholesale market prices in order to cover the supply costs incurred by the companies entrusted with providing this service. As regards the component covering marketing costs, the criterion used by the Authority reflects the costs incurred by a hypothetical new operator to the market segment of electricity sales to households. In summary, the energy component of the standard offer prices is linked to market performance, while the marketing component is set according to a standard cost methodology, based on the entry costs of a hypothetical new operator. The total price is charged to all customers without geographic differentiation.

In 2023, 14.2 TWh were sold, under the standard offer service, to approximately 9.2 million withdrawal points (calculated on a *pro die* basis) (as seen in Table 3.10). Compared to 2022, consumption fell by 7.4 TWh (-34%), while the number of withdrawal points served decreased by 3 million (-24.2%). During the year, 1.7 million households (-16.4%) and 1.2 million non-households (-77.4%) left the standard offer service. Within households, the decrease in residents (1.4 million, -17.8%) is proportionally above that of non-residents (0.2 million, -11.5%). Even larger were the decreases in quantities sold (-26% residents and -19.9% non-residents), indicating a significant drop in unit consumption. Also as a result of the regulatory provisions in question, non-household "other usage" customers show a different development than households, with a much more marked decrease: as mentioned, the number of points served fell by 77.4% in line with the 80.1% reduction in quantities sold.

As a result of the above, compared to 2022, the shares of the total consumption of household and street lighting customers changed to 95.2% (84.1% in 2022) and 0.03% (0.05% in 2022), respectively; the portion of energy sold to non-household "other use" customers, on the other hand, understandably dropped to 4.8% from the 15.9% observed in 2022, given the *ex lege* exit of these customers from the service.

Within **households** (Table 3.12), residents account for 87.1% of the withdrawal points and 76.2% of consumption. Almost all households (99.1%) are charged the two-tier tariff, i.e. the economic condition depending on the hourly band in which consumption takes place; the remaining 0.9% of household withdrawal points are still charged the old non time-of-use tariff. This breakdown is close

[86] Pursuant to Decree Law No. 73 of 18 June 2007, converted with amendments by Law No. 125 of 3 August 2007, "small enterprises" are final customers, supplied at low voltage and other than households, with less than 50 employees and with an annual turnover or balance sheet total not exceeding € 10 million.

[87] Micro enterprises with at least one withdrawal point with a contractually committed power of more than 15 kW.

[88] Article 1, paragraph 60 of Law No. 124 of 4 August 2017, as subsequently amended and supplemented.

to that of the previous year. Slightly higher (1.3%) is the share of non-households with a non time-of-use tariff. In 2023, the average unit consumption of households was 1,548 kWh/year, significantly lower than the 1,733 kWh recorded in 2022 (-11%). With regard to households, the most part, as described, is made up of residents, who recorded a unit consumption of 1,771 kWh, a decrease (-10%) compared to 1,968 kWh in the previous year; significantly lower, as usual, was the unit consumption level of non-residents, at 837 kWh and also a decrease, somewhat less marked (-9.4%), compared to the previous year (924 kWh).

More than three quarters of the households (79%) served in the standard offer service belong to the first four consumption classes: that is, they purchase a maximum of 3,500 kWh/year.

Table 3.12 Households in the standard offer service in 2023, by type and consumption class

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-1,000 kWh	1,447	10.5%	3,437	38.8%	421
1,000-1,800 kWh	3,319	24.2%	2,377	26.8%	1,396
1,800-2,500 kWh	3,166	23.1%	1,488	16.8%	2,128
2,500-3,500 kWh	2,911	21.2%	996	11.2%	2,923
3,500-5,000 kWh	1,655	12.1%	406	4.6%	4,076
5,000-15,000 kWh	1,037	7.6%	154	1.7%	6,734
> 15,000 kWh	192	1.4%	8	0.1%	24,000
TOTAL HOUSEHOLDS	13,728	100.0%	8,866	100.0%	1,548
OF WHICH:					
Resident households	11,959	87.1%	6,752	76.2%	1,771
Non-resident households	1,769	12.9%	2,114	23.8%	837

Source: ARERA. Annual survey of regulated sectors.

Table 3.13 shows the size of withdrawal points (0.7 million) and volumes (695 GWh) of **non-household** customers served at standard conditions, by consumption class. These are residual quantities because, as noted above, non-households were only served in this market for a few months in 2023. Approximately 45% of the energy for other uses was sold to customers in the first consumption class (up to 5 MWh/year), who make up 90% of these customers. Approximately 60% of the withdrawal points are in the smallest consumption class (up to 5 MWh), which, however, accounts for 8% of the energy sold for public lighting; while the fifth class, i.e. consumption up to 50 MWh, accounts for 25.7% of the energy sold. Among non-households "other uses", the absolutely most prevalent economic condition is the time-of-use one: it is, in fact, applied to 98% of the withdrawal points and to 96.4% of the volumes sold.

The share of the main operator, Servizio Elettrico Nazionale of the Enel group, fell to 84.1% (1.1 points lower than in 2022), a slight decrease was also seen in the market shares of Alperia (-0.1%), Amet (-0.03%) and S.I.P.P.I.C. (-0.01%); all other operators recorded an increase in market share, albeit small. While the top 5 positions remain stable compared to the year 2022, Estenergy, Società Elettrica Liparese and CVA Energie rise, gaining one position, while Odoardo Zecca climbs two positions. The 92 operators that are not listed in the table together cover 1.2% of the standard offer service, as in the previous year. There is no change in the measure of the degree of concentration, in terms of both

the C3 index (market share of the top three operators, which fell to 94.2%) and the HHI index, which fell from 7,307 in 2022 to 7,221 in 2023 (remember that the value of 10,000 indicates the maximum concentration, corresponding to the presence of only one operator).

Table 3.13 Non-households in the standard offer service in 2023, by type and consumption class

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-5 MWh	309.3	44.5%	531	75.0%	1,586
5 - 10 MWh	157.4	22.7%	73	10.3%	7,251
10 - 15 MWh	85.3	12.3%	35	4.9%	12,390
15 - 20 MWh	52.3	7.5%	20	2.8%	17,148
20 - 50 MWh	79	11.4%	38	5.4%	29,576
50 - 100 MWh	6.6	0.9%	10	1.4%	66,919
100 - 500 MWh	3	0.4%	0.4	0.1%	102,814
500 - 2,000 MWh	2	0.3%	1	0.1%	785,910
TOTAL NON-HOUSEHOLD	694.9	100.0%	708.4	100.0%	11,395
OF WHICH:	4.1	0.6%	356	50.3%	11,395
Public lighting	690	99.3%	352	49.7%	1,960
Other non-household uses	309.3	44.5%	531	75.0%	1,586

Source: ARERA. Annual survey of regulated sectors.

Gradual standard offer service for small enterprises

The gradual standard offer service, as mentioned above, is the service regulated by the Authority to accompany the transition to the free electricity market and to guarantee continuity of supply to those customers who have not chosen an offer in that market after the removal of price protection (standard offer market). According to the deadlines defined by the legislator, the standard offer service ceased, as of 1 January 2021, first for small electricity companies connected to low voltage and for micro enterprises with at least one low voltage connected withdrawal point with contractually committed power exceeding 15 kW and, as of 1 January 2023, for all other micro enterprises. From 2023, therefore, the gradual standard offer service has been differentiated into two segments: that for small enterprises and that for micro enterprises.

The Authority has established that the gradual standard offer service for small enterprises will be provided for a period of three years, from 1 July 2021 to 30 June 2024, by suppliers selected through specific competitive procedures for each of the four specially defined territorial areas, as set out in Table 3.14.

Table 3.14 Operators selected to provide the gradual standard offer service for small enterprises for the period 1 July 2021-30 June 2024 in each territorial area

TERRITORIAL AREA	OPERATOR
Lombardy, Veneto, Liguria, Trentino-Alto Adige, Lazio	A2A Energia
Marche, Umbria, Abruzzo, Molise, Campania, Basilicata, Calabria, Sicily, Sardinia	Hera Comm
Valle d'Aosta, Friuli-Venezia Giulia, Tuscany, Apulia and the Municipality of Milan	Iren Market
Piedmont, Emilia-Romagna	Axpo Italia

Source: ARERA.

The contractual conditions of the service correspond to those of the Free Price Offers with Equal Protection Conditions (PLACET Offers), defined by the Authority[89]. The economic conditions for energy expenditure are based on the actual values of the Single National Price, and include fees to cover other supply and marketing costs. The price paid by final customers also depends on the level of the parameters offered by each gradual standard offer service operator in each territorial area for the service allocation.

Table 3.15 Non-households in the small enterprise gradual standard offer service in 2023(A), by type and consumption class

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-5 MWh	72.7	4.8%	46.3	50.0%	1,568
5 - 10 MWh	93.8	6.2%	12.3	13.3%	7,613
10 - 15 MWh	98.7	6.6%	7.8	8.4%	12,683
15 - 20 MWh	95.5	6.3%	5.4	5.8%	17,758
20 - 50 MWh	446.7	29.7%	13.9	15.0%	32,129
50 - 100 MWh	337	22.4%	4.9	5.3%	68,790
100 - 500 MWh	337.3	22.4%	2	2.2%	165,096
500 - 2,000 MWh	21.8	1.4%	0	0.0%	671,108
2,000 - 20,000 MWh	2.4	0.2%	0	0.0%	6,091,423
TOTAL NON-HOUSEHOLD	1,506	100.0%	92.7	100.0%	16,245
OF WHICH:					
Public lighting	149	9.9%	12.1	13.1%	12,281
Other non-household uses	1,357	90.1%	80.6	86.9%	16,841

(A) Estimates based on data collected indistinctly between gradual standard offer service for small enterprises and gradual standard offer service for micro enterprises.

Source: ARERA. Annual survey of regulated sectors.

[89] For the PLACET Offers (free price offers under uniform contractual conditions), the Authority sets the billing methods and times, the content of the billing documents, the guarantees to be requested from the customer, the payment times and methods, as well as the instalment terms and the application of interest on non-payment of bills in the event of non-payment by the final customer.

Estimates based on data from the Annual Survey[90] show that in 2023, 1.5 TWh were sold in the small enterprise gradual standard offer service to 92,700 withdrawal points (calculated on a *pro die* basis; Table 3.15). Compared to 2022, consumption fell (-0.8 TWh, -35%), while the number of withdrawal points served decreased by 43 thousand (-32%). Within the service, the most numerous type of customer is that of non-households with consumption other than public lighting (or "other use" customers), who consumed approximately 1.3 GWh and had approximately 81,000 withdrawal points, for a unit consumption of 16,839 kWh, down 3% compared to the previous year (17,412 kWh).

Around 72% of the withdrawal points for other uses fall into the first three size classes (up to 15 MWh/year), but together these classes account for only 17.6% of the category's consumption. Most of the consumption (74.4%) is concentrated in the three medium to large classes (20 to 500 MWh/year), which include 22.5% of the withdrawal points, while the subsequent classes have an almost insignificant incidence, both in terms of points served and in terms of purchased energy (Table 3.15). The national average consumption is 16,245 kWh.

Gradual standard offer service for micro enterprises

The Authority has defined the regulation of the economic and contractual conditions for the provision of the gradual standard offer service for micro enterprises, aimed at non-households with withdrawal points of up to 15 kW, for a period of four years, running from 1 April 2023 to 31 March 2027, as set out in Table 3.16.

Table 3.16 Operators selected to provide the gradual standard offer service for micro enterprises for the period 1 April 2023-31 March 2027 in each territorial area

TERRITORIAL AREA	OPERATOR
Friuli-Venezia Giulia, Trentino-Alto Adige, Belluno, Venice, Verona	Hera Comm
Bologna, Modena, Piacenza, Padua, Parma, Reggio Emilia, Rovigo, Treviso, Vicenza	Sorgenia
Abruzzo, Marche, Umbria, Forlì-Cesena, Ferrara, Ravenna, Rimini	A2A Energia
Bergamo, Brescia, Cremona, Lecco, Lodi, Milan excluding Municipality of Milan, Mantua, Sondrio	Sorgenia
Valle d'Aosta, Alessandria, Asti, Como, Monza-Brianza, Milan, Novara, Pavia, Varese, Verbania, Vercelli	Sorgenia
Liguria, Biella, Cuneo, Turin	Agsm Aim Energia
Arezzo, Florence, Latina, Prato, Rieti, Rome excluding Municipality of Rome, Siena, Viterbo	Illumia
Molise, Frosinone, Grosseto, Livorno, Lucca, Massa-Carrara, Pisa, Pistoia, Municipality of Rome	A2A Energia
Basilicata, Calabria, Bari, Taranto	Estra Energie
Sardinia, Caserta, Naples excluded City of Naples	A2A Energia
Avellino, Barletta-Andria, Benevento, Brindisi, Trani, Foggia, Lecce, Naples, Salerno	Acea Energia
Sicily	A2A Energia

Source: ARERA.

[90] In order to temporarily mitigate the impact of the data collections on the respondents, no explicit separation of the data on the gradual standard offer service for small enterprises from those on the gradual standard offer service for micro enterprises has been included in the Annual Survey for 2023. The detailed analyses presented in the chapter, however, have been separated for the two services and are derived from processing and estimates that the Authority has carried out on the collected data.

Estimates based on data from the Annual Survey[91] show that, in 2023, just over 1.5 TWh were sold in the micro enterprise gradual standard offer service to 826,700 withdrawal points (here too calculated on a *pro die* basis).

Within the service, almost all points and volumes are accounted for by non-households with consumption other than public lighting (or "other use" customers); in fact, public lighting accounts for 0.1% of total points and 0.3% of volumes. Non-household "other use" customers consumed about 1.5 TWh and number approximately 826 thousand withdrawal points for an average consumption of 1,867 kWh, compared to public lighting with an average consumption of 6,000 kWh (Table 3.17). The national average consumption is 1,871 KWh.

79.3% of the volumes are concentrated in the first three consumption classes (up to 15 MWh), of which almost 50% are included in the smallest class, the one with a consumption of less than 5 MWh. In terms of points, almost all of them are in the first consumption bracket (91.8%).

Table 3.17 Gradual standard offer service for micro enterprises in 2023(A) by consumption class

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-5 MWh	753	48.7%	759.5	91.8%	993
5 - 10 MWh	308	19.9%	42.5	5.1%	7,240
10 - 15 MWh	166	10.8%	13.1	1.6%	12,665
15 - 20 MWh	100	6.4%	5.6	0.7%	17,710
20 - 50 MWh	183	11.8%	6.6	0.8%	27,945
50 - 100 MWh	15	0.9%	0.2	0.0%	60,526
100 - 500 MWh	1	0.0%	0.0	0.0%	152,544
500 - 2,000 MWh	2	0.1%	0.0	0.0%	963,026
2,000 - 20,000 MWh	20	1.3%	0.0	0.0%	3,787,485
TOTAL NON-HOUSEHOLD	1,547	100.0%	827.6	100.0%	1,871
OF WHICH:					
Public lighting	4	0.3%	0.7	0.1%	6,001
Other non-household uses	1,542	99.7%	825.9	99.9%	1,867

(A) Estimates based on data collected indistinctly between gradual standard offer service for small enterprises and gradual standard offer service for micro enterprises.

Source: ARERA. Annual survey of regulated sectors.

Safeguard service

The safeguard service accommodates non-households who find themselves, even temporarily,

[91] In order to temporarily mitigate the impact of the data collections on the respondents, no explicit separation of the data on the gradual standard offer service for small enterprises from those on the gradual standard offer service for micro enterprises has been included in the Annual Survey for 2023. The detailed analyses presented in the chapter, however, have been separated for the two services and are derived from processing and estimates that the Authority has carried out on the collected data.

without an electricity trading contract in the free market, but who are not entitled to access the standard offer service or gradual standard offer service. These same customers are also admitted to the safeguard service when they persist in a condition of non-payment of bills. Since 2008, the service has been provided by sales companies selected by tender, which obtain the right to operate the service for two consecutive years.

The tender for the safeguard service for the two-year period 2023-2024 ended in November 2022 with the award of the service to the same three suppliers who had operated the service in the previous two-year period: A2A Energia, Enel Energia and Hera Comm. However, the distribution of the territories allocated to them has changed. Until 2022, A2A Energia operated the service in Lombardy, Marche, Tuscany and Sardinia; Hera Comm provided the service in Campania, Abruzzo and Umbria, while Enel Energia was awarded the service in the remaining 13 regions.

According to the data received from the three operators, the service expanded again in 2023, after growth in the previous year followed by a long period of decline. More precisely, 97,830 withdrawal points were served under the safeguard service (calculated on a *pro die* basis, i.e. counted for the fractions of the year for which they were served), compared to 88,900 points in 2022. In terms of points served, the safeguard scheme was therefore 1.4 times larger in 2023 than in 2020, which with 69,900 customers served represents the minimum size of this market since its start in 2007.

Overall, 5,119 GWh were withdrawn against 4,844 in 2022. In 2023, essentially, the safeguard market grew by 10% in terms of withdrawal points and by 5.7% in terms of energy consumed compared to 2022 (Table 3.18).

Table 3.18 Safeguard service by customer type

CUSTOMER TYPE	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2022	2023	VARIATION	2022	2023	VARIATION
Public lighting	423	394	-6.9%	19.7	20	1.5%
Other uses	4,421	4,725	6.9%	69	78	12.6%
TOTAL SAFEGUARD	4,844	5,119	5.7%	88.9	97.8	10.0%

Source: ARERA. Annual survey of regulated sectors.

Average unit consumption of public lighting decreased by 8% from 21.4 to 19.7 MWh, as did that of other uses from 64 to 61 MWh (-5%). The average consumption of low-voltage users decreased by 11.4% (from 17.9 to 15.9 MWh), that of medium-voltage users increased by 0.1%, (from 468.5 to 468.8 MWh), while the average volume withdrawn by high-voltage customers decreased by 11.4%, from 20.4 to 18.1 TWh. The weight of public lighting in the safeguard service decreased slightly in terms of customers in 2023; in 2022 they accounted for 22.2% of all customers served in this market, whereas in 2023 they will count for 20.4%, a decrease that is also reflected in terms of purchased energy, which fell from 8.7% to 7.7% of the total.

Given the different variations at a territorial level and the new distribution of the regions served (for the new two-year period of validity of the auction), it can be seen that the national increase in the volumes of electricity sold in the safeguard service, equal to 5.7%, manifested itself to very different degrees among the three companies that provide the service: compared to 2022, the volumes sold by A2A Energia grew by 287%, those of Hera Comm by 53%, while those of Enel Energia decreased by 50% (from 3 to 1.5 TWh). A2A Energia shows strong growth in sales volumes not only because compared to 2022 it has expanded its service area from 4 to 11 regions, but also because the regions it has been awarded for the two-year period 2023-2024 are those that have recorded the highest

sales increases (Tuscany, Lombardy, Trentino-Alto Adige and Friuli-Venezia Giulia first and foremost). By contrast, in the transition between 2022 and 2023, Enel Energia "lost" eight of the regions it served and, with the exception of Latium, in all the regions it won for the new two-year period, sales volumes decreased compared to 2022.

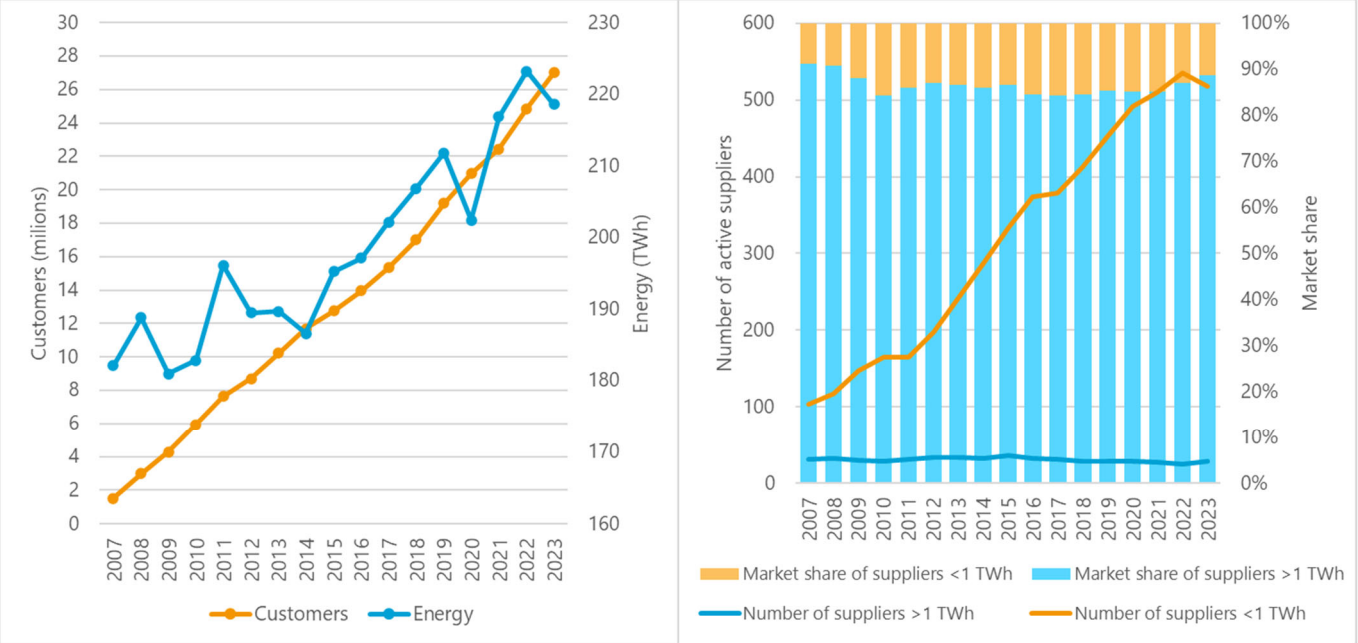
Free market

As already mentioned in the previous pages, according to the (provisional) data collected in the Annual Survey of Regulated Sectors, 218.6 TWh were sold in the free electricity market in 2023 (4.7 TWh less than in 2022), to just over 27 million customers, up 9% from 2022.

Since its opening in 2007, the free market has recorded steady, marked growth in customers, just like the energy it has brokered and the number of suppliers operating on it. In sixteen years it has grown by 20% in terms of energy sold and the number of points served has increased from 1.5 to 27 million, although this expansion has not always maintained the same pace and has even experienced some setbacks over time. 2023 was indeed a pause in the growth in quantities sold, despite the considerable expansion in the number of customers served.

Regardless of market trends, however, the number of active suppliers has grown continuously since 2007. 2023 turns out to be the first year in which this trend stopped. This is probably due to the fact that in 2023 the list of electricity suppliers[92] became operative (the "EVE"), which imposed a number of requirements on companies wishing to sell electricity in order to obtain authorisation to operate (Figure 3.12).

Figure 3.12 Development of the free electricity market



Source: ARERA. Annual survey of regulated sectors.

[92] Established by Law No. 124 of 4 August 2017 and governed by Regulation adopted by Minister of Ecological Transition No. 164 of 25 August 2022.

Indeed, in 2023, according to the answers obtained from the Annual Survey on Regulated Sectors, there were 546 companies active in the free market, 14 fewer than in 2022 (-2.5%). Since the supplies have since declined to a slightly lesser extent (-2.1%), the average unit sales volume of companies operating in this market has remained essentially unchanged, after years of constant reduction. In 2023, the average unit sales volume of companies operating in the free market was 400 GWh, instead of the 399 GWh recorded in 2022. Compared to the 1,349 GWh observed in 2007, when the market was fully opened, the present value is 3.4 times lower.

The corporate composition of the share capital of companies active in sales to free final customers as at 31 December 2023, limited to first-tier direct shareholdings[93], shows a significant importance of natural persons, who own 34.2% of the capital of sales companies; significant shares also belong to national energy companies (11.6%) and local energy companies (6.1%). Public bodies and financial institutions do not appear to be very present in the shareholding structure of the suppliers (their respective shares amounting to 2.8% and 0.4%), while the most significant shareholder category is that of miscellaneous companies, which appears to own 42.8% of the share capital of all suppliers. With regard to the origin of the shareholders holding shares in the share capital of the respondents, it is noted that it is substantially Italian, with 4.1% being held by individuals of foreign origin.

25.8% of the 546 suppliers active who responded to the Annual Survey sell energy in between 1 and 5 regions; 37.3% of suppliers sold electricity in the entire national territory (i.e. in at least 18 regions); the remaining 36.9% of companies operated in between 6 and 17 regions. The share of companies serving the entire country is growing steadily over time: in 2022 it was 34.5%.

The breakdown of customers by type and voltage (Table 3.19) shows an increase of more than 2.2 million points served. This result was mainly due to low-voltage customers, and in particular households, although a numerically significant increase was also seen at the withdrawal points of other low-voltage connected users.

Table 3.19 Free electricity market by customer type

CUSTOMER TYPE	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2022	2023	VARIATION	2022	2023	VARIATION
Low voltage	103,065	104,602	1.5%	24,739	26,971	9.0%
Household	39,939	42,263	5.8%	19,522	21,382	9.5%
Public lighting	3,227	3,110	-3.6%	233	248	6.1%
Other uses	59,899	59,228	-1.1%	4,984	5,341	7.2%
Medium voltage	95,632	90,372	-5.5%	101	100	-0.4%
Public lighting	229	212	-7.2%	0.76	0.74	-2.9%
Other uses	95,403	90,160	-5.5%	100	99	-0.4%
High and extra-high voltage	24,542	23,592	-3.9%	1.09	1.13	3.3%
Other uses	24,542	23,592	-3.9%	1.09	1.13	3.3%
TOTAL	223,239	218,566	-2.1%	24,841	27,072	9.0%

Source: ARERA. Annual survey of regulated sectors.

The number of household points served in the free market increased by 1,860,000 units, or 9.5% compared to 2022; 357,000 new withdrawal points purchased electricity in the free market for other

[93] Shares are calculated without any weighting.

low-voltage uses (+7.2%), while medium voltage points decreased by approximately 400 units (-0.4%). High/extra-high voltage withdrawal points also showed a slight increase (3.3%) to approximately 1,130 units. A fair increase (+14,000 units) also affected low-voltage public lighting uses, while medium-voltage uses showed a very slight decrease.

Among **households**, the most important classes in terms of withdrawal points are the first two, i.e. those with annual consumption up to 1,800 kWh, both of which account for over a quarter of customers. However, the two classes immediately following also have a not too dissimilar weight. In fact, 88% of the withdrawal points have a consumption level of no more than 3,500 kWh/year (Table 3.20).

Table 3.20 Household free electricity market in 2023 by consumption class

CONSUMPTION CLASS	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	SHARE ON WITHDRAWAL POINTS	AVERAGE CONSUMPTION (kWh)
< 1,000 kWh	2,859	6.8%	5,826	27.2%	491
1,000-1,800 kWh	7,896	18.7%	5,637	26.4%	1,401
1,800-2,500 kWh	8,659	20.5%	4,061	19.0%	2,132
2,500-3,500 kWh	9,699	22.9%	3,305	15.5%	2,935
3,500-5,000 kWh	7,038	16.7%	1,721	8.0%	4,089
5,000-15,000 kWh	5,413	12.8%	805	3.8%	6,726
> 15,000 kWh	700	1.7%	28	0.1%	25,044
TOTAL HOUSEHOLDS	42,263	100.0%	21,382	100.0%	1,977
of which with dual fuel contract					
< 1,000 kWh	148	5.7%	251	19.9%	590
1,000-1,800 kWh	524	20.2%	371	29.4%	1,412
1,800-2,500 kWh	602	23.2%	281	22.3%	2,138
2,500-3,500 kWh	649	25.0%	221	17.5%	2,936
3,500-5,000 kWh	395	15.2%	95	7.5%	4,148
5,000-15,000 kWh	259	10.0%	42	3.3%	6,174
> 15,000 kWh	22	0.8%	1	0.1%	23,091
TOTAL WITH DUAL FUEL CONTRACT	2,599	100.0%	1,263	100.0%	2,058

Source: ARERA. Annual survey of regulated sectors.

In the various classes, with the exception of the first and the last, the average consumption figures for the free market are almost identical to those of the households served in the standard offer market (Table 3.12). Mainly due to differences in the extreme classes (the first and the last), the overall average consumption of households in the free market, equal to 1,977 kWh, is 28% higher than that of standard offer households, equal to 1,548 kWh.

In 2023, almost 1.3 million households signed a dual fuel contract[94]. The number of customers with this type of contract has increased by 3,900 since 2022; however, their share of the total number of

[94] Customers who receive the same bill for the supply of electricity and gas are considered dual fuel; customers who have a contract with the same supplier for both electricity and natural gas but receive separate bills for the two services are therefore excluded from the count.

customers served in the free market has decreased from 6.4% to 5.9% last year, because the total number of customers served in the free market recorded a far greater growth. The total electricity consumption of customers with a joint supply contract for electricity and gas is just under 2.6 TWh, 6.1% of all electricity sold to households on the free market. The average consumption of dual fuel customers in the various classes is slightly higher (4.1% on average) than that of customers with electricity-only contracts.

The breakdown of customers by tariff applied in the free market shows a substantial preference for the single-rate price, which in 2023 was chosen by 66.7% of all customers, equivalent to 66% of volumes. 17.6% of customers chose the two-tier tariff, and 15.7% the time of use mode. The prevalence of single-price pricing in 2023 decreased by one percentage point compared to 2022 but is very stable over time: the elements that make it more attractive are probably due to the simplicity of calculation and cost control in the bill, as well as the absence of a constraint at the time of consumption.

In 2023, dual fuel contracts were more successful among **non-households** than in previous years: just over 87,000 withdrawal points out of a total of almost 5.7 million (1.6%) have chosen this contract, and almost all of them are connected to low voltage; the energy purchased is 1.5% of the total. In 2022, both percentages were 1.1%.

The breakdown of non-household customers by consumption class shows that sales in volume terms are fairly concentrated in consumption classes ranging from 100 to 20,000 MWh/year, which together comprise 57% of the total energy purchased by such customers. However, 66.8% of customers come under the first class, i.e. they consume less than 5 MWh per year. The average consumption of non-households is of course highly differentiated between the various classes, but it is still largely down compared to the consumption observed in 2022. The only exceptions are the 2,000-20,000 MWh class, whose average consumption grew by 3.3%, and the penultimate two classes, which include customers with consumption between 50,000 and 150,000 MWh, for which average consumption grew by 2.8% and 3.6% respectively. On the other hand, the average consumption of customers under 20 MWh connected to high or extra-high voltage, which fell by 18%, and that of customers in the last class (-7.4%), fell sharply.

Overall, the average consumption of all non-households purchasing electricity on the free market was 30,984 kWh in 2023, 10% lower than in 2022 (34,462 kWh).

Available offers and sales contracts in the free electricity market

Also this year, the Annual Survey on the Regulated Sectors asked electricity and natural gas suppliers a number of questions aimed at assessing the quantity of offers that companies make available to customers who choose to supply in the free market and, above all, the distribution of their customers between the different types of contract they have actually chosen[95]. The aim of the questions asked to suppliers on the quantity and quality of commercial offers then actually chosen by their customers is to classify the extreme variety of contracts in the market, composing a picture that, of course, cannot be considered exhaustive of reality. The results presented in these pages should be treated with caution.

[95] The data commented on in the paragraph on the types of contracts chosen by customers also include PLACET Offers (free price offers under uniform contractual conditions).

The **average number of commercial offers** that each sales company is able to propose to its potential households was 26.4 for households and 30 for non-households, who obviously enjoy greater choice and for whom the supplier is certainly able to provide more customised services and individualised contracts. The number of available offers increased, compared to 2022, for households for which it stood at 22.5; a small decrease was recorded, however, for non-households (standing at 31.6 in 2022).

Out of the 26.4 offers made available on average to the household, 17.7 are **only available on-line** (11.7 in 2022), i.e. only through the Internet. The success of on-line offers among households remains limited: in 2023, 7.2% of households (corresponding to 7.7% of electricity purchased in the free market) signed a contract offered through this modality. The result is slightly lower than in 2022, when 9.9% of households (purchasing 10.7% of the energy sold in the free market) chose to subscribe to an electricity offer via the internet. If we look at non-household customers, on the other hand, of the 30 offers on average offered to customers 19.8 are subscribed over the internet; however, the success of online offers among non-households is lower than among households, as only 2.9% of customers are reported to have subscribed to an online offer.

With regard to the preferred **type of price** (Table 3.21), it was found that 66.8% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 33.2% chose a variable-price contract, i.e. with the price changing at a time and in a manner determined by the contract itself. The preference for variable price tends to grow over time, albeit at a moderate rate; last year, the variable-price contract was chosen by 23.3% of households.

