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TO THE INTERNATIONAL AGENCY FOR COOPERATION BETWEEN NATIONAL ENERGY REGULATORS AND THE EUROPEAN COMMISSION

ON THE REGULATORY ACTIVITIES AND FULFILMENT OF DUTIES

OF THE ITALIAN REGULATORY AUTHORITY FOR ENERGY NETWORKS AND ENVIRONMENT

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31 July 2025

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1 FOREWORD

This document, prepared by the Italian Regulatory Authority for Energy, Networks and Environment (ARERA), provides the Agency for the Cooperation of Energy Regulators (ACER) and the European Commission with an annual report on the activities carried out and on the implementation of regulatory tasks pursuant to Articles 59.1(i) and 78.1(l) of Directives (EU) 2019/944 and 2024/1788, 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 wholesale energy market is becoming increasingly complex, driven by varied production costs, network restrictions, and broader system limitations. In this setting, it is essential not only to reflect carefully on how market design can evolve to deliver clear price signals for both consumers and investors, but also to strengthen ongoing monitoring, providing guidelines – including possible enforcement – in collaboration with national regulators of major markets and ACER.

This highlights an understanding that ex-post enforcement mechanisms, though indispensable in safeguarding compliance by market operators and consumers, are insufficient by themselves to guarantee a competitive framework. Such a framework requires continuous emphasis on developing ex-ante regulatory instruments designed to strengthen competitive forces, for instance through capacity markets, reinforced networks, enhanced flexibility solutions, and advanced storage systems.

Also in 2024, the Authority devoted significant attention to consumer protection, pursuing the dual objective of strengthening instruments that improve consumers' ability to interpret offers and advancing measures intended to address the structural information asymmetry characterising the consumer–supplier relationship. Particular emphasis was placed on the regulatory supervision of teleselling operations.

The extent to which these instruments deliver results will be decisive in shaping competitive dynamics among operators, with the broader objective of diminishing the significant divergence between free-market prices and underlying cost structures, a divergence that continues to penalise vulnerable consumer groups.

Milan, 29 July 2025

CHAIRMAN OF ARERA

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

The main legislative measures affecting the energy sectors are summarised below, as customary, in chronological order.

Law no. 11 of 2 February 2024, which converted Decree-Law no. 181 dated 9 December 2023, set out several urgent measures to ensure national energy security, encourage the use of renewable energy, and assist companies with high energy consumption. Some of the most important include:

- **measures to incentivise the self-production of renewable energy in energy-intensive sectors at risk of relocation.** More specifically, the law provides for a priority mechanism for the construction of photovoltaic and wind power plants intended to meet the needs of energy-intensive businesses[1], with incentives for new generation capacity (with a minimum power of 200 kW). While the plants are not yet operational, energy-intensive companies may apply for an advance of a portion of their renewable electricity and corresponding guarantees of origin from the Gestore dei Servizi Energetici (GSE) by entering into contracts for difference and offering suitable guarantees to mitigate the risk of non-compliance; subsequently, the GSE supplies this electricity to the market managed by the Gestore dei Mercati Energetici (GME). There is also a contribution of up to €100 million, capped at €1 million per company, to cover guarantee premiums; the Authority's role is to establish how the costs resulting from these measures will be covered.
- **measures to strengthen the security of natural gas supply at reasonable prices**, while also contributing to the reduction of climate-altering emissions. This provision revises the regulations[2] aimed at increasing domestic natural gas production for industrial customers with high energy use, referred to as "gas-intensive," providing gas to them at capped prices. In particular: within 30 days of the law taking effect (10 January 2024), the GSE will initiate procedures for the long-term supply of natural gas produced in Italy. Eligible to participate are holders of existing concessions (including those inactive or voluntarily suspended), whose extraction plants are wholly or partly located in areas approved by the Plan for the Sustainable Energy Transition of Suitable Areas (PiTESAI), following strict rules set out by the Plan, as well as European Union laws and international agreements. New offshore concessions are also permitted between 9 and 12 nautical miles from the coast, provided that the relevant gas fields have a proven reserve exceeding 500 million cubic metres (M(m^3)). The effectiveness of new concessions, extensions, and modifications to existing concessions, as well as the authorisations for the necessary infrastructures, will only become effective once long-term gas sales contracts have been signed between the GSE and the concession holders. Interested parties must submit expressions of interest detailing production, investments, and costs, and enter into long-term contracts with the GSE, which also manages the procedures for priority allocation to industrial consumers with high gas usage. The Authority shall determine how to allocate any surplus revenue generated by these procedures to reduce transmission and distribution tariffs for the benefit of end customers.
- **measures** to enhance the security of the national energy supply and diversify natural gas supply

[1] That is, the entities registered on the list of high electricity-consuming companies maintained by the Energy and Environmental Services Fund (CSEA)

[2] That is, it amends the provisions of Article 16 of Legislative Decree No. 17 of 1 March 2022, as subsequently amended and converted into Law No. 34 of 27 April 2022, which outlines "Measures to enhance the security of natural gas supply at fair prices."

options, **introduced to strengthen both onshore and offshore regasification terminals**. Projects for the construction and operation of liquefied natural gas (LNG) regasification terminals, for which authorisation had already been granted as of the date of the decree's entry into force, are to be considered strategic projects of public utility, and as such, urgent and non-deferrable.

- **amendments to the 2021 Annual Law for the Market and Competition** (Law no. 118/2022) state that, in gas distribution tenders, **bidders must include energy efficiency improvements in their financial offers**. These interventions should be implemented within the relevant district and must lead to additional energy savings beyond the established annual targets[3]. If the gas distribution companies awarded the contract fail to achieve the additional energy savings they committed to during the tender process, they are required to pay the local authorities within the relevant district the tariff contribution intended to remunerate the energy efficiency measures, with an added penalty based on the amount of energy not saved each year;
- assignment to the Authority of the task of **regulating the gradual termination of the economic met metering[4] for plants in operation as of 31 December 2024**, in implementation of Legislative Decree no. 199/2021. Ninety days after the new incentive decrees come into effect (once adopted), older plants will no longer be eligible for economic net metering and will instead be able to benefit from the new incentive schemes or the dedicated energy buy-back mechanism (that is, an administrative sale in which the energy produced is sold through GSE at market-based rates) with terms defined by the Authority, also depending on market conditions;
- **measures to strengthen the operation of biomethane production plants in operation or under construction,** through the establishment of a mechanism for contracting production capacity powered by sustainable bioliquids that meet specific requirements and are already operational on the date the decree enters into force. The energy generated by these facilities will be subject to minimum guaranteed pricing;
- **various provisions relating to the protection of households in the retail electricity market.** In particular, the law requires the Authority to regulate the "**vulnerability service**", through which, from the termination date of the standard offer service in the electricity sector (1 July 2024), vulnerable customers must be guaranteed access to electricity at prices based on wholesale energy costs and market-driven retail charges. The law tasks *Acquirente Unico* with buying wholesale electricity, based on market principles set by the Authority, so it can be sold on to the companies supplying electricity through the vulnerability service. The law also requires the vulnerability service to be awarded via competitive tenders, conducted by *Acquirente Unico* across clearly defined geographic areas, in accordance with principles of transparency, openness, broad participation, and equal treatment. The law also sets deadlines for providers of the protected service to submit a report to the Authority outlining costs incurred since 1 April 2023 that are directly linked to the service and cannot be recovered (including staff costs, whether employees or contractors, exclusively dedicated to the past commercial management of the vulnerability service), so these costs can be recognised and passed on to electricity customers. The law entrusts *Acquirente Unico* with carrying out specific monitoring activities, based on criteria and methods established by the Authority in collaboration with the Ministry of Environment and Energy Security and after consulting major consumer associations, regarding the electricity supply conditions offered to households after the completion of competitive procedures for the gradual standard offer service, and ensuring that service providers apply the conditions correctly. The results of these activities are included in a report submitted by the Authority to the relevant

[3] Defined *ex lege* by Legislative Decree no. 164/2000

[4] The economic net metering support mechanism allows any surplus energy generated by a photovoltaic system to be fed into the electricity grid, enabling its use later when demand is higher but production is lower.

parliamentary committees by 31 March 2025, and thereafter on an annual basis.

Pursuant to **Law No. 166 of 14 November 2024** (which converted, with amendments, Decree-Law No. 166 of 16 September 2024, "Urgent provisions for the implementation of obligations arising from acts of the European Union and from pending infringement and pre-infringement procedures against the Italian State"), Article 16-quater set out measures to fully harmonise national legislation with Commission Delegated Regulation (EU) 2024/1366 of 11 March 2024, which supplements Regulation (EU) 2019/943 of the European Parliament and of the Council. Specifically, it appointed the National Cybersecurity Agency (ACN) as the authority responsible for implementing the duties set out by Regulation (EU) 1366/2024, **creating a Network Code relating to sectoral rules on cybersecurity for cross-border electricity flows.** Paragraph 3 also introduced certain coordination amendments to Legislative Decree No. 210/2021 ("Common rules for the internal electricity market"):

- Article 9 addresses smart metering systems and the **right to a smart meter**, requiring the Authority to define the minimum functional and technical standards for these systems, respecting applicable EU rules and incorporating the best cybersecurity practices, in consultation with ACN on relevant issues, while also considering costs and the principle of proportionality;
- Article 22 covers the roles and responsibilities of the Transmission System Operator, requiring the Operator to carry out its functions after consulting the ACN regarding cybersecurity aspects.

Article 2 of **Law No. 191 dated 13 December 2024** [5]introduced, among other things, **changes** to Article 5-bis of Decree-Law No. 50/2022 on **natural gas storage**. It establishes that, to support supply security, the GSE will, also through agreements with state-owned or partly state-owned companies and in close cooperation with the main natural gas transmission operator (Snam Rete Gas), provide a **last-resort filling service** by purchasing natural gas for storage and later sale, as directed by the Ministry of the Environment and Energy Security (with the deadline no longer being 31 October 2025 as previously set). Furthermore, Article 10 of the same law, in paragraph 4-bis, requires that until Directive (EU) 2024/1788 of the European Parliament and Council of 13 June 2024 is transposed, the largest natural gas transmission company acts as **Italy's national representative to the European Network of Network Operators for Hydrogen** (ENNOH).

On 16 December 2024, Law No. 193, the "Annual Market and Competition Law 2023," was enacted, including **measures to boost competition in different sectors**, improve transparency, and encourage economic competitiveness. Under this law, Article 19 established provisions concerning the monitoring of commercial reading activities and the information provided to end customers by retail energy sales companies. Specifically, to guarantee transparency in the information provided to end customers of retail energy companies, paragraph 2 revised earlier rules to ensure customers are given the choice to receive billing details, invoices, and details of the intermediary with whom the offer was signed, electronically. Additionally, upon request, customers must be provided with a clear and understandable explanation of how their invoice was calculated, particularly if the invoice is not based on actual usage. Furthermore, Article 24 ("Access for vulnerable households to the gradual standard offer service") **has stipulated that vulnerable households may request access to the gradual standard offer service by 30 June 2025**[6], provided by the awarded operator of the area where the relevant delivery point is located. Article 24 assigns the national regulator the responsibility to set out how the article will be implemented, including the

[5] Which converted, with amendments, Decree-Law No. 153 of 17 October 2024.

[6] Pursuant to the resolution of this Authority dated 3 August 2023, 362/2023/R/eel.

verification of vulnerability requirements, and to make this information publicly available on its official website.

Legislative Decree no. 202 of 27 December 2024, concerning "Urgent provisions on regulatory deadlines", converted into Law No. 15 of 21 February 2025, provided in Article 11, paragraph 2-octies, the integration of Article 16 ("Measures to strengthen the security of natural gas supply at reasonable prices") of Decree-Law No. 17/2022, establishing that, **from 1 January 2025, the gas delivery point shall be identified in the gas market (MGAS) managed by GME.**

The conversion into law of Decree-Law No. 208 of 31 December 2024, "Urgent organisational measures to deal with particular emergencies and to implement the Italian National Recovery and Resilience Plan (PNRR)" (Law No. 20 of 28 February 2025), approved Article 8, which sets out urgent actions to carry out Reform No. 4 from the Repower section of the PNRR and modifies Article 28 of Legislative Decree No. 199/2021 on long-term renewable energy power purchase agreements (PPAs), adding two new paragraphs:

- the new paragraph 2-bis, delegates to a decree from the Ministry of Environment and Energy Security, together with the Ministry of Economy and Finance, **the definition of the terms and conditions under which GSE takes on the role of last-resort guarantor to manage counterparty default risks in long-term renewable energy contracts**, applying market-based and risk-limiting criteria, aligned with the guarantee system established in the clause, as well as the operation of the mechanism, including the procedures for using guarantee funds to comply with the spending cap of €45 million annually for each year from 2025 to 2027. The guarantee requirements and obligations for the contracting parties, including through instruments used in the electricity market, as well as the disciplinary measures applied if contractors fail to comply, are set out in the decree regulating the organised market platform for PPAs (paragraph 2 of article 28), which is updated accordingly in agreement with the Ministry of Economy and Finance, after consultation with the Authority. The Authority is entrusted with the task of determining the fee payable by the contractors for access to the last-resort guarantee;
- the new paragraph 2-ter covers the expenses (€45 million annually for each of the years from 2025 to 2027), to be funded through the corresponding use of a portion of the proceeds from auctions of carbon dioxide emission allowances allocated to the Ministry of Environment and Energy Security (MASE) for the same years.

With reference to **Law 207 dated 30 December 2024**, titled "State Budget Forecast for the 2025 Financial Year and Multi-Year Budget for 2025-2027," attention should be drawn to paragraphs 50 through 53 of Article 1, which deal with the **extraordinary multi-year investment plans for the electricity distribution service**. In detail, paragraph 50 entrusts the Ministry of Environment and Energy Security[7] with issuing a decree **defining the conditions and methods for the submission** by electricity distribution service concessionaires of **extraordinary multi-year investment plans.** These plans are intended to enhance the safety, reliability, and efficiency of the electricity distribution network as critical infrastructure, to timely meet the decarbonisation objectives outlined by international agreements and the European Union for 2050, and to guarantee urgent measures to bolster the defence and security of distribution infrastructures against risks of illegal intrusion and cyber and information technology attacks. Paragraph 51 also entrusts the aforementioned decree with **defining the terms and procedures for the evaluation and approval of the extraordinary investment plans**, as well as the criteria for determining the charges that electricity distribution service concessionaires are required to pay due to the restructuring of the concessions

[7] To be enacted jointly with the Ministry of Economy and Finance, based on a proposal from the Authority, after agreement at the Unified Conference and following the advice of the relevant Parliamentary Committees.

themselves. It clarifies that these charges are included by this Authority in the invested capital for the purpose of recognising depreciation and remuneration, applying the rate established for investments in electricity distribution. **The evaluation and approval of the Extraordinary Investment Plans fall under the Ministry of the Environment and Energy Security, with input from the Authority, resulting in the rescheduling of current concessions** consistent with the investment durations set out in the plans, **for a maximum period of 20 years.**

Paragraph 707 introduces amendments to Article 51 ("Audit Authority of European Structural and Investment Funds and other measures regarding European Structural Funds"), paragraph 1-quater, of Decree Law no. 13/2023 ("Urgent provisions for the implementation of the Italian 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"). These amendments allow the Energy and Environmental Services Fund (CSEA) to fund, within its available resources, investments to upgrade water infrastructure. These funds may come from reimbursements granted by the European Commission for advance payments made by the State on energy cost reduction measures, as well as national co-financing shares and resources from the revolving fund for EU policy implementation, which have become available due to changes in the co-financing rate. It also introduces legal measures to offer energy and gas supply subsidies, especially for economically disadvantaged households or those with severe health issues.

Pursuant to Article 26 of Law No. 118 of 5 August 2022, Legislative Decree No. 190 of 25 November 2024, also known as the "**Consolidated Renewable Energy Act**" - came into force at the end of December 2024. This decree **sets out the administrative regimes governing the generation of energy from renewable energy resources.** The decree simplifies the procedures for the construction and operation of plants, by rationalising and restructuring the required formalities. The objective is to promote the expansion of renewable electricity sources (RES) in accordance with EU directives, ensuring a balanced approach between renewable energy growth and environmental preservation. It represents a step forward in simplifying and advancing renewable energy in Italy, encouraging a more efficient and project-oriented strategy within the sector.

The decree provides for the reduction of the administrative regimes for RES plants from four to three: free activity[8], simplified authorisation procedure (PAS)[9] and single authorisation (AU)[10]. Furthermore, the decree

[8] Under the free activity regime, the implementation of interventions (as defined in Annex A of the decree) is not subject to obtaining permits, authorisations, or administrative approvals, nor must the applicant submit any communications, certificates, recommendation paper, or declarations to public administrations, while ensuring compliance with environmental, hydrogeological, and seismic safeguards. This regime, however, excludes works involving protected sites or natural protected areas, where the simplified authorisation procedure (PAS) applies.

[9] Under the PAS approval regime (applicable to installations listed in Annex B of the decree), the applicant submits the project to the Municipality using a standard form adopted by ministerial decree, accompanied by a set of documents demonstrating the interventions' compliance with existing regulations. If an explicit refusal is not issued within 30 days of the project submission, the authorisation shall be deemed granted without conditions.

[10] The AU approval regime applies to the authorisation of electricity generation plants powered by renewable energy sources (RES) exceeding specified power thresholds, as listed in Annex C of the decree. As with the PAS, the application must be submitted to the Municipality using a single standard form. The applicant shall attach to the request all documentation required by sector regulations for the issuance of authorisations, opinions, clearances, and consents, including those for environmental impact assessment (EIA), landscape and cultural assessments, and any required expropriations for the project, along with a sworn statement from a qualified professional confirming the area's classification. Within 10 days of completing the document review phase or receiving the required supplementary information, the competent authority shall convene the service conference (except

classifies RES installations as works of "public utility, non-deferrable and urgent". It applies to various types of installations, including those undergoing alterations, upgrading, and refurbishment, as well as to related works and essential infrastructure. Legislative Decree 190/2024 places particular emphasis on the protection of the environment, biodiversity, ecosystems, cultural heritage, and the landscape, ensuring a balance between the development of renewable energy sources (RES) and the safeguarding of the territory. As part of the alignment process, regional and local authorities may introduce specific measures to further simplify the administrative frameworks set out in Legislative Decree 190/2024, which may include raising the prescribed power thresholds, while still complying with the single authorisation requirements.

Developments in the electricity market

Facilities and main changes in regulation

In Italy, **power transmission** is carried out via 75,550 kilometres of power lines and electrical circuits, supported by 920 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. Excluding the state's portion and 0.2% held as treasury shares, 69.95% of the capital is owned by the market. In 2024, there are still eight companies that own assets of the National Transmission Network (NTG), the same as in 2023. Taking into account the assets of all companies belonging to the corporate group, the Terna group holds almost complete ownership of the transmission infrastructure included in the NTG.

As of 31 December 2024, 114 **power distribution** companies (four fewer than in 2023) were registered in ARERA Registry of Operators, of which only 10 serve more than 100,000 customers and together distribute 98.5% 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 1,291,200 km of networks, most of which (68.4%) are low voltage. The company e-distribuzione is the leading operator, holding a dominant share of 85.1% of the energy distributed.

In January 2024, the Authority initiated a procedure to revise the guidelines related to the **scenarios supporting the energy network development plans.** It presented its guidelines in June 2024, indicating that Snam and Terna will continue to prepare scenarios supporting transmission and transport plans, while distribution companies will handle specific local assumptions. The guidelines focus on various aspects, such as the deadline for publishing the development scenarios document and the engagement of stakeholders. Following the consultations, the Authority determined that Snam and Terna must jointly prepare the scenario description document biennially, specifying the criteria employed and providing public information in advance. They must also arrange a public meeting to discuss the long-term prospects of Italy's energy sector.

The Authority has stipulated that Terna publish the first **summary progress report on the Transmission Network Development Plan** by 15 April 2024. The provision, along with the minimum standards for the ten-year development plan of the national electricity transmission network set in January 2023, was later included in the *Output-Based Regulation of the Transmission Service* (ROTE). Among the measures adopted,

for cases subject to environmental assessments). The justified favourable decision constitutes the single authorisation act and includes all approvals from relevant authorities and public asset or service managers, the environmental impact assessment (EIA) ruling, and, if necessary, acts as an amendment to the urban planning framework. The single authorisation act is immediately published on the official website of the competent authority and remains valid for a period of no less than four years.

the Authority has established that Terna shall publish and submit to the Authority a progress report on the interventions presented in the Development Plan every even year, whereas in odd years, progress monitoring should be incorporated directly into the corresponding edition of the Development Plan. Furthermore, a two-stage approval process has been introduced to expedite projects, permitting initial spending of up to 5% of the planned investment costs. The Authority has also assessed and authorised certain preliminary expenses for transmission projects and established guidelines for extending the duration of this fast-track process.

The *Integrated text of the output-based regulation of the electricity transmission service for the 2020-2023 regulatory period* (TIQ.TRA), was approved in December 2019, introducing an incentive system to encourage the creation of extra transmission capacity, including additional bonuses for projects completed below the Authority's cost benchmarks. In 2024, Terna was granted bonuses for providing additional capacity in the Northern section of the network (France, Switzerland, and Austria-Italy), comprising a €14.4 million bonus for the provision of transport capacity and a €7.2 million bonus for investment cost efficiency.

In 2023, provisions were introduced to promote a more selective and transparent development of electricity distribution networks. In particular, Article 61 of the *Integrated Text of the Output-Based Regulation of Electrical Distribution Quality* (TIQD) mandates that distribution companies serving at least 100,000 customers provide the Authority with standardised documents and methodologies for preparing the **2025 Distribution Network Development Plans** to the Authority by 30 September 2024. The leading companies have started a working group to agree on a shared methodology, providing the Authority with several guideline documents, templates, and methodological explanations. The Authority positively endorsed the documents related to the harmonised structure, supporting models, and investment categories, but did not approve the document outlining the methodological approach for identifying investments, since it did not explicitly detail the technical and economic planning criteria or the criteria for sizing new assets for investment identification. Additional provisions have been incorporated relating to the publication of plans after consultation, cost reconciliation, and setting development scenarios, including shared deadlines and consultation methods. From 2024 onwards, companies with over 100,000 withdrawal points will be required to publish an **annual output report** on the electricity distribution service and a **progress monitoring report on the interventions presented in the Development Plan**.

Regarding the **modernisation of energy metering systems** through the implementation of *2G smart metering*, in compliance with European and national regulations, the Authority has developed a ten-year schedule for the installation, replacement, and upgrading of smart metering systems. For the largest distribution companies (with over 100,000 withdrawal points), the recognition of costs incurred for *2G smart metering* systems has been regulated and updated, covering the periods 2020–2022 and 2023–2025. During 2024, the Authority updated and published on its website the timeline for deploying *2G smart meters* for the main distribution companies (serving more than 98% of Italian users), detailing the planned installations up to 2031 and actual installations up to 2022. It is estimated that approximately 38.6 million smart meters will be commissioned by the end of 2024.

The electrical system is undergoing a significant transformation to meet European decarbonisation targets, characterised by a growing presence of small-scale resources and fewer large facilities focused on primary nodes. This requires new ways of managing dispatching that can adjust to a system that is increasingly distributed, unpredictable, and variable. Distribution networks are becoming "active", capable of supplying energy and managing local phenomena such as voltage fluctuations or overloads, with the involvement of distribution companies. To address these changes, the Authority initiated a regulatory innovation process in 2015, which concluded in 2023 with the adoption of the new **Dispatching Integrated Text** (TIDE). The TIDE introduces a merit order dispatch model, whereby all resources can provide both energy and ancillary services, enhancing competition among various technologies and simplifying scheduling independent of energy markets.

Among the main innovations introduced are:

- definition of clear roles and responsibilities for the *Balancing Service Provider* (BSP), which supplies ancillary services, and the *Balance Responsible Party* (BRP), who oversees the scheduling of both production and consumption units and the regulation of imbalances;
- supporting competition between all units supplying global ancillary services, adhering to the principle of technology neutrality;
- allowing all technically eligible resources, even small-scale, to participate, with the option for aggregation;
- streamlining the eligibility and settlement criteria, introducing new charges and ensuring transparency on network models and the status of installations;
- reorganisation of the day-ahead and intraday markets, with a greater distinction between nodal and zonal level services.

The TIDE was set to come into effect on 1 January 2025, eighteen months after its publication, in order to enable Terna and GME to revise the Transmission, Dispatching, Network Development and Security Code (Network Code), the Integrated Electricity Market Code (TIDME), and the Energy Accounts Platform Regulation (PCE Regulation), as well as to allow other interested parties to carry out the organisational adjustments necessitated by the new regulatory system.

However, during 2024, regulatory changes occurred that led the Authority to update the TIDE even before it came into effect: notably, in July 2024, version 2 of the TIDE was approved, outlining the procedures for phasing out the Single National Price (PUN) from 1 January 2025, in accordance with the provisions of the Ministerial Decree of 18 April 2024. Furthermore, given the complexity of the matter, the Authority deemed it appropriate to structure the implementation of the TIDE into three separate phases:

- a transitional phase, from 1 January 2025 to 31 January 2026, characterised by the shift to imbalance regulation on a quarter-hourly basis;
- a consolidation phase, starting from 1 February 2026, characterised by the separation of roles between BSP and BRP (and the related settlement) for all units;
- a full implementation phase of the TIDE (starting from a date determined by Terna), encompassing the application of all current regulations, including market procedures for frequency reserve.

At the end of the year, the Authority approved a further revision of the TIDE (third version) to define the coordination methods (in terms of definitions and calculation of fees) with the previous dispatching regulations, along with a new version of the Energy Accounts Platform Regulation (PCE) prepared by GME in accordance with the TIDE.

In July 2024, the first phase of innovation in the **regulation of electricity settlement**, which began in July 2023, was completed. New provisions were adopted to introduce quarter-hourly settlement from 1 January 2025, in line with European and national regulations and the new TIDE, with full implementation of the new rules set to take effect on 1 January 2026. The main innovations include the use of actual or, where necessary, profiled quarter-hourly metering data for settlement sessions; the optional extension for distributors to apply quarter-hourly treatment to withdrawal points with a capacity of up to 55 kW equipped with 1G meters; and the use of metering data related to energy exchanged at interconnection points between different network operators, which were previously unmanaged, along with data on the transmission and distribution networks' own usage. Residual energy is defined as the difference between actual and standard leakages, and the procedures for managing, aggregating, and reporting this data through the Integrated Information System (SII) have been updated. Furthermore, plans include conducting the census, profiling, and aggregation of measurement data, with Terna tasked with finalising the residual energy evaluations and updating the system register. Certain charges and prior regulations have been removed, delegating the complete management of settlement activities to SII and Terna, as

testing is conducted in preparation for the implementation of the new rules in 2026.

The **Capacity Market,** created by a legislative decree in 2003, seeks to provide sufficient energy production capacity, ensuring both service security and quality. The first tendering processes were conducted in 2019 for 2022 and 2023, followed by an auction in 2022 for the year 2024. From January 2022, assignees have been granted a fixed remuneration, along with regulations regarding the obligation to offer and the reimbursement of the variable fee, determined by the difference between the reference price and the strike price. The strike price, defined in 2019 and 2021, represents the variable cost of an open-cycle gas turbine power plant, including components for natural gas and emissions allowances. The methodology was promptly updated to more accurately capture the variable costs of peak technologies, incorporating daily indexing and the average natural gas price on the Italian network, also for 2024, in line with previous years' approaches. During 2024, two tendering processes for the Capacity Market for 2025 and 2026 were launched, resulting in significant regulatory and technical changes. Between March and May 2023, Terna submitted proposals to the Ministry and the Authority to encourage retrofitting of thermoelectric plants, improve the calculation and remuneration methods for capacity, and strengthen the rules on bidding, non-compliance, and penalties. The innovations include new methods for calculating available capacity, incentives for newly commissioned units, higher thresholds for offer obligations, the possibility of contract withdrawal, and adjustments to downtime and maintenance criteria. The proposals, approved by the Authority and the Minister via a decree in May 2024, aim to make the Italian capacity market more efficient and flexible. During the year, changes were also introduced to the technical operating rules of the Capacity Market, defining criteria and methodologies for calculating the variable remuneration, appointments, defaults, related information, and establishing the economic parameters for each tender procedure.

The main auction of the Capacity Market relating to the 2025 delivery period was held on 25 and 26 July 2024, with the auction for the 2026 delivery period taking place on 18 December 2024. According to the reports published by Terna regarding the main auctions for the 2025 and 2026 delivery years, it emerged, among other things, that the total expenditure on premiums amounts to approximately €1.72 billion and €1.82 billion respectively for 2025 and 2026, excluding premiums for new capacity already allocated in previous auctions for a fifteen-year period including those delivery years; the existing selected capacity is about 37.6 GW and 38.3 GW respectively for 2025 and 2026; the new selected capacity - fully authorised - is approximately 0.2 GW and 0.1 GW respectively for 2025 and 2026.