Table 3.21 Contracts for the supply of electricity in the free market in 2023 by price type and average price

CONTRACTS	HOUSEHOLDS		NON-HOUSEHOLDS	
	SHARE(A)	PRICE(B) €/MWh	SHARE(A)	PRICE(B) €/MWh
Fixed-price contracts	66.8%	276.92	31.7%	235.95
Variable-price contracts	33.2%	227.33	68.3%	172.68
TOTAL CUSTOMERS	100.0%	259.84	100.0%	181.31

(A) Percentage of customers who signed the indicated contracts.
(B) Supply cost component.

Source: ARERA, Annual survey on regulated sectors.

Variable-price contracts are more popular among non-households: 68.3% of them chose the variable price, while the fixed-price contract was chosen by 31.7% of the non-household points.

The fall in prices experienced during 2023 nevertheless reverberated to a considerable extent in variable price contracts: in 2023, households with this type of contract paid an average of 227.33 €/MWh for the energy component, i.e. almost 150 €/MWh less than the average in 2022, just as non-households paid an average of 172.68 €/MWh, i.e. 135 €/MWh less than in 2022.

Index-linking to the trend in the average PUN (in various forms) is the most common mode in both contracts for household (89.8%) and non-household customers (83%). The second most popular price indexation method chosen by households is that of a discount on one of the components set by the Authority for the standard offer service, which concerns 6.8% of customers (a clear decline compared with 2022, when it was chosen by 16.7% of customers). Households who signed a

dynamic-price contract, which envisages index-linking to the hourly PUN[96], accounted for 3.3% of the variable-price households, while contracts with limited indexation[97] gathered only a negligible 0.05% of customers.

The share of households who chose a contract indexed to the development of some external, controllable variable (such as, for example, the Brent oil price, or the Istat index measuring inflation, or the ITEC or ITEC12 index[98]) has also become almost insignificant. Dynamic-price contracts, on the other hand, represent the second most important modality of indexation among non-households, who chose them in 8.74% of the cases (the percentage has increased compared with the 4.54% of 2022); a small share (1.77%) of non-households chose a contract indexed to some external, controllable variable (which sometimes also refers to gas prices at TTF); only 1.89% of non-households have an indexation contract linked to the prices established by the Authority for protective systems.

Looking at the average values of the procurement component paid in contracts with different types of indexation, it can be observed that the methodology found to be most convenient is that of contracts with limited indexation, both for non-household (-40%) and household (-23%) customers, although - as just seen - the purchased portion of such contracts is very small for both types of customers. For households, the value of the supply component of the most popular contracts (indexation to the PUN) is substantially the same as the average value calculated on all indexed contracts[99], while contracts with a discount compared to the standard offer show a price 2% lower than the total average. For non-households, on the other hand, the price of the procurement component of the most popular contracts (those with indexation to the PUN), at 176.29 €/MWh, is slightly higher than the average procurement cost for all variable-price contracts of non-households, at 172.68 €/MWh, while the procurement price of dynamic contracts is 2% lower than the total average.

About 33.7% of households signed a contract providing for a **rebate or a discount** of one or more free periods or a fixed sum in cash or volume, which may be one-off or permanent and possibly conditional on the occurrence of a certain circumstance (e.g. a discount for contracts signed by friends of the customer, a discount for bank account clearance, etc.). Even among non-households, only 15.9% of the contracts signed include a rebate or discount.

As always, the annual survey also investigated the presence of **additional services** included in contracts and their consistency, asking suppliers who chose the option "A combination of additional services" to specify which additional services the combination consisted of, and the corresponding withdrawal points were then reallocated *pro rata* to the individual additional services indicated.

[96] Established by Article 2(15) of Directive (EU) 2019/944 of 5 June 2019.

[97] These are contracts in which the price of electricity is linked to the development of a variable with an upper limit, and thus guarantee that the price cannot rise above a certain threshold level over a certain period of time. In other words, in such contracts, given a certain time frame, the price of electricity goes down if the variable chosen for indexation decreases, or up if the reference variable increases; in the event of an increase, however, the price may only rise up to a certain limit set *a priori*.

[98] These are average variable cost indices for the operation of the thermoelectric park in Italy that were calculated by REF-E, a study centre specific to the energy sector, and reflected market conditions as of 2004 (ITEC/REF-E) and 2012 (ITEC12/REF-E). In January 2022, these indices ceased being published.

[99] Note that prices are calculated as weighted average values based on the energy billed to customers and not on the number of customers.

According to suppliers, there is a high presence of contracts with a combination of additional services in the market, at least among customers choosing a fixed-price contract: the share of withdrawal points that suppliers attributed to this option was 80%; the combination of additional services is less present, however, in contracts signed by households with a variable-price contract, where it accounts for only 29%, in any case an increase compared with the previous year).

The results collected (Table 3.22) showed, as in the past, for fixed-price households a clear propensity to purchase energy with a contract that includes at least one additional service (the share of customers entering into contracts without any additional service is 2.2%, down sharply from 7.3% in 2022); among additional services, as in the previous year, the greatest preference is for contracts with a guarantee to purchase electricity produced from renewable energy resources (51.7%) and for ancillary energy services (37.6%). The opportunity to receive a guarantee to buy electricity produced in Italy (2.3%), which had not been successful in 2022, as well as the opportunity to have other products or services along with the electricity supply (1.9%) also attracted a fair amount of interest. This was followed by the points collection programme (1.8%) and receiving a free gift (1%).

Although with lower percentages, the same choices are found in the contracts signed by households with variable prices. For the latter, in fact, in 2023 the share of those who chose a contract without additional services is significantly higher than for fixed-price contracts but decreased to 32.3% (it was 44.3 in 2022). Even among customers opting for variable-price contracts that include additional services, the greatest interest lies in the guarantee of purchasing electricity produced from renewable energy resources (38.9% of cases). The second preference goes to the possibility of obtaining, together with electricity, auxiliary energy services (8.2%). The guarantee to buy energy produced in Italy is the third choice among households for variable prices, whereas the previous year it had not garnered any preferences. Points collection programmes, the presence of benefits on the purchase of other goods or services, the opportunity to receive other products or services together with electricity, and the obtaining of free gifts/gadgets gather smaller shares of preference.

The results collected for non-household customers[100] show a significant lack of interest in additional services. Of those who have chosen a fixed-price contract, 71.3% signed a contract without additional services; the remaining part of these customers show appreciation for the guarantee of energy from renewable energy resources (25.1%) and a modest level of interest in the presence of auxiliary energy services or a points collection programme or other products/services offered together with electricity. A substantial indifference towards additional services also emerges for non-households who have signed a variable-price contract, where 56.3% does not have them. Just over a third of these customers, on the other hand, chose a contract with at least one additional service, and here again the guarantee of energy from renewable energy resources (37.4% of withdrawal points), the guarantee of energy produced in Italy (1.9%) and the presence of auxiliary energy services (1%) received the highest approval.

Looking at the values of the average procurement cost component paid in contracts disaggregated by type of additional service, it appears that in fixed-price household contracts, those without additional services are cheaper than the average price paid in contracts with additional services (-19%). By contrast, for contracts with the most popular additional service (the guarantee from renewable energy resources), there is no difference with the average of offers with additional services.

[100] The incidence of answers concerning "a combination of additional services" for non-households is significantly lower than for households. More specifically, the presence of contracts that include a combination of additional services was indicated for 4% of customers with a fixed-price contract and 6% of those with a variable-price contract. As for households, these customers were reallocated *pro rata* to the additional services indicated by the suppliers.

For household contracts with variable price without additional services, there is a small difference to the average (-0.2%).

Table 3.22 Contracts for the supply of electricity in the free market in 2023 by type of additional services and average price

CONTRACTS	HOUSEHOLDS		NON-HOUSEHOLDS	
	SHARE(A)	PRICE(B) €/MWh	SHARE(A)	PRICE(B) €/MWh
Additional services of fixed-price contracts				
No additional service	2.18%	224.58	71.29%	245.94
Guarantee of energy from renewable energy resources	51.74%	277.37	25.12%	217.37
Guarantee of energy produced in Italy	2.26%	234.17	0.67%	223.18
Points collection programme (own or others)	1.76%	238.64	0.09%	172.65
Auxiliary energy services	37.65%	287.92	1.01%	305.35
Free gift or gadget	1.03%	224.89	0.41%	248.32
Advantages over the purchase of other goods or services	0.01%	206.78	0.00%	0.00
Other products or services offered together with electricity	1.91%	239.18	0.54%	202.10
Other	1.47%	268.06	0.86%	155.35
TOTAL FIXED-PRICE CONTRACTS	100%	276.92	100%	235.95
Additional services of variable-price contracts				
No additional service	32.30%	226.97	56.29%	167.01
Guarantee of energy from renewable energy resources	38.93%	224.27	37.45%	196.43
Guarantee of energy produced in Italy	6.10%	227.60	1.93%	164.22
Points collection programme (own or others)	1.67%	219.22	0.56%	154.55
Auxiliary energy services	8.20%	228.49	1.01%	208.46
Free gift or gadget	2.73%	242.66	0.54%	173.33
Advantages over the purchase of other goods or services	0.00%	231.92	-	-
Other products or services offered together with electricity	4.90%	237.79	0.10%	210.52
Other	5.17%	239.53	2.13%	193.57
TOTAL	100%	227.33	100%	172.68

(A) Percentage of customers who signed the indicated contracts.
(B) Supply cost component.

Source: ARERA, Annual survey on regulated sectors.

By contrast, for non-households with a fixed price without any additional services, the supply component shows a price 4% higher than the average price paid by customers with a contract with additional services. In non-household fixed-price contracts, the cheapest supply cost (excluding the residual category containing non-homogeneous data) is for contracts with a points collection programme, followed by contracts with other products or services offered together with electricity; however, these contracts, as described above, are poorly chosen. For non-household variable-price contracts, on the other hand, the supply cost in contracts without additional services is slightly lower than the average for contracts with services (-3%); moreover - in contrast to what is observed for households - contracts with a renewable energy guarantee are on average 14% more expensive than the average. As for household, the other types of indexing for non-households with variable prices and additional services have a lower supply component than the overall average but are chosen by a negligible number of customers.

Concentration in the electricity retail market

The ranking (provisional, due to the preliminary nature of the data collected) of the top twenty groups by total sales to the end market in 2023 (Table 3.23) shows several changes of position, after the first two.

Table 3.23 Top twenty groups by end-electricity market sales in 2023

GROUP	SALES (GWh)						POSITION
	HOUSEHOLDS	NON-HOUSEHOLDS			TOTAL	SHARE	IN 2022
		LV	MV	HV/VHV			
Enel	31,146	20,300	21,986	8,093	81,525	33.8%	1st
A2A	2,222	5,967	9,931	2,204	20,323	8.4%	2nd
Hera	2,146	4,661	7,289	203	14,299	5.9%	5th
Edison	1,629	2,744	6,173	2,517	13,063	5.4%	3rd
Axpo Group	206	2,377	7,292	2,280	12,155	5.0%	4th
Eni	5,417	1,557	3,800	859	11,632	4.8%	6th
Engie	634	364	3,250	4,089	8,337	3.5%	8th
Acea	1,887	2,016	2,279	183	6,364	2.6%	7th
Alperia	426	1,195	2,741	274	4,636	1.9%	10th
Iren	1,837	1,475	847	153	4,312	1.8%	13th
Agsm Aim	523	1,741	1,845	160	4,269	1.8%	12th
Duferco	166	1,308	1,367	1,158	3,999	1.7%	9th
Sorgenia	527	2,044	1,270	53	3,894	1.6%	18th
Repower	0	1,967	1,783	1	3,751	1.6%	14th
Nova Coop	54	753	2,801	79	3,687	1.5%	17th
C.V.A.	111	574	2,675	42	3,401	1.4%	22nd
Dolomiti Energia	682	1,361	1,285	4	3,332	1.4%	15th
E.On	623	984	1,499	3	3,109	1.3%	11th
Iberdrola	80	889	1,134	5	2,108	0.9%	20th
Alpiq	0	62	1,571	197	1,831	0.8%	19th
Other operators	5,677	13,201	10,496	1,756	31,130	12.9%	–
TOTAL OPERATORS	55,991	67,541	93,313	24,315	241,159	100.0%	–

Source: ARERA. Annual survey of regulated sectors.

Indeed, the Enel group remains the dominant player in the entire Italian electricity market, this year with a share of 33.8%, slightly down from 36.3% in 2022, due to a decrease in total group sales (-10.8%) greater than the average figure. The increase in group sales to high-voltage customers (+7.2%) was not sufficient to offset the losses in all other segments (-15.5% sales to non-household low-voltage customers, -13.3% to medium-voltage customers, -9.5% in the household segment). These variations have in any case only slightly eroded the dominance of the Enel group in the mass market, consisting of the household sector and of non-households connected to low voltage, which nevertheless remained high: 41.6% of this market is in fact served by Enel (it was 45.5% in 2022). In 2023 too, in fact, the Enel group remains the leader in all market segments (household and non-household at all voltages), in each of which its share is still far ahead of the trailing group.

With a share of 9.1%, the A2A group confirmed its second position in the overall ranking in 2021, overtaking the Edison group, which has always been the incumbent's top chaser. In 2023, A2A group

sales grew by a total of more than 2.4 TWh (+13.2%), in all segments and especially in the segments of non-households at high or very high voltage (+18.6%) and at low voltage (+17.6%), the same segments in which it had also achieved significant increases in 2022. The group also significantly increased its sales to households (+5.3%), so that in the mass market segment it also retained its second position (with a 6.6% share), one percentage point higher than that obtained in 2022.

The Edison group dropped from third to fourth position, however, with an overall market share of 5.4% of the total market (same value in 2022), and with overall sales decreasing by 2.8%. The group recorded a significant increase in sales to the household segment (+265 GWh, +19.4%), which was not sufficient to offset the reduction in sales to the non-household segment (-642.5 GWh). With a share of 5.9% of the total market, the Hera group (fifth in 2022) moved up to third position, whose total sales in 2023 grew by 19.7% (+2.4 TWh); the increase was realised in all segments, but especially towards medium voltage customers to whom it supplied 1.4 TWh more than in 2022 (+24.3%).

Table 3.24 shows the details of the concentration measures, also broken down by voltage level. In the first part of the table, measures are calculated from the volumes sold by the corporate groups in the retail market, while in the second part of the table, measures are calculated from the customers (withdrawal points) served by the corporate groups themselves.

Table 3.24 Concentration measures in the electricity retail market (calculated on corporate groups)

VOLTAGE LEVEL	2022			2023		
	GROUPS >5%	C3	HHI	GROUPS >5%	C3	HHI
METERING CALCULATED ON THE BASIS OF ENERGY SOLD BY CORPORATE GROUPS						
Households	2	71.3%	3,623	2	69.3%	3,258
Non-households	5	44.0%	1,115	5	43.5%	1,034
Low voltage	3	47.0%	1,347	3	45.8%	921
Medium voltage	5	41.5%	969	5	42.0%	796
High and extra-high voltage	6	59.2%	1,568	5	60.5%	1,722
TOTAL MARKET	4	48.7%	1,515	5	48.2%	1,376
METERING CALCULATED ON THE BASIS OF CUSTOMERS SERVED BY THE CORPORATE GROUPS						
Households	2	72.7%	3,788	2	70.6%	3,483
Non-households	1	60.9%	2,936	3	49.8%	1,422
Low voltage	1	61.0%	2,965	3	49.8%	1,427
Medium voltage	3	47.5%	1,326	4	48.9%	1,235
High and extra-high voltage	6	41.3%	827	6	37.9%	813
TOTAL MARKET	2	69.8%	3,590	3	66.0%	2,994

Source: ARERA. Annual survey of regulated sectors.

Using the measures of concentration calculated on energy sold, it can be seen that in 2023, the level of concentration in the total market decreased slightly, as can be seen from the various measures normally used to measure it. The C3, i.e. the market share of the top three operators (corporate groups), fell to 48.2% from 48.7% in the previous year. The HHI index returned below the first attention threshold (of 1,500), having fallen from 1,515 to 1,376. An HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 indicates a highly concentrated one (the maximum value of the index is 10,000). The number of corporate groups needed to exceed 75% of total sales increased from 10 to 11.

The concentration in the Italian electricity market, however, has two opposing sides: in the household segment it is high (C3 fell from 71.3% to 69.3%, the HHI rose from 3,623 to 3,258), albeit steadily decreasing, while in the non-household segment it is low: C3 fell to 53.9% (it was 56.1%) and the HHI rose from 2,201 to 1,899.

The concentration in the Italian electricity market, however, has two opposing sides: in the household segment it is high (C3 fell from 71.3% to 69.3%, the HHI rose from 3,623 to 3,258), albeit steadily decreasing, while in the non-household segment it is low: C3 fell to 53.9% (it was 56.1%) and the HHI rose from 2,201 to 1,899.

Using the indicators calculated on the withdrawal points, the concentration values are higher than those indicated by the volumes of energy sold, except - clearly - for those relating to non-households served at high and extra-high voltage. However, when comparing with 2022, the figures show a reduction in concentration in all market segments.

3.2.2.1 Monitoring of the level of retail market prices, of the level of transparency and of the degree and of the efficiency of market opening and competition

Monitoring of the retail market price level

On the subject of sales prices in the electricity retail market, the Authority has two readings:

- that of the *Average prices charged in the electricity and natural gas market* carried out pursuant to resolution 168/2018/R/com of 29 March 2018, in which, on a half-yearly basis, quarterly data is collected on the prices billed[101] by suppliers to households and non-households, broken down into consumption classes and by type of market;
- that carried out as part of the *Annual Survey of Regulated Sectors*, in which data is collected for the previous year and broken down according to various categories of detail (type of market, sector and consumption classes, type of contract applied).

The prices collected on the basis of resolution 168/2018/R/com also converge into the retail market monitoring carried out by the Authority pursuant to the *Integrated Text on the Monitoring of the Retail Electricity and Natural Gas Markets* (TIMR)[102], which in addition to prices carries out the analysis of numerous indicators with regard to end-operators of electricity with more than 50,000 withdrawal points served (see below). Moreover, by virtue of an institutional agreement, all data collected under resolution 168/2018/R/com are provided on a half-yearly basis to the Ministry of the Environment and Energy Security, which sends them to Eurostat to fulfil the obligations on electricity and natural gas end-price statistics, dictated by *Regulation (EU) 2016/1952 concerning European statistics on natural gas and electricity prices and repealing directive 2008/92/EC*[103].

The Authority, in view of the obligations to be fulfilled, has introduced a procedure for suppliers, at the end of which penalties commensurate with the size of the company in terms of customers served

[101] More precisely, these are average unit turnovers obtained from the ratio of revenues collected to the quantities of energy billed in the reference quarter.

[102] Approved by resolution of 3 November 2011, ARG/com 151/11.

[103] Italy obtained an extension for the application of Regulation 2016/1952 until 2018.

are applied in the event of non-compliance with the half-yearly reporting obligations on average electricity and gas prices[104]. This is because such non-communication generates administrative burdens and information distortions which, in addition to hindering the exercise of the Authority's functions or leading to the publication of incorrect data by the Authority itself (albeit under the responsibility of the undertakings), are detrimental to transparency in the two sectors, adversely affect customers and other operators and therefore undermine the smooth functioning of the system. Knowledge of price dynamics, on the other hand, has become particularly important in recent years, given the transition of significant categories and shares of final customers from protected regimes to the free market. For failure to send data for the first semester of 2023[105] the penalty was applied to 6 companies (for 3 of which the penalty was increased by 10% as they had already failed to send data in the second semester of 2022); for failure to send prices for the second semester of 2023[106] the penalties were applied to 10 companies that did not provide any feedback.

The prices shown in the *Annual Survey* present a more functional detail for the preparation of annual reporting to national and European authorities.

As part of the *Annual Survey of Regulated Sectors*, sales operators were asked, as usual, to submit data on the final prices charged to their customers both net of taxes and for the part related only to supply costs, which are given by the sum of the components relating to energy, dispatching, network leakages, imbalance and sales marketing costs.

The analysis of the data submitted by the companies shows the usual variability in the unit expenditure incurred by customers, with values inversely proportional to the size of consumption. As can be seen in Table 3.25, which shows the average prices charged to households by annual consumption class, the values range from 248 €/MWh, found for the largest customers (consumption of more than 15,000 kWh/year), to 601 €/MWh, for the smallest class (0-1000 kWh). The price falls steadily as the size of customers increases. This trend can be traced back to that of the energy and supply component, which, as always, decreases continuously as *per capita* consumption rises, from 389 €/MWh in the smallest class to 202 €/MWh in the largest.

Table 3.25 Average electricity prices to households in 2023

CONSUMPTION CLASS (kWh/year)	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	PRICE NET OF TAXES (€/MWh)	OF WHICH: ENERGY AND SUPPLY COSTS (€/MWh)
< 1,000 kWh	4,305	9,263	601.4	388.6
1,000-1,800 kWh	11,215	8,014	337.6	273.5
1,800-2,500 kWh	11,826	5,549	299.6	252.1
2,500-3,500 kWh	12,610	4,301	281.3	240.2
3,500-5,000 kWh	8,693	2,128	268.5	230.4
5,000-15,000 kWh	6,451	958	260.4	218.2
> 15,000 kWh	891	35	248.0	202.4
TOTAL HOUSEHOLDS	55,991	30,248	316.1	256.1

Source: ARERA. Annual survey of regulated sectors.

[104] Resolution of 21 December 2021, 592/2021/R/com.

[105] Resolution of 12 September 2023, 394/2023/E/com

[106] Resolution of 12 March 2024, 73/2024/E/com.

A breakdown of prices between the free market and the standard offer service is instead shown in Table 3.26. After the interlude of 2022, the free market again shows higher values than the standard offer service, except for the two largest consumption classes. In detail, for the energy and supply component, the higher cost of the free market is between 27.8% for the smallest class (consumption up to 1,000 kWh/year) and 1.4% for the band between 3,500 and 5,000 kWh/year, while for the two largest classes (consumption over 5,000 kWh/year) the free market is about 4% lower than the standard offer. The final price, including all components except taxes, shows similar differences between the two markets, but smaller.

Table 3.26 Average electricity prices to households in 2023 by consumption class and market type

CONSUMPTION CLASS (kWh/year)	AVERAGE PRICE NET OF TAXES (€/MWh)			OF WHICH: ENERGY AND SUPPLY COSTS (€/MWh)		
	STANDARD OFFER	FREE MARKET	DIFFERENCE	STANDARD OFFER	FREE MARKET	DIFFERENCE
< 1,000 kWh	573.1	615.7	7.4%	328	419.2	27.80%
1,000-1,800 kWh	314.4	347.3	10.5%	247	284.7	15.30%
1,800-2,500 kWh	285.0	305.0	7.0%	235.1	258.3	9.90%
2,500-3,500 kWh	272.9	283.8	4.0%	230	243.3	5.80%
3,500-5,000 kWh	266.9	268.9	0.7%	227.9	231	1.40%
5,000-15,000 kWh	268.2	258.9	-3.5%	226	216.7	-4.10%
> 15,000 kWh	252.1	246.9	-2.0%	207.9	200.9	-3.30%
TOTAL HOUSEHOLDS	316.0	316.2	0.1%	244.7	259.8	6.20%

Source: ARERA. Annual survey of regulated sectors.

Comparing the final price (net of taxes) between the two markets for the household segment, it appears that the free market is 6.2% higher than the standard offer market; this differential is significantly higher for small consumption classes: 27.8% for the class with consumption up to 1,000 kWh/year, a gap that narrows as consumption increases; in the classes from 5,000 kWh of consumption, in fact, there is a reversal of the trend and the price of the free market is lower than the standard offer service.

Table 3.27 Average electricity prices to non-households in 2023

VOLTAGE LEVEL	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: ENERGY AND SUPPLY COSTS (€/MWh)
Low voltage	67,541	6,952.10	307.1	220.5
Medium voltage	93,313	0.5	220.6	171.5
High and extra-high voltage	24,315	1.2	170.9	154.4
TOTAL NON-HOUSEHOLDS	185,168	6,953.80	245.7	187.2

Source: ARERA. Annual survey of regulated sectors.

As far as non-households are concerned, Table 3.27 contains data on their average supply quantities and costs, broken down by voltage level. The highest prices are associated with customers served on low voltage. Compared to the previous year, there was a slight decrease in the quantity of energy sold (-4.5%), while points remained almost stable overall (-0.6%). In terms of procurement costs, the

reduction compared to 2022 (-32.2%) is all the greater the higher the voltage level: for all voltage levels (-43.8% for customers served at high and extra-high voltage).

Table 3.28 Average electricity prices for non-household low voltage customers in 2023, by market type

TYPE OF MARKET	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: ENERGY AND SUPPLY COSTS (€/MWh)
Standard offer	694	352.5	553.4	467.3
Gradual standard offer for small enterprises(A)	1,506	92.7	249.5	163.1
Gradual standard offer for micro enterprises(A)	1,547	826.7	344.2	162.1
Safeguard	5,119	97.8	296.5	237.7
Free market	176,302	5,690.1	238.4	181.1
NON-HOUSEHOLDS IN LV	185,168	7,059.8	242.2	183.4

(A) Estimates based on data collected indistinctly between gradual standard offer service for small enterprises and gradual standard offer service for micro enterprises.

Source: ARERA. Annual survey of regulated sectors.

Table 3.28 shows the breakdown of non-household low-voltage customers by market type, which presents high price differences. Gradual standard offer services, which benefit from the competitive effects of the competitive procedures carried out to award these services, have the lowest supply component (just over 160 €/MWh); this is followed by the free market (about 180 €/MWh), then the safeguard service (238 €/MWh) and, finally, the standard offer service, which is very distant (467 €/MWh), but is now marginal in terms of volumes, having ceased during the year.

Table 3.29 describes the value of procurement costs by dividing electricity customers by hourly pricing type and excluding the safeguard market. For households, the final piece price (after tax) is almost unchanged with respect to billing and down by 6% year-on-year. On the other hand, non-households experienced a greater reduction in the final price (after tax) than in 2022 (-28%).

Table 3.29 Average electricity prices in 2023 by type of hourly pricing

HOURLY PRICING	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: ENERGY AND SUPPLY COSTS (€/MWh)
Non time-of-use	27,984	14,330	317.6	267.6
Two-tier	21,116	12,552	315.1	250.1
Time-of-use	6,891	3,367	313.3	227.8
Households	55,991	30,248	316.1	256.1
Non time-of-use	29,779	1,700	259.5	190.0
Two-tier	39,083	956	240.5	190.6
Time-of-use	111,187	4,307	235.6	176.5
Non-households(A)	180,049	6,962	240.6	181.9

(A) In the standard offer service and in the free market. Excluded are safeguard customers for whom this type of pricing is not available.

Source: ARERA. Annual survey of regulated sectors.

Table 3.30 Electricity prices in the free market for customers with dual fuel contracts in 2023

CONSUMPTION CLASS (kWh/year)	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: ENERGY AND SUPPLY COSTS (€/MWh)
Households				
< 1,000 kWh	148	251	495.2	305.2
1,000-1,800 kWh	524	371	304.1	224.6
1,800-2,500 kWh	602	281	261.9	202.8
2,500-3,500 kWh	649	221	240.3	189.4
3,500-5,000 kWh	395	95	224.2	177.3
5,000-15,000 kWh	259	42	211.4	165.4
> 15,000 kWh	22	1	193.6	152.9
TOTAL HOUSEHOLDS	2,599	1,263	267.0	201.7
Low voltage	1432	85,940	200.1	144.8
Medium voltage	1367	1,340	151.4	127.7
High and extra-high voltage	19	12	196.3	145.6
TOTAL NON-HOUSEHOLDS	1,958	60	184.8	166.6

Source: ARERA. Annual survey of regulated sectors.

Finally, Table 3.30 shows the procurement costs paid by free market customers who signed a dual fuel contract. For households in the free market, electricity prices resulting from dual fuel contracts (267 €/MWh) are cheaper than purchasing electricity with a separate contract by commodity.

Monitoring of the level of transparency and of the degree and efficiency of market opening and competition

Legislative Decree No. 93 of 1 June 2011, implementing directives 2009/72/EC and 2009/73/EC, gave the Authority the task of monitoring retail markets, with reference to both the electricity and natural gas sectors. This activity started in 2011 for both sectors with the *Integrated Electricity and Natural Gas Retail Market Monitoring* Regulation (TIMR)[107], which arranged the publication of an annual monitoring report. Since, as just mentioned, the analysis is joint between the electricity and gas sectors, the **monitoring results for both sectors** are reported below.

Retail Monitoring: The ***Report for 2022***[108] presents the main outcomes of the monitoring activity, describing, where possible, the development of relevant phenomena since 2012, the first year in which the monitoring was carried out. Consistent with previous Reports, the 2022 Report analyses data collected on:

- competitive dynamics;
- offers and prices;
- quality of sales service;

[107] Adopted by Resolution of 7 November 2011, ARG/com 151/11.

[108] Report of 25 July 2023, 342/2023/I/com (2022 Report).

- billing quality;
- non-payment of bills.

Compared to previous Reports, the section on monitoring the collection rates of final customers started in January 2022 is also added.

Within each thematic area, results are analysed, where necessary, separately by sector and customer type, taking into account the uneven levels of maturity and competitiveness achieved among the various customer segments.

The results of the retail monitoring activity for 2022, first of all, confirm for customers for other uses in medium voltage of the electrical sector, the absence of specific critical issues. Concentration is increasing but still compatible with conditions of effective competition. Customer dynamism is sustained and increasing compared to the previous year. Therefore, also for that year, it can be said that the functioning of the market, with reference to the segment of MV customers for other uses, does not require any specific regulatory intervention. For customers other than low-voltage uses, evidence on the competitive dynamics and structure of the sales market shows some encouraging signs of liveliness but other aspects that require attention. These signs are worthy of verification in the monitoring activity to come, also in order to be able to confirm them with further feedback, especially regarding the evolution of concentration and the dynamism of final customers.

For households in the electricity sector and households and condominiums in the gas sector, despite the improvements that have emerged especially in terms of customer dynamism, the critical issues that have historically characterised these segments still remain. These suggest more attention in the accompanying process, including regulatory, to the full liberalisation of the market. Close attention should be paid, first of all, to the high levels of concentration and to the continuing competitive advantage of the operators of standard offer services and an as yet insufficient level of capacity of the "average" customer to act conveniently in the market.

For both sectors, the above-mentioned elements, relating to the configuration of the markets and the difficulty for final customers to find their way around the offers on the free market, must be considered the interventions that the Authority has implemented as part of the regulatory accompaniment process to the complete liberalisation of the market for both sectors. In particular, mention should be made of the interventions implemented as part of the path envisaged by Law No. 124 of 4 August 2017, relating to the organisation of the markets; the support of final customers in their orientation among the offers present in the free market; the functioning of the markets and the further interventions to mitigate price increases and protect customers in the cyclical phase of rising wholesale prices that began in the second half of 2021.

In addition to the annual Retail Monitoring Report, the Authority is forced by law[109] to transmit to the Minister for the Environment and Energy Security or MASE (formerly the Ministry of Economic Development) and to the competent parliamentary committees a ***Monitoring report on the electricity and gas retail markets*** (MASE Report).

This report is to be prepared using information from the Integrated Information System (SII) every six months starting on 1 July 2021 and ending on 31 December 2022; the Authority is also required

[109] Pursuant to the provisions of Article 2(6) of the Decree of the Ministry of Economic Development of 31 December 2020 on "*First modalities to favour the conscious entry of final customers into the free electricity and gas market*".

to continue the monitoring referred to in this report in the two-year period 2023-25[110].

On 27 July 2021, 1 February 2022, 31 January 2023 and 25 July 2023, the Authority sent the first four reports[111] whose analyses focused on customers entitled to standard offer in the electricity sector (households and other uses connected to low voltage) and standard offer in the natural gas sector (households and condo households with consumption of up to 200,000 S(m^3)/year).

The MASE Report - January 2024 Update Report[112], focused in particular on the following aspects:

- switching actions at national and regional level;
- trends in final-customer behaviour, with a summary of the demographic surveys conducted by the Authority at the end of 2023;
- trends in prices offered to final customers;
- transparency and publicity of the tenders and related services, with regard to the specific controls on the tenders published on the Portale Offerte that the Authority carries out, also through the SII Operator;
- assessment of the introduction of regulatory measures to strengthen the effectiveness of tools for comparability of offers.

Complaints related to the commercial quality of the electricity sales service and compensation

The provisions for **monitoring the quality of sales services** ensure, on the one hand, the protection of customers in relation to certain sales service performances and, on the other hand, the availability of comparative elements also in relation to the results emerging from the Retail Monitoring Report.

The quality of sales services involves all the suppliers engaged in the sale of electricity and natural gas to final customers. The *Integrated Text Regulating the Quality of Supply of Electricity and Natural Gas Sales Services* (TIQV)[113], in fact established a set of rules to protect final customers and commercial quality indicators, which all electricity and gas sales companies are required to comply with. These indicators are of two types: general and specific.