Article 18 of Legislative Decree No. 210 of 8 November 2021 introduced a new **forward procurement system for electrical storage resources** within the Italian electricity market architecture, to complement the markets for energy, ancillary services, and capacity. In 2023, the Authority established the operational criteria, including, among other things, the use of discriminatory auctions (pay-as-bid) and technology-specific standard contracts. Methods for market participation, penalty management, contract extensions, and incentives for upgrading storage resources were also established. The provisions have been in effect since June 2023 and were adopted in compliance with European regulations, with the EU Commission approving the mechanism in December 2023, deeming it compatible with State aid rules and beneficial for promoting decarbonisation and the integration of renewable energy. Between 2023 and 2024, discussions between Italy and the EU intensified, involving the notification and approval process of the measure, which aims to support investments in the electric storage sector through proportionate public aid, with tender procedures and safeguards against market distortions. Terna has developed regulatory proposals, which the Ministry approved, limited to new storage capacities such as lithium batteries and other technologies, with future amendments planned for hydroelectric storage.

Regarding **distribution quality**, in May 2024 the "Technical Instructions 2024-2027 for the recording and documentation of interruptions in the electricity distribution service" were approved: these updated technical instructions are intended for distribution companies and serve as a guide to best practices for the correct recording and documentation of continuity in the electricity distribution service. The

instructions were also updated because in December 2023 some rules regarding the recording of interruptions were changed compared to what was previously established in the *Integrated Text of the Output-Based Regulation of Electricity Distribution and Metering Services for the 2020-2023 Regulatory Period* (TIQE). As part of the TIQE implementation, the procedure for determining the 2023 premiums and penalties related to the output-based regulation of the electricity distribution service was closed in December 2024. With respect to managing the duration and number of unplanned interruptions, €24.6 million in penalties were imposed (which are passed back to electricity system users who pay network tariffs), reflecting net premiums of €5.3 million paid to 24 distributors and net penalties of €29.9 million charged to 8 distributors.

In 2024, there was an improvement compared to 2023 in the average duration of unplanned outages (falling to 76 minutes from 100 minutes last year), alongside a slight increase in the average number of short and long unplanned outages per low-voltage user (rising to 5.12 from 4.87 in 2023). The better duration performance in 2024 is partly due to the reduced impact from extreme weather events (floods, windstorms, and heatwaves). 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 3.68 outages per low-voltage user nationwide.

Regarding **connection requests** in high and extra-high voltage for 2024, Terna received 5,304 connection requests for electricity production plants, corresponding to a total capacity of 474.3 GW. In relation to the applications received during the year, 1,770 quotations were accepted (of the 3,890 made available), corresponding to a total capacity of 136.6 GW. For just four of these quotes, a request for the Detailed Minimum Technical Solution (STMD) was made, but Terna did not deliver it by 31 December 2024. As far as active connection requests to medium- and low-voltage grids are concerned, in 2024, the distribution companies received more than 291,000 connection requests for power generation plants, corresponding to a total capacity of 33 GW, of which more than 245,000 quotations issued throughout the year were accepted, amounting to approximately 8.3 GW. Over the year, more than 185,000 connections, corresponding to just over 1.9 GW, were realised in relation to the requests received in 2024. As far as the connections of passive users are concerned, the data collected show that 184,852 connections were made to the distribution networks in 2022, almost all of them in low voltage. For 80% of the requests, the supply was activated during the year.

As regards **international coordination**, again in 2024, 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.

Significant progress was made in 2024 regarding the implementation of the **Balancing Regulation** and participation in the European balancing platforms. In February, the Authority concluded the inquiry started in September 2023, noting that negative marginal prices on the Italian system's PICASSO platform were caused by congestion among Load Frequency Control Areas and the unrestricted import of foreign offers, resulting from less-than-optimal aFRR reserve purchasing procedures. As a result, Italy's participation in the platform was temporarily suspended pending mitigation measures approved by ACER in July 2024, following which Terna and the Authority are currently engaged in discussions to establish the rules necessary for a safe resumption of participation. Moreover, Terna put in place a work plan, approved in May, to begin participating in the MARI platform for the exchange of balancing energy from manual frequency restoration reserves (mFRR). European authorities have also agreed to strengthen oversight of

TSOs to ensure compliance with participation obligations on European platforms. Finally, in 2024, Terna ceased its activities on the TERRE platform in 2024, deciding to disconnect before year-end as a result of the European market framework and changes brought by EU Regulation 1747/2024, which render the platform incompatible with intraday market developments.

In 2024, the initiative to **reorganise the Capacity Calculation Regions** (CCRs) in Europe was consolidated, with the establishment of the new Central Europe CCR following the merger of the Core and Italy North regions, approved by ACER. As a result of this change, a new flow-based method for calculating and allocating capacity is being implemented, with TSOs, Swissgrid, and regulatory bodies playing an active role to uphold both market integrity and system security. Furthermore, in 2024, ARERA and the Montenegrin regulator REGAGEN launched a market coupling project between Italy and Montenegro, involving grid and market operators such as Terna, CGES, GME, and BELEN.

As in previous years, the Authority has been particularly engaged in its interactions with countries outside the European Union.

Wholesale and retail markets

According to provisional data released by Terna, **electricity demand** (312.7 TWh) increased by 2.3% in 2024 compared to 2023; with the recovery affecting almost all sectors. Energy available for consumption was met 84.4% by domestic net production, with the remaining 16.3% covered by the balance of imports and exports. Net domestic production increased by 2.8% compared to the previous year, alongside a 2.4% rise in imports and a 47.8% surge in energy exports. Peak demand was reached on 19 July 2024, when power demand at peak came to 57.9 GW (-1% from the peak recorded in 2023 of 58.5 GW).

Gross domestic production increased from 264.7 to 273.3 TWh (+3.2%). More specifically, there was a 6% decrease in thermoelectric production against a 14.9% increase in energy production from renewable energy resources. In the field of thermoelectric generation, the most significant decrease occurred in production from solid fuels (-70.8%) and petroleum products (-30.4%), while generation from natural gas saw a slight increase (2.1%). In the case of renewable energy sources, which contributed 49% to the national electricity generation mix in 2024 (up from 44% the previous year), a decline was seen only in wind generation (-5.6%) and a slight drop in geothermal output (-0.8%), while hydroelectric production rose sharply (+30.2%) along with solar photovoltaic (+17.2%). Bioenergy generation also saw a notable increase of 7.4%. The share of gross generation by the top three corporate groups (Enel, Eni, and Edison) fell to 28.6% (down from 34.3% in 2023), while the A2A groups remained in fourth and fifth place, respectively. There are four groups with a share of installed gross capacity exceeding 5%, the same as in 2023: Enel, A2A, Edison, and Eni.

The **amount of incentivised electricity** was approximately 53.5 TWh in 2024. Overall, in 2024, the costs associated with supporting renewable energy resources amounted to around €8.9 billion, representing a 26% increase compared to the previous year.

Imports increased by about 1.3 TWh over the previous year, from 54.6 to 55.9 TWh (+2.4%). However, exports also increased, and by a higher percentage - from 3.3 to 4.9 TWh (+47.8%); as a result, the sharp rise in net imports seen in 2023 did not occur again in 2024. While electricity imports into the Italian grid increased by 19.2% in 2023, they decreased by 0.5% in 2024. Since electricity demand (according to Terna's provisional data) was 312.7 TWh, the share of national demand met by foreign electricity slightly decreased to 16.3% from 16.8% recorded last year, but remains one of the highest in the past twenty years.

In 2024, the amount of **electricity traded on the day-ahead Market (MGP) in the Italian system** reached 283.9 TWh, an increase of 2.1% compared to 2023. Volumes traded on the exchange rose significantly (226.8 TWh; +8%), offset by a reduction in bilateral contracts recorded on the PCE (57.1 TWh; -16.1%),

which were almost entirely related to national zones. Cross-border exchanges also increased, driven by a rise in imports, totalling 57.4 TWh (+3%), representing 25% of total exchange sales and 3% of bilateral transactions. Moreover, exports also increased, totalling 5.4 TWh (+41%), with the vast majority traded on the exchange. Following the end of the protection regime offer for non-vulnerable households, the share of volumes contracted by the *Acquirente Unico* further declined (13 TWh; -32%), while sales by the GSE increased (26 TWh; +8%), together accounting for 7% of traded volumes (down 1% compared to 2023). The **average purchase price of electricity (PUN)** in 2024 decreased compared to 2023, settling at €108.5/MWh (a 14% drop from 2023); this decline was observed across all three hourly bands: €116/MWh (-16%) during peak hours, €108/MWh (-14%) during off-peak hours on weekdays, and €100/MWh (-14%) on holidays. The total volumes traded on the **Intra-day Market** in 2024 (35.4 TWh) showed a significant increase compared to the previous year (+22%); the average prices on this market closely mirror those of the Day-Ahead Market (MGP). Throughout the year, average monthly prices were broadly in line with the corresponding MGP sale prices, except in July for MI2 (with an average deviation of about +€15/MWh) and in August, November, and December for MI3 (with an average deviation of up to +€12/MWh). On the electricity **Forward Market** managed by GME, no trades were recorded in 2024 for standardised products with physical delivery. In 2024, **European exchange prices** fell everywhere compared to 2023, despite fluctuating throughout the year. The energy crisis that began in 2021 therefore remained unresolved in 2024, as shown by the fact that average prices observed in 2024 were still around 75% higher than those in 2019. Except for the Scandinavian exchange, where prices have fully recovered to 2019 levels, the average 2024 price remained just over double in Italy and Germany, and nearly 50% higher in France and Spain.

In 2024, **three penalty proceedings were initiated for breaches** of the rules on integrity and transparency in wholesale markets under the **REMIT** regulation. Specifically, one violation involved the failure to effectively and timely disclose to the public inside information regarding the unavailability of a production facility, and two proceedings concerned breaches of the prohibition on market manipulation in wholesale energy products.

The results of the Annual Survey show that in 2024 just over 243 TWh **were sold on the retail market** to 37.6 million customers. The data also show that the decline in consumption, which began in 2022 and worsened in 2023, halted in 2024: electricity consumption remained stable that year, while the number of withdrawal points increased by about 230,000 units (0.6%). The key change in 2024 was the notable transition of households between markets, following the end of the protection regime offer for most households and the launch of the new gradual standard offer service for those who had not selected a supplier in the free market by the end of the protection regime offer; from 1 July 2024, the protection regime offer is reserved solely for vulnerable households. Overall consumption remained stable due to a drop in sales to non-household customers being balanced out by a rise in sales to household customers. In fact, the household sector purchased a total of 58.8 TWh compared to 56.1 TWh in 2023, recording an increase of 4.8%. Conversely, energy acquired by the non-household sector fell from 185.4 to 184.2 TWh, showing a decrease of 0.7%, and thus remaining well below pre-Covid levels (198 TWh in 2019), which had been partly recovered in 2022. In 2024, the number of household withdrawal points reached 30.5 million, representing an increase of 0.5%.

The **electricity free market** recorded sales of 225.1 TWh in 2024, which is 4.6 TWh more than in 2023, supplying roughly 29 million customers, an 8.3% growth compared to the previous year. Household supply points in the free market grew by 1,799,000, an 8.4% rise from 2023; meanwhile, the average annual consumption per household customer reached 2,031 kWh, marking a slight increase of 2.8% over 2023.

Since 1 January 2021, small businesses connected to low voltage networks, as well as micro-enterprises with at least one low-voltage withdrawal point having a contractually committed power exceeding 15 kW, have lost the right to the **standard offer service**; from 1 April 2023, this also applied to all other micro-enterprises. Since May 2023, therefore, the service has been reserved exclusively for household customers.

Lastly, as mentioned earlier, from 1 July 2024 only vulnerable household customers will be able to buy energy under the protection regime offer. In 2024, sales under the service amounted to 8.5 TWh, spread across approximately 5.6 million withdrawal points (calculated on a pro rata basis). Compared to 2023, there was a significant decline in consumption, amounting to 5.9 TWh (-41.1%), along with a decrease in the number of points served by about 3.7 million units (-39.8%). In 2024, the average annual overall consumption was 1,528 kWh, down 1% compared to 2023.

Customers for whom the protected service has ended *ex lege* are supplied under a specific **gradual standard offer service**, by a supplier selected by tender (divided into gradual standard offer services for small businesses, micro-enterprises, and non-vulnerable household customers). In 2024, the gradual standard offer service for non-vulnerable household customers recorded electricity sales of 3.1 TWh, distributed over 1,675,000 withdrawal points, with the average consumption per household customer under this service amounting to 1,852 kWh. In the gradual standard offer service for small businesses, 1.2 TWh were sold to 77,132 withdrawal points; compared to 2023, consumption decreased by 17.8%, while the number of points served dropped by 15,000 units (-16.8%); the national average consumption was 16,050 kWh. In the gradual standard offer service for micro-enterprises, 1.5 TWh were sold across 829,000 withdrawal points; with an average consumption per other-use customer of 1,825 kWh.

The **safeguard service** contracted in 2024, serving 80,039 withdrawal points, marking an 18.2% decrease compared to 2023; a total of 3,563 GWh was drawn, down 30.4% from the 5,119 GWh recorded in 2023.

In 2024, as in the previous year, **switching** activity remained very high among consumers; for households, it increased by nearly five percentage points in terms of customers and by over two percentage points in terms of volume compared to 2023. During 2024, 23.8% of household customers switched their provider at least once. The switching rate among non-household customers, however, decreased compared to 2023, falling from 25.6% to 21.7% in terms of points, and from 27.8% to 22.6% in terms of volumes.

The average number of **commercial offers** proposed to household clients by each sales company in 2024 stood at 30, of which 11 were available exclusively online. For non-household customers, who naturally enjoy greater choice and to whom the supplier can certainly offer more personalised services and customised contracts, the average number of offers rises to 36, but only four of these are available through digital channels. Regarding the preferred **price type**, there is a marked decline in the proportion of household customers choosing fixed-price contracts in the free market, dropping from 66.8% in 2023 to 54.8%. Among non-household customers, the preference for variable-price contracts continues to strengthen; this type of offer, already dominant in 2023 with a share of 68.3%, reached 80% in the current year. In 2024, household customers paid an average price for the energy component of €237.18/MWh, lower than the €259.84/MWh of 2023 - almost €23/MWh less than the previous year. A similar reduction was seen for non-household customers: in 2024, the average price paid was €153.34/MWh, down from €181.31/MWh the previous year. Among customers who chose a variable-price contract, household customers once again showed a strong preference for **indexation** to the single national price (PUN), linked to the average market electricity price, which accounted for over 90% of withdrawal points. A similarly strong preference was observed among non-household customers: nearly 82%. For household customers, considering the average supply component paid under contracts with different types of indexing, the most cost-effective method - excluding contracts with unspecified indexing - was that with a discount on the price set by a Consip public tender or other public tender, followed by contracts with limited indexing (-23%), although the shares of such contracts are very small for both types. About 32% 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 16%. The Annual Survey also investigated the presence of **additional services**, revealing once again a strong preference among household fixed-price customers for energy contracts that include at least one extra service (only 1.8% of customers sign contracts without any additional service, a decrease of 2.2% compared to 2023). As in the previous year, the most

popular extras are contracts guaranteeing electricity from renewable sources (50.7%) and those offering loyalty programmes (39.7%). 28.3% of household customers on variable-price contracts opt for a contract without additional services, down from 32.3% in 2023. Among customers choosing contracts with additional services, the most preferred option is the guarantee of purchasing electricity generated from renewable energy (42.9%). Non-household customers, on the other hand, show a clear lack of interest in additional services, with 58.2% of fixed-price contracts and 55.4% of variable-price contracts excluding any added services. Among non-household customers who opted for a fixed-price contract, 33.5% valued the guarantee of electricity from renewable sources; meanwhile, just over a third of those with a variable-price contract selected one that included at least one additional service.

In 2024, the level of **concentration in the retail market** decreased across all segments, as shown by the various standard measures used to assess it. The top three corporate groups' cumulative share (C3) declined, dropping from 47.8% to 42.3%. The Herfindahl–Hirschman index (HHI) index fell from 1,356 to 988, well below the first threshold of concern, set at 1,500; indeed, an HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 signals a highly concentrated one (the maximum possible HHI is 10,000). The number of corporate groups needed to exceed 75% of total sales increased from 11 to 14. 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 2024 the **average pre-tax electricity price** for households was 316.8 c€/kWh (215.6 c€/kWh the average value of the component covering procurement costs and marketing services). As usual, the data highlight variability in the unit cost borne by customers, with an inverse relationship to consumption size: unit costs range from €219/MWh for large users (more than 15,000 kWh annually) to €633/MWh for those in the smallest band (0–1,000 kWh). This pattern reflects the behaviour of supply costs, which consistently decline with increasing per capita consumption - from €344/MWh for the lowest consumption group to €158/MWh for the highest.

Regarding the **commercial quality of the sales service**, in 2024 the companies serving electricity sector customers received a total of 298,690 written complaints, 261,117 enquiries, 6,566 invoice corrections, and 565 cases of duplicate invoicing. 95.9% of compensations are related to the failure to meet response times for written complaints. In 2024, automatic compensation payments were made for more than € 1.1 million. Household customers in the free market received 55.13% of the total compensations paid, while 22.92% of compensations went to non-household customers in the free market.

In 2024, 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. In 2024, the total number of inspections stood at 22, showing a slight decrease compared to the previous year; these inspections resulted in penalties amounting to approximately €8.4 million.

Regarding the **sanctioning proceedings** in 2024, two were initiated against two companies for violations related to transfers, switching, and accreditation of operators in the Integrated Information System; four procedures were opened against four sales companies for breaches concerning social bonuses; five sanctioning procedures concerned the operation of the Integrated Information System; one procedure dealt with invoicing transparency; one addressed the recognition of general system charges not collected from end customers; and one concerned the breach of the Authority's obligation to participate in conciliation procedures.

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 company is Snam Rete Gas; in addition, two other companies operate on the national network, owning and managing smaller sections: 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. The fifth regasification plant, the FSRU anchored approximately 8 kilometres off the coast of Ravenna and acquired by Snam in July 2022, will start operating in 2025. Built in 2015, this vessel has a regasification capacity of 5 G(m^3)/year. Once fully operational, it will increase Italy's total regasification capacity to around 28 G(m^3)/year.

Natural gas **storage** is carried out under 15 concessions held by five companies: Stogit, Edison Stoccaggio, Ital Gas Storage, Geogastock, and Blugas Infrastrutture. In June 2024, Snam submitted a bid to acquire Edison's gas storage facilities. Then, in March 2025, Snam, via its subsidiary Stogit, announced the completion of the acquisition of 100% of Edison Stoccaggio, following the receipt of the required antitrust approvals: Edison Stoccaggio's share capital was fully acquired by Stogit, and the company was renamed Stogit Adriatica. All active storage sites are built at depleted gas fields. The Italian gas storage system is of significant size: in the 2024-2025 thermal year, which ended on 31 March 2025, the system offered a total working gas capacity of 17.85 G(m^3), of which 4.6 G(m^3) were allocated for strategic storage. The available capacity for peak modulation storage amounts to 7.861 G(m^3); the remaining capacity is linked to products with a uniform withdrawal profile throughout the year or that, in any case, enhance the flexibility offered.

The **distribution** of natural gas in Italy takes place through a network of 272,175 km (of which 303 km were non-operational in 2024), with 57.1% at low pressure, 42.3% at medium pressure, and 0.6% at high pressure. The length of the networks increased by approximately 1,000 km compared to 2023. In 2024, there were 183 active gas distribution companies (four fewer than in 2023), including six very large ones (with over 500,000 customers), 22 with between 100,000 and 500,000 customers, 20 medium-sized (50,000–100,000 customers), 89 small (10,000–50,000 customers), and 46 very small (fewer than 5,000 customers). Since 2020, the number of companies with more than 100,000 redelivery points has been 28, and their share of gas distributed has remained stable at around 85%. In total, the 183 operators operating in 2024 supplied 25.8 G(m^3), which is 0.2 G(m^3) more than in the previous year, reaching 21.8 million consumers.

In January 2024, the Authority initiated a procedure **to update its regulations concerning the development plans for the natural gas transmission network**, aiming, among other objectives, to consider recent legislative requirements obliging the main transmission company to submit the unified gas transmission plan every two years. At the same time as this initiation, the Authority **repealed the exemption from the obligation to apply cost-benefit analysis** for the ten-year development plans of the gas transmission network relating to 2023, while also requiring system operators who had used this exemption to supplement their development plans submitted in December 2023 with the corresponding cost-benefit analyses. As part of the procedure initiated, at the end of the year the Authority presented its **guidelines for the preparation of a single development plan for the transport network**. In particular, the Authority proposes to grant the main transmission operator the task of assessing the consistency of

the development proposals of other companies and updating the cost-benefit analyses, while the individual operators will handle the project details and the implementation of the interventions. It also suggests integrating the coordination document between operators into the Plan itself to highlight the coordination process. The Plan would remain biennial, with deadlines on 28 February of odd-numbered years starting from 2027, and operators other than the main company may submit their information by 31 January of odd-numbered years. Furthermore, it proposes to set 31 July 2025 as the deadline for the issuance of the 2025 Plan, in order to facilitate the transition to the new periodicity and the new planning processes.

The Authority also proposes updates to the minimum requirements for the single gas Plan and the cost-benefit analysis, including: incorporating information in the Plan about decommissioned infrastructure, detailing timelines, purposes, costs, revenues, and system impacts; excluding inefficient dismantling costs, especially those related to recent or already completed interventions; providing detailed data on transport, storage, and regasification infrastructure projects promoted by third parties, with standardised forms managed by the transmission operator; integrating these forms into the Plan and monitoring their progress; identifying infrastructure needed as a result of third-party projects; adopting a more structured approach to identifying system needs, through joint analyses of gas and electricity capacity; evaluating cross-sectoral use of available capacity, including for hydrogen; replacing some benefit categories with quantitative indicators and removing others no longer relevant; presenting a tabular summary of the Plan's interventions; and including a biennial monitoring report on the Plan's progress.

According to legal provisions, it is the Authority's responsibility **to submit the ten-year development Plans for the natural gas transmission network to consultation** with all interested parties. Accordingly, the 2023 development Plans of nine companies managing sections of the national or regional transmission network have been made available on the Authority's website. Interested parties had the opportunity to submit their observations to the Authority by 14 August 2024.

In April 2024, the Authority updated certain provisions of the Integrated Balancing Text (TIB) to adapt them to the new management methods of some financial transactions (related to self-consumption, network leakage and unaccounted gas) introduced by the "Tariff Regulation for the Natural Gas Transport and Metering Service for the Sixth Regulation Period 2024-2027" (RTTG), approved in April 2023. At the same time, a **fixed price for the linepack was established, conventionally set** in line with the current market value, ensuring that Snam remains neutral with respect to price fluctuations under the previous valuation method.

In November 2024, some changes were made to the balancing regulations, particularly introducing a new formulation of the so-called *small adjustment*, aimed at reducing arbitrage opportunities caused by the timing asymmetry between the GME's and Snam's settlement systems. Given that it is a modification with impacts on the entire community of balancing users, the resolution stipulates that the modification itself will come into force in October 2025, allowing it to be anticipated in the commercial dynamics of wholesale gas trading. Furthermore, the changes involved the adjustment of the incentive system for Snam, in light of particular situations in which the latter may find itself operating (e.g.: market price volatility). Finally, in September 2024, the Authority partially amended the fundamental provisions regarding **access to the transport service**, to introduce additional flexibility in the use of transport capacity with the aim of eliminating uncertainties linked to the effects deriving from a possible early termination of the supply contract due to non-compliance by the end customer, also encouraging the signing of contracts shorter than one year.

During 2024, some transportation, storage, and regasification **service codes** were updated to incorporate new regulatory provisions, Authority provisions, or management methods designed to improve service provision.

Following the approval of the tariff regulation criteria for the LNG regasification service for the sixth regulation period (RTRG 2024-2027), adopted in 2023, in February 2024 the Authority expressed its guidelines regarding the criteria for determining the rate of change of the deflator of gross fixed investments and consumer prices to be used for tariff determinations for the LNG regasification service, as well as regarding the treatment of updates to the rate of return on invested capital. Following this consultation, in June 2024 the Authority made amendments to the RTRG 6PR LNG, specifically deciding to align the determination of the deflator for gross fixed investments with the ROSS criteria, thereby maintaining consistency with the regulation of the transport service; it also aligned the methods for recognising inflation with the ROSS criteria.

In July 2024, the Authority **initiated** a procedure to **define the tariff regulation criteria for the natural gas storage service for the sixth regulatory period, starting from 2026**. In November 2024, the Authority outlined its guidelines on the matter, which, while maintaining substantial stability with respect to the existing criteria, contain some new elements. Among other things: alignment with the ROSS criteria concerning the duration of the regulatory period, the treatment of inflationary items, and the operating cost items excluded from tariff recognition; the introduction of a mechanism linking cost efficiency, system benefits, and incentives for companies, limiting the recognition of capital costs and providing for the sharing of achieved savings.

In June 2024, the Authority initiated proceedings to enforce the rulings of the Council of State regarding **tariffs for natural gas distribution and metering services**, with particular reference to the determination of the operating costs recognised for the 2020-2025 regulatory period, following a complex dispute brought by several operators and also taking into account the clarifications of several rulings of the Lombardy Regional Administrative Court.

The regulatory criteria for the quality of the natural gas storage service in force for the 2020-2025 regulatory period (RQSG 5PRS) were approved in [11]October 2019, maintaining substantial continuity with the previous regulation.

In July 2024, the Authority initiated a procedure to define the **criteria for regulating the quality of the natural gas storage service for the sixth regulatory period, starting from 2026**. In November 2024, the Authority outlined its guidelines on the matter, which, while largely maintaining the existing criteria, include some new elements such as, regarding service safety, the strengthening of provisions on leakages through the introduction of additional obligations; and, concerning service continuity, the removal of the penalty mechanism for non-compliance with contractual obligations.

In September 2024, the Authority amended the Regulation of the natural gas transport network metering service (RMTG) in order to address recommendation papers on critical issues received in the early months of 2024.

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 2024 the arrival time at the site following a (phone) call was nearly 37 minutes shorter than in 2023. In addition, the percentage of compliance with the maximum arrival time within 60 minutes was 99.9% 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

[11]Resolution of 23 October 2019, 419/2019/R/gas.

or to distribution networks. In 2024, 64 **connections to transport networks** were made, of which 58 were high-pressure pipelines and 6 medium-pressure pipelines. On average, a waiting time of 139.8 working days was recorded for high-pressure pipelines and 14.4 days for medium-pressure ones; just under half of the connections made activated the supply during the year. Even in the case of **local distribution networks** in 2024, approximately 2,600 fewer connections were made than in the previous year: their number fell from 61,826 to 59,236. As always, most of the connections involved low-pressure pipelines (94.2%) and the remainder medium-pressure pipelines. There was a slight increase in waiting times, both for connections to low-pressure networks (from 9.2 to 11.8 working days) and for connections to medium-pressure networks (from 34.1 to 36.7 working days).

In 2024, the **settlement framework** in the gas industry evolved according to two key directions: firstly, through enhanced detail in consumption measurement, and secondly, by minimising the gap between expected and actual daily gas withdrawals to better balancing the system. With a view to improving consumption forecasts, in November 2024 the Authority ordered[12] that the conventional profiling methodology, as defined in the Integrated Settlement Text gas (TISG), be further refined by introducing a parameter designed to adjust the withdrawal profile based on the actual daily withdrawal trends, thus enabling timely capture of both transient and structural consumption dynamics.

Wholesale and retail markets

According to provisional data released by the Ministry of Environment and Energy Security, gross natural gas consumption in 2024 increased by 340 M(m^3) compared to 2023. The change is only slightly positive, but it represents an important result after two years during which gas consumption experienced two significant declines. The recovery was supported by the weather conditions, which boosted consumption in the residential sector, as well as by the still positive - albeit weak - performance of the economy as a whole.

Domestic production recorded a 4.1% reduction, falling to 2.6 G(m^3) from 2.7 G(m^3) reached in 2023. The **foreign balance** also decreased by 0.7%, due to a 3.9% drop in imports, which fell to 59.4 G(m^3) from 61.8 G(m^3) in 2023, only partially offset by a sharp reduction in exports of 2 G(m^3) (from 2.6 to 0.6 G(m^3)). Since the volumes stored in reserves at the end of the year were approximately 0.4 G(m^3) higher than those at the beginning, the **gross domestic consumption** in 2024 amounted to 61.8 G(m^3), a figure 0.6% higher than in 2023. As a result, the **level of dependence on foreign supply**, measured as the ratio between net imports and the gross value of national consumption, has slightly decreased: in 2024, 95.2% of the gas available in Italy came from abroad (compared to 96.3% in 2023). Taking system consumption and network leakages into account, **net gas consumption** in 2024 can be estimated at 60.4 G(m^3), which is 0.6 percentage points higher than in 2023.