Overall standards represent the level of quality referring to the overall performance of one and the same type. Failure to comply with them does not result in compensation to the customer, but in the event of a serious breach of these standards, the Authority may open proceedings to impose administrative sanctions on the offending supplier. When the supplier fails to meet **specific** commercial quality **standards**, on the other hand, the customer automatically receives compensation in the first useful billing. The basic automatic compensation (equal to Euro 25) doubles if the performance of the indemnified service takes place beyond a time twice the standard and triples if the performance takes place beyond a time three times the standard or more. Regardless of the escalation envisaged, compensation must in any case be paid to the customer within 6 months by the supplier who received the written complaint or the request for bill adjustments or double billing. Compensation is not due if compensation has already been paid to the customer in the calendar year for failure to meet the same quality standard and in the case of complaints for which the

[110] Decree of the Minister of Ecological Transition of 31 August 2022, No. 315/2022, Art. 2.5.

[111] Report 327/2021/I/com, Report 37/2022/I/com, Report 30/2023/I and Report 343/2023/I/com.

[112] Report of 27 February 2024, 59/2024/I/com

[113] Annex A to resolution 413/2016/R/com of 21 July 2016.

customer cannot be identified (because the complaint does not contain the minimum necessary information). Furthermore, the supplier does not have to pay automatic compensation if the non-compliance with the specific quality standards is attributable to *force majeure* - understood as acts of public authority, exceptional natural events for which a state of calamity has been declared, strikes called without statutory notice, failure to obtain authorisation - or to causes attributable to the customer or third parties, or damage or hindrances caused by third parties.

Written complaints, bill adjustments and double bill adjustments are subject to specific minimum standards on the time of performance, while written requests for information are subject to overall standards.

For 2023, 512 companies reported data on the commercial quality of sales services in the electricity sector, which stated that they serve a total of 32.5 million electricity customers. The average lead times for commercial services (response to complaints, response to requests for information, execution of bill adjustments), declared by suppliers for 2023, are below the respective standards set (Table 3.31).

Table 3.31 Standards for electricity sales service and actual average times in 2023

PERFORMANCE	SPECIFIC STANDARDS (calendar days)	OVERALL STANDARDS (%)	EFFECTIVE AVERAGE TIMES (calendar days)
Maximum time for a reasoned response to written complaints	30	-	18.79
Maximum time for bill adjustments	60 or 90(A)	-	26.37
Maximum time for double bill adjustments	20	-	19.51
Replies to written requests for information sent within a maximum of 30 calendar days	-	95%	10.06

(A) 90 calendar days in the case of four-monthly invoices.

Source: ARERA, processing of data declared by operators.

Overall, companies serving customers in the electricity sector received a total of 325,681 written complaints, a decrease compared to the previous year (-3.6%) (Table 3.32); 69.82% of the complaints came from households, 22.31% from non-households, 6.7% from multi-site customers and 1.15% from medium voltage customers; 75.81% of the complaints came from customers in the free market, 17.47% from customers in the market with a reference price.

Table 3.32 Complaints, information requests and bill adjustments received from electricity suppliers

	2019	2020	2021	2022	2023
Number of complaints	304,118	297,341	289,035	337,863	325,681
Number of requests for information	207,399	193,960	228,171	313,144	329,429
Number of bill adjustments	9,973	8,053	7,862	10,567	6,606
Number of double bill adjustments	2,058	967	859	713	1,320

Source: ARERA processing of data declared by operators.

Requests for information received from companies amounted to 329,429, an increase of 5.2%

compared to the previous year. The majority of requests (71.14%) came from households and 19.56% from non-household customers. 77.6% of the requests for information came from customers in the free market (80.10%) and, in particular, from households (60.90%), while customers in the market with a reference price accounted for 11.39%. Multi-site customers contribute 8.52% to the total number of requests for information.

Bill adjustments totalled 6,606, a decrease of 37.5% compared to the previous year. The corrections, which followed written complaints on already paid, but contested, invoices, mainly concerned households on the free market (55.8%), followed by non-households on the free market (28.3%). A share of 10.07% of the adjustments concerned multi-site customers and 3.45% the segment of household protected customers. Finally, 1.91% of the adjustments affected medium voltage customers and only 0.5% non-households under protection.

Double bill adjustments caused by errors in the switching procedures (for the same consumption period, the final customer receives a bill from both the outgoing and from the incoming supplier) amounted to 1,320, a year-on-year increase of 85.1% but in any case limited, if compared with the millions of switches made each year. The adjustments concerned, in 89.01% of the cases, households (in 58.71% of the cases in the market with a reference price; in 30.3% of the cases in the free market); followed by non-households in the free market, with 7.35% and multi-site customers, with 3.41%. Finally, the share of bill adjustments of MV customers was 1.15%, while that of non-household protected customers was 0.08%.

The analysis of the reasons for non-compliance with the standard performance shows that in 98.85% of the cases, non-compliance with the specific performance-related standards is attributable to causes for which the company is responsible, while in 1.14% of the cases to third-party causes (customer, other parties) and in 0.01% of the cases to force majeure. Considering, on the other hand, the number of automatic compensations disbursed for non-compliance with specific standards by electricity suppliers, 97.95% of indemnities are related to non-compliance with response times to written complaints, 1.63% to non-standard bill adjustments and 0.42% to non-standard double bill adjustments. 56.39% of the compensation was received by households in the free market, 22.41% by non-households in the free market, 12.1% by households in the market with a reference price, 5.06% by multi-site customers, 2.37% by non-households in the market with a reference price and 1.75% by medium voltage customers. In terms of amounts paid to customers, as compensation due for commercial quality services that did not meet standards, automatic compensation of more than € 1.7 million was paid in bills in 2023.

households in the free market were the recipients of 57.43% of the total compensation paid, 22.42% of the compensation was paid to non-households in the free market, and 10.88% to households in the market with a reference price. Multi-site customers were recipients of 5.23% of the compensation, while non-household customers in the market with a reference price and medium voltage customers were recipients of 2.29% and 1.75% of the compensation, respectively.

3.2.2.2 Recommendations on final sales prices, investigations, inspections and imposition of measures to promote competition

Investigations and inspections

The enforcement of the provisions envisaged by the Authority is implemented by monitoring the

conduct of operators, identified from time to time on the basis of policy documents prepared annually or following recommendations or evidence in the possession of the Offices. To this end, the Authority makes use of investigations, on-site inspections and document controls concerning plants, processes and services in the sectors of interest to the Authority. Within the scope of these activities, the Authority cooperates with the Tax Police and, as of 2023, also with the Military Police.

In cases where control activities reveal cases of non-compliance with regulatory provisions, consequent sanctioning and/or prescriptive decisions are taken against operators. The results of this activity are also relevant for the implementation or updating of the regulatory framework, with a view to its continuous improvement and effectiveness, in the adopted regulatory cycle process. Control activities go hand in hand with a growing number of initiatives of the Authority aimed at promoting *ex ante* regulatory compliance, through interaction with stakeholders, information and dissemination seminars, aimed at illustrating the application methods of decisions, in particular of the newly issued ones.

In 2023, control activities were carried out through:

- documentary checks, relating in particular to the verification of the tax data declared by energy-intensive companies (energy-intensive), compliance with the regulation by electricity and gas retail companies on fuel mix disclosure procedures (the latter with the support of the GSE), and the correct contribution by regulated companies to the Authority's operating costs;
- on-site inspections, covering priority topics such as the proper functioning of markets, customer protection (social bonus) and safety and quality of service.

In 2023, through on-the-spot inspections (Table 3.33), investigations were conducted in new fields of investigation, with particular focus on the retail segment of electricity and gas sales with regard to both customer protection (social bonus) and commercial processes (mass transfers); an adequate control of service quality was maintained, in view of the relevance of the issue for final customers (emergency gas intervention, checks on economic incentives for safety in the gas distribution service, quality of the electricity transmission service); checks were also carried out at companies that had already been previously sanctioned to verify that they had not violated the same regulation.

Table 3.33 Number of on-site inspections carried out with on-the-spot inspections related to the electrical sector

SUBJECT	2019	2020	2021	2022	2023
Customer protection	6	1	1	4	3
Tariffs and unbundling	11	-	-	2	-
Quality of service	89	36	16	17	19
Wholesale and retail markets	1	5	2	2	2
Connection of production facilities	3	3	-	-	-
TOTAL	110	45	19	25	24

Source: ARERA

Surveys and document checks are carried out on the basis of analysis and in-depth examination of specific areas, or with the examination of data, information and documents, also used in comparison with other sources relating to the same phenomenon. For these activities, which may also be preparatory to inspection activities, the Authority may also avail itself of the cooperation of the Tax Police.

Sanction proceedings concerning conduct in retail markets and protecting final customers

In 2023, sanction proceedings were initiated against an electricity distribution company for violation of the **switching** provisions. In particular, the company was accused of having provided, through the Integrated Information System, with reference to switching requests in which the incoming transport and dispatching user had expressed the wish to make use of the revocation, erroneous information on the existence of a request for compensation by the outgoing sales operator or on the end customer's status in terms of non-payment of bills. The company submitted a proposal for commitments that is currently being examined by the Authority.

Two proceedings were also initiated for breach of the Authority's obligation to participate in conciliation procedures, under which "Operators or Managers [...] are obliged to participate in the conciliation procedures activated against them at the Conciliation Service by the Customer or End User"). One of these proceedings ended in the same year with the imposition of a fine of € 35,000.

On the same matter, three sanction proceedings were concluded for breach of the provisions designed to protect final customers in cases where the network user and the commercial counterparty are different parties and the latter is in breach of its contractual obligations towards the former. One case involved the distribution service user's violation of the prohibition to suspend supply to end customers due to non-fulfilment of the commercial counterparty, and thus despite the fact that the final customers owning the redelivery points were not classified as non-payment of bills. In this case, the penalty was € 24,000. In the second case, an operator was charged with failing to fulfil its obligations to provide information to final customers in cases of termination of the existing contract between the commercial counterparty and the transport user, a case which, however, ended with the case being dismissed due to the expiry of the relevant time limit. For the last proceeding, also relating to the violation of the prohibition to suspend the supply of natural gas to final customers due to the contractual breach of contract by the commercial counterparty, proceedings were started for the redetermination of the penalty following the partial annulment ruling by the administrative judge challenged by the Authority.

Finally, proceedings were concluded concerning switching violations following the termination of dispatching and transmission contracts due to user default against Terna. In this case, the penalty was € 117,000.

Measures for the effective promotion of competition: initiatives to overcome standard offer

Over the course of time, the Authority has helped to provide final customers with numerous tools (described in the various editions of the Annual Report) to increase their understanding of the free market and their ability to consciously choose their supplier, as well as to regulate numerous aspects (such as, for example, the content of bills, changes to the code of business conduct, etc.).

These are in particular:

- framework of PLACET offers;
- Portale Offerte, which contains a description of the fixed and variable offers of the free market, PLACET offers, as well as the calculation of the cost of standard offer services for both electricity and natural gas;
- Portale Consumi, which is the institutional website where customers can access data on their electricity and natural gas supplies, i.e. historical consumption data and key technical and contractual information;

- framework of gradual standard offer service;
- organic revision of the Bill 2.0 regulation with the aim of pursuing its improvement in terms of simplicity, comprehensibility and uniformity
- definition of information obligations for retailers addressed to:
  - micro enterprises benefiting from the gradual standard offer service in the electricity sector in the first half of 2023;
  - non-vulnerable household end customers falling within the scope of the gradual standard offer service and vulnerable household final customers in the period September 2023 to June 2024;
  - household final customers holding an electricity contract under free market conditions in the period from December 2023 to June 2024;
  - household final customers served under gas protection, differentiated between customers identified as vulnerable and non-vulnerable, during September 2023;
  - household final customers holding a natural gas contract under free market conditions in the period September - December 2023;
  - final customers served within the scope of services of last resort, differentiated between customers identified as vulnerable and non-vulnerable, during October 2023.

For the consistency of these instruments, see Chapter 5.

4 THE NATURAL GAS MARKET

4.1 Infrastructure regulation

4.1.1 Network extension, development and optimisation

Gas facilities

In Italy there are eight companies operating the **National** (10,490 km) **and Regional** (24,936 km) **Gas Transmission Network**: three for the national and regional network and five for the regional network only. The largest gas transmission operator company is Snam Rete Gas; in addition to it, two other companies own and operate small sections of the national network: Società Gasdotti Italia and Infrastrutture Trasporto Gas. The Snam group (consisting of Snam Rete Gas and Infrastrutture Trasporto Gas) owns 93% of the networks.

The Italian gas transmission network is connected to several international natural gas pipelines:

- at Gries Pass, in Piedmont, it connects with the TENP (Trans Europa Naturgas Pipeline) natural gas pipeline to import gas from the Netherlands and Northern Europe;
- in Tarvisio, Friuli-Venezia Giulia, it connects with the TAG (Trans Austria Gas Pipeline) for the import of Russian gas;
- in Mazara del Vallo, Sicily, it connects with the Transmed (Trans-Mediterranean Pipeline) for the import of Algerian gas;
- in Melendugno, Apulia, it connects with the TAP (Trans Adriatic Pipeline) for the import of Azeri gas;
- in Gela, also in Sicily, it connects with the Greenstream for the import of Libyan gas.

TAP is the most recent pipeline; it came into service at the end of 2020 and received (in 2013) from the competent authorities of Greece, Albania and Italy a 25-year exemption from third-party access for the initial capacity of 10 billion cubic metres per year (its current capacity is expandable up to 20 G(m^3) per year).

Liquefied natural gas is injected into the Italian national transmission network through the interconnection with the terminals in operation in Panigaglia (in Liguria), Cavarzere (in Veneto), Livorno and Piombino (in Tuscany). The Panigaglia plant is owned by the company GNL Italia belonging to the Snam group, has an annual regasification capacity of 3.5 G(m^3)/day and the maximum annual quantity of 13 M(m^3)/day. The Cavarzere terminal is an off-shore facility located in the Adriatic Sea off the coast of Rovigo with an annual regasification capacity of 8 G(m^3) and approximately 26.4 M(m^3)/day. Of the maximum regasification capacity, 80%, i.e. 21 M(m^3)/day, is reserved for the terminal operator, the company Terminale GNL Adriatico, which has been exempted from third-party access for 80% of capacity, for 25 years, i.e. until the thermal year 2032-2033; the remaining 20%, together with any unused capacity, is offered on the market through capacity subscription procedures. At the end of 2021, the Minister of Ecological Transition in conjunction with the Minister of Facilities and Sustainable Mobility granted[114] to the company to increase the regasification capacity of the plant by 1 G(m^3) from the initial 8 to 9.6 G(m^3) per year. Technical capacity at the Livorno terminal, which is also an FSRU that came into operation in December 2013

[114] By Ministerial Decree No. 543 of 22 December 2021.

and is operated by OLT Offshore LNG Toscana, also increased in 2023; in May[115] the company was in fact authorised to increase the maximum annual regasification capacity from the initial 3.75 G(m^3) to the current 5 G(m^3)/year. OLT Offshore LNG Toscana is 49.07% owned by Snam, 48.24% by global asset manager Igneo Infrastructure Partners and 2.69% by Golar LNG, a shipping company specialising in the acquisition, management and chartering of LNG carriers and FSRUs.

The FSRU destined for the port of Piombino, was purchased by Snam in June 2022: it is a 293-metre long and 40-metre wide vessel that can store about 170,000 m^3 and has a regasification capacity of 5 G(m^3)/year. The ship officially entered into commercial operation in July 2023 with the arrival of the first gas tanker and the first LNG cargo, following the completion of all technical inspections. In the second half of 2026, the regasifier ship in Piombino is expected to be relocated to another location.

Natural gas **storage** is carried out on the basis of 15 concessions held by five companies: Stogit, Edison Stoccaggio, Ital Gas Storage, Geogastock, Blugas Infrastrutture. All active storage sites are built at depleted gas fields. Stogit, which belongs to the Snam group, is the main storage company owning 10 of the 15 concessions. The main changes in 2023 concern the Ripalta and Sergnano sites, for which the Ministry of the Environment and Energy Security (MASE) authorised the upgrading, in view of the criticality for the national gas system resulting from reductions in Russian gas flows. That is, Stogit was authorised to expand the storage capacity in the Ripalta reservoir, through the gradual increase of the maximum operating pressure up to 110% of the reservoir's original pressure until 31 December 2026. For the Sergnano site, too, the Ministry authorised Stogit to increase storage capacity by increasing the maximum operating pressure, but in this case by no more than 105%. It is also worth mentioning that in 2023 the Cugno le Macine storage project, hitherto carried out by the company Geogastock, was taken over by Thaleia, a new platform launched by the US fund Davidson Kempner Capital Management and One33, its operating partner for Italy, to acquire facility projects for the energy transition. The Italian gas storage system is of significant size: in the 2023-2024 thermal year, which ended on 31 March 2024, the system offered availability for allocation in terms of total space for active reserve (so-called working gas) amounting to 17.79 G(m^3), of which 4.6 G(m^3) is for strategic storage. The space offered at tender was 100%. The nominal peak delivery achieved during the year was 260 million standard cubic metres/day: 247.5 M(m^3)/day in Stogit storage, 9 M(m^3)/day in Edison storage and 3.5 M(m^3)/day in Ital Gas Storage.

Natural gas **distribution** in Italy takes place through 271,212 km of network (of which 301 km will not be in operation in 2023), 57.1% in low pressure, 42.2% in medium pressure and 0.7% in high pressure. The length of the networks increased by 3,646 km compared to 2022. In addition to the networks, gas distribution takes place via 6,881 reduction stations and 103,413 final reduction units. 57.3% of the networks (155,297 km) are located in the North, 22.6% in the Centre (61,419 km) and the remaining 20.1% (54,496 km) are in the South and Islands. There were 186 companies active in gas distribution in 2023 (the same number as in 2022), of which six were very large (with more than 500,000 customers), 22 with between 100,000 and 500,000 customers, 20 medium (50,000-100,000 customers), 91 small (10,000-50,000) and 47 very small (less than 5,000 customers). The number of companies with more than 100,000 redelivery points has fallen in recent years (28 units, down from 33 in 2013). However, their share in terms of gas distributed has not fallen, remaining stable at around 82% until 2018 and has then gradually risen to 85% in the last three years. Overall, the 186 operators active in 2023 distributed 25.6 G(m^3), 2.7 G(m^3) fewer than the previous year, to approximately 22 million customers. The service was operated through 6,578 concessions in 7,359 Municipalities.

[115] By the decree issued on 26 May 2023 by the Ministry of the Environment and Energy Security in conjunction with the Ministry of Facilities and Transport.

Assessment of the Ten-Year Development Plan for the natural gas transmission network

In March 2023, as a result of the urgent assessment process initiated during the evaluation of the 2021 and 2022 Natural Gas Transmission Network Development Plans, and after a specific public consultation that saw extensive stakeholder participation, the Authority expressed[116] a positive assessment on the development intervention "Upgrading for new imports from the South" (the "Adriatic Line").

In October 2023, the deadline for the transmission of plans to the Authority for the year 2023 was set[117] to 31 December 2023. Therefore, there were no evaluation activities for the new National Development Plans during 2023.

Update of the minimum requirements for ten-year development plans for the natural gas transmission network

In March 2023, the Authority ordered[118] the amendment of the minimum requirements for the consultation and assessment of the Plans and for the cost-benefit analysis of the development interventions of the natural gas transmission network regulated[119] in 2018, as a result of the proceedings initiated[120] in October 2022 to implement the Council of State's ruling 4241/2022.

In May 2023,[121] provisions were introduced regarding the optimisation of biomethane connections and the simplification of connection directives, in application of Article 37 of Legislative Decree No. 199 of 8 November 2021, with which the Authority made some changes to the minimum requirements for the preparation of ten-year development plans for the natural gas transportation network and for the Cost-Benefit Analysis (ACB) of interventions[122]. More specifically, the additions provided for the introduction of:

- an annex to the Natural Gas Transmission Network Development Plan containing the technical sheets for the connections of biomethane plants, describing the technical and economic characteristics of each intervention;
- a reconnaissance document, complementary to the ten-year development plan of the main transmission operator, containing a mapping of the (current and future) availability of transport and distribution capacity in the various areas of the country, specifying (i) areas where there is already sufficient transport capacity available to feed current and future biomethane production quantities into the grid, and (ii) areas where connection to the gas grid requires appropriate grid

[116] Resolution of 21 March 2023, 108/2023/R/gas.

[117] Resolution of 4 October 2022, 470/2022/R/gas.

[118] Resolution of 28 March 2023, 122/2023/R/gas.

[119] Resolution of 27 September 2018, 468/2018/R/gas and related Annex.

[120] Resolution of 4 October 2022, 470/2022/R/gas.

[121] Resolution of 23 May 2023, 220/2023/R/gas.

[122] Annex A to Resolution 468/2018/R/gas of 27 September 2018, as amended and supplemented (the "minimum requirements")

developments.

In November 2023, the Authority assessed and approved[123] the recommendations for updating the ACB application criteria submitted by the main transmission operator (after consultation with stakeholders), and at the same time amended the minimum requirements to take into account the aforementioned proposals of the main transmission operator, the comments made during the consultation and the need for progressive convergence between methodologies for the ACB of the gas transmission and electricity transmission sector. The main changes introduced concerned:

- the limitation of the benefit of avoided investment costs to only those costs necessary for legislative or authorisation requirements;
- the updating of benefits related to climate-changing and non-climate-changing emissions;
- the explication of certain monetary transfer effects arising from projects exiting the national energy system, which should be taken into account, as a complement to the monetary and quantitative analyses, although not integrated into the basic ACB;
- for the interventions under implementation, for which an expenditure equal to at least 10% of the estimated investment cost has been incurred, which have already been the subject of a ACB in previous editions of the Development Plan, and in relation to which the Authority has not expressed an adverse or suspensive assessment, the opportunity to present the results related to the benefits of the pre-existing ACB, providing any update of the costs and summary economic performance indicators within the project fiches.

4.1.2 Access to gas networks and facilities

Access to LNG regasification plants

Current rules governing access to the regasification service, contained in the Integrated Regasification Text (TIRG), were defined[124] in September 2017, with the introduction of market criteria, based on auction procedures, for the allocation of regasification capacity, both long-term and short-term. The TIRG also provides that, for the purpose of managing capacity allocation procedures, regasification companies can access the services offered by the Energy Markets Operator (GME).

A new regasification terminal operated by the Snam Group and initially located in the port of Piombino came into operation in 2023. The plant is an FSRU (Floating Storage and Regasification Unit) and has an annual regasification capacity of about 5 billion S(m^3). In January 2023, the Authority approved[125] the recommended procedure for the first allocation of regasification capacity at the Piombino terminal. In February 2023, the Authority approved[126] an amendment to the procedure regarding the discharge deadline for larger ships. Finally, in March 2023, the Authority provided[127] that the operators allocated capacity at the Piombino terminal could request the application of the

[123] Resolution of 21 November 2023, 532/2023/R/gas.

[124] Resolution of 28 September 2017, 660/2017/R/gas.

[125] Resolution of 31 January 2023, 28/2023/R/gas.

[126] Resolution of 14 February 2023, 55/2023/R/gas.

[127] Resolution of 2 March 2023, 85/2023/R/gas.

regasification and transportation fees approved by the Authority within the framework of tariff regulation instead of the fees defined in the aforementioned procedure.

In April 2023, the Authority, also with a view to favouring the increase in the availability of gas to replace Russian gas, amended[128] paragraphs 5.2 and 5.7 of the TIRG to allow the offer of multi-year capacity products including the thermal year following the allocation year. Provisions were also introduced on the modalities and prices for the offer of multi-year regasification capacity, offered on the basis of the expressions of interest received for the OLT Offshore LNG Toscana and FSRU Italia terminals in Piombino.

In June 2023, the Authority updated[129] the calculation parameters for the determination of reserve prices in the regasification capacity allocation procedures. It was also stipulated that the fees for the allocation of regasification capacity negotiated in the procedures for the allocation of products with a duration of one year or more should include the transport capacity costs, assessed on the basis of the transport fees associated with the annual regasification capacity already approved at the time of allocation. This is without prejudice to the possibility for the assignees of the capacities to request the application of the fees to be approved annually by the Authority pursuant to the tariff regulation of the transport services.

In September 2023, the Authority approved[130] the amendments to the GME regulations for the Regasification Capacity Allocation Platform (PAR) necessary for the activation of the new management section of the PAR, which is in addition to those already existing for each of the regasification terminals already active in Italy, within which auctions and first come first served procedures will be held for the allocation of the capacity made available at the new terminal in Piombino managed by Snam FSRU Italia.

Access to the storage service

Regulation (EU) 1032/2022 of the European Parliament and of the Council of 29 June 2022, in order to cope with the crisis triggered by the conflict between Russia and Ukraine, defined mandatory minimum filling levels of European gas storages by providing for the possibility for Member States to take a number of measures to reach these filling levels.

In compliance with EU provisions, measures were also introduced in Italy to tackle the crisis. The various interventions included Ministerial Decrees No. 253 of 22 June 2022 and No. 287 of 20 July 2022 entrusted the task of speeding up the filling of national stockpiles through the so-called filling service of last resort (hereafter: STUI) to the balance responsible entity (hereafter RdB) and the Gestore dei Servizi Energetici (the Energy Services Manager or GSE). In addition, these decrees regulated the procedures for the implementation of last-resort storage by the RdB and the GSE, providing that the Authority shall safeguard their economic-financial balance.

In January 2023, the Authority defined[131] the functional criteria for the implementation of the STUI for 2023 by the balance responsible entity, in line with the indications provided by the Minister for

[128] Resolution of 4 April 2023, 144/2023/R/gas.

[129] Resolution of 27 June 2023, 288/2023/R/gas.

[130] Resolution of 19 September 2023, 406/2023/R/gas.

[131] Resolution of 12 January 2023, 3/2023/R/gas.

the Environment and Energy Security expressed in the communication of 29 December 2022.

In order to preserve the available stocks and facilitate the new storage filling cycle for the winter of 2023-2024, in March 2023 the Authority, on the instructions of the Minister for the Environment and Energy Security, asked[132] the storage companies to make the following tools available to users:

- counter-flow filling service, which provides for the availability of injection capacity in the delivery phase 2022-2023, combined with a corresponding space capacity for thermal year 2023-2024 and injection and delivery capacity for peak or uniform services in the delivery phase of thermal year 2023-2024;
- residual stock service, which provides for the allocation of space capacity for thermal year 2023-2024 and corresponding injection and dispensing capacity for peak services, or uniform in the dispensing phase of thermal year 2023-2024.

At the same time, the criteria for defining the reserve prices of the aforementioned services were approved, and the non-application to users of the costs relating to the technical consumption of the storage companies was confirmed for thermal year 2023-2024, as an exception to the regulation in force (but in continuity with what was regulated for the previous thermal year of storage, again with the aim of favouring the filling of reserves). These costs were covered through the internal financial balance mechanism of the storage service[133].

With the Decree of 31 March 2023, the Minister of the Environment and Energy Security issued the provisions for the thermal year of storage 2023-2024 (pursuant to Article 14 of Decree Law No. 1 of 24 January 2012 and Article 12, paragraph 7 of Legislative Decree No. 164/2000), confirming the current structure of storage services and introducing other provisions to take into account the Russian-Ukrainian crisis and the possible repercussions on the security of national energy supplies. In implementation of the above provisions, in April 2023 the Authority completed[134] the general framework of the rules applicable to storage services for thermal year of storage 2023-2024.

Access to the gas transmission service

In April 2019, the Authority innovated[135] the well-established rules on access to transmission networks[136], changing the allocation of capacity at the exit points of the gas transmission network feeding distribution networks (city gates). In detail, the process has been simplified by eliminating the need for the Balancing User to request capacity: allocation is completed automatically through the Central Register of the Integrated Information System (SII). The quantities of gas delivered are determined solely on the basis of the characteristics of the redelivery points served, i.e. annual consumption, withdrawal profile and metering frequency.

[132] Resolution of 9 March 2023, 93/2023/R/gas.

[133] Mechanism governed by Article 28 of the Integrated text for the regulation of guarantees of free access to the natural gas storage service, Annex A to the Authority's Resolution of 26 February 2019, 67/2019/R/gas

[134] Resolution of 4 April 2023, 150/2023/R/gas.

[135] Resolution of 16 April 2019, 147/2019/R/gas.

[136] Resolution of 17 July 2002, 137/02.

In November 2021, the Authority set out[137] some guidelines on the application aspects of the city gate capacity allocation regulation introduced in April 2019. Further in-depth studies on this subject were exposed[138] by the Authority in April 2022, including a proposal to postpone the entry into force of the reform by one year, in light of both reports received to this effect and the degree of progress of the ongoing experimentation, as well as in view of any further IT implementations required. The consultation revealed a general consensus for postponement, also in view of the current market environment; therefore, in May 2022 the Authority further postponed[139] the start of the reform to 1 October 2023.

In February 2023, the provisions on reforming the capacity allocation processes at the redelivery points of the transmission network were approved[140]. Specifically, the proposals set out in the October 2022 consultation[141] have been confirmed, i.e. that final customers whose consumption is not metered on a daily basis should be allocated a daily conventional capacity, which would subsequently be subject to an adjustment session, and that the related costs should be covered by a single nationwide charge. To these capacities, which are allocated on a daily basis, transportation capacity-based charges are applied, which take into account a multiplication coefficient defined by the same resolution.

In July 2023,[142] provisions were approved for the launch of the above-mentioned capacity allocation reform, with the definition of rules for first-time application, as well as rules for the adjustment of allocated capacities on the basis of the corresponding corrections made to withdrawal data resulting from settlement procedures. Also in July 2023, the Authority defined[143] a harmonised procedure for capacity allocation at the redelivery points of the transmission network that supply thermoelectric and industrial users, through the adoption of the same modalities, allocation times and products for both types.

In October 2023,[144] further elements of flexibility in the use of transmission capacity were introduced, with the aim of eliminating uncertainties related to the effects of a possible early termination of the supply contract due to default by the end customer, also favouring the signing of contracts with a duration of less than one year.

In December 2023, the introduction in Italy of a Neutrality Charge to cover the costs of the service of last resort was envisaged[145] in Ministerial Decrees No. 253 of 22 June 2022 and No. 287 of 20 July 2022. In detail, the application at all exit points of the national transmission network, including points of interconnection with foreign countries, following the model of the German Neutrality Charge, has been outlined as of 1 April 2024.

[137] Consultation document of 16 November 2021, 502/2021/R/gas.

[138] Consultation document of 5 April 2022, 157/2022/R/gas.

[139] Resolution of 24 May 2022, 225/2022/R/gas.

[140] Resolution of 28 February 2023, 72/2023/R/gas.

[141] Consultation document of 18 October 2022, 502/2022/R/gas.

[142] Resolution of 25 July 2023, 334/2023/R/gas.

[143] Resolution of 18 July 2023, 319/2023/R/gas.

[144] Resolution of 3 October 2023, 444/2023/R/gas.

[145] Consultation document of 12 December 2023, 588/2023/R/gas.

Access to transport service at foreign interconnection points

In September 2023, the rules on requesting access to transmission capacity at points interconnected with foreign countries[146] were updated[147], other than points interconnected with countries belonging to the European Union and with Switzerland. More precisely, the points affected by the upgrade were Mazara del Vallo (connection to Algeria) and Gela (connection to Libya). For these points, as already provided for the entry points interconnected with countries belonging to the European Union (Tarvisio, Gorizia and Melendugno) and with Switzerland (Passo Gries), possession of the import authorisation issued by the Ministry for the Environment and Energy Security (as per art. 3, paragraph 1 of Legislative Decree No. 164 of 23 May 2000) was no longer required at the time of submission of an offer to purchase capacity, but subsequently for the purpose of utilisation of the allocated capacity.

Access to gas networks by biomethane production plants

In May 2023, the Authority adopted[148] provisions for the optimisation of biomethane connections and the simplification of the relevant directives, implementing Article 37 of Legislative Decree No. 199 of 8 November 2021. In particular, the following were adopted:

- the criteria on the basis of which the main transmission operator shall formulate a procedure for the integration of information and solutions to optimise the connections of biomethane plants on the natural gas network, including distribution networks;
- criteria for simplifying and updating the provisions concerning the terms and conditions for connecting biomethane plants with natural gas networks.

In greater detail, the Authority stipulated that:

- the main transmission operator shall submit for consultation with interested parties, according to the modalities laid down[149], a procedure for identifying solutions to optimise the connections of biomethane plants with the gas network, including distribution networks, according to principles of transparency and non-discrimination, and which, in compliance with the general principle of cost reflectivity, induces producers to make efficient choices in the organisation and location of production plants; the same consultation shall include the modalities of data communication and the sharing of burdens and responsibilities among the producers involved;
- the procedure referred to in the previous point, once approved by the Authority, is applied by the main transmission operator, with the involvement of the local distribution network operator, prior to each request for connection of biomethane production plants with the gas network;
- the provisions[150] adopted in September 2018 are amended, so that the main transmission operator attaches to the Development Plan the technical data sheets for the connections of biomethane plants, containing a representation of the technical and economic characteristics of

[146] Previously regulated by Resolution 137/02 of 17 July 2002.