According to preliminary data released by MASE, Italy imported 2.4 G(m^3) less natural gas in 2024 compared to 2023: gross imports fell to 59.4 G(m^3) from 61.8 G(m^3) in 2023, marking a 3.9% decrease. This marks the third consecutive decrease, bringing the level of gross gas imports close to that of 2014 (55.8 G(m^3)), which represents the lowest point in the past 15 years. The most significant decline was observed in the volumes of North African gas (from Algeria and Libya). Significant reductions have also been recorded from other areas: compared to 2023, we have imported less from Northern Europe (from Norway and the Netherlands) and from the group of countries classified as "Others", which includes regions with more recent relations with Italy, such as Nigeria, Mozambique, Congo, Equatorial Guinea, and others. In contrast, we have imported more gas from Azerbaijan, Qatar, and Austrian storage facilities that transit through the Tarvisio point (and that are statistically attributed to Russia). Last year, imports of liquefied

[12] Resolution 19 November 2024, 482/2024/R/gas.

natural gas also decreased, despite its growing importance in recent years for Italian and European supplies.

According to the (provisional) data gathered through the Authority's annual survey of the energy sectors, Italy imported 57.6 G(m^3) in 2024, slightly less than the 57.7 imported in 2023. Therefore, the decrease is smaller than the one estimated in the data from the Ministry of Environment and Energy Security. Approximately 8% of the total gas sourced from abroad, around 4.6 G(m^3), was purchased through European exchanges.

There are five corporate groups each holding more than 5% of the total gas supplied (either produced or imported): Eni, Edison, Azerbaijan Gas Supply Company Limited, Royal Dutch Shell, and Enel (the same as in 2023); together, they imported 44 of the 57.6 G(m^3) of foreign gas entering the Italian market. The five groups are also the only ones each holding more than 5% of the available gas (which, besides imports and production, also includes gas in storage), collectively covering 77.8% of it - a figure slightly higher than that of the supplied gas.

The import contracts (both annual and multi-year) active in 2024 show an increase in their **remaining duration** compared to last year: 50.5% of the contracts will expire within the next five years (compared to 46% in 2023), and 59% will reach their end within the next ten years (up from 52.1%). Of the contracts in force today, 14.8% have a residual life of more than 15 years. This share has slightly increased compared to last year, when it was 13.8%.

In 2024, **total demand in the gas sector**, defined as the sum of gas volumes sold on the wholesale market (including resales), the retail market, and self-consumption, increased by 6.5%, reaching 286.5 G(m^3). This was mainly due to a strong recovery in gas traded on the wholesale market and, to a lesser extent, in the retail market.

The **wholesale market** handled 228.4 G(m^3), up 7.6% compared to 2023, while the retail market moved 42.8 G(m^3), registered a 1.6% decrease compared to 2022. Self-consumption, meanwhile, remained virtually unchanged at just over 12 G(m^3).

In 2024, 301 **companies** operated in the wholesale market. In 2024, the number of companies operating in the wholesale market remained essentially unchanged compared to 2023 (although it is important to note that the operator count- based on those responding to the Annual Survey - is the figure most affected by varying response rates year to year), while the volume of gas sold, as mentioned earlier, increased by 16 G(m^3), resulting in an 11% rise in the average unit sales volume, from 682 to 759 M(m^3). The **level of concentration** in this market has remained largely unchanged: the combined share of the top three companies (Shell Energy Europe, Engie Global Markets, and Eni) was 23.6%, compared to 25.9% in 2023. The cumulative share of the top five companies (the three mentioned earlier plus Edison and Eni Global Energy Markets) decreased from 37.0% to 35.1%. The HHI index for the wholesale market alone has marginally fallen from 442 to 427.

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 2024, 322 entities traded, alienated and acquired gas at the PSV. Only 54 qualified as standalone traders, since they were not transport system users. The number of PSV subscribers slightly increased compared to the previous year, reaching 387 units against 374 in 2023 (+3%).

OTC volumes increased by 8.1%, rising from 113.9 to 123 G(m^3); volumes with mandatory delivery at the PSV also saw a sharp rise, climbing from 28 to 183 M(m^3) in one year. Therefore, the total deliveries at the PSV increased by 8.2% compared to 2023, rising from 114 to 123 G(m^3). Volumes from market trades also showed a marked increase (+13.5%), fully recovering the decline of the previous year. Within the gas

exchange markets, **managed by GME**, a total volume of 181.7 TWh was traded in 2024, marking an increase of 17% compared to 2023.

Liquidity in the **Day-Ahead Market** (MGP) increased to 76%, up 7% compared to 2023, driven by a significant rise in traded volumes (137 TWh; +29% over 2023). The largest share of these volumes (82%; +8%) was traded via continuous trading (111.7 TWh; +42%). The monthly trend also showed higher levels in the last two months of the year. The AGS segment of the MGP recorded trades totalling 25.3 TWh, down by 10% compared to 2023.

The share of volumes traded in the **Intra-day Market** decreased to 22% (down from 29% in 2023), totalling 40.2 TWh, which is a 10% decline compared to 2023. Continuous trading volumes (39.2 TWh; -12%) remained predominant, accounting for 97% of the entire market, while in the AGS segment the volumes were slightly less marginal than the previous year (1 TWh). Trading in the Gas Storage Market (MGS) also increased, with volumes reaching 3.5 TWh (+7%), while - as in previous years - Snam did not conduct any sessions in the market for locational products. Regarding the forward products traded on the MT-GAS, there were no recorded trades, while allocations in the "Royalties" sector of the P-GAS amounted to 1 TWh (+52%). Lastly, 42 slots were allocated on the Regasification Capacity Platform (PAR), which is 20 fewer than in 2023, for a total of 1.7 M(m^3) liquefied gas (-69%).

The **prices recorded on the various platforms** can be estimated at an annual average of approximately €36.54 per MWh, representing a 13% decrease from 2023 and aligning with the average annual price of over-the-counter trades at the PSV (€36.59/MWh), which also declined by 15% year on year. In particular, the average prices of the two continuous trading segments of the M-GAS, at €36.49/MWh for the MGP and €36.60/MWh for the MI respectively, showed an intra-annual trend that mirrors that of the PSV price.

The provisional results of the Annual Survey showed that **just under 45.7 G(m^3) were sold in the retail market** in 2024, to which must be added 243 M(m^3) supplied through last resort and default services. Overall, therefore, the value of final sales amounted to just under 46 G(m^3), representing an increase of 0.7 G(m^3) compared to 2023. However, to have a comparable figure with the final gas consumption published by the Ministry of the Environment and Energy Security, and discussed in the previous pages, it is necessary to include the volumes related to self-consumption, 12.2 G(m^3), which bring the total consumption reported in the Annual Survey to 58.1 G(m^3), a value close to the 60.3 G(m^3) from the Ministry's data. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. The Annual Survey data thus showed a slight recovery in total consumption levels in 2024, with an increase of 1.2% compared to 2023.

As in 2023, the **number of active suppliers** in the retail market declined again in 2024, dropping to 475; meanwhile, since gas volumes sold increased, the average unit sales volume saw a significant rise - from 92 to 97 M(m^3), a 5.5% increase. In 2024, 5.5% of active companies in the final market, that is 26 out of 475, sold over 300 M(m^3); collectively, these companies accounted for 83.9% of all gas purchased in the retail market.

Analysing the sales performance of corporate groups, instead of individual companies, allows a more accurate assessment of market shares and the **level of concentration in the retail market.** In 2024, the Eni group regained second place, surpassing the Enel group in total sales volumes. However, the data show that the sales volumes of the two competing groups are very close: indeed, there is a difference of 405 M(m^3) between Eni's and Enel's volumes. The market shares are therefore quite similar and have both declined compared to 2023: 12% for the Eni group (down from 13.3% in 2023) and 11.2% for the Enel group (down from 13.1% in 2023). Conversely, the Edison group has distanced itself further, with its share rising from 13.7% in 2023 to 15.5% in 2024, thanks to a particularly significant increase in sales volumes (16.4%). In contrast, the sales volumes of Eni and Enel have decreased by 5.6% and 13.9% respectively. Given the narrowing gap between the top three groups and the decline in two of their three market shares,

the concentration level in the final gas sales market in 2024 slightly decreased, though it varied across different customer types. Using the measures calculated on the volumes sold, the number of groups holding more than 5% of the total market share has risen to five. Moreover, in 2024, the top three groups control 43.9%, while in 2023 the share was 45.3%. The Herfindahl-Hirschman Index (HHI) calculated on the sales market was 859, lower, therefore, than the 2023 index, which was 894. 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 industry and electricity generation, where the C3 exceeds 50%, while the lowest is observed in sales to apartment buildings and public service customers.

In 2024, just over 58 billion cubic metres were sold - of which 12 billion were for self-consumption and nearly 46 billion for sale - to 21.7 million customers (redelivery points). Overall, compared to 2023, **end market gas sales** increased by 2.9%; specifically, sales mainly related to the industrial and electricity generation sectors remained substantially stable (0.3%), sales in the free market, totalling 44.2 G(m^3), showed a rise of 6.8%, while sales under the vulnerability protection service and last-resort services, amounting to 1.7 G(m^3), more than halved. Domestic sector consumption (households and condominiums) increased by 1.1%, from 13.5 to 13.6 G(m^3), while consumption in the productive sectors (industry and thermoelectric generation) rose from 36.6 to 37.5 G(m^3), marking a 2.5% increase. Tertiary sector consumption (including trade, services, and public service activities) grew by 4.3%, rising from 6.7 to 7 G(m^3). Considering sales in the strict sense and thus excluding self-consumption, 96.3% of the gas is purchased on the free market, with the remaining 3.7% acquired through the vulnerability protection and last-resort services. In terms of customers, on the other hand, 87.7% purchase from the free market.

Considering only the **household sector**, it can be noted that in 2024 the share of volumes purchased on the free market reached 87.4% for households and 98.7% for condominiums (both figures are calculated on total sales net of self-consumption).

In terms of withdrawal points, in 2024 the share of households benefiting from the vulnerability protection service is 13%. The breakdown of sales to the end market (net of self-consumption) by consumption sector and customer size shows that on average the class with annual consumption up to 5,000 m3 buys 28% of all gas sold in the retail market.

Based on data provided by transport operators and information from the SII, the **switching rate** - that is, the percentage of delivery points that changed supplier in the calendar year 2024 - was 18.7% overall, or 23.5% when measured according to the consumption of customers who switched (with percentages rising across all customer groups). Consumer switching in the household sector increased by four percentage points in 2024: around 4 million customers changed supplier at least once, representing 18.6% of the total household customer base and corresponding to 24.1% of the volume share. An equally large proportion, amounting to 24.1%, of domestic-use condominiums switched to a different supplier, corresponding to 30% of the consumption volume in that sector. This customer group lost the right to access the protection service already in 2023, and indeed, the supplier switching rate remained high, although it decreased compared to 2023.

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 number of commercial offers** that each gas supplier is able to propose to their potential customers is 20.5 for household customers (9.2 available online only), 8.8 for household-use condominiums (2.6 online only), and 15.7 for non-household customers (3.5 online only). Despite the ongoing digitalisation process, family interest in **online offers** remains limited. Only 9.7% of household customers have indeed chosen to subscribe to an offer through digital channels. The share is higher among non-household customers, where it stands at 20.6%, while it remains particularly low in the segment of

residential buildings with household use, with a penetration rate of 2% (data substantially unchanged compared to 2023).

Regarding the preferred **price type**, it was found that the percentage of household customers who signed a fixed-price contract in the free market (where the price does not change for at least one year from the time of signing) has significantly decreased compared to the previous year, dropping from 44% to 28.6%. For residential condominiums, the variable pricing model, meaning the price changes according to the times and methods established by the contract itself, continues to be widely prevalent, representing 93.6% of the contracts concluded. Even among non-household customers, this type is dominant, with a share of 85.7%.

Looking at the supply cost component of these contracts, it is evident that the price differential in favour of variable price contracts is particularly high for domestic customers (29.4 c€/m^3), quite significant for condominiums (23.1 c€/m^3), and more modest for non-household customers (6.9 c€/m^3).

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. Subsequently, the most popular type of variable price chosen by household customers was the one based on price trends with a discount applied to one of the tariff components set by the Authority for the vulnerability protection service. This option is the most favourable among the different indexing methods, featuring a supply component price that is 19% below the average.

43.5% of household customers have signed a contract that includes a **rebate or a discount**; lower percentages are found among other customers (21.1% for condominiums and 23.4% for non-household clients).

The spread of **additional services** in fixed-price gas supply contracts varies significantly depending on the type of customer. Among household customers, only 18.2% are without at least one additional service. Conversely, the proportion of contracts without additional services is considerably higher among residential condominiums and non-household customers. In variable price contracts, the share of household customers with contracts without additional services rises to 52.3%. With reference to household customers, it is noted that, among fixed-price contracts that include at least one additional service, there is a clear preference for those that provide participation in a points-based loyalty programme (55.7%). Regarding the price of such contracts – measured based on the component related to supply cost and sales – it is observed that the most cost-effective contract is the one associated with benefits on the purchase of other goods or services, chosen, however, by a marginal share of customers (1.8%). Among household customers who subscribe to variable-price contracts with additional services - amounting to 47.7% overall - the same preferences observed for fixed-price contracts are confirmed: participation in a points programme (26.5%) and a guarantee of 100% "green" energy (11.3%).

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 71.1 c€/m^3. This reduction, resulting from additional declines in the wholesale markets, does not affect all customer categories and, where present, varies significantly across different size classes. Its maximum value (-22.2%) is observed for customers with consumption between 2 and 20 million m3/year.