[147] Resolution of 26 September 2023, 421/2023/R/gas.

[148] Resolution of 23 May 2023, 220/2023/R/gas.

[149] Procedures established by Resolution of 7 May 2009, ARG/gas 55/09.

[150] Annex A to Resolution of 27 September 2018, 468/2018/R/gas.

each biomethane plant connection.

4.1.3 Tariffs for access to gas infrastructures

Tariffs for the LNG regasification service

The tariff regulation criteria for the liquefied natural gas regasification service (RTRG) for the regulatory period 2020-2023 (5PR LNG) were defined in November 2019[151]. In June 2022, the Authority, as a result of its control of the tariff recommendations submitted by the regasification companies pursuant to RTRG 5PR LNG, approved[152] the reference revenues and determined the tariff fees for the LNG regasification service for 2023, the last of the 5PR LNG.

In July 2022, the Authority therefore initiated[153] proceedings to define the criteria for tariff regulation of the LNG regasification service for the sixth regulatory period (6PR LNG), which starts on 1 January 2024. As part of these proceedings, the Authority submitted the guidelines on these tariff regulation criteria for consultation[154] .

In May 2023, the Authority approved[155] the tariff regulation criteria for the 6PR LNG regasification service (RTRG 2024-2027). In substantial continuity of criteria compared to the previous regulatory period, the Authority established, amongst others:

- to postpone the assessments on the application of the general criteria for the recognition of costs identified in the Integrated Text of Criteria and General Principles of Regulation by Expense and Service Objectives (TIROSS)[156] to the next regulatory period, aligning, however, as of the 6PR LNG: the duration of the regulatory period (equal to 4 years); the methods for determining the net working capital (on a parametric basis) and the methods for activating the mechanisms for managing uncertainties relating to operating costs (Y-factor, with a minimum threshold equal to 0.5% of recognised operating costs);
- the criteria for determining and updating the recognised investment capital, amongst others by introducing an incentive mechanism for obtaining public grants;
- the criteria for determining and updating the recognised operating cost;
- to simplify the cost equalisation mechanism for the procurement of ETS certificates, for energy consumption for the basic operation of the terminal and for consumption and leakage in the regasification chain.

Subsequently, the Authority approved[157] the tariff proposals of the LNG regasification companies for the LNG regasification service for the year 2024 and the tariff proposals of the new terminal in

[151] Resolution of 19 November 2019, 474/2019/R/gas.

[152] Resolution of 28 June 2022, 278/2022/R/gas.

[153] Resolution of 27 July 2022, 356/2022/R/gas.

[154] Consultation document of 14 February 2023, 49/2023/R/gas.

[155] By Resolution of 9 May 2023, 196/2023/R/gas.

[156] Annex A to resolution 163/2023/R/com of 18 April 2023.

[157] By Resolution of 22 June 2023, 279/2023/R/gas.

Piombino for 2023 and 2024.

Tariffs and prices for the storage service

The tariff regulation criteria for the natural gas storage service (RTSG) for the fifth regulatory period (5PRS) 2020-2025 were defined in October 2019[158].

In August 2022, the Authority approved[159] the reference revenues for the natural gas storage service for 2023. Following the definition of the revenues, the companies Stogit and Edison Stoccaggio determined, transmitted and published the value of the tariff fees for the thermal year 2023-2024, as required by the regulation.

It should, however, be emphasised that the tariffs now have a residual application, as they only concern the operational balancing services of transmission operators and the gas producer storage of household production companies, which account for less than 2% of the total storage capacity. Strategic storage, which absorbs about a quarter of the capacity and is aimed at coping with possible critical issues in supply or in the operation of the gas system, is remunerated through the commodity-based charge CRV^{CS}, applied to the quantities of gas transported[160].

The remaining storage capacity (over 70%), intended for seasonal and multi-year modulation services, is allocated and remunerated on the basis of competitive procedures, governed by the Regulation for Access to and Provision of Storage Services (RAST), as defined by the Authority in February 2019[161]. The service fees related to this capacity are determined by the market as a result of special tenders, which are open to the participation of natural gas market operators.

Stogit and Edison Stoccaggio held the auctions for the thermal year 1 April 2023 - 31 March 2024 between March and September 2023. Compared to the previous year, there was a strong recovery in the capacity allocated on an auction basis (+30 TWh, +59%) and a return to usual orders of magnitude in the fee levels (average allocation prices), which rose from 0.15 €/MWh in 2022 to 6.05 €/MWh in 2023, which are also higher than pre-pandemic levels (around double the thermal year 2019-2020). The above changes indicate a return of operators' interest in the service in 2023, also driven by fears of new escalations in the Russian-Ukrainian conflict and consequent price tensions in wholesale markets or supply difficulties.

Tariffs for gas transmission service

In April 2023, the Authority approved[162] the tariff regulation for the natural gas transmission and metering service (RTTG) for the period 2024-2027 (sixth regulatory period - 6PRT). More specifically, the regulation sets out the following criteria:

[158] Resolution of 23 October 2019, 419/2019/R/gas.

[159] Resolution of 2 August 2022, 384/2022/R/gas.

[160] Resolution of 20 October 2020, 396/2020/R/gas.

[161] Resolution of 26 February 2019, 67/2019/R/gas.

[162] Resolution of 4 April 2023, 139/2023/R/gas.

- determination of recognised revenues, including how to reconcile with the ROSS methodology (Regulation by Expense and Service Objectives) for capital and operating costs;
- incentivising and improving the efficiency of facility development by introducing on an experimental basis: a mechanism to stimulate the continued operation of fully depreciated natural gas transmission networks, an incentive mechanism for dual-fuel compressor stations, and criteria for improving the efficiency of transmission network development in newly methanised areas;
- simplification of the determination of items to cover network leakages, fuel gas, unaccounted-for gas, ETS charges;
- determination of charges for the transport service, confirming the adoption of the capacity-weighted distance methodology and providing for a change in the entry/exit split from 28/72 to 25/75;
- determination of the fees for the transmission metering service, confirming the tariff articulation in two components, one covering the general metering costs and one covering the metering costs of the redelivery points of final customers only, the latter expressed in €/withdrawal point/year and divided into five distinct classes according to the capacity of the metering plant.

In May 2023, the Authority, as a result of its control of the tariff recommendations submitted by the transmission operators pursuant to the RTTG 6PRT, approved[163] the reference revenues and determined the tariff fees for the natural gas transmission and metering service for 2024.

Tariffs for distribution and metering services

At the end of December 2022, the regulation of the tariffs for gas distribution and metering services (RTDG) in force in the years 2023-2025 was approved[164], at the end of a complex process described in last year's Annual Report (to which reference is made). Compared to the regulation of the previous three years, the main changes concern: the definition of the standard costs of electronic metering units, the parametric recognition of the costs of remote management/telemetering systems and concentrators, the recognition of the residual value of first-time smart meters decommissioned early, the determination of the down payment to cover the costs of metrological verifications, the mitigation mechanism of the effects of reductions in the redelivery points served, the transposition of the provisions set forth in the Prime Ministerial Decree of 29 March 2022 and Law No. 118 of 5 August 2022.

In December 2023, the mandatory tariffs for natural gas distribution, metering and marketing services for 2024 were approved[165].

Transposition and implementation of government manoeuvres to support gas customers

In the gas sector, unlike in the electricity sector, the cancellation of tariff components covering general system charges, which began at the end of 2021 to compensate for the strongly bullish trend

[163] Resolution of 30 May 2023, 234/2023/R/gas.

[164] By Resolution of 29 December 2022, 737/2022/R/gas.

[165] Resolution of 28 December 2023, 631/2023/R/gas.

in wholesale energy commodity prices, was maintained until the end of 2023. The following has been established:

- for the first quarter of 2023, at end 2022, in implementation[166] of the provisions of the 2023 Budget Law;
- for Q2 2023, at the end of March 2023, implementing[167] the provisions of Decree Law No. 34 of 30 March 2023;
- for Q3 2023, at the end of June 2023, implementing[168] the provisions of Decree Law No. 79 of 28 June 2023;
- for Q4 2023, at the end of September 2023, implementing[169] the provisions of Decree Law No. 131 of 29 September 2023.

Until April 2023, the extraordinary UG2c component has also been confirmed, with a negative sign, to be applied to the lowest consumption, falling in the brackets up to 5,000 sm^3/year, in fact a discount applied to all customers for small to medium consumption, both in the free market and in the market with a reference price.

These manoeuvres were financed through allocations from the State Budget set in the first two quarters of 2023. In detail, the regulatory provisions that established new allocations during 2023 for general gas charges were as follows:

- for the first quarter of 2023, the 2023 Budget Law (see Art. 1, paragraph 15), which made available € 3,543 million (of which € 3,043 million for the extraordinary negative component UG2c);
- for the second quarter of 2023, Decree Law No. 34/2023 (see Article 2, paragraph 5), which made available € 280 million (of which € 160 million for the extraordinary negative component UG2c in April alone).

These allocations were slightly higher than actual needs, and the resulting surpluses were returned to the state.

4.1.4 Quality of facility services

Quality of gas storage system

The regulatory criteria for the quality of the natural gas storage service in force for the regulatory period 2020-2025 (RQSG 5PRS) were approved[170] in October 2019, in a framework of substantial continuity from the previous regulation.

[166] Resolution of 29 December 2022, 735/2022/R/com.

[167] Resolution of 30 March 2023, 134/2023/R/com.

[168] Resolution of 28 June 2023, 297/2023/R/com.

[169] Resolution of 28 September 2023, 429/2023/R/com.

[170] Resolution of 23 October 2019, 419/2019/R/gas.

Quality of gas transmission system

The regulatory criteria for the quality of natural gas transmission service in force for the regulatory period 2020-2023 (RQTG 5PRT) were adopted in December 2019[171]. In November 2021, the Authority also adopted[172] the regulation of the metering service on the natural gas transmission network (RMTG), which defines: (i) responsibilities and scope of the metering and meter reading activities; (ii) minimum and optimal requirements of an installation, performance and maintenance nature; (iii) predefined service quality levels; (iv) an incentive system for compliance with these service quality levels; (v) a quality level requirements monitoring system. With the same measure, the Authority, among other things, ordered amendments to the RQTG 5PRT, excluding from it the provisions included in the regulation of the meter reading service, in particular with reference to the standard on the time for a reasoned response to written requests concerning the meter report.

In September 2023, the Authority ordered[173] amendments to the RMTG in order to adapt the regulation to certain critical issues that had arisen in the implementation of the reorganisation of the service, providing in particular for:

- the starting date for the application of the gas quality measurement indicator for installations for which gas quality analysis instruments (gas chromatograph/quality analyser) are to be installed, from 1 January 2026;
- a specific service level of the gas quality measurement indicator for plants for which no gas quality analysis instruments are to be installed and for plants subject to legal metrology;
- derogations to the application of the indicator related to the rangeability of the meters with reference to specific plant configurations, such as natural gas refuelling stations for motor vehicles and installations at so-called antenna and buffer redelivery points;
- the introduction of a cap on the price of gas relevant in the determination of charges for non-compliance with service levels, equal to 30 €/MWh.

At the same time, the proposed amendments to the Snam Rete Gas and SGI Network Code, consistent with the changes described, were approved.

In December 2023, the Authority, after consultation[174], approved[175] the regulatory criteria for the quality of natural gas transportation service (RQTG) for the period 2024-2027 (sixth regulatory period - 6PRT), in substantial continuity with the previous regulation, in particular envisaging:

- in the field of odorisation, to update the Odorisation Plan annually, instead of every six months, and to postpone to a subsequent specific measure the evaluation of a possible recommendation to Parliament and the Government on the need for a regulatory reorganisation in this field;
- emissions, that transmission operators publish the methodology used to estimate leakage in a special section of their website;
- to mandate the main transmission operator, within the framework of working groups involving the other transmission operators, to promote an activity to define a set of technical and

[171] Resolution of 19 December 2019, 554/2019/R/gas.

[172] Resolution of 23 November 2021, 512/2021/R/gas.

[173] Resolution of 28 September 2023, 433/2023/R/gas.

[174] Consultation document of 10 October 2023, 451/2023/R/gas.

[175] Resolution of 12 December 2023, 589/2023/R/gas.

performance requirements for the unambiguous identification of the characteristics of a network suitable for hydrogen transport, also on the basis of the Asset Health methodology, developed at the instigation of[176] the Authority;
- with reference to the service continuity regulation criteria, to invite the main transmission operator to consider a simplification of the procedure for subscribing to and activating the alternative supply service by means of a tank truck, taking into account the minimum information required to guarantee the alternative service in advance;
- to mandate the main transmission operator to conduct a consultation on the possible functioning of an incentive mechanism of bonuses and penalties based on customer satisfaction, as well as on the perceived usefulness to users of integrating such an incentive mechanism into the regulatory framework.

Quality of gas distribution system

The regulation of the quality of gas distribution and metering services for the regulatory period 2020-2025 (RQDG)[177] regulates a number of activities relevant to the safety of the gas distribution service. These include emergency service, inspection of the distribution network, locating leaks following inspection or recommendation by third parties, and gas odorisation. The regulation of these aspects has the aim of minimising the risk of explosions, outbreaks and fires caused by distributed gas and, therefore, it has as its ultimate goal the safeguarding of persons and property from damage resulting from accidents caused by distributed gas. The graphs and tables below illustrate the safety trend in the gas sector in recent years.

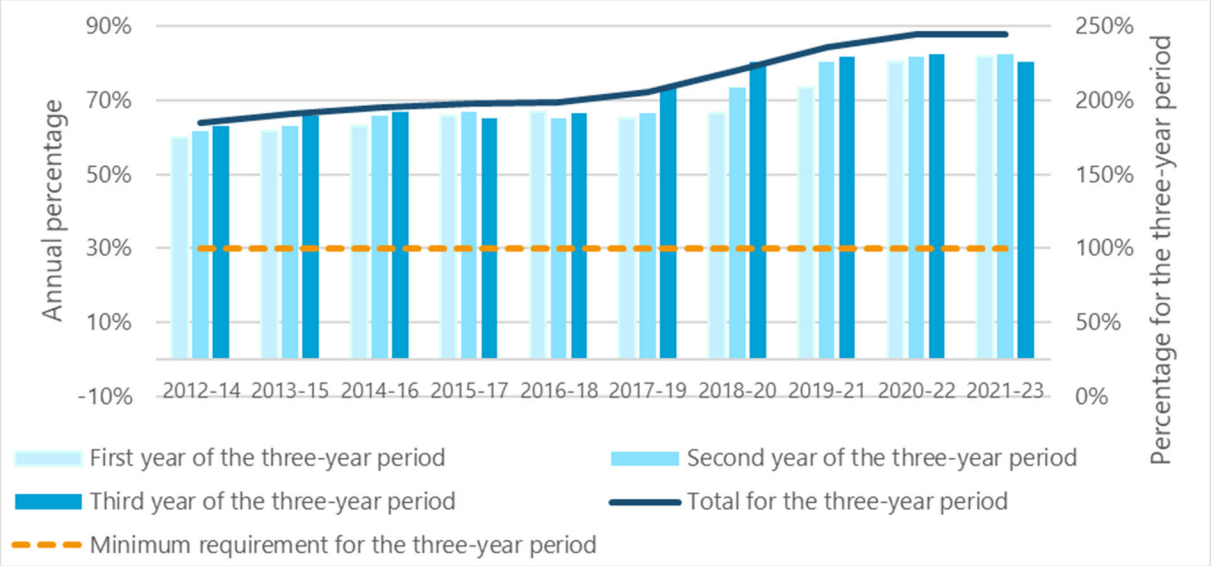
The inspection of the network first and foremost aims at intercepting the phenomenon of gas leaks and thus enhancing the safety of citizens. In the coming years, with the adoption by the European Parliament and the Council of the regulation - currently in the final stages of approval - on the reduction of methane emissions in the energy sector, gas leaks and spills will become more important, both because they will have to be detected and repaired immediately after their detection (if above certain levels) within a time-frame that ensures the physical safety of the system, and because they will have to be quantified and limited in order to reduce the emission levels of the natural gas, second only to carbon dioxide in terms of overall contribution to climate change.

Since 2014, regulation has introduced a minimum inspection obligation of 100% of the network over the three-year period (high/medium pressure network, HP/MP) or the four-year rolling period (low pressure network, LP). Figure 4.1 and Figure 4.2 represent the percentage of the network inspected in each three/four-year period by means of a histogram, while the line represents the total percentage for the period. Compared to 2022, there is a decrease in the inspection percentage of the high/medium pressure network and a slight increase in the low-pressure network in 2023. The total percentage for the reporting period, which is still well above the minimum requirement, is increasing for the low-pressure network and almost stable for the high/medium-pressure network.

[176] Resolution of 3 May 2022, 195/2022/R/gas

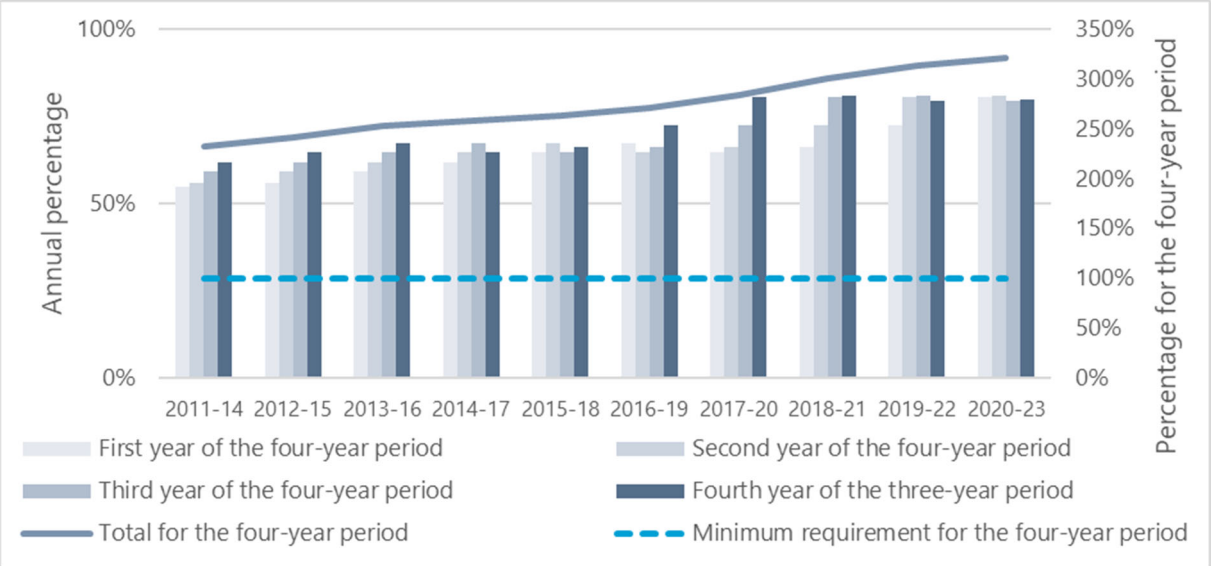
[177] Approved by Resolution 569/2019/R/gas of 27 December 2019.

Figure 4.1 Percentage of high/medium pressure network inspected since 2014, per three-year period



Source: Distributing companies' declarations to ARERA.

Figure 4.2 Percentage of low-pressure network inspected since 2014, by four-year period



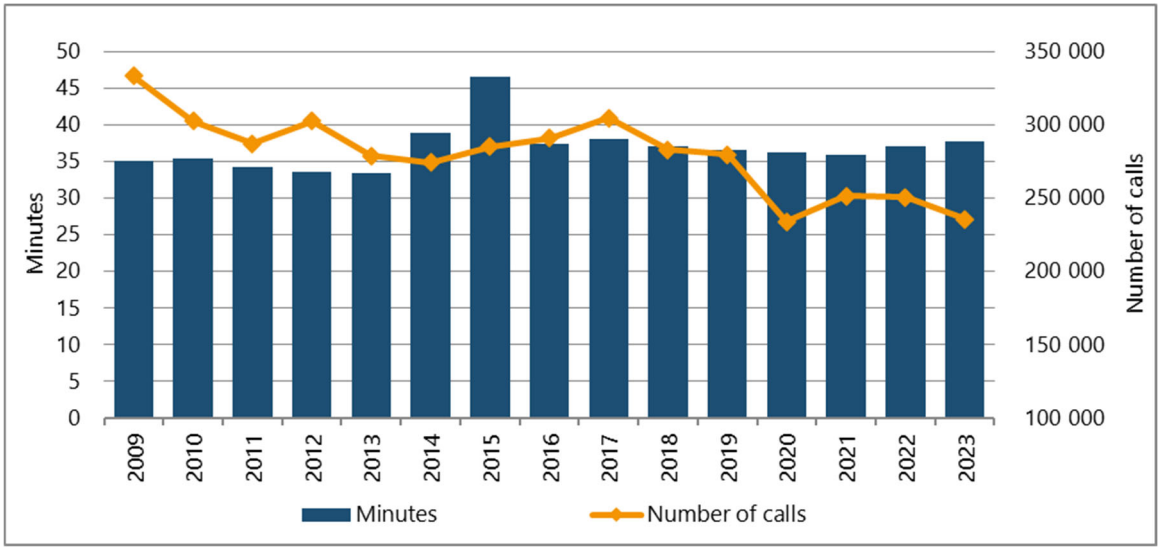
Source: Distributing companies' declarations to ARERA.

With regard to emergency service obligations, Figure 4.3 shows the arrival time at the place of (telephone) call updated to 2023. The national average value is almost 38 minutes, which is slightly higher than in 2022. In addition, the percentage of compliance with the maximum arrival time within 60 minutes was 99.8% compared to an obligation of at least 90%; this percentage is calculated not taking into account calls for which the intervention time exceeded 60 minutes due to *force majeure* or the fault of third parties.

The mandatory voice recording of calls, introduced by the RQDG as of 1 July 2009 and accompanied by the usual control campaign on the companies' gas emergency service, implemented with the help of the Tax Police, induces companies to record data accurately and this is precisely why the data is shown from that year on. Furthermore, it should be added that the number of companies forced to

participate in the bonus-penalty regulation concerning safety recoveries has gradually increased, and compliance with the emergency service is a prerequisite for bonus recognition. For this reason, the emergency gas service is an essential service for the safety of citizens. Early intervention can prevent gas accidents that could have very serious consequences. Almost half of all calls to emergency call centres actually turn out to be false alarms.

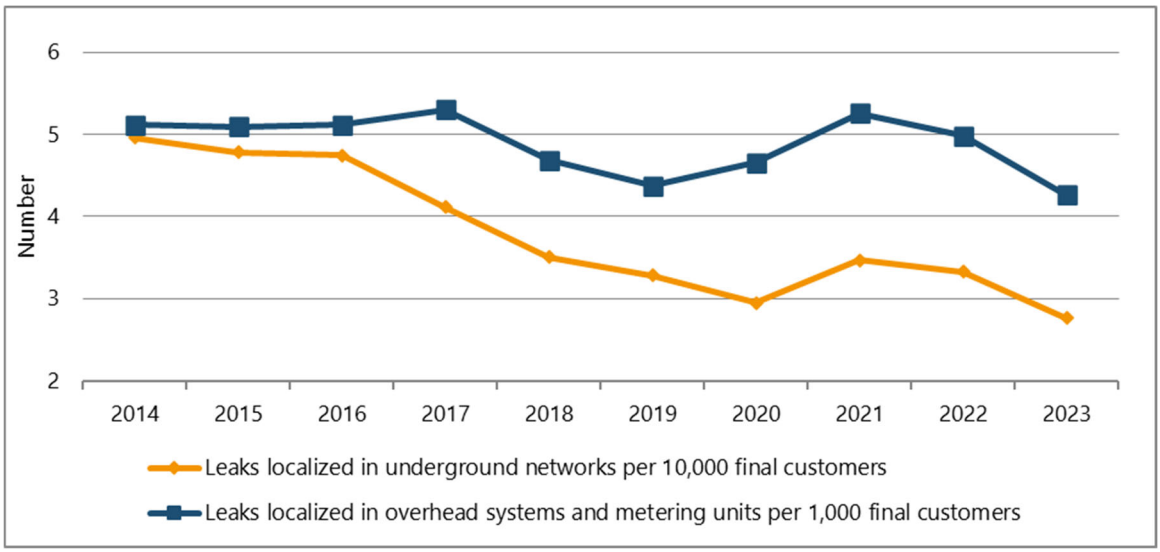
Figure 4.3 Emergency service on distribution system since 2009



Source: Distributing companies' declarations to ARERA.

Figure 4.4 shows, as of 2014, for all plants for which distribution companies have communicated data to the Authority, the number of localised dispersions on overhead utility branches and metering units per 1,000 customers and those localised on mains and on underground utility branches per 10,000 customers (considering in total both localised dispersions following inspection and those localised following a call by third parties or their own personnel). In 2023, localised leaks on the grid and on the underground part of utility branches, which are usually more dangerous dispersions, are decreasing both in absolute value and in percentage value with respect to customers.

Figure 4.4 Number of localised dispersions with respect to customers



Source: Distributing companies' declarations to ARERA.

Connection times to transmission and distribution networks

Data on connections are distinguished according to whether they are methane gas pipe connections to transmission pipelines or pipe connections to distribution networks (Table 4.1). For each of these types, data is shown on the number of connections made during the year and the average time elapsed to obtain them, net of the time needed to acquire any authorisations and/or fulfilments on the part of the final customer requesting the connection. The average time is given in the number of working days taken to set up the point and any other works required to make the transmission capacity available, as established in the connection contract stipulated.

In 2023, 67 connections to transmission networks were made, of which 65 were high-pressure pipelines and 2 medium-pressure pipelines. On average, a wait of 120 working days was recorded for high-pressure pipelines and 132 days for medium-pressure pipelines. Compared to the previous year, the number of completed connections decreased, both for high-pressure and medium-pressure pipelines. The average time for making high-pressure connections was reduced from 135 to 120 working days, while medium-pressure connections took about 50 days longer. 57% of the total 67 connections realised activated supply during the year (more precisely, 37 out of 65 in high pressure and 1 out of 2 realised in medium pressure).

In the case of local distribution networks in 2023, approximately 10,000 fewer connections were made than in the previous year: their number fell from 71,607 to 61,826. As always, most of the connections concerned low-pressure pipelines (94.6%) and the remainder medium-pressure pipelines, as no connections were made by distributors for the high-pressure network, as in recent years. There was a slight increase in waiting times both for connections to low-pressure networks (from 7.7 to 9.2 working days), and for connections to medium-pressure networks (from 23.3 to 34.1 working days).

On average, each distributor made 308 connections to low-pressure networks during the year. If those distributors who did not make a single connection are excluded from the calculation (23 subjects), the average rises to 350 connections per distributor.

Table 4.1 Connections to electricity networks and average connection time

PRESSURE	2022		2023	
	NUMBER	AVERAGE TIME(A)	NUMBER	AVERAGE TIME(A)
CONNECTIONS TO TRANSMISSION NETWORKS				
Medium pressure	11	78.3	2	132.0
High pressure	72	135.5	65	119.7
TOTAL	83	127.9	67	120.1
CONNECTIONS TO DISTRIBUTION NETWORKS				
Low pressure	67,701	23.3	58,504	9.2
Medium pressure	3,906	7.7	3,322	34.1
High pressure	0	-	0	-
TOTAL	71,607	8.6	61,826	10.6

(A) It excludes the time spent in obtaining any authorisations and the time needed for any fulfilment by the final customer.

Source: ARERA. Annual survey of regulated sectors.

4.1.5 System balancing

Settlement framework

In June 2022, the Authority envisaged[178] the extension of the monthly measurement collection frequency, already in force for larger meters, to smaller smart meters (G4 and G6 classes) as of 2023. In March 2023, the Authority set out[179] its guidelines on how this extension should be managed for settlement purposes, proposing the adoption of monthly readings for redelivery points (PdR) that have been in service for more than 12 months, to which a withdrawal profile with a thermal component is associated, and following a gradual adoption path between October 2023 and April 2024, characterised by the following phases:

- as from 1 October 2023, PdR with an annual consumption of more than 3,000 Scm, as calculated in 2023;
- as from 1 January 2024, PdR with an annual consumption of less than 3,000 Scm and more than 500 Scm, again as calculated in 2023;
- as from 1 April 2024 for the remaining PdR with a thermal component.

In addition, it was proposed that, as of January 2024, in the presence of a switch that entails a change in the Balancing User (UdB), the Integrated Information System (SII) should make available to the Distribution User (UdD), and possibly also to the UdB, according to the methods and timing defined by the SII itself, the measurement data relating to the last 12 months of the PdR served by said Users on the basis of the correspondence reports. Finally, it was suggested that it should be the distribution companies that update the treatment handover information in the Official Central Register (RCU) of the SII within the time-frame useful for the management of this information by the UdDs and UdBs and, in any case, no later than the 15th of the month prior to the treatment handover.

In July 2023, the Authority assumed[180] changes and additions to the Integrated Gas Settlement Text (TISG) to take into account the comments received in the March 2023 consultation. Most of the participants in this consultation called for measures to sterilise the imbalance charges and risks that switching treatment poses for the UdBs. The Authority accepted the proposal to extend the management methods of annually metered PdR to PdR with monthly metering for the purpose of applying balancing fees, as it was considered suitable for resolving the critical issues reported by operators.

Making distribution companies responsible for the difference between gas injected and withdrawn (Delta^{IO})

Taking into account recommendation papers received from operators, in October 2023 the Authority updated and supplemented[181] the regulations previously in force[182] making the distribution

[178] Resolution of 21 June 2022, 269/2022/R/gas amending paragraph 14-*bis*.2 of the Integrated Gas Sales Text (TIVG).

[179] Consultation document of 21 March 2023, 114/2023/R/gas.

[180] Consultation document of 25 July 2023, 351/2023/R/gas.

[181] Resolution of 31 October 2023, 494/2023/R/gas.

[182] Established by Resolution of 2 August 2022, 386/2022/R/gas.

companies responsible for the formation of what is termed the "in-out delta", i.e. the difference between the quantities injected at the exit points of the transmission network interconnected with distribution networks (hereinafter: "city gate") and the quantities withdrawn by final customers connected to the distribution network. Specifically, a number of implementation aspects of the discipline were clarified, including: the fact that it is not necessary to reconstruct the volumes subtracted as a result of fraudulent withdrawal already at the time of the complaint; the type of discretion that distribution companies have in deciding what action to take to recover the value of the subtracted gas; and the first application of the distributors' accountability mechanism in relation to the three-year reference period consisting of the years 2020, 2021 and 2022. Thereafter, the second three-year reference period will be 2021-2023. Finally, following the approval of the Gas Transportation Tariff Regulation (RTTG) 2024-2027, in October 2023,[183] was updated the method of valuation of the parameter α (used to calculate the penalty) by setting it equal to the average of the values recognised by the tariff regulation for the adjustment of the unaccounted-for gas items for each year of the three-year reference period.

In December 2023, the Authority envisaged[184] further changes and additions to the distribution companies' liability mechanism concerning the distribution of the penalty between interconnected distribution companies, following reports received with innovative contents compared to the current regulation. The latter provides for the allocation to be made by the reference distribution company on the basis of the interconnection metre and in the absence of such a metre, on the basis of the number of redelivery points (PdR) served by each interconnected company. It was observed that such a criterion would not take into account the composition of the users in terms of the amount of volume allocated to each PdR and could lead to a penalty inconsistent with the actual performance of the distribution company. The Authority therefore suggested that the calculation of the distribution of the penalty between interconnected companies, in the absence of an interconnection measure, should be carried out by the balance responsible entity on the basis of the volumes resulting from the adjustment sessions, and that the data required by the balance responsible entity should be made available by the Integrated Information System (SII), which already has the settlement data of all distribution companies.

4.1.6 International coordination

Consistency of the Ten-year network development plan with the European Natural Gas Network Development Plan

Pursuant to Article 16 of Legislative Decree No. 93 of 1 June 2011, the Authority has the task of assessing whether the Ten-Year Network Development Plan covers all investment needs identified during the consultation procedure and whether it is consistent with the non-binding European Ten-Year Network Development Plan (TYNDP).

The Agency for the Cooperation of Energy Regulators, ACER, is called upon to evaluate the TYNDP and report any inconsistencies between the information made available in the TYNDP and the

[183] Resolution of 31 October 2023, 494/2023/R/gas.

[184] Consultation document of 5 December 2023, 573/2023/R/gas.

national plans. In order to evaluate the 2022 TYNDP, ACER requested comments from national regulators on its projects. In this context, the Authority formalised and sent its comments on the Italian initiatives included in the 2022 TYNDP concerning both traditional gas and hydrogen projects.

ACER's work concluded with the publication of ACER Opinion 06/2023 of 14 July 2023 on projects in the TYNDP and national gas plans, in which, with regard to the Italian projects, some of the most significant elements were highlighted:

- in relation to SGI's "Lucera - S. Paolo" project, the need for the project promoter to provide additional sensitivity analyses on the impact of certain variables (mainly, demand for compressed natural gas in the industrial and automotive sectors) on the total project benefits;
- in relation to the methanisation project in Sardinia, that the positive results linked to the project were only to be referred to the case of development of the transport facilities strictly necessary to connect the regasification terminals to the main consumption basins, without therefore considering the backbone or small developments aimed at serving isolated areas (possibly supplied by road transport of liquefied natural gas).

TAP pipeline

In 2013, TAP AG, the company that owns the relevant natural gas pipeline obtained an exemption from certain European regulations (third-party access, regulated tariffs and unbundling), under conditions set by the Final Joint Opinion, a document jointly approved by the regulatory authorities of Italy (ARERA), Greece (RAE) and Albania (ERE). Among the conditions imposed, TAP AG must conduct a Market Test at least every two years to verify the market's interest in booking transmission capacity with long-term contracts between the entry and exit points of the natural gas pipeline. In the event of a positive outcome of the Market Test (as well as the verifications of the technical/economic feasibility of the requests and the consequent acceptance of the parties making the request of binding commitments), TAP AG has to build a capacity increase from the current 10 G(m^3)/year up to the maximum expansion capacity of 20 G(m^3)/year. Subsequent to 2013, European regulations have evolved and, in particular, regulation (EU) 459/2017 of the European Parliament and of the Council of 16 March 2017 (the CAM NC) has been issued which also contains specific provisions regarding the realisation of incremental capacity, also providing for a two-year procedure (generally starting in odd years). Amidst this regulatory environment, as of 2019 (the year in which the first Market Test was launched), TAP will be coordinating the Market Test procedure set out in the Final Joint Opinion with the Incremental Capacity Procedure governed by the CAM NC.

In June 2023, the Authority, jointly with the regulators of Greece (RAE) and Albania (ERE), approved[185] the "Market Test Guidelines 2023" regarding the launch of a new round of incremental capacity requests related to the development of the TAP natural gas pipeline.

In October 2023, the Authority, jointly with the regulators of Greece (RAE) and Albania (ERE), approved[186] the Project Proposal governing the "binding second phase"[187] of the Market Test for the

[185] Resolution of 27 June 2023, 287/2023/R/gas.

[186] Resolution of 3 October 2023, 438/2023/R/gas.

[187]1 With Resolution 548/2022/R/gas of 2 November 2022, the Authority, jointly with the Greek and Albanian authorities, approved the "Project proposal of TAP, SRG and DESFA for the 2021 incremental capacity process October 2022" relating

TAP natural gas pipeline started in 2021. The Project Proposal, in particular, essentially describes the capacity levels offered, the general rules for the conduct of the procedure, the indications for future contracts, the guarantees to be provided by the parties and the economic parameters.

International gas cooperation

With regard to collaborations with foreign countries and international bodies on gas matters, please refer to the section "International Coordination on Electricity and Natural Gas" within the electricity sector chapter of this Annual Report.

to the first binding phase of TAP's market test launched in 2021. The same Project Proposal, in fact, foresaw the possibility for TSOs to organise a second binding phase for the offer of the capacity not allocated in the first binding phase, until the maximum expansion of the pipeline was reached.

4.2 Competition and the functioning of markets

4.2.1 Wholesale markets

According to provisional data released by the Ministry of the Environment and Energy Security, gross natural gas consumption in 2023 decreased by 7 G(m^3), recording a 10.3% decrease (Table 4.2). Several factors contributed to this decline: firstly, the simultaneous reduction in demand for electricity, which led to a reduction in domestic electricity production that was met by a growth in generation from renewable energy resources and an exceptional reliance on electricity imports. Demand for gas for electricity generation has therefore dropped significantly. As was already the case in 2022, moreover, the occurrence of winter temperatures that were still among the highest in recent years further depressed demand in the residential sector, which basically uses gas mainly for heating. Modest GDP growth (0.9 %) helped to contain industrial consumption. Finally, part of the reduction in consumption could be explained by the continuing high level of gas prices, albeit lower than in 2022.

Table 4.2 Gross natural gas consumption in Italy

AVAILABILITY (M(m^3))	2022	2023(A)	VARIATION
Domestic production	3,106	2,728	-12.2%
Imports	72,591	61,819	-14.8%
Exports	4,614	2,619	-43.2%
Stock variation	2,581	456	-
GROSS DOMESTIC CONSUMPTION	68,502	61,471	-10.3%

(A) Provisional data.

Source: Ministry of the Environment and Energy Security.

Domestic production recorded yet another drop (-12.2%), falling to an all-time low of 2.7 G(m^3). In 2023, however, a marked decrease of 8.8 G(m^3) was also observed for net imports, which were 12.9% lower than in 2022. The data show that this decrease is entirely due to the drop in gross imports, whose 10.8 G(m^3) decline was only partly offset by the reduction in exports (-2 G(m^3)), which had grown abnormally in 2022.

Storage volumes at the end of the year were about 0.5 G(m^3) higher than at the start of the year. Taking system consumption and network leakages into account, gross domestic consumption in 2023 was 61.2 G(m^3), 10.3% lower than in 2022. Consequently, the level of foreign dependence, measured as the ratio of net imports to the gross value of household consumption, has reduced; in 2023, 96.3% of the gas available in Italy came from abroad.

Taking system consumption and network leakages into account, net gas consumption in 2023 can be estimated at 61.2 G(m^3), 10.3 percentage points below that of 2022.

Production

The data collected in the Authority's customary annual Energy Sector Survey, which also includes biomethane production from 2022, confirm the significant drop in domestic gas production. In 2023, in fact, domestic production is reported to have stopped at 2,971 M(m^3) compared to the 3,282 M(m^3) recorded in 2022; thus, in the data collected by the Survey, the drop in domestic production

is 9.5%.

The share of domestic production held by Eni group companies also decreased slightly in 2023, dropping from 66.3% to 62.6%; Eni group companies mined about 320 M(m^3) less than in 2022, thus recording a production drop of 14.6%. However, the group remains the dominant operator in this segment with a decidedly majority share and far behind the second group, Royal Dutch Shell. The latter's production also decreased by 10%, having mined 54 M(m^3) less than in 2022, although its share of the total remained substantially unchanged at just over 16%. The same happened to the third group, Energean PLC, whose share remained steady at 7.6%, despite having mined 2 M(m^3) less than the previous year. In 2023, the Total group extracted 57 M(m^3), 8 more than the previous year, bringing its share to close to 2%. Biomethane production in 2023 slightly exceeded 150 M(m^3), i.e. 5.2% of domestic production. The most important players in this activity are the Società Estense Servizi Ambientali (S.E.S.A.), whose production came close to 33 M(m^3), the company Bioman of the Finam group, which produced 13.7 M(m^3), the companies Herambiente and Biorg, both of the Hera group, which together produced about 8.5 M(m^3) of biomethane, and the agricultural company Agriman whose production came close to 13 M(m^3). The Snam group is also active through several companies in biomethane production; in total, the group produced about 12.1 M(m^3).

Imports

As just anticipated, according to the preliminary data released by the Ministry of the environment and energy security, in 2023 Italy imported 10.8 G(m^3) more natural gas than in 2022: in fact, gross imports dropped to 61.8 G(m^3) from the 72.6 G(m^3) of 2022, thereby showing a decrease of 14.8% compared to 2022.

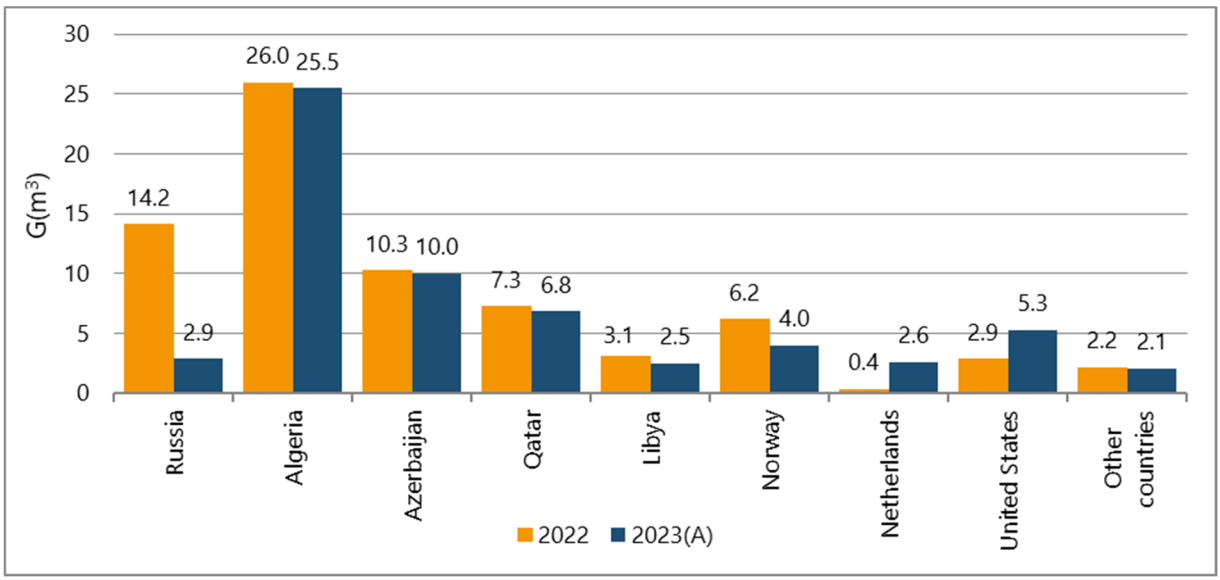
As a result of the sanctions imposed by the European Union on Russian exports in response to the war against Ukraine, which started on 24 February 2022, gas imports from Russia have almost dropped to zero over the past two years: from 29.2 G(m^3) in 2021, they have fallen to 2.9 G(m^3) in 2023. The share of Russian gas in the coverage of national needs increased from 40% in 2021 to 4.7% in 2023. The substitution of Russian gas took place partly by increasing the amount of gas arriving in Italy via pipeline from other countries with which Italy is connected (mainly those from Algeria and Azerbaijan) and partly by increasing the share of liquid natural gas arriving in Italy via LNG carriers. LNG imports, in fact, have increased by almost 70% in two years.

In greater detail, the origin of the 61.2 G(m^3) of imported gas in 2023 sees several countries[188] with significant quantities: 25.5 from Algeria - a historical supplier of Italy -, 10 from Azerbaijan, 6.8 from Qatar, 5.3 from the US, 6.6 from Norway and the Netherlands, 2.5 from Libya and the remaining 2 from other countries (Figure 4.5). Looking at the total import volumes (by pipeline and by ship), therefore, the shares of gas sources in 2023 have changed a lot compared to those in 2021: as mentioned, in just two years Russia's weight has dropped to 4.7% (it was 40%), while Algeria's share has risen from 30.8% to 41.2%. In third place is Azerbaijan with a share of 16.2% (it was previously at 9.9%). Qatar accounted for 11% of the total gas imported to Italy (it was 9.9%) and Norway's share rose to 6.5% from 2.7% in 2021. Another of the most notable increases was in the United States, whose incidence was only 1.5% in the pre-war period and was 8.6% in 2023. Libya's share, on the other hand, remained more or less constant at just over 4%. Over the two years compared, the share

[188] Imports are broken down by country of physical origin of the gas and non-contractual one.

of LNG in Italy's total gas imports doubled from 12.9% in 2021 to 26.9% in 2023.

Figure 4.5 Gross gas imports according to origin



(A) Preliminary data.

Source: Ministry of the Environment and Energy Security.

According to (provisional) data from the Authority's Annual Energy Sector Survey, approximately 58 G(m^3) were imported into Italy in 2023, 10 less than in 2022[189]. The decrease is thus higher than the data from the Ministry of the Environment and Energy Security[190]. 6.6% of the total gas supplied abroad, i.e. about 3.8 G(m^3), is purchased on European stock exchanges. Despite the decline in overall imports, the share of gas imported via European exchanges remained largely unchanged compared to 2022. The list of the top twenty importers shows no change in the top three positions. As always, Eni is the leader of importing companies, with 18.7 G(m^3) imported in 2023, almost 10 G(m^3) more than the previous year. As a result of the sharp drop in Eni's imports (-34.5%), the company's market share fell from 41.9% to 32.3% (30.2% if calculated on the value of imports from ministerial sources). The volumes purchased abroad by Edison, the second-largest, also fell from 11.3 to 10 G(m^3) (-11.8%); however, as the reduction in Edison's imports was smaller than that recorded by Eni, Edison's share of the import market rose slightly to 17.3% and the distance to Eni still narrowed by another ten percentage points compared to that observed in 2022. On the other hand, the quantities of the Azerbaijan Gas Supply Company, which imports Azerbaijani gas that lands in Melendugno through the TAP, increased slightly: with 8.1 G(m^3) imported during the year (+349 million compared to 2022, +4.5%), it consolidated its third position with an increasing share (from 6.2% to 8.1%). Together, the top three importers supplied 36.8 of the 57.7 G(m^3) imported, i.e. 63.8% of the gas supplied abroad. This share is decreasing compared to 2022 (it was 70.1%) due to the decrease in Eni's share, not

[189] Data from the Annual Energy Sector Survey.

[190] The differences with respect to ministerial data depend, in part, on the number of companies responding to the Authority's Annual Survey and, in part, on discrepancies in the ranking of import data. It is likely that some quantities, which in the ministerial data are classified as imports, are considered as "Purchases at the Italian border" in the Authority's Survey, in view of the customs clearance procedures.

offset by the increase in Edison's and Azerbaijan Gas Supply Company's share.

Table 4.3 Development of the wholesale gas market

Year	Total demand[A] G(m^3)	Peaking demand[B] M(m^3)/g	Production G(m^3)	Import capacity via tube M(m^3)/g	Groups with supply share >5%[C]	Groups with available gas share >5%[D]	C3 of major groups on total demand
2001	125.1	n.a.	15.5	n.a.	n.a.	2	68.2%
2002	111.8	n.a.	14.3	216.4	3	3	67.4%
2003	123.6	n.a.	13.9	224.9	3	3	63.8%
2004	127.3	386	12.9	237.9	3	3	62.4%
2005	138.3	421	12.0	260.1	3	3	66.7%
2006	134.3	443	11.0	251.1	3	3	66.5%
2007	136.1	429	9.7	271.1	3	3	63.8%
2008	151.5	410	9.3	276.5	3	3	57.1%
2009	147.2	436	8.0	289.8	3	4	49.2%
2010	173.5	459	8.3	296.2	3	5	42.3%
2011	178.9	401	8.4	296.2	3	3	42.1%
2012	178.3	464	8.6	298.6	3	3	40.5%
2013	180.8	360	7.7	298.6	3	3	42.7%
2104	210.9	330	7.1	298.6	3	3	51.4%
2015	244.5	340	6.8	293.8	3	3	50.6%
2016	267.4	384	5.8	296.4	3	3	46.3%
2017	285.7	425	5.5	294.0	3	3	44.4%
2018	287.5	396	5.4	293.8	4	4	47.2%
2019	329.4	394	4.9	293.8	3	3	46.8%
2020	386.4	366	4.0	291.4	4	4	42.1%
2021	361.6	391	3.2	297.8	5	5	39.1%
2022	281.3	377	3.1	298.4	5	5	39.1%
2023	265.7	333	2.7	294.8	5	5	38.0%

(A) Volumes of gas sold on the national wholesale and retail market; it includes resales and fuel gas.
(B) The indicated volume includes inputs, releases from storage, leakage and internal network consumption.
(C) Number of companies with a share of gas produced and/or imported of more than 5%.
(D) Number of companies with a share >5% of available gas volumes, including production, net imports and storage.

Source: ARERA processing of Snam Rete Gas data and on operators' declarations.

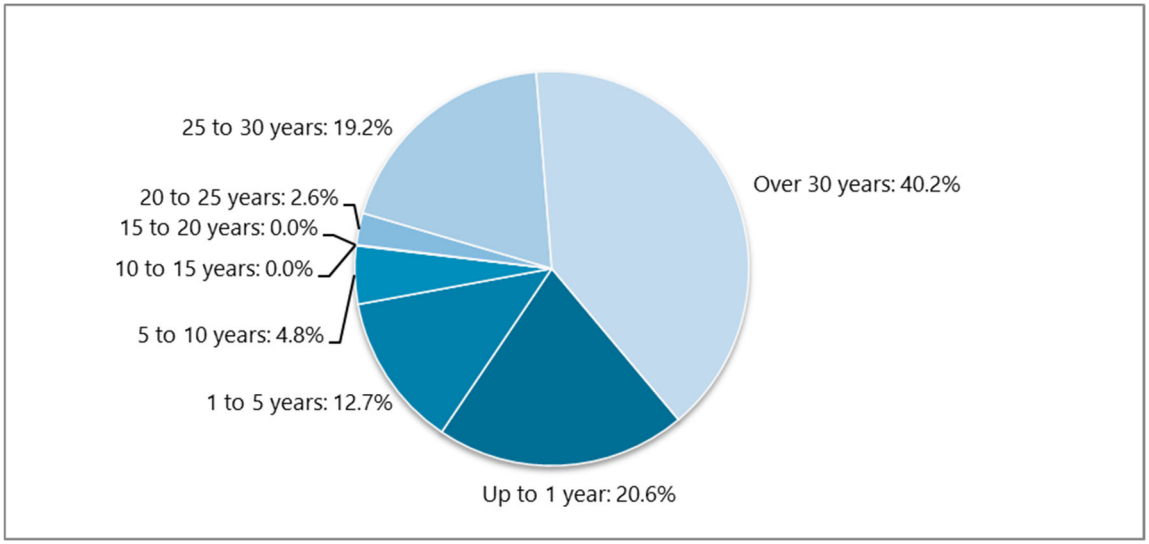
The groups[191] that own more than 5% of the total gas supplied (i.e. produced or imported) are five: Eni, Edison, Azerbaijan Gas Supply Company Limited, Royal Dutch Shell and Enel (the same as in 2022) (Table 4.3). Together they imported 45.71 of the 57.7 G(m^3) of foreign gas that entered the Italian market. Considering also the quantities produced within national borders, the five groups account for 79.2% of all the gas supplied. The five groups are also the only ones that have a share of more than 5% of the available gas (which in addition to imports and production also includes gas in storage), with an overall share of 81.8% (slightly higher than the share of gas supplied).

The structure of import contracts (annual and multi-year) active in 2023 according to full term (Figure 4.6) was substantially shortened, as has been the case for some years now. In fact, although the share of long-term contracts, i.e. those whose entire duration exceeds 20 years, increased by one

[191] In the context of the gas market investigation, participation in a corporate group is defined according to what is specified in Art. 7 of Law No. 287 of 10 October 1990: very briefly, membership of a group is thus established even if there is de facto control of the participant in the investee.

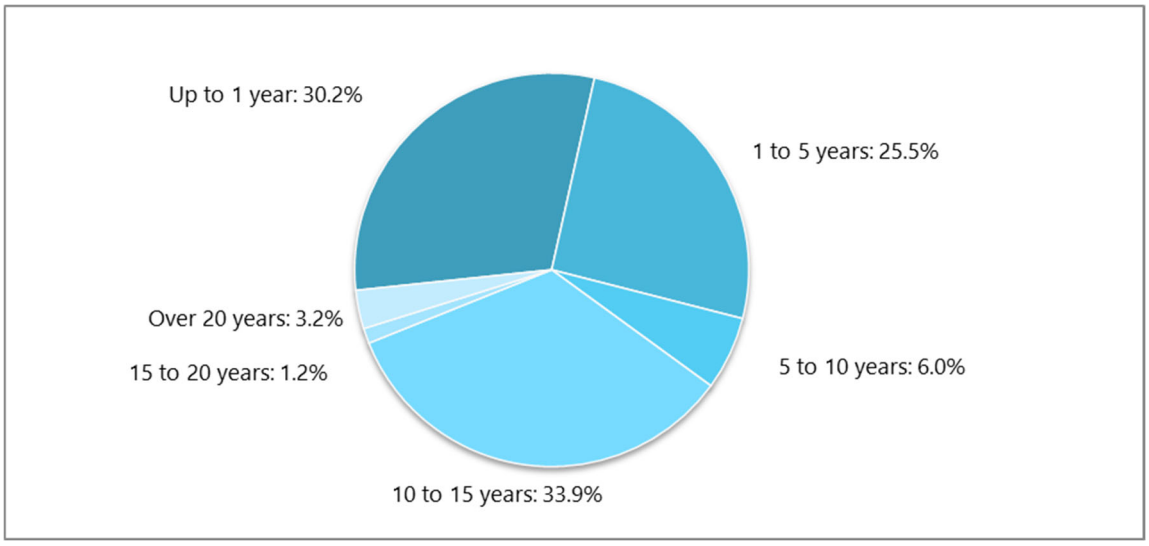
percentage point (from 61.1% to 62%), the incidence of short-term imports, i.e. those with a duration of less than five years, rose sharply to 33.2% from 20.5% in 2022. In addition, the incidence of medium-term contracts (5-20 years) decreased significantly (from 18.4% to 4.8%), while that of spot[192] imports, i.e. those with a duration of less than one year, increased slightly by about two percentage points to just under 21%. It is, however, important to stress that the annual contract quantities underlying the quotas expressed in the figure increased: in 2022, contracted volumes totalled 85.8 G(m^3), whereas in 2023 they rose to 87.2 G(m^3).

Figure 4.6 Structure of active import contracts in 2023, according to full term



Source: ARERA. Annual survey of regulated sectors.

Figure 4.7 Structure of active import contracts in 2023, according to remaining duration



Source: ARERA. Annual survey of regulated sectors.

In terms of residual life, the import contracts in place in 2023 (Figure 4.7) show that 55.7% of the

[192] It is worth remembering that this was assessed, as in past years, excluding the Annual Contract Quantity of spot contracts that did not give rise to imports into Italy, as the gas was resold directly abroad by the operator, active in Italy, who purchased it.

contracts will expire within the next five years (the same share was 32.4% in 2022) and 61.7% will expire within the next ten years. Of the contracts in force today, 4.4% have a residual life of more than 15 years. This share has fallen sharply (it was 39% in 2021 and 15% in 2022) and concerns a now very small total quantity of 3.8 G(m^3).

In 2023, total demand in the gas sector, understood as the sum of gas volumes sold in the wholesale market (including resales) and in the retail market plus fuel gas, decreased again (-5.5%), having dropped to 265.7 from the 281.3 G(m^3) recorded in 2022 (Table 4.3). This is due to the significant reduction in both fuel gas and gas traded in the total sales market (wholesale and retail market).

The wholesale market in fact handled 210.7 G(m^3), a decrease of 2.6% compared to 2022, the retail market sold 42.8 G(m^3), a decrease of 1.6% compared to 2022, and fuel gas amounted to 12.1 G(m^3), also a sharp decrease (-13.8%).

The industrial groups serving a share of total demand of more than 5% in 2023 are 5 as in 2022. More precisely, the industrial groups and their respective shares, in brackets, are: Eni (14.8%), Engie (14.7%), Royal Dutch Shell (8.5%), Edison (7.5%) and Enel (6.2%). The first three groups together cover 38% of the total demand, a share that is slightly lower than last year (39.1%).

4.2.1.1 Monitoring of wholesale market prices

The data relative to the gas wholesale market come, as usual, from the first and provisional processing of the data collected in the *Annual survey on the regulated sectors* that the Authority carries out on the state of the electricity and gas markets, administering the questionnaires to the companies accredited in the Registry of Operators that have declared to carry out in the previous year (even for a limited period of the year) the activity of selling gas at wholesale or to the end market.

The number of companies that reported selling gas was 898. 702 companies (78%) responded to the *Annual Survey*: of these, 71 stated that they were associated to a natural gas distribution company and 13 to a transmission operator.

Of the 702 companies that participated in the survey, 68 stated that they had remained inactive during the year. Of the remaining 634 active ones, 153 sold gas only to the wholesale market and were classified as **pure wholesale suppliers**, 331 sold gas only to final customers and were classified as **pure suppliers**. The remaining 150, which operated on both the wholesale and the end market, were classified as **mixed operators**.

Table 4.4 Sales and prices in the wholesale market in 2023

Operators	Number	Sales M(m^3)	Price c€/m^3
Pure wholesale suppliers	153	134,857	59.09
Mixed operators	150	75,860	59.43
TOTAL WHOLESALE	303	210,717	59.21

Source: ARERA. Annual survey of regulated sectors.

The wholesale market was supplied 64% by pure wholesale suppliers and the remaining 36% by

mixed operators. In 2023, the number of companies that operated in the wholesale market grew by 46 (303 compared to 257 in 2022, but it is important to note that the count of operators - which is based on companies that respond to the Annual Survey - is the phenomenon that is most affected by the different rate of response to the Survey from one year to the next) while the volume of gas they sold in the wholesale market decreased by 5.6 G(m^3), resulting in the average unit sales volume dropping by 17%, from 842 to 695 M(m^3). This is the third consecutive year that this market has shrunk, following the already significant declines observed in 2021 and 2022.

In the natural gas wholesale segment, the presence of non-Italian companies concerns 61% of the companies present.

During the year, 30 companies started natural gas wholesaling and 4 companies ceased the activity; 6 companies were incorporated and 2 changed corporate groups.

In 2023, the level of concentration in this market remained substantially unchanged: the share of the top three companies (Engie Global Markets, Shell Energy Europe and Eni) was 26.1% compared to 25.3% in 2022. The cumulative share of the top five companies (the three already mentioned plus Engie Italia and Eni Global Energy Markets) went from 37.5% to 37.3%. The HHI index calculated on the wholesale market alone also went from 450 to 448.

In 2023, the average price in the wholesale market was 59.21 c€/m^3, a clear decline (-40%) from the 98.78 c€/m^3 demanded in 2022, due to the well-known events surrounding international gas prices. The fall in prices is consistent with a value of quotations at the PSV that, on average for the year, fell sharply from 2022 (-66%), although the fall in prices on the spot market remained constant only in the first part of the year, and then began to rise again. The price charged by mixed operators was 59.43 c€/m^3, which is 0.34 euro cents higher than that charged by pure wholesale suppliers (59.09 c€/m^3).

Virtual exchange point

The main trading platform in the wholesale market in Italy is the Virtual Trading Point (PSV), operated by the transmission network operator, Snam Rete Gas. Alienations that can be registered are both those that take place through bilateral OTC contracts and those that take place within the regulated markets managed by the GME. Since September 2015, it has also been possible to register contracts operated by third-party exchanges[193] at the PSV, thus expanding the offer of forward products with physical delivery of gas at the PSV. In order to operate the PSV, it is necessary to be a subscriber, i.e. to be in possession of the requirements and to have signed a membership form or access contract, whereby one undertakes to comply with the conditions approved by the Authority[194].

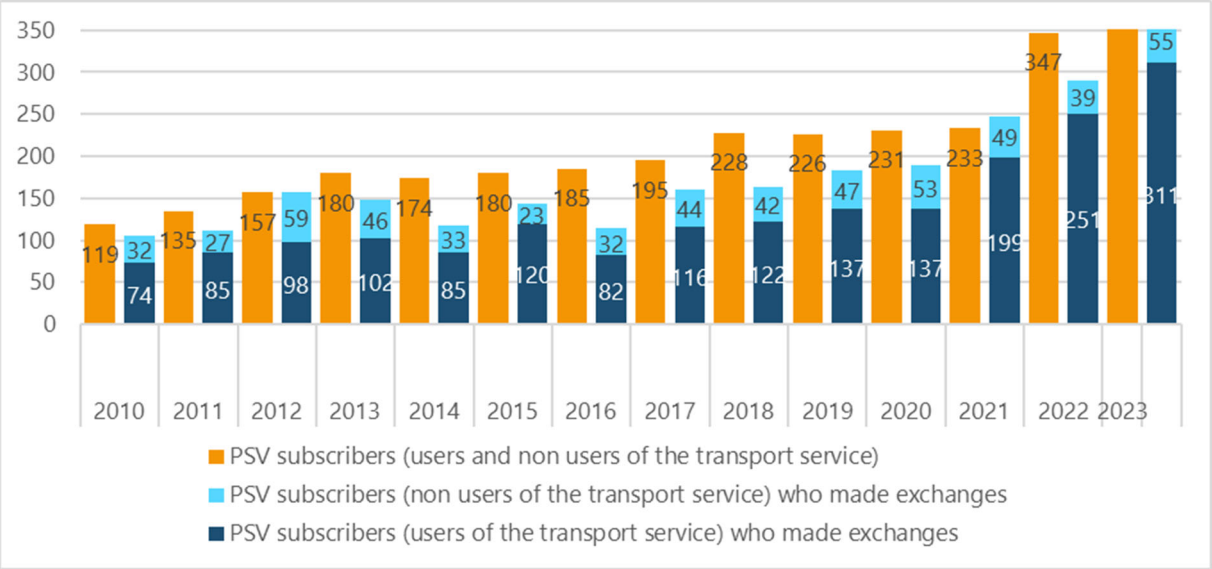
In 2023, 311 entities traded, alienated and acquired gas at the PSV. Only 55 of these were traders, as they were not users of the transmission system. The number of PSV subscribers increased once again compared to the previous year, standing at 374 compared to 247 in 2022 (+8%). The number of

[193] A third-party stock exchange is defined as the operator of a foreign regulated market on which derivative financial instruments involving physical delivery are traded and whose clearing and guarantee activities for transactions concluded on that market are settled through a clearing house (i.e. the third party which assumes the counterparty risk); or it is the clearing house itself which, either directly or through its subsidiaries or affiliates, is responsible for the physical delivery of the products offered.

[194] By resolution of 16 March 2017, 147/2017/R/gas.

subscribers who traded increased significantly (+24%), from 251 to 311. Even more so was the number of pure traders, which rose from 39 to 55, an increase of 41%.

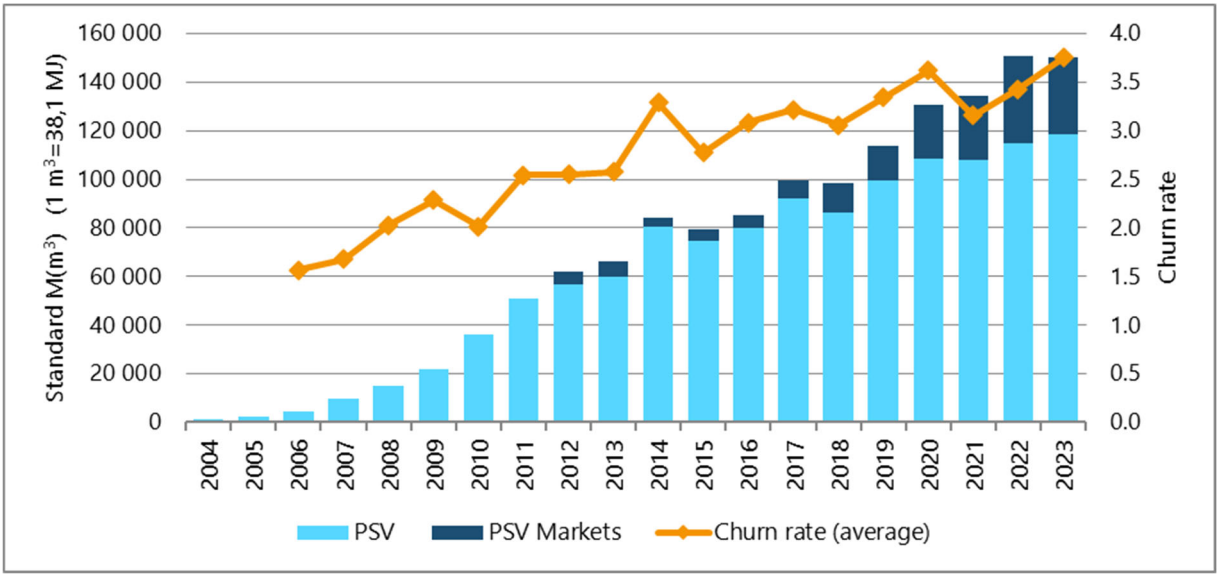
Figure 4.8 PSV subscribers since 2010



Source: ARERA. Annual survey of regulated sectors.

Figure 4.9 shows the development of trade registered at PSV. Under the heading "PSV", redeliveries resulting from daily OTC, multi-day OTC and forced LNG alienations have been grouped together, while under the heading "PSV-Markets", trades recorded at PSV resulting from trading on centralised markets and those operated as clearing houses have been grouped together.