The **price trend** shows a breakdown of customers with domestic usage (households and, until 2023, condominiums) according to the two main contractual conditions under which supply was provided, namely the protection service (which from 2024 is reserved for vulnerable customers only) and the free market, detailed by size class and trend over the past decade. The protection service shows lower values in all years and across both size classes, except for the smallest class (up to 5,000 m^3 per year) and only in 2022. In that year, the free market showed a price lower than the protection service (-17.6%), due to the widespread use in that market of fixed-price contracts which, in the short term, limited the pass-through

to final customers of the sharp rise in wholesale gas prices following the outbreak of the Russia-Ukraine conflict. This transfer continued in both 2023 and 2024: in each year, there was an increase of around 10 c€/m³, while the protection service initially fell by as much as 33 c€/m³, only partially recovered by an 8 c€/m³ rise in the last year. This trend has resulted in the free market becoming once again clearly more expensive: over the past two years, its price has consistently been between 27% and 28% higher than that of the protection service.

From the analysis based on data provided by 389 gas suppliers in 2024, companies serving both the regulated and free natural gas markets received a total of 202,784 written complaints, 127,311 information requests, 7,775 invoicing corrections, and 274 duplicate billing corrections.

The **average actual response times for handling complaints and invoicing corrections** stand at 16.3 and 32.8 calendar days respectively, both below the minimum standards set by the Authority (30 and 60 days respectively).

The average actual response time for **enquires**, at 6.25 calendar days, is instead considerably below the general standard.

In terms of **rectifying double billing**, the average actual response time is 31.93 calendar days, compared to the standard of 20 calendar days.

The cases of non-compliance with the standards set for commercial quality performance in the gas sales sector, which entitled customers to receive **compensation**, totalled 21,134, representing a 4.65% decrease compared to the previous year. Similarly to the electricity sector, the majority of compensations in the gas sector are due to failure to meet the standards for responding to complaints from household customers (95.37%). The market segment with the highest number of compensations overall is that of households in the free market, accounting for 74.03%.

In 2024, 82 suppliers reported serving 1,682,351 customers with dual fuel contracts. These customers submitted 30,355 written complaints, a decrease of 2.72% compared to the previous year, and 31,525 written requests for information, a decrease of 34.9%. Bill and double-bill adjustments amounted to 1,549 (-26.9%) and 54 (+45.9%) respectively. Overall, for customers with dual fuel contracts, there were 3,439 instances of non-compliance with standards that led to the right to receive an automatic compensation on the bill for issues related to the commercial quality of sales. 93.5% of the non-compliance cases are attributable to responses to customer complaints exceeding the standards in force.

Customer 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:

A noticeable reduction in total incoming written and telephone requests was observed in 2024, in contrast to the trend seen in 2023. In fact, in 2024 the **call centre** received 1,122,521 calls during service hours, a decrease of 27% compared to 2023. The average duration of calls to the **call centre** was 233 seconds, down from 252 seconds in 2023. Almost all the calls handled by the call centre concerned the electricity and gas sectors (97% of the total). The most frequently discussed topic in calls received by the cal centre was the social bonus (42%), followed by dispute resolution procedures (26%), while 14% concerned the

gradual standard offer service and vulnerability in the energy sectors.

The **written requests for information** related to the energy sectors received by the Help Desk amounted to 48,658, showing a decrease compared to the previous year. In this case too, the vast majority of information requests concern the social bonus (24%), followed by the market (17%), billing (15%) and contracts (13%). **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. In 2024, written requests that led to the initiation of a special information procedure numbered 51,423, marking a 14% increase compared to 2023; 62% involved the electricity sector, 26% the gas sector, and 12% 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 2024, the Help Desk received 17,326 requests to initiate resolution procedures, representing a 45% decrease compared to 2023. The procedure concerning the social bonus remains the most frequently used, accounting for 82%, a decrease of 11.5 percentage points compared to 2023. The sector most affected by the special settlement procedures was electricity, accounting for nearly half of the requests (49%, the same as in 2023), while the gas sector recorded a slight increase (+1%), reaching 30%. In the other cases, the issue involved both sectors or dual fuel customers. The household sector was involved in 94% of the special settlement procedures, and 85% of the requests were submitted by end customers without the assistance of delegates. The principal method for triggering these procedures was via email, used in 62% of cases.

The **Authority's Conciliation Service** allows electricity and gas end customers to resolve disputes with operators online when complaints go unanswered or are unsatisfactorily addressed. The procedure, conducted in the presence of an impartial third-party conciliator, can conclude with an agreement that holds the binding effect of a settlement under Article 1965 of the Civil Code. Furthermore, for disputes within sectors regulated by the Authority, an attempt at conciliation is a mandatory prerequisite before taking the matter to court, except in cases involving tax, fiscal matters, or urgent decisions. In 2024, customers and end users in the energy sectors submitted 29,180 requests to the Conciliation Service, approximately 480 more than the previous year (+2%). With a 40% share (13,954 requests), the sector that recorded the highest number of applications in 2024 was electricity, although it fell by 9% compared to 2023; gas followed with 33% (+7%, 11,373 requests). Dual fuel customers submitted 3,636 requests, accounting for 11% of the total (down 1%). Regarding the outcome of the requests received by the Service, the agreement rate for procedures concluded in 2024 was 63% (compared to 70% in 2023); the parties took an average of 57 calendar days to reach an agreement, one day longer than in 2023.

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)**. At 31 March 2024, 27 ADR entities were registered in the Authority's List. The information transmitted by ADR bodies reveals that in 2024 there is a significant increase in the total number of applications received, compared to the previous year (+37%). In particular, out of a total of

2,300 applications, 1,956 concerned disputes arising in the electricity, gas and dual fuel customer sectors. The most common subject of disputes in the energy sector is the prominence of "contracts" (53%).

Since 2009, a protection mechanism known as the social bonus system has been in place to reduce electricity and gas costs for household customers facing economic hardship or health issues. To bridge the gap between those eligible and actual beneficiaries, from 1 January 2021 the bonuses have been automatically granted based on the equivalent economic status indicator (ISEE)[13], without the need to submit an application, as established by Decree-Law No. 124 of 26 October 2019. In 2024, due to the continued rise in energy commodity prices, the budget law provided for an additional extraordinary contribution during the first three months of the year for household customers entitled to the electricity social bonus. The Authority therefore revised the calculation criteria for the bonus, reverting to those in effect up to the third quarter of 2021, based on the expected average expenditure for 2024, and supplemented the amount with the extraordinary contribution. For the remaining months of 2024, the extraordinary measures that expanded the pool of beneficiaries were not renewed: the ISEE threshold has reverted to the standard value of €9,530. However, households that were already granted the benefit by 31 December 2023 continued to receive the bonus, provided they had an ISEE of up to €15,000, or up to €20,000 in the case of at least four dependent children. In 2024, over 2.8 million families benefited from the **electricity social bonus**; however, regulatory changes reduced the number of beneficiaries by 38.8% compared to the previous year. The total amount disbursed (estimated) for direct electricity bonuses was approximately €360 million. In 2024, the number of families benefiting from the **social bonus for gas supplies** also decreased by 43.1% compared to the previous year due to regulatory changes. More than 1.7 million families received the social gas bonus; the total amount disbursed for direct gas bonuses was approximately €93 million. Alongside the social bonus to ease the economic hardship of families in Italy, there is also a bonus to assist families using electrical devices for life support (**physical hardship bonus**). In 2024, 77,175 families benefited from the bonus for the use of electrical devices for life support, marking a 16% increase compared to the previous year.

The **phasing out of price protections** was completed at the end of 2023 for the natural gas sector and in June 2024 for the electricity sector. Throughout 2024, the Authority continued its efforts to support end consumers during the transition away from price protections. 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.

In 2024, the Authority approved updates and improvements to the pre-contractual and contractual regulation under the **Code of Business Conduct** to benefit end customers of electricity and natural gas. These relate to sellers' obligations in the event of contract changes; rules on telemarketing and teleselling; as well as the harmonisation of regulations concerning contract modifications for PLACET (free price offers under uniform contractual conditions) offers and the vulnerability protection service. At the end of 2023, continuing into 2024, the Authority launched a comprehensive review of **Bill 2.0**, aimed at improving its simplicity, clarity, and consistency; given the importance of this process and the need to ensure broad stakeholder participation. The new regulation will come into force on 1 July 2025 for low voltage electricity customers and for gas customers (domestic, condominiums, public administrations, and other uses) with annual consumption up to 200,000 Sm^3.

The **Portale Consumi** is continuously evolving, aimed both at monitoring and improving its performance

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

and at implementing new features; as in previous years, additional functionalities were made available throughout 2024. A procedure has been initiated to allow end customers to authorise uniquely designated third parties to access their consumption data through the Consumption Portal, in compliance with privacy regulations.

As of 31 December 2024, the **Portale Offerte** database contained 12,489 offers, including 9,935 from the free market, 2,554 PLACET offers, and 722 offers for which it is not possible to estimate the annual expenditure due to the unique features and innovations in their pricing formulas. In total, 7,144 offers are available for the electricity sector, including 5,303 for natural gas and 42 for dual fuel. In the electricity sector, 41% of the offers aimed at household customers were fixed price, with a similar percentage (40.7%) for non-household customers. Similarly for the natural gas sector, the available offers are mainly variable price. Households account for 71.5% of the available offers, condominiums for 68.1% and non-households for 70%.

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.

To pursue the goals of integrating the electrification of final consumption with the rational development of networks, overcoming regulatory barriers, and implementing initiatives supporting electric mobility and progressive decarbonisation already identified by the Authority in previous years, the Authority established technical working groups, called "Focus Groups on Electric Mobility," in the early months of 2024, involving

key stakeholders from the electricity distribution and sales sectors as well as electric mobility. In this context, the potential effectiveness and implementation methods of various possible tariff interventions applicable to electric vehicle charging in publicly accessible locations were examined in detail. Within the same technical working groups, the database developed and provided by ARERA was also presented to analyse the characteristics of typical consumption profiles at electrical connection points dedicated solely to powering electric vehicle charging stations.

On 30 April 2024, in its memorandum 161/2024/I/com regarding the proposed update of the PNIEC, the Authority also made several observations on electric mobility issues. Regulation (EU) 1804/2023, referred to as the "Alternative Fuels Infrastructures Regulation" (AFIR), is thought to establish ambitious objectives for the expansion of the charging network and, by extension, its incorporation into the national electricity grid. It was also highlighted that any public subsidies aimed at reducing charging costs in publicly accessible locations should be directed straight to motorists, rather than being borne by the electricity tariffs paid by charging point operators, and should focus on those facing the greatest barriers to purchasing an electric vehicle - whether social factors (such as income conditions) or other aspects related to urban characteristics, like the lack of private charging points.

The aforementioned AFIR regulation has assigned the energy regulatory authorities of each EU member state the task of publishing the results of an assessment on the "potential contribution of bidirectional charging to reducing costs for users and the system, as well as increasing the share of renewable electricity in the power system". To this end, with the publication of report 417/2024/R/eel on 17 October 2024 - also supported by entities and associations participating in the focus groups on electric mobility - ARERA explained that bidirectional charging of electric vehicles still requires time to develop sufficient maturity for large-scale deployment and to have a measurable impact on the operation of the national electricity system. This maturation process involves a variety of aspects, not only regulatory and technological but also economic and social; among these is the fact that the economic rationale for these solutions, based on increasingly significant price differentials and flexibility needs, will progressively emerge alongside the growth of renewables and the advancement of the energy transition, which will place greater loads on the distribution network (resulting in a higher demand from distributors to procure upward services).

In 2023, one of the measures closely linked to the Clean Energy Package concerned the approval of the new Integrated Text on Electricity Dispatching, or TIDE (described in paragraph 3.1.5 of the Annual Report 2024), which is set to take effect from 1 January 2025 - one and a half years after its publication - to allow all relevant parties (primarily Terna and GME) to implement the organisational changes required by the new regulatory framework.

During 2024, however, regulatory developments prompted the Authority to update the TIDE even before it came into effect: specifically, with the resolution of 23 July 2024, 304/2024/R/eel, version 2 of the TIDE was approved, outlining the procedures for phasing out the Single National Price (PUN) from 1 January 2025 in accordance with the provisions of the ministerial decree of 18 April 2024 (see paragraph 3.1.5).

3 THE ELECTRICITY MARKET

3.1 Infrastructure regulation

3.1.1 Unbundling

[14]In 2015, the Authority revised the framework governing obligations of functional separation (unbundling) in the electricity and gas sectors, approving the Consolidated Act on Functional Unbundling (TIUF), in line with Legislative Decree of 1 June 2011, No. 93, 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.

In 2024, the Authority ordered [15]multiple companies in the electricity and gas sectors, undertaking at least one regulated activity, to file the mandatory TIUF communications, with the objective of assessing their adherence to functional unbundling requirements.

3.1.2 Network extension and optimisation

In Italy, **power transmission** is carried out through approximately 75,550 km of power lines and electrical circuits and 920 switching and conversion stations. The National Electricity Transmission Network operator is Terna. Terna's controlling shareholding of 29.851% is held by CDP Reti, a subsidiary of Cassa depositi e prestiti[16]. Excluding the state share (through CDP Reti) and 0.2% of treasury shares, the remaining 69.95% of the share capital is held by the market, with institutional investors owning 56.1% of that portion.

In 2024, there are still eight companies that own assets of the National Electricity Transmission Network, the same as in 2023. In addition to Terna – Rete Elettrica Nazionale and Rete, the Terna Group entity that integrated the infrastructures acquired from Ferrovie dello Stato Italiano, electricity transmission activities are also undertaken by several other companies: Eneco Valcanale[17], responsible for constructing a high-voltage line section linking to Austria's APG; Terna Crna Gora, wholly owned by Terna; Monita Interconnector and Piemonte Savoia (Pi.Sa.), both established by Terna for the purpose of interconnection development and management; Resia Interconnector, whose assets comprise part of the Austria interconnection commissioned in December 2023; and

[14]With Resolution 296/2015/R/com of 22 June 2015, which superseded the prior Resolution No. 11 of 18 January 2007.

[15] With resolution 29 October 2024, 446/2024/E/com.

[16] The share capital of CDP Reti is owned 59.1% by Cassa Depositi e Prestiti, 35.0% by State Grid Europe Limited, a subsidiary of State Grid Corporation of China, and 5.9% by other Italian institutional investors.

[17]Eneco Valcanale, which owns 6.6 km of the ≤ 150 kV lines, is treated as a grid operators despite the fact that it has not yet applied to Terna for the inclusion of the Austria merchant line in the National Transmission Network, as provided for by Exemption Decree No. 290/ML/3/2010.

Brulli Trasmissione Unipersonale, headquartered in Reggio Emilia, which operates a 380 kV substation in Voghera (PV).