Figure 4.9 Transaction volumes at PSV and churn rate



Source: ARERA processing of Snam Rete Gas data.

In 2023, OTC volumes increased by 2.9%, from 110.1 to 114 G(m^3). Volumes with forced delivery to the PSV rose from 4.1 to 4.5 G(m^3) (+8.2%). As a result, total deliveries to the PSV increased by 3.1% compared to 2022, from 115 to 118.6 G(m^3). In contrast to previous years, however, trading volumes in the markets decreased by 10.8%. The volumes traded on the stock exchange in fact dropped to

31.6 G(m^3) from 35.5 the previous year, due to a reduction in volumes handled in the centralised markets (-11.6%), which was accompanied by a fair reduction in gas traded too as clearing house (-4.2%). Nonetheless, the average number of daily transactions increased slightly compared to 2022 (+6%), from around 12,600 to around 13,400, and this was due solely to those that took place in the markets (+24%), while the average daily number of OTC transactions fell slightly (-2.8%).

In essence, there were more trades in 2023, but each of them involved smaller volumes of gas than in 2022. This partly also explains the increase from 3.4 to 3.8 in the churn rate, the synthetic indicator that measures the average number of times the commodity (gas) is traded between the time of its initial sale and its physical delivery. The indicator can be calculated in different ways. That illustrated in the figure is obtained by relating the total volumes traded at the PSV to the value of records that result in physical delivery. The more liquid the market, the more this value increases. This rate increased greatly between 2006 and 2014, declined sharply in 2015 and then stabilised in the years 2016 to 2018 at around 3.1. In 2019, the increase in activity brought its value to 3.3 and the growth was even more significant in 2020, when it reached 3.6. Returning to 3.2 in 2021, it has instead consolidated an upward trend over the past two years.

Gas stock exchange

The creation of a gas exchange in Italy started in 2007 when the obligation was established for importers to offer a share of imported gas on the regulated capacity market, as well as the obligation to surrender the rates of gas produced in Italy owed to the state ("royalties") for holders of natural gas exploitation concessions. With the decree of the Ministry of ecological transition of 18 March 2010, the actual creation of the first core of the Stock Exchange took place, with the establishment of the trading platform for trading imported gas quotas, called P-GAS.

With the establishment of M-GAS in October 2010, the spot market for natural gas was launched, with the GME in the role of central counterparty. On this market, operators authorised to trade on the PSV can purchase and sell spot volumes of natural gas. It consists of:

- MGP-GAS (Day-Ahead Gas Market), where trading takes place with sale and purchase offers for the next gas-day. Trading is continuous;
- MI-GAS (Intra-Day Gas Market), where gas trading takes place for the gas day itself. Trading is continuous.

In September 2013, the GME-managed forward market (MT-GAS) was launched. This market, which has been added to the existing spot markets, is conducted in the way of continuous trading with several trading books, each for each type of product that can be traded and referring to different delivery periods, where offers to purchase and sell gas are selected.

Following the approval of the European Balancing Regulation, as of 1 October 2016, a balancing system was introduced that competes, during the day, all available flexible resources, such as LNG storage, import or regasification. In this system, users and Snam Rete Gas access the same spot product markets, MGP-GAS and MI-GAS, to supply the resources needed to balance the individual and aggregate system positions, respectively. This reform also introduced imbalance prices that make individual users responsible for balancing their positions, so that the network as a whole is also balanced. In this context, the system operator Snam Rete Gas provides users with real-time information on the state of the network, so that they can efficiently balance the system, while limiting its purchasing and selling actions on the market to what is strictly necessary to provide "price signals". In addition to the existing MGP-GAS and MI-GAS, the following spot product markets useful for

balancing purposes were activated on 1 October 2016:

- the Market for Gas in Storage (MGS), which allows all users to exchange, through a single tender session at a marginal price, the ownership of gas held in storage; Snam Rete Gas can access this market both to safely manage any overall network deviations and for other procedures;
- the Market for Locational Products (MPL), which is conducted according to tender trading methods and solely at the request of Snam Rete Gas. On this market, Snam Rete Gas supplies, from eligible users, the quantities of gas needed to manage physical needs located within the balancing area or any expected deviations between total network injections and withdrawals.

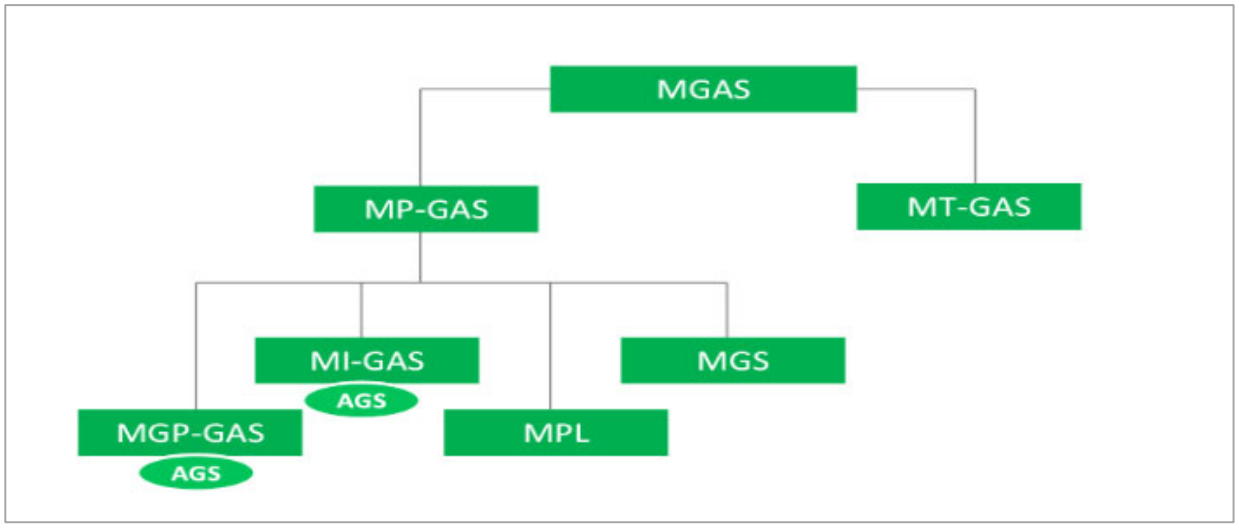
Trading in both segments, organised on a transitional basis within the Balancing Platform (PB-GAS), has been part of the Gas Market Organisation (M-GAS) since April 2017. As of 2015, operators can also extend PSV registration for transactions concluded on stock exchanges operated by entities other than the GME. In particular, the GME was commissioned to register at the PSV the transactions executed on the platforms operated by ICE Endex and Powernext (PEGAS platform of the EEX group), which had already launched futures products with delivery at the PSV in April 2015.

The GME, in line with the guidelines expressed by the Authority and following a consultation of its operators, introduced, between January and February 2018, a number of measures to encourage the development of liquidity in the natural gas markets it manages and, in particular, in the spot market. Of particular importance has been the creation of market making figures, i.e. entities (so-called liquidity providers) who undertake, in return for an economic advantage, to maintain in the market, at the same time, sale and purchase offers contained within a predefined price differential; liquidity providers operate in day-ahead trading. To the liquidity providers that have carried out the market making activity in compliance with the terms, modalities and conditions provided, for a calendar month, the GME recognises a fixed fee equal to 160 € for each useful session and a fee equal to 0.01 €/MWh for each MWh traded on the MGP-GAS for the daily product G+1. 2018 also saw the integration of the markets operated by the GME within the Trayport platform, where the main foreign markets were already present, a measure that allows users to optimise their trading activities by operating simultaneously on several markets from a single trading platform.

Also with the aim of promoting the liquidity of the natural gas spot market by expanding the range of products available for trading and the flexibility for market participants, at the end of 2019, the Ministry of ecological transition introduced the weekend product in the MGP-GAS market, which has been able to be traded since 1 January 2020. Finally, as of 1 January 2020, a new section of M-GAS was activated for the supply, by the balance responsible entity (RdB), of the resources necessary for the operation of the system[195]. This segment, known as AGS, is divided into two tenders for products with delivery on each gas-day, to be held on gas-day G-1, following an initial assessment of the quantities to be supplied, and on day G, with no suspension of the continuous trading market during the course of the tender. Participation in the tenders is open to all operators admitted to operate on M-GAS with offers opposite to those of the RdB.

[195] The structure of which was defined in Resolution of 5 November 2019, 451/2019/R/gas.

Figure 4.10 Gas market



Source: GME.

As of 20 July 2023, the GME introduced the Italian Gas Index (IGI), a price index based on the prices of transactions concluded in the Natural Gas Market (MGAS), i.e. for "title transfer" products with automatic appointment to the PSV. It is, in essence, an index drawn up daily on the basis of the trades that have taken place in the MGAS with the aim of serving as a reference for the definition of contracts, being constructed in a transparent, accessible and reliable manner.

Specifically, the index is calculated for each gas (delivery) day as the mathematical average of the prices of all completed trades:

- in the PGM-GAS segment in continuous trading;
- in the hourly band 17:15-17:30;
- on the working day preceding the delivery date (for daily product), or on Friday (for the weekend product);
- with a price within the range (±30%) of the mathematical mean of the prices recorded in the previous five transactions.

Prices and Volumes

In the gas markets managed by the GME, total volumes of 155 TWh were traded in 2023, a clear reduction compared to 2022 (-13%) (Table 4.5).

Liquidity in the Day-Ahead Market remained high (69%; -3% compared to 2022) despite a decrease in traded volumes (106.5 TWh; -16.3% compared to 2022). The largest share of the latter (74%; up 14% from 2022) was contracted in continuous trading (78.5 TWh; +3.6%). The monthly trend also showed higher levels in the earlier months of the year. The AGS segment of the MGP traded a total of 27.9 TWh, which is a sharp decrease compared to 2022 (-45.6%).

The share of volumes traded in the Intra-day Market increased moderately (29%; in 2022 it was 24%) to a total of 44.5 TWh, up 3.3% compared to 2022; trades in continuous trading (44.4 TWh; +9.5%) continued to be predominant while, in the AGS segment, volumes were even more marginal than the previous year (0.2 TWh; -93.9%).

Table 4.5 Annual volumes for each of the gas markets managed by the GME (GWh)

MARKETS	2017	2018	2019	2020	2021	2022	2023
P-GAS							
Rates	1,947,397	2,426,485	444,292	-	2,216,982	2,031,021	629,548
M-GAS							
MGP-GAS	3,283,121	13,048,604	24,794,256	55,782,408	79,292,760	127,159,680	106,451,328
MGP-Continuous	3,283,121	13,048,604	24,676,608	30,043,296	45,593,472	75,780,648	78,522,624
MGP-AGS	-	-	117,648	25,739,112	33,699,288	51,379,032	27,928,704
MI	23,825,785	27,815,964	41,052,864	51,064,320	45,932,952	43,126,512	44,544,312
MI-Continuous	23,825,785	27,815,964	41,052,864	46,701,360	44,325,192	40,528,008	44,385,336
MI-AGS	-	-	-	4,362,960	1,607,760	2,598,504	158,976
MGS	16,632,693	13,502,340	13,365,494	6,449,968	5,084,077	5,133,885	3,274,177
MPL	-	-	-	-	-	-	-
MT-GAS	172,652	790,080	3,192,048	478,272	22,320	-	-
TOTAL	45,688,997	56,793,393	79,656,906	113,296,696	132,526,771	177,451,098	154,899,365

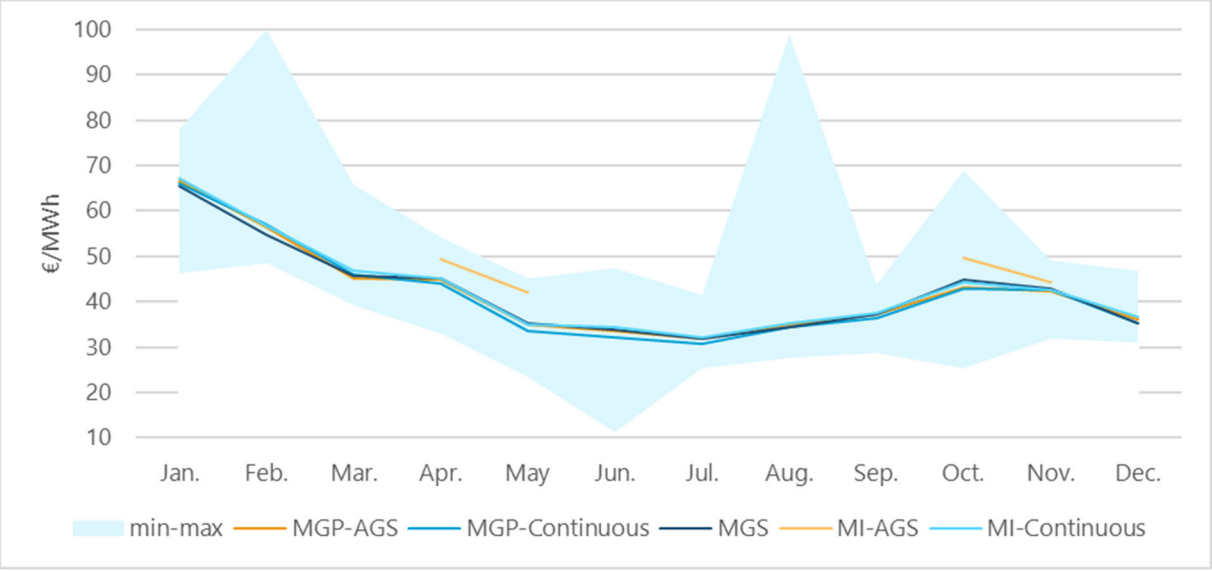
Source: GME.

In 2023, negotiations in the Market for Gas in Storage (MGS) were also down, with trades amounting to 3.3 TWh (-36.2%), while - as in the past - Snam did not activate any sessions in the Market for Locational Products.

There was also no trading in forward-traded products in MT-GAS, while allocations to the "Royalties" segment of P-GAS amounted to 0.6 TWh.

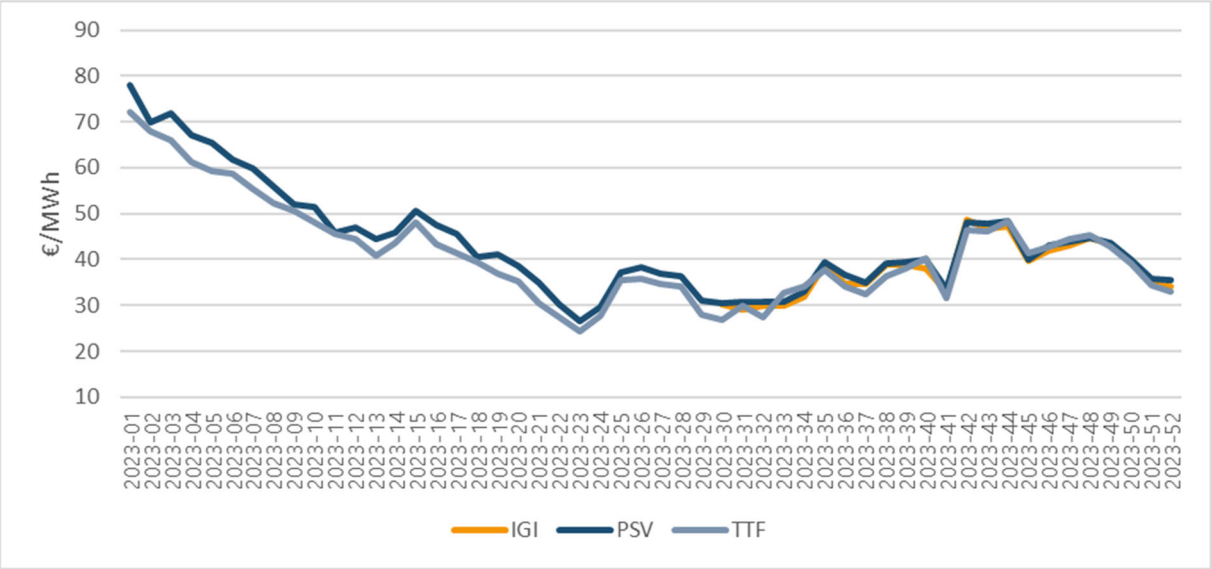
Finally, 42 slots were observed allocated on the Regasification Capacity Allocation Platform (PAR), with a total of 5.5 M(m^3) liquefied.

Figure 4.11 Prices in M-GAS markets and minimum and maximum values



Source: GME.

Figure 4.12 Comparison of TTF, PSV and IGI index prices (weekly mathematical averages)



Source: ARERA, processing of GME (IGI) and Refinitiv (PSV and TTF) data.

The prices recorded on the various trading platforms can all be traced back to an annual average of around 42 €/MWh (Figure 4.11), in line with the annual average price of over-the-counter transactions at the PSV (43.05 €/MWh; -65%). In particular, the average prices of the two declining M-GAS segments, respectively 41.87 €/MWh for MGP and 42.72 €/MWh for MI, showed an interim trend that mirrors that of the PSV price.

The IGI price index processed by the GME (Figure 4.12) averaged around 38 €/MWh from week thirty until the end of 2023, in line with the price recorded at PSV and TTF.

4.2.1.2 Monitoring of the level of transparency, including compliance with obligations on transparency and on the degree and on the efficiency of market opening and competition

Monitoring of the wholesale market

At the end of 2018, the Authority adopted[196] the Integrated Text of Natural Gas Wholesale Market Monitoring (TIMMIG) in order to strengthen its monitoring function in the sector[197].

The TIMMIG commissioned the GME to monitor the competitive dimension and the largest transmission operator company, Snam Rete Gas to monitor the structural dimension. In addition, the largest transmission operator company has to collect and organises data on monitoring activities in a database, the "Core Data Database". This database is accessible to the Authority and to the GME. The outline of the Convention, as well as the subsequent updates, are approved by the Authority, based on a recommendation by SRG and the GME.

[196] By Resolution of 5 December 2018, 631/2018/R/gas.

[197] For more details on the structure, purpose and provisions of the TIMMIG, please refer to the 2019 Annual Report.

Following the Russian-Ukrainian crisis and the consequent abnormal increase in gas prices, with Decree Law No. 21 of 21 March 2022, the Government established, in Art. 7, paragraph 5, that, for monitoring purposes, the holders of contracts for the supply of gas volumes for the Italian market are required to transmit, the first time within fifteen days from the date of entry into force of the decree, to the Ministry for Ecological Transition (now the Ministry for the Environment and Energy Security) and to the Authority the same contracts and the new contracts that will be signed, as well as any amendments thereto, also within the fifteen-day period. The information passed on must be treated with due regard for the confidentiality of commercially sensitive data.

In March 2022, in implementation of the aforementioned decree law, the Authority[198] defined the modalities for the transmission of gas volume supply contracts for the Italian market. In particular, the holders of gas volume supply contracts for the Italian market are obliged to make the full transmission of supply contracts of at least one year's duration and the relevant details (specifically defined by the Authority for the most representative among them). For supply contracts with a duration of less than one year, however, only relevant information (e.g. volumes fed into the national natural gas system and their prices) is required.

As every year, in line with provisions, the final costs incurred by the main transmission operator in 2022 for the monitoring of the natural gas wholesale market[199] were approved, as well as the Activity Plan and the corresponding cost estimate submitted by the main transmission operator in connection with the wholesale gas market monitoring activity for 2024[200].

4.2.2 Retail market

The provisional results of the Annual Survey, on which the comments given over these pages are traditionally based, showed that just under 43 G(m^3) were sold in the retail market in 2023, to which must be added 630 M(m^3) supplied through last resort and default services[201]. Overall, therefore, the value of final sales was 43.5 G(m^3), a decrease of 8.1 G(m^3) over 2022 (Table 4.6). However, in order to have a figure comparable with that of the final gas consumption published by the Ministry of the Environment and Energy Security, and commented on in the previous pages, it is necessary to take into account the volumes relating to fuel gas, 12.1 G(m^3), which brings the value of total consumption resulting from the Annual Survey to 55.6 G(m^3), i.e. a value comparable to the 60.3 G(m^3) from the ministerial source. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. In the Annual Survey data, the level of total consumption in 2023 is thus 15.3% lower than in 2022. Apart from last-resort and default supplies, the volumes of which decreased by only 6.6%, consumption in 2023 was significantly reduced, both in the market and in fuel gas.

[198] By Resolution of 30 March 2022, 143/2022/R/gas.

[199] By Resolution of 16 May 2023, 211/2023/R/gas.

[200] By Resolution of 12 December 2023, 587/2023/R/gas.

[201] The request for last resort and default supply data is present in the Annual Survey in a very simplified way. Therefore, the details (consumption sector, type of connection, etc.) with which final sales are usually analysed are not available for this type of supply. Hence, in the remainder of the section all detailed analyses are carried out net of this market component.

Table 4.6 Final consumption of natural gas

	VOLUMES M(m³)			WITHDRAWAL POINTS (thousands)		
	2022	2023	VARIATION	2022	2023	VARIATION
Retail sales	50,927	42,839	-15.9%	22,081	21,723	-1.6%
Last resort and default supplies	675	630	-6.6%	170	199	16.9%
TOTAL MARKET	51,602	43,470	-15.8%	22,251	21,922	-1.5%
Fuel gas	14,079	12,135	-13.8%	1.4	1.8	26.3%
END CONSUMPTIONS	65,681	55,605	-15.3%	22,083	21,725	-1.6%

Source: ARERA. Annual survey of regulated sectors.

Of the 42.8 G(m³) of gas sold in the retail market, 11.9 G(m³) were sold by pure suppliers, while the remaining 30.9 G(m³) were brokered by suppliers also operating in the wholesale market (Table 4.7).

The average price charged to customers in the retail market by the sales companies operating in that market was 77.03 c€/m³, some 34 cents lower (-30.7%) than in 2022. As usual, this price is higher than the price offered to the end market by wholesale suppliers, which was 70.82 c€/m³. The reason for the positive differential, of approximately 6.5 c€, lies mainly in the type of customers served and the related features. In fact, companies operating mainly in the end market mostly target households who are connected to distribution networks and who, although numerous, are characterised by low consumption. On the other hand, the customers served by wholesale suppliers are predominantly large customers, especially industrial ones, who due to their high levels of consumption are certainly able to obtain more favourable prices and that, moreover, are often connected directly to the transmission network and do not, therefore, pay for the cost of distribution.

Table 4.7 Gas retail sales and prices in 2023

Operators	NUMBER	SALES M(m³)	PRICE c€/m³
Pure suppliers	331	11,933	93.06
Mixed operators	150	30,906	70.82
TOTAL RETAIL	481	42,839	77.03

Source: ARERA. Annual survey of regulated sectors.

In 2023, the number of active suppliers in the retail market decreased for the first time since the early 2000s by a substantial -34 units to 481[202]. As the volume of gas sold decreased by 15.9%, and the number of suppliers fell to a lesser extent (-6.6%), the average unit sales volume decreased by almost 10%, from 99 to 89 M(m³) and reached a new all-time low (in 2010, the average sale was 237 M(m³), almost three times as much as today). Of the companies active in the end market, 5.4%, i.e. 26 out of 481, sold more than 300 M(m³) in 2023; together, these companies cover 84.1% of all the gas purchased on the retail market.

Also in 2023, numerous corporate transactions were reported through the Authority's Registry of operators: 29 companies have started selling to final customers, while 18 went out of business; 1

[202] As seen in the section dedicated to the wholesale market, in fact, this year 702 companies responded to the Annual Survey out of the 898 that, in the Authority Registry of Operators, were found to be carrying out the activity of selling gas at wholesale or retail level during 2023 (even if only for a limited period of the year). Apart from the 68 companies that declared to have remained inactive, out of the remaining 634 there are 153 that sold gas exclusively in the wholesale market. This resulted in a total of 481 persons operating in the retail market, 34 fewer than in 2022.

company has been extinguished; 4 companies have acquired or disposed of sales activities (even partially); 7 companies have been merged; 7 companies have changed corporate groups.

27.4% (i.e. 132 companies) of the 481 active suppliers who responded to the Annual Survey serve customers in a large part of the national territory, i.e. in at least 17 Italian regions; 52.8% (254 companies) sold gas in between 6 and 16 regions; the remaining 95 companies (19.5%) operated in between 1 and 5 regions. The portion of companies operating on all or on a large part of the national territory has remained stable on 2022 (80%). The corporate composition of gas suppliers, limiting the analysis to direct participations, shows a low foreign presence: only 29 companies (out of the 478 that provided this data) have a non-Italian majority shareholder. Direct foreign participants are mostly companies from the UK, China, Spain and Switzerland, but there are also companies of another 11 nationalities.

As mentioned, net of last resort and default supplies, just under 55 G(m^3) - of which 12 for fuel gas and almost 43 for sale - were sold to 21.7 million customers (redelivery points) in 2023 (Table 4.8). Overall, gas sales decreased by 15.4% compared to 2022. Fuel gas, which mostly belongs to the industrial and electricity generation sectors, recorded a decrease of 13.8%; the quantities of gas sold in the free market, at 39.6 G(m^3), showed a decrease of 14.7%, while sales in the market with a reference price, at 3.2 G(m^3), fell by 45%. The values of the market with a reference price shown in the table do not include the quantities supplied in the default and last resort services, as they cannot be broken down into different segments. These decreased slightly in 2023, being 630 M(m^3) against 675 M(m^3) in 2022 (-6.6%). If default and last resort services are also considered, the gas sold in the market with a reference price rises to approximately 3.9 G(m^3).

Table 4.8 End natural gas market by customer sector

CUSTOMER SECTOR	2022				2023			
	STANDARD OFFER SERVICE	FREE MARKET	SELF CONSUMP-TION	TOTAL	STANDARD OFFER SERVICE	FREE MARKET	SELF CONSUMP-TION	TOTAL
VOLUMES (M(m^3))								
Household	4,219	8,987	0	13,205	3,043	8,685	0	11,728
Condo households	274	1,796	5	2,075	181	1,565	10	1,756
Trade and services	-	6,935	18	6,953	-	6,101	17	6,118
Industry	-	15,662	783	16,445	-	14,246	745	14,991
Power generation	-	12,473	13,273	25,746	-	8,449	11,364	19,813
Public service activities	-	581	0	581	-	569	0.441	569
TOTAL VOLUMES	4,493	46,434	14,079	65,006	3,224	39,615	12,135	54,974
REDELIVERY POINTS (thousands)								
Household	6,864	13,782	0	20,646	5,678	14,676	0.0	20,354
Condo households	45	144	0	189	36	141	0.5	178
Trade and services	-	1,031	1	1,032	-	992	1.1	993
Industry	-	173	0	173	-	151	0.1	151
Power generation	-	1	0	1	-	1	0.1	1
Public service activities	-	42	0	42	-	48	0.0	48
TOTAL REDELIVERY POINTS	6,908	15,173	1	22,083	5,714	16,009	1.8	21,725

Source: ARERA. Annual survey of regulated sectors.

Consumption of the household sector dropped by 11.2% and that of condominiums by 15.6%. The consumption of the production sectors (industry and thermoelectric generation) decreased from 42.2 to 34.8 G(m^3), thus recording an decrease of 17.5%. Tertiary sector consumption (trade and services, together with public service activities) dropped by 11.3%, from 7.5 to 6.7 G(m^3).

More specifically, in 2023 gas sales:

- to the household sector decreased by 27.9% in the standard offer service, and by 3.4% in the free market;
- to condominiums decreased by 34% in the standard offer service, and by 12.8% in the free market;
- to the industrial sector decreased from 15.7 to 14.2 G(m^3) (-9%), and fuel gas dropped by almost 2 G(m^3) (-4.8%); overall, therefore, industry consumption dropped by 8.8% in 2023;
- to the thermoelectric sector decreased by 32.3% (-4 G(m^3)), and also fuel gas decreased by 1.9 G(m^3): taking both items into account, therefore, the sector's consumption was 23% lower than in 2022;
- to the trade and services sector, both sales and fuel gas decreased by 12%, for an overall reduction of about 840 M(m^3);
- to public service activities fell by 13 M(m^3), quantifying the leakage at 2.1%.

The average consumption for households was 576 m^3, that of condo households was 9,885 m^3, 6,160 m^3 for commerce, 99.4 M(m^3) for industry, 15 M(m^3) for electricity generation, and, finally, 11,871 m^3 for public service activities. In the free market, the average consumption of households (592 m^3) remained slightly higher than in the market with a reference price (536 m^3), while in the case of condominiums, the average consumption in the free market, at 11,088 m^3, was more than double that in the standard offer market, at 5,033 m^3.

The portion of volumes purchased on average on the free market is 72.1%, that of the market with a reference price is 5.9%, while 22.1% is self-consumed. Considering sales in the strict sense and thus excluding fuel gas, 92.5% of gas is purchased on the free market and the remaining 7.5% in the standard service. In terms of customers, however, 26.3% purchase on the market with a reference price, while 73.7% on the free market.

Considering only the **household sector**, it can be seen that the share of volumes purchased on the free market in 2023 reached 74.1% for households and 89.6% for condominiums (both shares are calculated on total sales in the strict sense, i.e. net of fuel gas). In 2022, the values were 68.1% and 86.7%, respectively. The volumes purchased in the protected service were therefore increasing for the last year of the existence of this service. In terms of withdrawal points, in 2023, the share of households that acquired gas in the standard service dropped to 27.9%; in 2022, it was 33.2%.

The breakdown of sales to the end market (net of fuel gas) by consumption sector and customer size (Table 4.9) shows that, on average, the class with annual consumption up to 5,000 m^3 purchases 29.9% of all the gas sold in the retail market; that with consumption between 5,000 to 50,000 m^3/year absorbs 9.4%; the third class (50,000-200,000 m^3/year) 4.1%; the fourth class (200,000-2,000,000 m^3/year) 10.7%; the penultimate class (2 to 20 million) 19.4%; and the last class (over 20 million) 26.6%. 98.4% of the volumes sold to the household sector are purchased by households with an annual consumption of no more than 5,000 m^3: this share is 98.8% for households purchasing in the standard offer sector and 98.2% for those purchasing in the free sector. On the other hand, the largest share of volumes sold to condominiums is concentrated in the annual consumption class between 5,000 and 50,000 m^3: this class, in fact, absorbs 73.4% of the gas volumes purchased by condominiums in the standard offer service and 74.5% of those purchased in the free market. 58.8%

of all the gas purchased by the commercial sector is concentrated in the first three classes. Conversely, the classes with the highest annual consumption are particularly relevant for industrial consumption and thermoelectric generation. The consumption of public service activities is concentrated among the intermediate classes: 37.2% is consumed by customers with annual consumption between 5,000 and 50,000 m^3, 15.7% by those with consumption between 50,000 and 200,000 m^3, 26.6% is consumed by customers with annual consumption between 200,000 and 2,000,000 m^3, another 8.8% is sold to customers consuming between 2 and 20 M(m^3)/year.

Table 4.9 Natural gas end market in 2023 by customer type and size

SECTOR	CUSTOMERS DISTRIBUTED BY ANNUAL CONSUMPTION CLASS (m^3)						TOTAL
	<5,000	5,000-50,000	50,000-200,000	200,000-2,000,000	2,000,000-20,000,000	>20,000,000	M(m^3)
MARKET WITH A REFERENCE PRICE	3,044	169	11	0.0	-	-	3,224
Household	3,006	36	0.2	0.0	-	-	3,043
Condo households	38	133	10	-	-	-	181
FREE MARKET	9,776	3,837	1,750	4,566	8,293	11,394	39,615
Household	8,533	139	12	2	0	-	8,685
Condo households	113	1,166	246	41	0	-	1,565
Trade and services	940	1,777	872	1,687	721	105	6,101
Industry	147	541	522	2,375	6,197	4,463	14,246
Power generation	1	2	10	310	1,324	6,802	8,449
Public service activities	43	211	89	151	50	25	569
TOTAL	12,820	4,007	1,760	4,566	8,293	11,394	42,839

Source: ARERA. Annual survey of regulated sectors.

Switching

Also this year, the analysis of switching activity in the natural gas sector includes data collected from transmission and distribution operators through the Annual Survey of Regulated Sectors and Data from the Integrated Information System (SII), managed by Acquirente Unico. On the basis of data provided by transmission operators and data from the SII, the switching percentage, i.e. the number of customers[203] that changed supplier in the calendar year 2023, was 15.2% overall, or 17.0% when assessed on the basis of the consumption of customers who switched (Table 4.10). Compared to 2022, the rates are increasing for all customers: considering that the drive to seek more favourable economic conditions is one of the most powerful motives for changing supplier, part of the increase in switching rates can certainly be attributed to price trends, which, after the heavy effects of the crisis on international markets, have been on a downward trend since the end of 2022, but in 2023 volatility in the spot markets remained high and the descent was substantially halted in the second

[203] For the sake of convenience of writing, customers are referred to generically in the text. It should be noted, however, that we are talking about the number of redelivery points in the case of transmission users and the number of metering units in the case of distribution users.

half of the year.

Table 4.10 Final gas customer switching rates

CUSTOMERS BY SECTOR	2022		2023	
	CUSTOMERS	VOLUMES	CUSTOMERS	VOLUMES
Household	13.2%	15.5%	14.6%	20.9%
Condo households	24.2%	15.0%	27.6%	41.1%
Public service activities	37.1%	20.4%	37.1%	57.2%
Other uses	19.9%	11.4%	21.2%	14.1%
TOTAL	13.8%	12.5%	15.2%	17.0%

Source: ARERA. Annual survey of regulated sectors.

The switching of household customers in 2023 expanded by more than one percentage point, maintaining the already significant liveliness achieved in recent years. Last year, just under 2.5 million customers, equivalent to a share of 14.6% (and corresponding to a volume share of 20.9%), switched at least one. Far greater, at 27.6%, was the fraction of condo households that turned to a different supplier, for volumes corresponding to 41.1% of the relevant consumer sector. The increase in the exchange rates of households, in particular, may also be partly due to the imminence of the ending of the protection service (which ended with the end of the year), and the consequent increase in media coverage of this issue as well. 37% (equivalent to 57% in terms of volumes) of the entities operating a public service activity chose to switch to a new supplier; this is a high rate, but this is one of the "hybrid" categories that includes very different realities: not only small municipal offices (which are similar in consumption values to commercial establishments) but also large hospital complexes, which have very significant annual consumption and which, as a result, can greatly increase the volumes involved in switching. Finally, "other uses" that changed their supplier accounted for 21.2% of the total in terms of customers, and 14.1% in terms of volumes (corresponding to about 6.2 G(m^3)).

Available offers and sales contracts in the free gas market

As already highlighted in Chapter 3 (see paragraph 3.2.2), also this year the Annual Survey on the Energy Sectors asked the suppliers of electricity and natural gas a number of questions aimed at assessing the quantity of offers that companies make available to customers who have chosen to be supplied in the free market and, above all, the distribution of their customers between the different types of contract actually chosen[204]. Here again, as already mentioned in Chapter 3, it is reiterated that the objective of the questions on the quantity and quality of commercial offers is to classify the numerous offers on the market, albeit not completely exhaustive of reality. The results presented in these pages should be treated with caution.

The **average of the commercial offers** that each gas supplier is able to propose to its potential customers is 17.1 for households, 7.7 for condo households and 14.1 for non-households, all numbers growing compared with 2022. In contrast to 2022, however, it can be observed that households have more choice than the other two customer categories. However, 22% of suppliers only submit their households one offer, 27% make up to three offers available and the remaining

[204] The data commented on in the paragraph on the types of contracts chosen by customers also include PLACET offers.

51% of suppliers submit their customers a range of four or more offers.

Of the 17.1 offers made available to the household on average, 13.8 are only **available on-line**, i.e. only through the Internet, a sales channel through which the company can clarify its offer conditions while saving on operating costs. The interest of households in on-line offers in 2023 grew, as it turned out that 13.4% of customers signed a contract offered via this modality (in 2022, this share was 10.1%). Considering condominiums, instead, of the 7.7 offers on average recommended to these customers, 3.1 are subscribed through the network and, on the basis of the results collected, only 2% of the redelivery points of condominiums actually subscribed the contract on-line (these figures are virtually stable on 2022). Finally, in the case of non-households (other uses), of the 14.1 offers made available to them on average, only 4.9 are subscribed to on-line, which is fairly logical considering that non-households have needs that are often somewhat specific and therefore difficult to standardise in an offer made over the Internet; among these customers, however, the success of on-line offers is more significant, since 20.2% of customers are reported to have subscribed to an offer on-line.

With regard to the preferred **type of price** (Table 4.11), it was found out that 44% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 56% chose a variable-price contract, i.e. with the price changing at a time and in a way determined by the contract itself[205]. The percentages change in the case of condominiums, among which variable-price contracts are by far the most popular ones (86.8%), while 13.2% chose fixed-price contracts. Non-households are also divided between those who prefer variable-price contracts, which are slightly more numerous (76.7%), and those who have signed a fixed-price contract (23.3%). The proportion of customers who opted for a variable-price contract has increased markedly since 2022: the portions of customers who were found to have purchased a variable-price contract in 2022 were 67.3% for households, 19.7% for condominiums and 37.2% for other uses. Part of these increases can be attributed to the fact that, as a result of the increased level and volatility of wholesale prices experienced in 2022, many suppliers preferred to gear their offers to variable price formulas, reducing the risk of the more complex forecasting and hedging required to formulate a fixed-price offer.

Table 4.11 Contracts for the supply of natural gas in the free market in 2023 by price type and average price

CONTRACTS	HOUSEHOLDS		CONDOMINIUMS		NON-HOUSEHOLDS	
	SHARE	PRICE(A) c€/m³	SHARE	PRICE(A) c€/m³	SHARE	PRICE(A) c€/m³
Fixed-price contracts	44.0%	104.48	13.2%	83.46	23.3%	85.32
Variable-price contracts	56.0%	94.03	86.8%	75.32	76.7%	59.23
TOTAL CUSTOMERS	100%	96.18	100%	81.50	100%	62.94

(A) Supply cost component.

Source: ARERA, Annual survey on regulated sectors.

Looking at the supply cost component of the price of these contracts, it can be seen that variable-

[205] All of the information requested from suppliers relates to contracts in force in 2023, regardless of the year in which they were signed: in other words, the count of the redelivery points that have signed them, the energy sold and the average price indicated by suppliers are those relating to customers who were served during the year even under a contract signed in previous years (but not expired).

price contracts are less convenient for all types of customers. However, the differential with a variable-price contract is very significant for non-households, while it is relatively small for condominiums and households.

For all customer types, the most frequent price **indexation mode** in variable-price contracts is the one linked to the PSV price trend, which, however, is not the one with the most advantageous economic conditions. Next, the type of variable price most chosen by households was that with indexation to the trend in TTF quotations, while for condominiums and non-households it was that with a discount on one of the components established by the Authority for the standard offer service. Analysing the procurement cost component, it is found that the cheapest contract is the one with limited indexation, which, however, is chosen by a negligible percentage of customers. For all customer categories, the type with indexation to the performance of markets managed by the GME also emerges as particularly convenient.

40.2% of households have signed a contract providing for a **rebate or a discount** of one or more free periods or a fixed sum in money or volume, which may be one-off or permanent, and possibly provided for when a certain condition is met (e.g. discount for contracts signed by friends of the customer, discount for bank account clearance, etc.); on average, the discount is applied to 60% of customers who have chosen a fixed-price contract and to 25% of customers who have chosen a variable-price contract. Lower percentages are to be found for other customers: 18% of condominiums have signed a contract with a discount (62% with fixed price and 11.5% with variable price), while in the case of non-households, those with a contract with a discount in any form are 18% of the total (38% with fixed price and 12% with variable price).

The *Annual Survey* also investigated the presence of **additional services** in contracts and their consistency in the same way as last year[206]. According to suppliers, in contrast to the electricity sector, the frequency of contracts involving not a single additional service but rather a combination of additional services is not very high; in fact, it concerns about 25% of households, 1.7% of condominiums and approximately 6.1% of non-households. In any case, also in the gas questionnaire, as in the electricity one, suppliers were asked to specify which combination of additional services was contained in the contracts chosen by their customers. Therefore, customers with contracts including a combination of additional services were reallocated *pro rata* to the additional services indicated by the suppliers (Table 4.12).

The results obtained for households show that in the contracts signed by households, the presence of additional services is more common among fixed-price than among variable-price contracts: 76.5% of customers who chose a fixed-price offer sign a contract that also includes an additional service, while this percentage drops to 41.6% in variable-price contracts. In fixed-price contracts that provide an additional service, there is a clear preference (43.6%) for those that allow participation in a points programme and the guarantee of 100% "green" energy (10.5%) as well as a good preference (9.4%) for those that offer additional energy services. The possibility of obtaining other products or services together with gas also attracts some interest (8.1%). Concerning the cost of additional services (measured with the price component that covers procurement and sales costs), it can be observed that the cheapest fixed-price contract for households is the one with a free gift or gadget, although it is chosen by practically no customers. This is followed by contracts with ancillary energy services. Contracts with a 100% green energy guarantee, as just seen quite popular, show the highest price, after contracts with a points programme. For households with variable prices, on the other

[206] See the *Annual Report 2022* for a detailed description of the methodology.

hand, the most popular options for contracts with at least one additional service turn out to be those with a 100% green energy guarantee (17.6%), right after contracts with additional energy services (8.7%), finally participation in a points programme (7.3%). For these customers, the contract without additional services costs less than the most popular contracts just mentioned.

Table 4.12 Contracts for the supply of natural gas in the free market in 2023 by type of additional services and average price (percentage of customers having signed the indicated contracts)

CONTRACTS	HOUSEHOLDS		CONDOMINIUMS		NON-HOUSEHOLDS	
	SHARE	PRICE(A) c€/m³	SHARE	PRICE(A) c€/m³	SHARE	PRICE(A) c€/m³
ADDITIONAL SERVICES OF FIXED-PRICE CONTRACTS						
No additional service	23.43%	93.44	65.61%	83.96	79.50%	94.37
100% green energy guarantee	10.45%	100.49	6.79%	79.48	7.58%	77.81
Auxiliary energy services	9.39%	90.24	5.11%	85.03	4.05%	63.85
Advantages over the purchase of other goods or services	3.58%	97.49	0.24%	69.25	0.45%	81.85
Other products or services offered together with gas	8.09%	91.51	16.31%	62.35	3.26%	85.60
Points collection programme	43.62%	118.37	5.26%	91.08	4.69%	160.92
Free gift or gadget	0.08%	49.75	0.05%	35.84	0.00%	29.38
Other not included in the aforementioned items	1.36%	82.16	0.62%	112.01	0.48%	46.55
TOTAL FIXED-PRICE CONTRACTS	100%	104.48	100%	83.46	100%	85.32
ADDITIONAL SERVICES OF VARIABLE-PRICE CONTRACTS						
No additional service	58.43%	88.51	81.53%	83.64	73.22%	60.08
100% green energy guarantee	17.57%	126.28	1.48%	75.02	9.33%	70.48
Auxiliary energy services	8.66%	131.02	6.38%	78.31	5.73%	65.07
Advantages over the purchase of other goods or services	0.47%	110.44	0.01%	88.87	0.05%	67.95
Other products or services offered together with gas	2.75%	130.03	1.86%	79.62	1.15%	72.29
Points collection programme	7.35%	106.02	7.68%	76.57	6.03%	134.50
Free gift or gadget	0.29%	140.07	0.04%	51.56	0.03%	47.40
Other not included in the aforementioned items	4.48%	59.85	1.02%	56.88	4.46%	55.32
TOTAL VARIABLE-PRICE CONTRACTS	100%	94.03	100%	75.32	100%	59.23

(A) Supply cost component.

Source: ARERA. Annual survey of regulated sectors.

Considering the data of condominium households, we note, and understandably so, a high lack of interest in additional services, especially in fixed-price contracts: the portion of redelivery points of condominiums with a fixed-price contract and no additional services is 79.5% and drops to 73.2% among those who have opted for the variable price. The least expensive contract with additional services for condominiums with a variable-price contract turns out to be the one with free gifts and gadgets, but with an essentially zero percentage of choice.

Finally, as far as non-households are concerned, the choice of contracts without additional services is by far the most widespread, on average, about 79% of such customers, whether fixed-price or

variable-price, choose a contract without other options. The price of such contracts is slightly higher than the average price in comparison with all the additional services available.

Concentration in the natural gas retail market

The analysis of the sales performance of corporate groups, instead of those of individual companies, allows a more accurate assessment of market shares and the level of concentration in the end sale market (Table 4.13) and contains some important news for 2023.

The Eni group, for the first time, was not in first place, having been overtaken in overall sales quantities by the two historically trailing groups, Edison and Enel, which this year moved into first and second place respectively. The data shows, however, that the sales quantities of the first three groups are very close: 167 M(m^3) separate Edison's volumes from those of Enel and 92 M(m^3) separate Enel's sales from Eni. The market shares are therefore not very differentiated and in two cases decreasing compared to 2022: 14.3% that of the Edison group (was 15.4%), 13.9% that of the Enel group (was 13%) and 13.7% that of the Eni group (was 16%). The changes in the relative position of the three groups are due to negative sales variations for all three, but differentiated in magnitude: compared to 2022, Eni's volumes decreased by 28%, Edison's by 22% and Enel's by 10%.

Table 4.13 Top twenty groups by end-market natural gas sales in 2023

GROUP	VOLUME M(m^3)	SHARE	POSITION IN 2022
Edison	6,119	14.3%	2nd
Enel	5,953	13.9%	3rd
Eni	5,861	13.7%	1st
A2A	2,934	6.8%	5th
Hera	2,654	6.2%	4th
Royal Dutch Shell Plc	2,309	5.4%	9th
Iren	2,180	5.1%	6th
Axpo Group	1,725	4.0%	8th
Engie	1,104	2.6%	13th
Sorgenia	817	1.9%	10th
Estra	683	1.6%	11th
E.On	632	1.5%	12th
Met Group	586	1.4%	22nd
Agsm Aim S.P.A.	563	1.3%	19th
Unoenergy	471	1.1%	14th
Dolomiti Energia	432	1.0%	17th
Solvay Sa	404	0.9%	15th
Duferco	361	0.8%	24th
Alperia	359	0.8%	18th
Erg	348	0.8%	36th
Other	6,346	14.8%	-
TOTAL	42,839	100.0%	-

Source: ARERA. Annual survey of regulated sectors.

Given the reduction in the distance between the top three groups and the decline of two of their three shares, the average level of concentration in the gas end-supply market in 2023, which has always been relatively low, decreased slightly, albeit with differentiated levels between the different types of customers served. Table 4.14 shows the details of the concentration measures also broken down by consumer sector. In the first part of the table, metering is calculated from the volumes sold by the corporate groups in the retail market; in the second part of the table, metering is calculated from the customers (redelivery points) served by the corporate groups themselves.

Using metering calculated on the volumes sold, it can be seen that the number of groups with a share of the total market of more than 5% rose to 7. Moreover, in 2023, the top three groups control 41.9%, while in 2022 the share was 44.3%. The Herfindahl-Hirschman Index (HHI) calculated on the sales market was 769, lower, therefore, than the 2022 index, which was 809. However, the level of the index remained well below the 1,000 threshold below which concentration is normally judged to be poor. The highest concentration is found in sales to electricity generation, industry and households, where C3 is above 50%; the lowest is observed in sales to apartment blocks and trade customers. Compared to 2022, slight increases in the level of concentration are observed (via the C3 and HHI indicators) in the household and trade sector, while a decrease is observed in all other sectors. When measured on customers served, concentration tends to rise in almost all sectors, except in the non-household sector as a whole, where - apart from electricity generation - all sectors show a reduction in concentration.

Table 4.14 Concentration metering in the natural gas retail market

Metering calculated on corporate groups

	2022			2023		
SECTOR	GROUPS >5%	C3	HHI	GROUPS >5%	C3	HHI
METERING CALCULATED ON THE BASIS OF ENERGY SOLD BY CORPORATE GROUPS						
HOUSEHOLDS	4	48.0%	947	4	48.9%	983
Household	4	52.6%	1,122	4	53.2%	1,151
Condominiums	5	35.2%	645	5	35.1%	650
NON-HOUSEHOLDS	4	45.5%	907	7	41.3%	845
Trade and services	6	40.4%	713	5	41.0%	733
Industry	5	57.9%	1,446	5	53.3%	1,326
Power generation	5	59.3%	1,465	7	58.1%	1,501
Public service activities	4	42.8%	872	8	34.8%	721
TOTAL MARKET	4	44.3%	809	7	41.9%	769
METERING CALCULATED ON THE BASIS OF CUSTOMERS SERVED BY THE CORPORATE GROUPS						
HOUSEHOLDS	4	55.1%	1,217	4	55.2%	1,270
Household	4	56.3%	1,273	4	55.4%	1,279
Condominiums	5	37.7%	665	6	38.6%	714
NON-HOUSEHOLDS	4	40.3%	656	4	36.8%	602
Trade and services	4	41.0%	685	5	37.3%	625
Industry	5	38.4%	789	5	38.4%	811
Power generation	5	54.9%	1,830	5	66.2%	2,374
Public service activities	6	32.3%	546	7	31.3%	598
TOTAL MARKET	4	55.1%	1,217	4	54.2%	1,220

Source: ARERA. Annual survey of regulated sectors.

In general, in any case, the level of concentration in the Italian natural gas market remains low: with a few exceptions, C3 does not exceed 55%, but above all, the HHI index values are, in almost all sectors, below the first attention threshold of 1,500[207].

4.2.2.1 Monitoring of the level of retail market prices, of the level of transparency and of the degree and of the efficiency of market opening and competition

As already described in detail in Chapter 3 (see section 3.2.2.1, to which reference is made) on the subject of sales prices in the electricity and natural gas retail markets, the Authority has two readings:

- that of the *Average prices charged in the electricity and natural gas market* carried out pursuant to resolution 168/2018/R/com of 29 March 2018, in which, on a half-yearly basis, quarterly data is collected on the prices billed[208] by suppliers to households and non-households, broken down into consumption classes and by type of market;
- that carried out as part of the *Annual Survey of Regulated Sectors*, in which data is collected for the previous year and broken down according to various categories of detail (type of market, sector and consumption classes, type of contract applied).

The data from the *Annual Survey* are used for the statistical analyses carried out by the Authority, especially those presented in the annual reporting to national and European authorities.

An analysis of the data collected in the 2023 Authority Survey shows that last year, the average gas price (weighted by quantities sold), net of taxes, charged by sales companies to final customers was 77 c€/m^3 (Table 4.15).

Table 4.15 Average selling prices (net of taxes) in the gas retail market

ANNUAL CONSUMPTION CLASS	PRICES (c€/m^3)										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Less than 5,000 m^3	61.2	58.8	55.7	51.7	52.1	58.3	63.4	58.1	65.9	103.1	100.2
Between 5,000 and 50,000 m^3	51.3	46.9	46.0	42.1	43.1	48.4	50.7	43.7	55.0	117.9	88.5
Between 50,000 and 200,000 m^3	44.4	41.4	41.0	37.0	36.2	43.7	44.7	37.3	48.8	113.6	85.0
Between 200,000 and 2,000,000 m^3	36.6	35.0	32.5	28.3	26.8	31.4	33.8	27.3	38.5	101.4	71.3
Between 2,000,000 and 20,000,000 m^3	33.8	34.0	28.0	24.2	23.0	26.5	28.2	21.9	35.1	93.9	65.3
More than 20,000,000 m^3	32.7	32.2	26.5	21.8	24.3	29.2	22.4	16.9	52.8	130.4	56.7
TOTAL	44.0	42.3	38.9	33.8	34.3	40.0	39.2	33.9	52.3	111.2	77.0

Source: ARERA. Annual survey of regulated sectors.

This price is a third less (-31%) than the previous year (111.2 c€/m^3). The decrease, which stems from the sharp drops in the commodity cost in wholesale markets after the peaks reached in 2022, does not affect all customer categories in the same way, being related to their size class. Thus, while on the one hand the very large customers (over 2 million m^3/year) have more than halved in value (-

[207] An HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 indicates a highly concentrated one (the maximum value of the index is 10,000).

[208] More precisely, these are average unit turnovers obtained from the ratio of revenues collected to the quantities of energy billed in the reference quarter.

56.5%, -73.9 €cent/m^3), on the other hand the smaller customers (up to 5 thousand m^3/year, essentially household) have experienced a very moderate reduction, both in percentage terms (-2.8%) and in absolute terms (-2.9 €cent/m^3). The middle classes (consumption from 5 thousand to 2 million m^3/year) show an intermediate development, characterised by a uniform decrease in absolute value (around 29€cent/m^3), which affects between 25 and 30%.

Table 4.16 shows the cross-section of average prices in 2023 by size and type of customer. Production sectors with a larger size, such as industry and power generation, have the lowest average values than those with a larger presence of small and medium-sized enterprises (services and trade), which are still lower than the price levels of households, both individual and centralised (condominiums).

Table 4.16 Sales prices (net of taxes) in 2023 in the gas retail market by consumption sector and customer size

SECTOR	CUSTOMERS DISTRIBUTED BY ANNUAL CONSUMPTION CLASS (m^3)						TOTAL
	<5,000	5,000-50,000	50,000-200,000	200,000-2,000,000	2,000,000-20,000,000	> 20,000,000	(c€/m^3)
Household	99.7	85.8	78.1	72.0	-	-	99.5
Condominiums	91.4	90.9	89.8	86.5	-	-	90.7
Public service activities	99.6	84.2	83.8	76.4	77.3	91.8	82.9
Trade and services	105.7	86.8	83.7	69.0	66.8	68.5	81.6
Industry	110.1	90.6	85.2	72.7	65.3	57.5	66.2
Power generation	94.8	81.8	79.3	69.4	63.9	55.8	57.6
TOTAL	100.2	88.5	85.0	71.3	65.3	56.7	77.0

Source: ARERA. Annual survey of regulated sectors.

Table 4.17 shows the cross-section of customers with household use (households and apartment blocks) between the two main contractual conditions under which they are supplied for consumption up to 200,000 m^3/year until 2023, i.e. the protection service and the free market, with details by size class and trends over the last decade.

The protection service presents lower values in all years and for all size classes, except for the smallest customers (up to 5,000 m^3/year, mainly single households) and limited to 2022, the year in which the free market presents a lower price than the protection service (-17.6%), due to the strong diffusion in this market of contractual formulas with a blocked price that delayed, in the immediate future, the transfer to final customers of the strong growth in the prices of the gas commodity that occurred in the months following the start of the conflict. This transfer took place, at least in part, in 2023, when the price on the free market rose by more than 10%, while in the standard offer service it fell by almost 30%; consequently, in this last year, the convenience ratio was completely reabsorbed and reversed, as the free market again became significantly more expensive (+28%).

In the two largest classes (consumption over 5,000 m^3/year), on the other hand, there is a drop in both markets, but this is not enough to change the convenience ratio, which remains favourable to the protection service, particularly for the intermediate class (between 5,000 and 50,000 m^3/year), made up almost entirely of condominium users. This type of user also characterises the last class (between 50,000 and 200,000 m^3/year), in which the two markets show a substantially identical price level over the past year. However, this is a class with very marginal overall volumes.

Table 4.17 Sales prices (net of taxes) in the gas retail market to household customers, by consumption class and market type

CONSUMPTION CLASS ANNUAL AND MARKET	PRICES (c€/m³)											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Less than 5,000 m³												
Standard offer service	60.1	60.2	56.8	52.8	47.7	48.2	55.8	60.4	51.0	62.3	115.7	82.6
Free market	61.3	63.7	62.4	60.1	56.8	56.1	60.3	65.5	62.0	67.9	95.3	105.7
Difference	2.1%	5.8%	10.0%	13.9%	19.2%	16.5%	8.1%	8.3%	21.8%	8.9%	-17.6%	28.0%
Between 5,000 and 50,000 m³												
Standard offer service	48.2	52.2	44.1	44.7	37.8	39.2	46.4	48.9	39.6	49.3	115.8	75.9
Free market	51.5	50.9	47.6	46.1	42.8	43.5	48.6	50.9	44.1	58.0	124.7	89.0
Difference	6.7%	-2.4%	8.0%	3.1%	13.1%	11.1%	4.9%	4.1%	11.1%	17.7%	7.7%	17.3%
Between 50,000 and 200,000 m³												
Standard offer service	48.1	50.5	41.9	40.9	36.1	36.1	45.2	44.9	36.7	43.9	117.2	84.5
Free market	48.4	43.9	41.4	41.0	37.0	36.3	43.7	44.7	37.3	56.5	122.2	85.0
Difference	0.6%	-13.0%	-1.1%	0.2%	2.6%	0.5%	-3.4%	-0.5%	1.6%	28.7%	4.3%	0.6%

Source: ARERA. Annual survey of regulated sectors.

Clearly, the price differences found between the two markets may also depend on other factors. In particular, consideration should be given to what is indicated in the section on the free market, regarding the presence of commercial offers characterised by the joint purchase of the energy supply and other goods or services of various kinds (assistance services, maintenance, insurance policies, telephone services, discounts in supermarkets or on fuel, etc.).

Monitoring of the level of transparency including compliance with transparency obligations and of the degree and of the efficiency of market opening and competition

The retail market monitoring system is common between the electricity and natural gas markets. Therefore, please refer to section 3.2.2.1 in which the Annual Report illustrating the main outcomes of the retail market monitoring activity with reference to 2022[209] is presented, describing, where possible, the evolution of the relevant phenomena in all the years in which it was carried out (from 2012) and the half-yearly monitoring reports on the electricity and gas retail markets prepared for the Ministry of the Environment and Energy Security[210].

Complaints related to the commercial quality of the natural gas sales service and compensation

The rules for the protection of final customers and the commercial quality indicators that all electricity

[209] Report 3 of 25 July 2023, 42/2023/I/com (2022 Report).

[210] For the 2023 data analysis see, in particular: Report of 25 July, 343/2023/I/com and Report of 27 February 2024, 59/2024/I/com.

and natural gas sales companies are required to comply with, and which are monitored by the Authority, are set out in the Integrated Text Regulating the Quality of Electricity and Natural Gas Sales Services (TIQV) as described in section 3.2.2.1. Also in connection with the sale of natural gas, as in the electricity sector, if the supplier does not comply with specific standards, the customer automatically receives compensation, at the time of the first useful billing. The basic automatic compensation (Euro 25) doubles if the performance of the indemnified service takes place beyond twice the standard time and triples if the performance takes place beyond three times the standard time or more.

For 2023, a total of 401 suppliers reported on the commercial quality of sales services in the gas sector, who stated that they serve a total of 19.1 million final customers supplied with low-pressure gas.

Analysing the data on the actual average time for services requested by customers in 2023, for responses to complaints and bill adjustments the times stood at 21.65 and 27.03 calendar days respectively, below the minimum standards set by the Authority. With regard to double-bill adjustments, against the standard set at 20 calendar days, the actual average correction time was 18.02 calendar days. The actual average response time for information requests, with an average of 8.87 calendar days, is also well below the overall standard (Table 4.18).

Table 4.18 Sales service standards and actual average times in the natural gas sector in 2023

PERFORMANCE	SPECIFIC STANDARDS (calendar days)	OVERALL STANDARDS %	ACTUAL AVERAGE TIMES
Maximum time for a reasoned response to written complaints	30	–	21.65
Maximum time for bill adjustments	60 or 90(B)	–	27.03
Maximum time for double bill adjustments	20	–	18.02
Minimum percentage of replies to written requests for information sent within the maximum time of 30 calendar days	–	95%	8.87

(A) 90 calendar days in the case of four-monthly invoices.

Source: ARERA on data declared by operators.

Sales companies serving the free natural gas market and the one with a reference price received a total of 169,739 written complaints, an increase from the previous year (+1.2%) (Table 4.19).

Table 4.19 Complaints, requests for information and bill adjustments in the gas sector

	2019	2020	2021	2022	2023
Number of complaints	197,928	172,004	156,407	167,675	169,739
Number of requests for information	107,937	121,054	133,063	142,153	159,044
Number of bill adjustments	19,325	16,487	11,400	12,498	9,341
Number of double bill adjustments	2,256	849	607	406	269

(A) Partial data referring to 64% of gas customers.

Source: ARERA processing of data from the Energy Customer Help Desk.

The majority of written complaints (71.1%) came from households. Written complaints referring to free market customers accounted for 80.5% of all complaints, while 13.4% concerned customers of

the market with a reference price. A residual share of 6% is attributable to multi-site gas customers. Gas customer requests for information in 2023 totalled 159,044, an increase of 11.9% compared to the previous year; 82.6% of the requests concerned free market customers. In particular, 74.4% concerned households in the free market; followed, at a wide distance, by households in the market with a reference price with 8.7%, gas customers for various uses with 7% and multi-site customers with 8.6%. The number of written bill adjustments amounted to 9,341, a decrease compared to the previous year (-25.3%); the number of adjustments requested by free market customers was significant (66.9% of the total), followed by adjustments requested by households on the market with a reference price (13.7%). As in previous years, in 2023 the phenomenon of double billing adjustments involved an extremely limited number of cases (269), further decreasing compared to 2022 (-33.7%), especially if we consider the millions of annual bills overall issued by suppliers; significant in the year, out of the total number of double billing adjustments, were the requests received from households in the free market (66.9%). The cases of non-compliance with the standards set for services relating to the commercial quality of sales in the gas sector that in 2023 resulted in customers being entitled to compensation totalled 22,165, an increase of 36.2% compared to the previous year; as in the electricity sector, for the gas sector the largest number of indemnifications was attributable to non-compliance with the standards for responding to complaints from households (96.6%). The market segment with the highest number of compensations overall is that of households in the free market, accounting for 66.9%.

During the year, compensation for gas customers totalling more than € 977,000 were made, an increase over last year (39.9%). Similarly to the electricity sector (see paragraph 3.2.2.1), automatic compensations paid directly in the bill in the natural gas market, 96.6% of the compensation were paid for failure to respond to written complaints. Free market customers (households, condo households, public service activities and miscellaneous uses) are the recipients of 74% of the total compensation.

In 2023, **customers with dual fuel contracts** sent 31,203 written complaints, down 11.8% year-on-year, and 48,397 written requests for information, also down 5.7%. Bill and double-bill adjustments amounted to 2,121 (-16.8%) and 37 (+32.1%) respectively. Overall, there were 3,384 cases of non-compliance with standards that resulted in the right to automatic compensation in the bill for services related to the commercial quality of sales. 92.1% of the non-compliance cases are attributable to responses to customer complaints exceeding the standards in force.

Also with regard to the amounts paid to customers for automatic compensations, the prevalence of cases is related to failure to comply with response times to complaints (96.5%); to a lesser extent, bill adjustments (5.9%) and double bill adjustments (0.6%). Overall, compensation amounting to Euro 140,980 was paid to the dual fuel customer segment.

4.2.2.2 Recommendations on final sales prices, investigations, inspections and imposition of measures to promote competition

Measures to promote competition and recommendations on final sales prices

The Authority's activities in analysis and recommendations on final sales prices are common to the electricity and gas sector and have already been described in detail in section 3.2.2.2 (to which reference is made).

Conducting investigations, inspections and imposing measures for the effective promotion of competition

With reference to the activities in 2022, see also section 3.2.2.2.

4.3 Security of supply

The functions and competences referred to this topic (i.e. monitoring the balance between energy demand and supply, forecasting future demand and available supply, additional capacity and measures to cover peak demand or supply shortfalls) are assigned exclusively to the Ministry of the Environment and Energy Security.

5 CUSTOMER PROTECTION AND DISPUTE RESOLUTION

5.1.1 The protection system: dealing with final customer complaints (basic level)

The customer standard offer system in the sectors regulated by the Authority consists of two macro-areas: the first concerns information and assistance to customers (basic level); the second concerns the resolution of issues and disputes that may arise between customer and service supplier.

In 2023, the Energy and Environment Customer Help Desk (the "Help Desk") and the Conciliation Service, managed on behalf of the Authority, on an outsourcing basis, by the Acquirente Unico, recorded an increase in incoming volumes (Table 5.1); a trend, already recorded in 2022, for growth in the volume of requests - written and by telephone.

Table 5.1 Protection system: input volumes at the Help Desk and second level activities[(A)]

ACTIVITIES	2022		2023	
Basic level (information and assistance)	ENERGY SECTORS	ALL SECTORS	ENERGY SECTORS	ALL SECTORS
Calls to the call centre (received during working hours)	1,203,877	1,254,318	31,638	31,638
Written requests for information[(B)]	55,422	57,710	28,693	32,677
Requests for activation of special information procedures	41,958	41,958	1,351	1,676
Second level (dispute resolution)			31,638	31,638
Requests for the activation of special settlement procedures	22,583	22,583	28,693	32,677
Requests to the Authority Conciliation Service (mandatory conciliation)	21,102	24,339	1,351	1,676
Conciliation requests to ADR entities on the Authority's List (mandatory conciliation)	940	1,327	31,638	31,638

(A) The Help Desk is also active for environmental sectors regulated by the Authority.
(B) Including written petitions that the Help Desk encountered by providing information on out-of-court dispute resolution tools (referred to as complaints redirected to conciliation).

Source: Energy and Environment Consumer Help Desk processing.

Indeed, in 2023, the Help Desk call centre received 1,546,809 calls during working hours (+ 23% compared to 2022). The calls actually handled (i.e. net of those abandoned by customers or end-users without waiting for the operator to answer) amounted to 1,209,482 (about 195,000 more than in 2022). The average duration of conversations in the year was 252 seconds, up from 238 seconds in 2022.