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 exemption period, ownership of the portion of the grid covered by the exemption and falling within Italian territory must be transferred to Terna. Finally, in December 2023, the alternate current (AC) interconnection with Austria entered into operation, linking the Nauders substation in Austria with the Glorenza substation in Trentino-Alto Adige. On the Italian side, the connection was promoted by Resia, with which Terna entered into a remunerated framework agreement governing its construction, operation, and maintenance.

Considering the assets of all the companies within the group, the Terna Group owns almost entirely the transmission infrastructures that are part of the National Transmission Network (national power lines and substations).

As of 31 December 2024, 114 companies were registered in the Registry of Operators for **electricity distribution** (four fewer than in 2023), of which only 10 serve more than 100,000 customers; together, these companies serve 98.3% of total withdrawal points and supply a similar share (98.5%) of the electricity withdrawn from the distribution networks. The remaining 104 electricity distribution operators supply only 1.5% of all electricity withdrawn from the distribution networks. 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 1,291,200 km of networks, most of which (68.4%) are low voltage. In 2024, the electricity distribution network grew by 4,100 km, with about 900 km at low voltage and approximately 3,200 km at medium voltage, while high and extra-high-voltage networks remained largely stable (+5 km). The company e-distribuzione is the leading operator, with the dominant share of 85.1% of the distributed energy. Listed in the same order as in 2023: Unareti with 4.1%, Areti with 3.5%, Ireti with 1.3%, V-Reti (Agsm Aim Group) with 1.1%, and Edyna with 1%. All other distributors have a share of distributed volumes of less than 1%.

3.1.3 Investments in new transmission infrastructure

Preliminary scenarios supporting energy network development plans

In January 2024, the Authority launched[18] a procedure to update the provisions regarding the

[18] Resolution of 30 January 2024, 23/2024/R/com.

preparation of scenarios supporting the preparation of energy network development plans. In this context, the Authority presented [19]its guidelines in June 2024.

In general, the Authority has indicated that, over the medium term, Snam and Terna will continue to prepare, after consulting the distribution companies, scenarios supporting transmission and transport plans, and that the distribution companies (initially limited to the electricity sector and serving at least 100,000 end customers) will jointly handle the definition of specific local assumptions, based on the hypotheses adopted by Snam and Terna at the national (or European) level.

Regarding the preparation of the scenario description document by the electricity transmission system operator (Terna) and the main natural gas transport company (Snam), the Authority's guidelines addressed several critical elements: maintaining the 30 September 2024 deadline for publishing the development scenarios document; introducing a 31 July deadline for subsequent editions; stakeholder engagement and use of questionnaires for energy system users; aligning study years with ACER guidelines (n+5, n+10, n+15) and evaluating the relevance of outlooks exceeding 25 years; analysing the speed of new technology uptake with short-term assumptions (up to 3 years); developing differentiated scenarios for longer-term horizons, including scenarios of economic slowdown; explicit comparison of Snam and Terna scenarios with the Energy and Climate Integrated National Plan (PNIEC); and annual availability of input data in transparent formats (such as spreadsheets) and publication of output data in accordance with Terna's practices.

In response to the feedback received during the consultation, the Authority set out [20]the following measures in October 2024:

- every two years, Snam and Terna must collaboratively prepare the scenario description document for the transmission and transport development plans: for the 2025 plans, the deadline is 10 October 2024; for subsequent even-numbered years, the deadline is 31 July if the corresponding ENTSO-E and ENTSO-G scenarios are available by 31 March of that year, or 30 September if they are not;
- the scenario description document should set out the methodology applied in its preparation, addressing at least three study years with approximate timeframes of "n+5", "n+10", and "n+15" (where n denotes the year of the development plan), and consider differentiated scenarios over longer-term horizons, reflecting contrasting assumptions on macroeconomic context, commodity prices, and technological progress, and explicitly identifying a slow economy scenario;
- the scenario description document should contain dedicated sections, including an evaluation of any discrepancies relative to the information and assumptions established in the latest PNIEC edition or update, as well as an analysis of alignment with the scenarios developed for the ENTSO-E and ENTSO-G TYNDPs, explaining any use of alternative approaches or assumptions;
- Snam and Terna are to make public information available in a timely manner well in advance of the 2026 scenario description document and thereafter carry out one or more consultations with current and potential energy system users. In addition, by 30 September 2025, they must convene a public discussion on the long-term development of the Italian energy sector up to 2050, supplying, before the session, one or more technical briefs outlining plausible system development scenarios, backed by quantitative analysis and national-scale data.

[19] Consultation document of 18 June 2024, No. 239/2024/R/com.

[20] Resolution of 1 October 2024, no. 392/2024/R/com

Progress Report on the National Electricity Transmission Network Development Plan

In January 2024, the Authority provided [21]that Terna should publish the first summary progress report on the Development Plan by 15 April 2024, to support its initial implementation, derogating [22]from the January 2023 provisions that established 28 February as the deadline.

This measure, along with the provisions [23]regarding minimum requirements for the ten-year national electricity transmission network development plan of January 2023, was later included in the output-based Transmission Service Regulation (ROTE), according to which:

- in even-numbered years, Terna shall publish and submit to the Authority a progress report on the projects included in the Development Plan; in odd-numbered years, the monitoring of progress shall be incorporated directly into the relevant edition of the Development Plan;
- progress on the development measures shall be reported as at 31 December of the year preceding the submission of the report or plan;
- the Authority shall define the minimum requirements for simplified project sheets for the annual monitoring of the Development Plan's progress in even-numbered years.

In January 2024, the Authority's departments set out [24]the minimum requirements for the progress report of the National Electricity Transmission Network Development Plan.

Speeding up interventions in the development of the national electricity transmission network projects with high potential benefits, by approving preliminary expenditures for project implementation

In January 2023, the Authority launched [25]a two-phase project approval process to speed up the project authorisation process, enabling early execution of preliminary phases by introducing a preliminary approval stage for pre-implementation expenditures, capped at 5% of the estimated investment cost for each project.

In this context, Terna applied for approval of pre-implementation costs for the projects outlined in the 2023 Development Plan draft:

- "HVDC Milan-Montalto";
- "Dorsale Adriatica (HVDC Foggia-Villanova-Fano-Forlì)";
- "Dorsale Ionica-Tirrenica (HVDC Priolo-Rossano-Montecorvino-Latina)";
- "Dorsale Sarda (HVDC Fiumesanto-Montalto e Sardinian Link)".

In July 2024, the Authority [26]approved part of the application and granted authorisation for the preliminary spending related to the 'HVDC Milano-Montalto', 'Dorsale Adriatica (HVDC Foggia-Villanova-Fano-Forlì)' and 'Sardinian Link' projects of the Sardinian transmission corridor.

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[21] Resolution of 30 January 2024, 23/2024/R/eel.

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

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

[24] Determination of the Director of the Authority's Energy Infrastructure Directorate, 31 January 2024, 1/2024–DINE,

[25] Resolution 15/2023/R/eel.

[26] Resolution of 30 July 2024, 337/2024/R/eel.

Also in July 2024, the Authority set out [27]its guidelines on extending the duration and potential adjustments to the mechanism for speeding up the national electricity transmission network development ('two-phase project approval'), which had been set [28]during its first implementation for the 2023-2024 period. Taking into account the results of the initial implementation and European recommendations and regulations, the Authority's positions focused on:

- the extension of the investment acceleration mechanism to cover interventions characterised by significant potential benefits yet substantial uncertainties: this orientation rests primarily on the consideration that implementation delays in infrastructure could entail adverse consequences considerably surpassing the direct economic effects of the mechanism itself;
- implementation of the mechanism for accelerating development projects for the 2025–2026 and 2027–2028 biennia;
- definition of the maximum amount of pre-implementation expenses that can be capitalised under the 'preliminary expenses' asset, set at 5% of the expected investment cost of each intervention, without limits on the number of interventions or any minimum investment threshold, but with a total investment cap of €4 billion per two-year period, thus resulting in a maximum of €200 million per biennium of capitalisable pre-implementation costs;
- detailed specification of the activities that may be authorised as pre-implementation expenses within the acceleration mechanism, with the option for Terna to request an extension of this list with proper justification.

As a result of the consultation, during which feedback was received from three stakeholders, including Terna, the Authority established [29]the mechanism for accelerating development projects by incorporating Article 47 into the ROTE, as previously presented in the consultation, with the following amendments:

- a ceiling on the capitalisation of pre-implementation expenses set at 5% of the expected investment cost, with the possibility for Terna to request a lower limit;
- an overall maximum of pre-implementation expenses potentially eligible for dedicated tariff recognition set at €200 million for all projects included in the application during each two-year period.

Incentives to build new transport capacity and promotion of investment cost efficiency

The [30]'Integrated Text of the Output-Based Regulation of the Electricity Transmission Service for 2020–2023' (TIQ.TRA) was approved in December 2019. The TIQ.TRA establishes an incentive mechanism for the development of additional transmission capacity up to target capacity values, which were determined [31]by the Authority in October 2021 for each section between network zones and for each border; furthermore, the regulation provides an additional bonus if this capacity is delivered at investment costs below the reference costs established by the Authority.

[27] Consultation document 30 July 2024, 341/2024/R/eel.

[28] Resolution 15/2023/R/eel.

[29] Resolution of 17 December 2024, 562/2024/R/eel.

[30]Annex A to the 27 December 2019 Resolution, 567/2019/R/eel.

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

In October 2024, the bonuses awarded to Terna for increasing capacity in the Northern part of the national network (covering France, Switzerland, and Austria–Italy) were determined[32], specifically:

- an additional 300 MW of capacity, qualifying for bonuses, was made available as a result of the 220 kV Nauders-Glorenza line entering service in December 2023;
- a bonus of €14.4 million was determined for delivering the transport capacity;
- a bonus of €7.2 million was determined for the efficiency of investment costs, given that the Nauders–Glorenza project costs (approximately €81 million) were lower than the reference costs defined in the TIQ.TRA.

Update of the Scope of the National Electricity Transmission Network

Legislative Decree No. 79 of 16 March 1999 provides that the Minister of Industry, Trade and Crafts (now the Minister of Environment and Energy Security), after consulting the Authority and the relevant stakeholders, shall determine the scope of the National Electricity Transmission Network.

In June 2024, the Authority issued [33]a favourable opinion to the Minister of Environment and Energy Security regarding the inclusion of the 380 kV Brindisi–Enipower Brindisi power line within the scope of the National Transmission Network. The intervention addresses the necessity of having regulating resources available in the Brindisi area to maintain voltage stability on the national electricity transmission network nodes during low-demand periods, as well as the requirement for preparatory activities for connecting numerous photovoltaic and wind plants in the area.

In December 2024, the Authority gave [34]a favourable opinion to the Minister for Environment and Energy Security concerning the integration of Areti's network assets into the National Transmission Network, consisting of approximately 500 km of overhead lines, high-voltage components of three primary substations, and associated high-voltage connections. This acquisition delivers advantages to the electric system, allowing for simpler operations and faster execution of upgrade or enhancement measures, with network tariffs for the electricity system remaining essentially stable.

Distribution network development plans

During 2023, measures were implemented[35] to encourage more targeted investment in electricity distribution networks and to progressively establish minimum standards for consulting on and preparing distribution network development plans.

In particular, Article 61 of the Integrated Output-Based Regulation for Electricity Distribution Quality [36](TIQD) stipulates that distribution companies with at least 100,000 customers must jointly submit the following documents to the Authority by 30 September 2024, to be used as guidelines for

[32] With resolution 29 October 2024, 445/2024/R/eel.

[33] Act of 25 June 2024, no. 254/2024/I/eel.

[34] Act of 27 December 2024, no. 589/2024/I/eel.

[35] Resolutions of 28 June 2023, 296/2023/R/eel, and 27 December 2023, 617/2023/R/eel.

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

preparing the 2025 edition of the development plans:

- the harmonised structure of the plan's contents;
- clear specification of supporting documents, including information in both form-sheet and spreadsheet formats regarding the plan's interventions and their technical and financial progress;
- the description of the methodological approach adopted for the identification of investments;
- the definition of basic investment categories, for the purpose of estimating unit investment costs.

Article 61 further allows the Authority to adopt a justified decision, no later than 31 January 2025, on any amendments or supplements to the aforementioned documents.

To comply with these provisions, the ten largest distribution companies initiated, starting in March 2024, a working group to define a common methodological approach for drafting the required documents, after which they submitted ten communications to the Authority (all identical in content) including the common documents provided for under Article 61; more specifically:

- a "guidelines" document outlining the proposed harmonised structure of the Development Plan's contents, with a description of the content of each of the ten proposed chapters;
- a collection of templates, consisting of tables and dedicated sheets for each intervention, along with detailed instructions for the preparation of the plan's supporting documentation;
- a document describing the methodological approach adopted for the identification of investments;
- a document defining the basic categories of investment.

In December 2024, the Authority positively [37]assessed the following documents submitted by the distributors:

- the document "Guidelines for the preparation of the 2025 edition of the Development Plans", containing the harmonised structure of the development plans with the exception of chapter 1.10;
- the accompanying documents "Excel summary file of the Plan's interventions", "Note on completing the Excel summary file of the Plan's interventions" and "Intervention sheet";
- the "Document for the Identification of Basic Investment Categories".

Nevertheless, the document detailing the methodological framework for identifying investments was evaluated negatively, as it omits both the specification of technical and economic planning criteria and the criteria governing the sizing of new assets for investment purposes.

With the same Act[38] the Authority has also integrated the June 2023 provisions[39], stipulating:

- the obligation for distribution companies to publish the post-consultation version of their Development Plan;
- the publication of supporting information for the development plans in a editable and filterable spreadsheet format;
- the reconciliation of the unit investment costs reported in development plans with the distribution company's published reference parameters for the average expenditure associated with each standard connection option.

[37] Resolution of 3 December 2024, 521/2024/R/eel.

[38] Resolution 521/2024/R/eel.

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

Furthermore, regarding the scenarios underlying the development plans, the Authority set out [40] its guidelines on defining scenario assumptions for the electricity distribution development plans. These guidelines have addressed the following aspects:

- the finalisation, by 30 November in even-numbered years from 2024 onwards, of the document establishing common criteria for defining local scenario assumptions, with the objective of harmonising its schedule with the publication of Snam–Terna scenarios and the Authority's pre-consultation plan submission date of 31 March in odd-numbered years;
- the stipulation that the document establishing common application criteria for determining specific local scenario assumptions may be incorporated into the Development Plan documentation and consequently submitted to public consultation as part of the Plan;
- the stipulation that a joint document addressing distribution scenarios be finalised by the deadline for submission of the pre-consultation Development Plan to the Authority (31 March in odd years) and subsequently released as part of every distribution company's Development Plan consultation;
- the requirement to incorporate within the Development Plan a section detailing interactions with local authorities, together with the conclusions drawn from local energy, environmental, and territorial planning instruments;
- the formulation of specific regulatory initiatives – also of a tariff-based nature – designed to enhance the distribution company's ability to predict future loads with greater accuracy and to implement actions that ensure their efficient geographical allocation;
- the evaluation of the information considered most beneficial to stakeholders and network users, undertaken to identify supplementary requirements exceeding those contained in the common documentation of distribution companies.