The electricity and gas sectors accounted for 97% of the total calls handled by the call centre (96% in 2022). As in 2022, by far the most frequently discussed topic in the telephone calls received by the Help Desk was the social bonus (67%); the other topics discussed, with a much lower incidence, were dispute resolution methods (13%) and information on the status of the handling of files at the Help Desk (6.5%); in the remaining 10% of cases, calls concerned other aspects (Portale Offerte, Portale Consumi, Purchasing Groups, gradual standard offer service). Finally, there were 64,473 calls in which information was provided on overcoming price protections in the energy sectors, either upon specific request or in the course of a conversation on related topics (about 52,000 more than the same figure for 2022).

With regard to **written requests for information**, the Help Desk received 54,750, of which 49,930 related to the energy sectors, down 10% from the previous year. The top five topics of the energy sector requests, net of complaints redirected to conciliation (about 3,500), are the same as in 2022: the social bonus, with 45%, remains in first place, albeit a decrease of 13 percentage points compared to 2022; this is followed by billing (14%), market (12%), contracts (11%), non-payment of bills and disconnection (7%), all of which are slightly up on 2022 in terms of percentage weight on the total considered.

With regard to the most frequently discussed topic, the social bonus, 78% of the questions concerned the automatic recognition mechanism, while 10% concerned the disbursement of the benefit on the bill. With regard to the second topic, i.e. billing, the main sub-topics were estimated consumption (49%) and supplier switching (61%), while contract sub-topics were mainly unilateral changes (36%). Finally, with regard to topics, it should be noted that, in the last quarter of 2023, approximately 490 written requests concerned the topic of vulnerability protection.

Special information procedures make it possible to provide information without the need for assistance of the Help Desk staff (the customer fills in an on-line request). They are operational as of 1 January 2017 only for some specific topics in the energy sectors. By means of codified information in centralised databases (Integrated Information System, Indemnity System) and an "automatically applicable" case regulation, the Help Desk provides final customers or their proxies with the required information elements. In 2023, the Help Desk received 44,929 requests for the activation of special information procedures, an increase of 7% compared to the total number of requests in 2022. The breakdown of these requests by sector was identical to that of 2022: 64% concerned electricity, 23% gas, and 13% both sectors.

More than half of the requests (52.5%) concern the date of the change of supplier (switching) and the name of the supplier itself, just under a third (29.5%) concern the identification of the "unknown supplier" in the event of a transfer (-4.5% compared to 2022); finally, 18% of the total was due to the special procedure on the price relative to previous non-payment of bills in the electricity and natural gas sectors (C^{MOR}), which recorded the largest increase in percentage terms compared to 2022 (+28%), while the procedure on the current commercial counterparty/switching date recorded the largest increase in absolute terms (+2,129 requests).

5.1.2 The protection system: out-of-court dispute resolution (second level)

Activities relating to the second level of the protection system concern the resolution of issues and disputes arising in the relationship between the customer and the regulated service supplier. They can be settled through the special settlement procedures of the Help Desk or through conciliation procedures. The latter may be brought before the Authority Conciliation Service or ADR entities registered on the Authority's special list.

Special settlement procedures

Special resolution procedures are applied for specific types of problems in the energy sectors. Similarly to what happens for special information procedures (relative to the basic level of the protection system), also for settlement procedures, the Help Desk accesses information encoded in

centralised databases. In contrast to information procedures, special settlement procedures allow the outcome of the dispute to be determined and imply assistance of the Help Desk staff, in case further information is needed to consult databases, or to verify the correct fulfilment of the regulation following the resolution of the dispute.

In 2023, 31,638 requests for the activation of settlement procedures were received at the Help Desk, an increase of 40% compared with 2022. The social bonus procedure is confirmed as the most frequently used one (93.5%, -0.5% compared to 2022), followed by the special procedure on C^{MOR} (verification of the prerequisites for its cancellation), which stands at 6% (+0.5% compared to 2022), while those on "double invoicing" are marginal (0.5%).

The vast majority (43%) of the bonus-related queries concern the non-disbursement of the bonus; the remainder mostly concern issues related to the bonus amount being considered incorrect or to the recognition of the bonus in the case of a household with several redelivery/withdrawal points. If the customer's request is considered well-founded, on the basis of the documents sent by the customer and the checks on the Integrated Information System, the Help Desk sends a notice to the operator concerned, requesting that the facilitation be paid in the invoice and informing the final customer. Only once the disbursement has been made within the regulatory time limits is the case submitted to the Help Desk closed. If, on the other hand, the application turns out to be unfounded, the Help Desk sends a communication to the final customer, providing the appropriate clarifications and explaining why the facilitation cannot be paid.

The average handling time for the special bonus procedure is 28 working days (down from 29 days in 2022), while an average of 13 working days are taken to close C^{MOR} cases (down from 15 days in 2022).

The sector most affected by special termination procedures was electricity, with almost half of the requests (49%, -4 percentage points compared to 2022), followed by gas with 29% (+4% compared to 2022). The other procedures concerned both energy sectors and, in 40 cases, dual fuel customers. 87% of the above-mentioned special procedures concerned the household sector (-11% compared with 2022), while in 89% of the cases these procedures were initiated by final customers without the help of proxies (90% in 2022). The main channel for activating these procedures was e-mail (66%), while the online portal was used in 30% of cases.

The Authority's conciliation service

The Authority conciliation service is a dispute resolution tool that can be activated by final customers of electricity and natural gas for issues arising with energy operators (suppliers and distributors), in case of missed or unsatisfactory response to a complaint. The procedure takes place entirely on-line and in the presence of a third-party, impartial mediator experienced in mediation. Any final agreement has settlement effect between the parties pursuant to art. 1965 of the Civil Code. Moreover, with the approval of art. 141, par. 6, letter c) of the Consumer Code[211], the attempt at conciliation has become a condition for proceeding before the courts for disputes arising in the sectors regulated by the Authority (with the exception of tax or fiscal profiles), unless urgent and precautionary judicial decisions are taken.

[211] Legislative Decree No. 130/15 implemented into Italian law Directive 2013/11/EU of the European Parliament and of the Council of 21 May 2013 on consumer ADR, amending Regulation (EC) 2006/2004 and Directive 2009/22/EC (the Consumer ADR Directive).

The Authority, in implementation of article 141-*sexies* of the Consumer Code, has laid down specific information obligations for energy suppliers towards final customers.

In 2023, customers and end users in the energy sectors submitted 28,693 requests to the Conciliation Service, approximately 7,600 more than the previous year (+36%). The increase is mainly due to the electricity sector (16,216 applications, more than 3 thousand more than the previous year, 49% of the total), although 4 percentage points less than in 2022. Gas applications also increased to 26% of the total (8,420 applications, up 4% compared to 2022), while those submitted by dual fuel customers increased by 1 point compared to 2022 (12%, or 3,817 applications).

The main modality of submission is the use of delegates other than consumer associations (38%) and direct submission by customers (37%), followed by the use of consumer associations registered with the CNCU[212] (27%). 76% of the applications received by the Service concerned a household final customer, as in the previous two years. With regard to the topic of disputes, the prevalence of billing (46%) is confirmed; followed, at a distance, by contracts (23%) and, with a share of 6% each, damages, non-payment of bills and disconnection and market. Finally, the 240 applications submitted by prosumers concerned, in 30% of the cases, the specific topic of on-the-spot trading and in 25% the topic of connections, works and technical quality. In 2023, the rate of admissibility of conciliation applications submitted to the Service remained at 81%; applications not completed by activators amounted to 10%, while those not admitted accounted for 9% of the total.

Concerning the outcome[213] of the applications received by the Service, the rate of agreement on concluded procedures in 2023 was 70% (69% in 2022); suppliers in the energy sectors recorded 73% agreement on concluded procedures (+2% compared to 2022), while distributors did not exceed 38% (as in 2022). It took the parties an average of 56 calendar days to reach agreement, 2 more than in 2022. With reference to the procedures initiated in 2023 and concluded with an agreement, it is possible to derive a compensation value of approximately € 23.5 million, i.e. the economic consideration (in the form of recovered value also with respect to the value of the dispute or refunds, indemnities, recalculation of erroneous billing, waiver of expenses and default interest, etc.) obtained in total from customers or users who signed the same agreements, also through a proxy.

Taking into account 11,668 questionnaires filled in at the end of the procedures, 95% of the activators expressed an overall positive opinion (-1% compared to 2022), with percentages varying between the highest level of satisfaction (52%, +1% compared to 2022) and 'fairly satisfied' (28%, -2% compared to 2022). More specifically, the work of the conciliator was evaluated very positively by 66% of activists (-2% compared to 2022).

Other conciliation services

As an alternative to the Authority's Service, the final customer may make a mandatory attempt at conciliation for judicial purposes also with recourse to other parties. The Authority, in implementation

[212] The National Council of Consumers and Service Users (CNCU) is the representative body of consumer and user associations at national level. It is based at the Ministry of the Environment and Energy Security and is composed of consumer associations recognised according to the criteria set out in the Consumer Code (Legislative Decree 206/2005, art. 137) and a representative designated by the Unified Conference State - Cities and Local Autonomies (Legislative Decree 281/1997, Art. 8).

[213] The data presented in the remaining part of the section also concerns the water sector.

of art. 141-decies of the Consumer Code, in December 2015 established[214] the List of Organisations Entrusted to Manage ADR (Alternative Dispute Resolution) Procedures under Title II-bis of Part V of the Code.

At 31 March 2024, 30 ADR entities were registered in the Authority's List. Of these, 7 are sectoral joint conciliation bodies - based on special preliminary agreements concluded between consumer associations and companies, 1 body operates in a single region and limited to the water sector, while the remaining 22 are cross-sectoral bodies, also operating in sectors other than those falling within the Authority's competence; among the latter, 21 are mediation bodies and, as such, also part of the Register of Mediation Bodies kept by the Ministry of Justice[215]. Two bodies, including the regional level one, are competent for the water sector only, while all the remaining 28 are competent for the energy sectors.

The information transmitted by ADR entities shows a significant increase in the number of conciliation applications relating to the energy sectors received, compared to the previous year (+26%). In particular, 1,351 applications concerned disputes arising in the electricity, gas and dual fuel customer sectors (compared to 940 in 2022). The ADR Joint Conciliation Bodies accounted for 68% of the applications submitted, for all sectors. Even through the ADR channel, the prevailing topic of disputes is billing (44.5%), followed at a great distance by contracts (17.5%), market (14%), non-payment of bills and suspension of supply (10.5%).

As in the previous year, the percentage of successful applications (88%) remained high (84% in 2022, compared to 1,327 applications received); the relevant procedures were concluded during 2023 in 82% of cases; in 58% of the concluded procedures the parties reached an agreement (70% in 2022). Finally, as regards the average time taken to conclude procedures, in 2023, as in previous years, there is a difference depending on whether the procedure was concluded with or without an agreement between the parties. On average, the procedures were concluded in about 60 days in the case of an agreement (59 days in 2022), while, in the case of no agreement, they were closed in 54 days (compared to 50 days in 2022). In all cases examined, the deadlines set by the Consumer Code (90 days potentially able to be extended for a maximum of a further 90 days) appear to have been met.

5.1.3 Consumer protection: vulnerable household customers and energy poverty

Initiatives in favour of customers in economic hardship and serious health conditions: social bonuses

Since 2009, a protection mechanism has been in place for the supplies of electricity and natural gas to households in situations of economic hardship or serious health conditions who receive a bonus, i.e. a discount on the supply of electricity and/or natural gas.

In order to bridge the gap between the potential beneficiaries and the actual bonus recipients, which

[214] Resolutions of 17 December 2015, 620/2015/E/com and of 14 July 2020, 267/2020/E/com.

[215] Legislative Decree No. 28 of 4 March 2010 and Ministerial Decree No. 180 of 18 October 2010.

previously had always remained at considerable levels[216], Decree Law No. 124 of 26 October 2019 [217]envisaged, *inter alia*, that from 1 January 2021, bonuses shall be recognised automatically to those entitled to them, without the need for them to submit a special request to the Municipalities and/or to tax assistance centres.

In January 2020, the Authority initiated[218] the proceedings for the implementation of the provisions of Decree 124/19, and in June 2020, it put its own guidelines on the subject out for consultation[219]. In November 2020, the scheme for implementing the automated system was submitted to the Data Protection Supervisor, who issued his opinion on 17 December 2020.

In February 2021, the methods were therefore approved[220] for requesting the regime for the automatic recognition of electricity, gas and water social bonuses for economic hardship, entirely replacing the previous "on request" regulation. However, the social electricity bonus for physical hardship does not fall within the scope of the new regimen, which remains on request of the party concerned and continues to be managed through the SGAte system under the scope of the specific Agreement[221].

2023 was therefore the third year during which the system of automatic recognition of social electricity, gas and water bonuses, to help address the economic difficulties, came into effect. In view of the significant increase in electricity and gas prices, even in 2023, there have been numerous government interventions introducing important innovations aimed at providing increasing protection and safeguards for economically disadvantaged households in order to contain energy expenditure for customers, given the continuing price tensions in the wholesale markets.

The planned amendments, in fact, on the one hand increased the quantification of the bonus to be paid, and on the other extended the number of recipients, raising the thresholds of the Equivalent Economic Situation Indicator (ISEE) [222] with which to access countertrade[223].

the Authority implemented these rules by providing[224]:

- that social bonuses for electricity and gas would be granted to all households with an ISEE certificate of no more than € 15,000 in 2023;

[216] The recommendation to provide for the transition from an "on-demand" system to a system for the automatic allocation of bonuses to those entitled to them, based on the telematic exchange of the necessary information contained in the databases of the National Social Security Institute and the SII Operator and compliant with the legislation on the protection of personal data, had been put forward by the Authority, most recently, in its Recommendation Paper of 25 June 2019, 280/2019/I/com.

[217] Converted with amendments by Law No. 157 of 19 December 2019.

[218] Resolution of 28 January 2020, 14/2020/R/com.

[219] Consultation document of 9 June 2020, 204/2020/R/com.

[220] By Resolution of 23 February 2021, 63/2021/R/com.

[221] Resolution of 28 January 2020, 13/2020/R/com.

[222] The Equivalent Economic Situation Indicator (ISEE): this is the tool used to measure the economic condition of households in Italy. It is an indicator that takes into account income, assets and the characteristics of a household (in terms of size and type).

[223] Law No. 197 of 29 December 2022 (the 2023 Budget Law), Decree Law No. 34 of 30 March 2023, converted with amendments by Law No. 56 of 26 May 2023

[224] Resolutions 24 January 2023, 13/2023/R/com, 31 January 2023, 23/2023/R/com and 30 March 2023, 134/2023/R/com.

- that all eligible persons could benefit from the supplementary compensatory component from the state budget (CCI) for Q1 2023;
- the inclusion, also for the Q2 2023, of a supplementary component, also borne by the state budget;
- that as of 1 January 2023, the normal value of the ISEE for access to social bonuses for economic hardship would be updated to € 9,530, in implementation of the provisions of the MD of 29 December 2016, which envisages that the Authority shall update this value every three years on the basis of the average value of the national consumer price index for blue- and white-collar households in each three-year reference period;
- that the value of bonuses be differentiated on the basis of the ISEE value, introducing a new bonus class ("class d"), for ISEE certifications of between € 9,530 and € 15,000, to which an electricity and gas bonus equal to 80% of the economic compensation established for households with ordinary ISEE (within € 9,530) be awarded;
- an additional new class of bonus claimants with reference to large families (with at least 4 dependent members), setting the ISEE threshold limit for access to the bonus at € 30,000.

Bonuses in figures

In 2023, the number of customers who obtained the **social bonus for electricity supplies** increased by 22% compared to the previous year, from 3,818,281 to 4,641,449, of which 4,576,621 (+21.5%) for economic hardship and 64,828 (+24.2%) for physical hardship. The total amount of bonuses disbursed for the electricity sector for economic hardship was approximately € 1,313 million, stable compared with the previous year. The broadening of the pool of beneficiaries is due in part to the automatic bonus recognition mechanism (in its third year of application), but mainly to government intervention (mentioned above) to raise the income threshold for eligibility.

The beneficiaries of the social electricity bonus are located 20.5% in the North-West, 13.4% in the North-East, 16.4% in the Centre and 16.5% in the South 32.67% and 19.9% on the Islands. Of the beneficiaries, 44.5% are households with up to 2 members, 43.7% with 3 or 4 members, 11.8% with more than 4 members.

At 31 December 2023, there were 64,828 households with a bonus for the use of electrical life-sustaining equipment (hardship bonus), an increase of 24.2% over the previous year. The **hardship bonus** is divided into three bands to take into account the type of equipment used, the average hourly consumption of each type of equipment and the average hours of use per day. On the basis of these elements, certified by the Local Health Unit, the customer is assigned to one of three countertrade bands. The three bands are then further differentiated according to the committed power[225].

The Authority defined the amount of the bonus values to be applied to customers in physical distress for the four quarters of 2023[226], the value of the bonus in 2023 was in the range of € 373 to € 1,273 per beneficiary.

The charges related to the disbursement of the electricity bonus for economic and physical hardship

[225] For details on the operation of bonuses, see also the 2013 *Annual Report*.

[226] Resolutions 29 December 2022, 735/2022/R/com, 134/2023/R/com, 28 June 2023, 297/2023/R/com and 429/2023/R/com.

are included amongst the general charges pertaining to the electricity system and are covered by the A_{SRIM} element of component A_{RIM}[227], which final customers pay in the bill and which is applied to all customers who do not benefit from the electricity bonus.

In 2022, the number of households benefiting from the **social bonus for gas supplies** due to economic hardship also increased considerably, going from 2,441,158 to 3,005,197 (+23.1%). The amount of bonuses paid out for the gas sector in 2023 was approximately € 849 million.

Concerning the percentage breakdown by number of components of households benefiting from the gas bonus for economic hardship, 87.6% concerned households up to 4 members, 15.2% over 4 members; as far as the territorial distribution is concerned, 27% of the gas bonus was assigned in the North-West, 17.4% in the North-East, 19.5% in the Centre, 28.8% in the South and the remaining 7.3% in the Islands.

In order to cover the burden resulting from the application of the gas bonus, the Authority has established, within the mandatory tariff for natural gas distribution and metering services, the GS and GS_T components, charged respectively to households and non-households. In addition to the funds collected from customers, there are also funds from the state budget. As in the electricity sector, the amounts of the bonuses were defined quarterly, at the same time as the tariff update.

5.1.4 Guarantees for the effective protection of gas consumers: compliance with art. 41(1)(o) of Directive 2009/73/EC

Article 41(1)(o) of Directive 2009/73/EC requires the regulator, also in cooperation with other authorities, to ensure that consumer protection measures, including those in Annex 1, are effective and enforced.

In Italy, these measures are now fully and extensively applied.

Over time, a number of bodies of legislation have been consolidated, bringing together in an organic way all the provisions on a number of relevant subject areas, in particular:

- the Code of Business Conduct[228];
- the Integrated Sales Service Quality Text (TIQV)[229];
- the Integrated Billing Text (TIF)[230];
- the Integrated Electricity and Gas Bonus Text (TIBEG)[231];

[227] Article 1 of resolution 922/2017/R/eel of 27 December 2017 provided that, as of 1 January 2018, the A_{SRIM} element of the A_{RIM} component would be applied indiscriminately to all utilities, including those entitled to the electricity bonus. The effects of this application are compensated in favour of the users entitled to the electricity bonus by increasing the same bonus by the value of the A_{SRIM} element applied to the annual reference consumption for each type of disadvantaged customer under the regulation. As of January 2019, this component (former A_S component) represents 2.61% of the average expenditure of the typical user.

[228] The latest version was approved by Resolution 366/2018/R/com.

[229] The latest version was approved by Resolution 413/2016/R/com.

[230] The latest version was approved by Resolution 463/2016/R/com.

[231] The latest version is that resulting from Resolution 165/2019/R/com.

- the Integrated Text on Confirmation of the Electricity and/or Natural Gas Supply Contract and Voluntary Restoration Procedure (TIRV)[232];
- the Integrated Conciliation Text (TICO)[233].

5.1.5 Tools available to final customers

Information initiatives to overcome price protections

Since 2017, the Authority has established[234] that the operators of the standard offer and the suppliers within the gas standard offer service, as of 1 January 2018 and until the price protections as established by the specific legislation are exceeded, had to send their customers, within the bill, a special information, with content defined by the Authority, regarding the exceeding of the price protections.

For 2023, the Authority determined the content of the disclosures:

- to publicise the Portale Consumi, which allows customers to learn more about their consumption habits, historical consumption and to compare consumption over the same period in previous years (obligation for free market suppliers as well as operators of protection services for electricity and natural gas supplies);
- to publicise the outcomes of the competitive procedures for the allocation of the gradual standard offer service for micro enterprises in the electricity sector, the activation of this service and for the procedures necessary for the change of supplier (obligation for outgoing standard offer operators);
- to provide information to households in the electricity sector on the provision of the gradual standard offer service set up for non-vulnerable customers, on the exit from the standard offer service, on the rights of vulnerable customers and on the Authority's tools for making a choice in the free market, as well as information for changing supplier (obligation for outgoing standard offer operators);
- to inform household final customers with a free market electricity contract about the rights of vulnerable customers and the conditions for them (obligation for free market suppliers);
- for overcoming the gas protection service on the removal of the service, on the Authority's tools to make an informed choice (Portale Offerte and Portale Consumi) and to obtain information on one's rights (Energy and Environment Consumer Help Desk and ARERA customer internet page) on the rights of vulnerable customers and on the options to choose with the same or another supplier as well as on the vulnerability protection service (obligation for suppliers with final customers served in gas protection);
- on the rights of vulnerable gas customers as well as on the vulnerability protection service (obligation for free market suppliers).

[232] The latest version was approved by Resolution 28/2017/R/com.

[233] The latest version was approved by Resolution 355/2018/R/com.

[234] By resolution 746/2017/R/com of 10 November 2017, as amended by resolution 197/2019/R/com of 21 May 2019.

Strengthening of the Code of Business Conduct

The Code of Business Conduct for electricity and natural gas sales to end customers defines, in accordance with the provisions of the Consumer Code[235] and the EU energy directives, the rules of conduct to be observed by suppliers of electricity and/or natural gas (including their agents in any capacity) in their business relations with final customers (households and small non-households).

With a view to further strengthening the information and the empowerment of final customers, in 2023 the Authority approved[236] measures to update and streamline the relevant Code of Business Conduct:

- adaptation to the new provisions on early withdrawal charges for electricity final customers, introduced by Legislative Decree No. 210 of 8 November 2021, which implemented Directive (EU) 2019/944;
- the information obligations of suppliers in the event of renewal of economic conditions with modification of the same conditions in electricity and natural gas supply contracts.

In particular, with regard to the supply of electricity for households and small businesses, the Authority has established the option for the supplier to provide for possible withdrawal charges only in electricity contracts of fixed duration and at a fixed price; the possibility of applying possible withdrawal charges also to open-ended contracts with fixed-price economic conditions of fixed duration, as well as to fixed-price contracts which, on expiry of that price, provide for a switch to a variable price; in both cases, these charges may in any case be applied only limited to the period of validity of the fixed-price economic conditions. Suppliers are also obliged to inform the end customer of the maximum total amount of money due in the event of early withdrawal.

The Code of Business Conduct has also been amended by introducing, at the pre-contractual stage, an obligation on the part of the supplier to inform the customer of the possibility of being served in the vulnerability protection service and, in the case of a customer identified as vulnerable, to hand over the summary sheet of that service[237]. For all household customers, the Electricity Comparability Sheet is to be removed as of 1 July 2024[238] and the Natural Gas Comparability Sheet as of 1 January 2024.

Bill 2.0 update

At the end of 2023, the Authority started[239] a procedure for the organic revision of the Bill 2.0, aimed at improving it from the point of view of simplicity, comprehensibility and uniformity; in view of the importance of this procedure and the need to ensure the widest participation of stakeholders, it is subject to the application of the regulatory impact analysis (AIR). This new revision, which follows other updates already adopted, became necessary in the light of the new market structure, with the prospect of the gradual removal of the protection regimes and the activation of the vulnerability

[235] Legislative Decree No. 206 of 6 September 2005.

[236] Resolution of 6 June 2023 250/2023/R/com

[237] Resolution of 26 July 2023, 1/2023 - DIME

[238] Resolution of 28 November 2023, 549/2023/R/eel

[239] Resolution of 7 November 2023, 516/2023/R/com.

protection service, as well as the need to provide the end customer with a bill that can guide him more effectively to the free market.

Therefore, at the same time as the start of the revision procedure, the Authority illustrated the first guidelines aimed at pursuing the aforementioned objectives by putting a new structure of the Bill 2.0 in consultation[240] as follows:

- a compulsory first page, called "Unified Cover Page", with the same structure for all final customers;
- the essential elements, which together with the "Unified Cover Page" replace the current "summary bill";
- detail elements, which are unchanged and continue to perform the function of reporting detailed analytical information on invoiced amounts.

In particular, the Authority proposed that the Unified Cover Sheet should contain only certain minimum elements, including, for example, the identified data of the customer and the withdrawal point and the economic amounts for the billing period. This is to ensure that the first page has common characteristics and includes a limited set of key information, indicated in a common manner in order to maintain maximum uniformity (and comparability) between bills of different suppliers. Further elements of transparency and simplification are also proposed (referring, for example, to synthetic price indicators). The document also sets out for consultation the time-frame for the implementation of the proposed provisions.

According to what was proposed in the consultation, the second part of Bill 2.0, which together with the unified cover page replaces the summary bill and is called "Essential Elements", contains the remaining minimum elements already present in the regulation and not included in the new page of the unified cover page.

In the course of the consultation, the Authority organised several information meetings, structured as focus groups, with associations representing household and non-household customers, and a meeting, structured as a technical round table, with the participation of associations representing operators, aimed at illustrating and sharing the proposals included in the first consultation document. In addition, a special demographic survey was carried out among households to better understand and assess the use and degree of understanding of the bill, and to test the new proposals for the revised bill.

Also as a result of these meetings and discussions, the Authority considered it appropriate to provide for a further consultation phase, which will take place in the course of 2024.

5.1.6 Access to consumption data

A first guarantee for customers of access to consumption data is provided by the billing regulation. In particular, the Bill 2.0 must contain data on annual consumption and its breakdown by hourly bands. Further elements can be found in the detailed bill, which suppliers must make available through the Internet. In addition, by means of complaints and requests, the customer may request the data from the supplier, who will request them from the distributor.

[240] Consultation document of 7 November 2023, 517/2023/R/com.

On the other hand, given the widespread use of smart meters, particularly in the electricity sector, the final customer has at his disposal, via an electronic display, the current consumption data in terms of both energy and power consumption, as well as the consumption values broken down into peak/off-peak/mid-level hours used for the last bill.

In December 2017, the Authority provided[241] that consumption data, understood as historical billing data and historical withdrawal time profile data, shall be accessible through the Integrated Information System (SII), which is already a repository of such information pursuant to Law No. 27 of 24 March 2012. Furthermore, the Authority considered it appropriate that the digital provision of data should take place through a web portal, set up by Acquirente Unico (as SII Operator) and accessible to the final customer with authentication through the Public Digital Identity System (SPID). Subsequent to the consultation, the provisions of the 2018 Budget Law[242] came into force, which specified deadlines and time-frames within which to complete the process.

In June 2019, the Authority therefore defined[243] the way in which final customers from 1 July 2019 can access their consumption data via the **Portale Consumi**[244]. The "Portale Consumi" evolves continuously, aimed at both verifying and improving its performance and implementing its specifications. As in previous years, therefore, in 2023 new functions were further made available, including the indication of the maximum power absorbed in the period, and in-depth studies continued on the evolution of the Italian and EU regulatory framework in order to allow data access to third parties authorised by final customers.

5.1.7 Availability of price comparison tools

Electricity and gas "Portale Offerte"

In February 2018 the Authority adopted[245] the Regulation for the creation and management, by the Acquirente Unico, which is the Integrated Information System Operator, of a website on which suppliers can display offers aimed at final households and small enterprises of electricity and natural gas, called the **Portale Offerte**[246]. It contains fixed and variable offers of the free market, PLACET offers, as well as the expenditure of protection outlines for both electricity and natural gas. In greater detail, offers relating to the supply of electricity are aimed at households and non-households supplied at low voltage; offers relating to the supply of gas to are aimed at households, condominiums with household use and non-households with gas consumption not exceeding 200,000 S(m^3)/year.

The design and implementation of the Portale Offerte are aimed at guaranteeing ease of consultation

[241] Consultation document of 14 December 2017, 865/2017/R/efr.

[242] Law No. 205 of 27 December 2017 on "State budget for the financial year 2018 and multi-year budget for the three-year period 2018-2020".

[243] Resolution of 25 June 2019 270/2019/R/com.

[244] https://www.consumienergia.it/portaleConsumi/.

[245] Resolution of 1 February 2018, 51/2018/R/com, as amended by Resolution of 5 March 2019, 85/2019/R/com.

[246] https://www.ilportaleofferte.it/portaleOfferte/.

by the end user; for this reason, a usability and ease-of-consultation analysis of the Portale is carried out on a quarterly basis, evaluating its use both via desktop PCs and mobile devices.

Since its start-up on 1 July 2018, the Portale has been the subject of monitoring, as well as consolidation actions and new functionalities.

Overall, from 1 July 2018 to 31 October 2023, the Portale Offerte had a total of 7,328,039 visits. The total number of pages viewed was 59,266,433. Access monitoring shows that, in 2023, the site had a total of 2,504,504 unique visitors (+35.6% compared to 2022 and +190% compared to 2021). The number of users using the Portale Offerte therefore increased both in absolute terms and as a percentage of total visits. On average, more than 208 thousand unique visitors visited the Portale monthly in 2023, with a peak in December 2023 (the last month before the end of the protection service for household gas customers) of more than 583 thousand users.

There were 8,505 offers in the "Portale" database as at 31 December 2023, of which 5,854 were free market offers, 2,170 PLACET (free price offers under uniform contractual conditions) offers and 481 offers without the calculation of the estimated annual expenditure. For the electricity sector, a total of 4,100 offers were available, for natural gas, 3,873; there were 44 dual fuel offers. For the electricity sector, 42.4% of offers for households were fixed-price offers, while for non-households this percentage dropped to 25.9%. Overall, for both types of customers in the electricity sector, the available offers are therefore predominantly variable price. Similarly for the natural gas sector, the available offers are mainly variable price. Households account for 76.4% of the available offers, condominiums for 72.2% and non-households for 71.5%.

During 2023, major changes were made to the usability and layout of the Portale Offerte. In particular, the following implementations have been completed:

- a new function has been created for comparing a customised offer that the customer receives from a supplier with other offers on the Portale, which can be used by entering the offer code that the customer has received from the supplier (only for comparisons between what are termed offers that can be simulated for which transmission to the SII is mandatory);
- adjustments were made to the information content and layout for the management of the end of the Increased Protection Service and the start of the gradual standard offer service for micro enterprises;
- a filter was added, for both the natural gas sector (in December 2023) and the electricity sector (in the first quarter of 2024), dedicated to managing the vulnerability characteristic of final customers;
- information on the possible presence of early termination charges (from December 2023) was introduced;
- a "lighter" version of the Portale was developed, to make it embeddable in other websites (e.g. for the benefit of newspapers).

PLACET offers

Increasing final customers' understanding of commercial offers is a prerequisite for their active participation in the market. The Authority has, therefore, promoted interventions aimed at increasing final customers' awareness and the transparency of contractual conditions, in order to allow their widest participation in a competitive market. With this in mind, in July 2017, the Authority

introduced[247] the discipline of the "free price offers under unitary contractual conditions" (PLACET offers), which identifies offer structures that are easily comparable between suppliers (since they differ only in price) and that can be separated from any additional service recommendation of the same supplier. The regulation of PLACET offers applies to small customers served in the free market, identified, for the electricity sector, with all customers (households and non-households) connected to the low-voltage network and, for the natural gas sector, with final customers (household, condominiums for household and other uses) owning points with annual consumption of less than 200,000 S(m^3).

As at 31 December 2023, there were 2,170 PLACET offers in the Portale Offerte (Table 5.2).

Table 5.2 Number of PLACET offers present in the Portale Offerte as at 31 December 2023, broken down by type of final customer

SECTOR	FIXED PRICE	VARIABLE PRICE	TOTAL
Household customer	201	241	442
Non-household customer	201	234	435
TOTAL ELECTRICITY SECTOR	-	-	877
Household customer	176	340	516
Non-household customer	169	222	391
Condo households with consumption of less than 200,000 m^3	137	249	386
TOTAL GAS SECTOR	-	-	1,293
TOTAL PLACET OFFERS	-	-	2,170

Source: ARERA. Processing of data from Acquirente Unico.

[247] Resolution of 27 July 2017, 555/2017/R/com.