On the basis of the feedback received, an amendment to [41]the TIQD was approved in October 2024. This amendment obliges distribution companies subject to the requirement of submitting development plans to jointly submit to the Authority, by 30 November 2024, a document specifying common application criteria for local scenario assumptions, which will serve as a reference for the formulation of the 2025 development plans. The distribution companies transmitted the jointly prepared document to the Authority.

Articles 58 and 60 of the TIQD stipulate that, from 2024 onwards, each distribution company with more than 100,000 withdrawal points shall publish:

- an annual report on the outputs of the electricity distribution service;
- a monitoring report on the progress of the interventions presented in the Development Plan.

The Authority, in November 2024, issued a communication providing links to the websites of distribution companies, which include the annual output reports of the electricity distribution service and the network development monitoring reports.

Modernisation of metering systems - 2G smart metering

Legislative Decree No. 210 of 8 November 2021, implementing Directive 2019/944/EU of the

[40] Consultation document 18 June 2024, 239/2024/R/com.

[41] Resolution 1 October 2024, 392/2024/R/com, which added paragraph 3 to Article 61 of the TIQD.

European Parliament and Council of 5 June 2019, sets out provisions regarding smart metering systems, assigning the Authority the task of preparing and publishing a ten-year schedule for the implementation, replacement, and upgrading of smart metering systems from the date the decree enters into force. The installations should guarantee that 80% of end users have smart meters in place by 31 December 2024.

For the largest distribution companies (over 100,000 withdrawal points), the regulation recognising the costs associated with the commissioning of 2G smart metering systems continued to apply, as established in July 2019 [42]for the period 2020–2022 and in December 2022 [43]for the three-year period 2023–2025.

During 2024, the Authority made available on its website an updated schedule of 2G smart metering system deployments. This covered the principal distribution companies, accounting for more than 98% of Italian users, by indicating both the planned installations through 2031 and those completed by 2022, and also the smaller distribution companies with up to 100,000 users, for which the schedule highlighted the expected completion of installations by 2025. According to forecasts from the leading distribution companies, about 38.6 million meters are expected to be operational by the end of 2024.

In December 2024, the Authority determined[44] the penalty applicable to the distribution company Ireti for its failure to achieve the cumulative minimum number of 2G meters scheduled up to 2021 in the Authority-approved PMS2. The Authority further noted that Ireti had not recovered the deficit in 2023, as envisaged by the July 2019 regulation[45] with 2022 excluded from the verification process owing to the Covid-19 pandemic and semiconductor shortages.

Tariffs for the electricity transmission service

In October 2024, applying [46]the criteria of Regulation for Expenditure and Service Objectives (ROSS) established [47] in October 2023, the Authority approved the parameters relevant for the application of the ROSS criteria to the electricity transmission service for 2024 and 2025, in particular the Z-factor to capture increases in operating costs arising from investments for the energy transition or changes in the scope of activities, as well as the capitalisation rates for the allocation of total expenditure into the fast and slow money components.

At the same time, the Authority also amended the tariff regulation for the electricity transmission service for the sixth regulatory period 2024-2027 (RTTE 6PRTE), so that in the annual update of reference revenues for tariff determination, the slow money components (from the year preceding the tariff year) and fast money components (of the current tariff year) are taken into account, determined according to the capitalisation rate approved under the ROSS framework and total

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

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

[44] Resolution 27 December 2024, 584/2024/R/ eel.

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

[46] Resolution of 8 October 2024, 400/2024/R/eel.

[47]Resolution of 31 October 2023, 497/2023/R/com.

expenditure, including projections, in order to minimise the need for adjustments between actual revenues and permitted revenues under the tariff decoupling mechanism, as per Article 6, paragraph 5 of the Integrated Regulation for Expenditure and Service Objectives (TIROSS).

In December 2024 the Authority set[48] the reference revenues to cover the costs of Terna's transmission and dispatching services, as well as the transmission tariffs for 2025, in line with the provisions of RTTE 6PRTE and taking into account the slow money and fast money components resulting from the application of the ROSS criteria.

Tariffs for electricity distribution and metering services

In line with previous years, a decoupling is planned between the single tariff applied to end customers (the mandatory tariff) and the reference tariffs set to establish revenue limits for each distribution company.

With regard to companies serving at least 25,000 withdrawal points, the reference tariffs for distribution and metering services for 2023 were [49] finalised in March 2024[50], while provisional reference tariffs for 2024 were set in May and July 2024. The provisional reference tariffs for 2024 are the first to be set according to the new ROSS approach approved[51] in 2023.

In December 2024, the tariffs for the use of electricity distribution and metering infrastructure for household and non-household customers, as well as the economic conditions for providing the connection service, were updated [52]for 2025.

During 2024, [53] the determination of costs recoverable via the corrective factor *g* for companies subject to the parametric tariff regime[54] was finalised[55], and the process for reviewing the parametric cost-setting criteria was launched.

Still with reference to the parametric tariff regime, in October 2024 the reference tariffs for electricity distribution and metering services for 2018 were approved[56]. In order to determine the parametric reference tariffs for 2019 and following years, the methods for submitting requests for cost recognition through the corrective factor *g* were defined [57]in June 2024. Requests relating to investments carried out by distribution companies between 2017 and 2023 were gathered and evaluated in the latter half of 2024, and the results were then communicated to the companies.

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[48] Resolution of 27 December 2024, 579/2024/R/eel.

[49] Resolution of 12 March 2024, 77/2024/R/eel.

[50] Resolutions 28 May 2024, 206/2024/R/eel, and 30 July 2024, 338/2024/R/eel.

[51] Resolutions of 18 April 2023, 163/2023/R/com and 31 October 2023, 497/2023/R/com.

[52] Resolution of 27 December 2024, 585/2024/R/eel.

[53] Resolution of 2 April 2024, 122/2024/R/ eel.

[54] Article 3-bis, paragraph 5 of Resolution 237/2018/R/eel of 11 April 2018.

[55] Resolution 89/2024/R/eel of 19 March 2024.

[56] Resolution of 1 October 2024, 390/2024/R/eel.

[57] Determination of 11 June 2024, 3/2024 – DINE.

In December 2024, the application of the parametric cost recognition tariff for companies serving less than 25,000 withdrawal points was extended [58]to 2025, with the review of parametric criteria now scheduled to conclude by 31 December 2025.

General system charges for the electricity sector

In 2024, the revenue from charges applied to end consumers increased due to the gradual reactivation of tariff components covering general system charges and the end of measures supporting electricity users. Table 3.1 shows the allocation of general system charges for 2024 across the different components, reaffirming the weight of component A_{3*SOS}. Table 3.2 shows, broken down by customer type for 2024, the volumes involved (energy volume withdrawn, installed capacity, withdrawal points) for the A_{SOS} and A_{RIM} components. Table 3.3 shows, for each customer category in 2024, the average unit value (in euro/MWh) of the A_{SOS} and A_{RIM} components paid by each type of user.

Table 3.1 General system charges accrued in 2024: A_{SOS} and A_{RIM} components and related elements (in € millions)

RATE	DESCRIPTION	ANNUAL CHARGE FROM USERS	FROM THE STATE BUDGET (2024 BUDGET LAW)
A_{SOS}	Charges related to the support of energy from renewable energy resources and CIP 6/92 cogeneration	8,649.21	-
A_{3*SOS} (A)	Support for renewable energy resources and CIP 6/92 cogeneration	7,163.22	-
A_{ESOS}	Charges resulting from breaks for energy-intensive companies	1,560.06	-
$A_{91/14SOS}$ (B)	Discounts/reductions provided for by Decree-Law No. 91 of 24 June 2014	-74.08	-
A_{RIM} (C)(D)	**Other general system costs**	**2,473.27**	**200.00**
A4RIM	Special rail tariff schemes	1,266.29	-
A5RIM	Research financing	52.92	-
A_{SRIM}	Social bonus	815.28	200.00
Auc4RIM	Minor electricity companies	63.27	-
Auc7RIM	Energy efficiency in end use	226.43	-
A_{SVRIM}	Technological development	49.06	-
TOTAL		11,122.47	200.00

(A) Including discounts to energy-intensive companies.
(B) The $A_{91/14SOS}$ item is negative because it represents discounts granted to low and medium-voltage users not included among high electricity consumption 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.
(D) From 1 January 2024, the A_{3RIM} sub-item of the ARIM tariff component was discontinued, reflecting the absence of projected costs associated with plants operating on non-biodegradable waste.

Source: ARERA, based on data from CSEA (Energy and Environmental Services Fund).

[58] Resolution 585/2024/R/eel.

Table 3.2 General charges[(A)]

CUSTOMERS	WITHDRAWN ENERGY		POWER		WITHDRAWAL POINTS		A_{TOT} NET OF ENERGY-INTENSIVE EFFECT	
	TWh	%	GWh	%	No.	%	€ million	%
HOUSEHOLDS								
Residential	49.23	19.81%	80.25	42.81%	24,080,966	64.93%	1,476.15	13.04%
Non-residential	8.02	3.23%	21.03	11.22%	6,198,563	16.71%	792.09	7.00%
TOTAL HOUSEHOLDS	57.26	23.04%	101.28	54.02%	30,279,529	81.64%	2,268.24	20.04%
NON-HOUSEHOLDS								
Public lighting customers (medium and low voltage)	3.63	1.46%	n.a.	n.a.	n.a.	n.a.	178.04	1.57%
Charging points for electric vehicles	0.10	0.04%	0.70	0.37%	13,416	0.04%	7.81	0.07%
Non-household low-voltage customers (excluding public lighting)	64.61	25.99%	51.33	27.38%	6,692,401	18.04%	3,912.78	34.57%
Medium-voltage customers (excluding public lighting)	88.65	35.67%	25.56	13.64%	102,990	0.28%	3,913.03	34.57%
High and extra-high-voltage customers (including railway traction consumption)	34.31	13.80%	8.60	4.59%	1,022	0.00%	1,037.70	9.17%
TOTAL NON-HOUSEHOLD	191.29	76.96%	86.19	45.98%	6,809,830	18.36%	9,049.36	79.96%
TOTAL	248.55	100.00%	187.46	100.00%	37,089,359	100.00%	11,317.60	100.00%

(A) The reported figures are net of the impact of concessions for energy-intensive companies, as well as of the A_{ESOS} element, (part of the A_{SOS} component), which serves to offset those concessions.

Source: ARERA.

Table 3.3 Average unit value of the A_{SOS} e A_{RIM} components paid by each type of user

CUSTOMERS	WITHDRAWN ENERGY	A_{SOS}		A_{RIM}	
	TWh	€ million	€/MWh	€ million	€/MWh
HOUSEHOLDS					
Residential	49.23	1,413.35	28.71	411.99	8.37
Non-residential	8.02	781.86	97.46	67.13	8.37
TOTAL HOUSEHOLDS	57.26	2,195.21	38.34	479.11	8.37
NON-HOUSEHOLDS					
Public lighting customers (medium and low voltage)	3.63	170.31	46.98	39.09	10.78
Charging points for electric vehicles	0.10	6.25	65.72	2.68	28.16
Non-household low-voltage customers not classified as energy-intensive (excluding public lighting)	64.32	3,427.80	53.29	1,103.80	17.08
Low-voltage non-household energy-intensive customers	0.29	1.74	5.98		
Medium-voltage non-energy-intensive customers (excluding public lighting)	58.04	2,560.42	44.11	745.28	8.41
Energy-intensive medium-voltage customers [(A)]	30.61	171.67	5.61		
High and extra-high voltage non–energy-intensive customers (including railway traction consumption)	5.10	25.78	5.05	103.30	3.01
High and extra-high voltage energy-intensive customers[(A)]	29.21	90.02	3.08		
TOTAL NON-HOUSEHOLD	191.29	6,454.00	33.74	1,994.16	10.42
TOTAL	248.55	8,649.21	34.80	2,473.27	9.95

(B) The contribution from energy-intensive companies classified under VAL was allocated between medium voltage and high/extra-high voltage based on the underlying volumes.

Source: ARERA.

Charges for Supporting Renewable Energy (account A_{SOS})

The charges allocated to the account funded by the A_{sos} component for 2024 are around €1.3 billion higher than those for 2023, as shown in Table 3.4 .

This is attributable to the following factors:

- in 2024, the single national price (PUN) was on average lower than that recorded in 2023;
- the impact of the charges related to the provisions that updated [59]the remuneration of electricity produced by plants fuelled by biogas and solid biomass (pursuant to Decree-Law No. 57 of 29 May 2023);
- The charges arising from the provisions that have regulated[60] the remuneration of electricity generation plants fuelled by sustainable bioliquids (pursuant to Legislative Decree no. 181/2023).

For the entire year 2024, the costs of the A_{SOS} account were covered by the fees charged to electricity consumers.

Table 3.4 Breakdown of charges for supporting renewable energy under the A_{SOS} account

CHARGES FOR THE PERIOD	2023		2024	
	AMOUNT (€M)	SHARE %	AMOUNT (€M)	SHARE %
Trade of renewable electricity under CIP 6	-	-	-	-
Redemption of green certificates	17	0.23%	2	0.03%
Conversion of green certificates into incentives	3	0.04%	664	7.63%
Photovoltaic	5,800	79.02%	5,667	65.07%
Buy-back mechanism	22	0.30%	99	1.14%
All-inclusive feed in tariff	1,013	13.80%	1,168	13.41%
Economic net metering	176	2.40%	283	3.25%
Regulated renewable energy incentives	237	3.24%	309	3.55%
Self-consumption and energy communities	0	-	2	0.02%
Resolution 209/2023 - PMG Bioenergy	77	1.04%	-	-
Energy release	-	-	-	-
PMG Bio-gas and Biomass - Resolution 305/2024	-	-	219	2.52%
PMG Bio-liquids – Resolution 306/2024	-	-	300	3.45%
Other	-5	-0.07%	-4	-0.05%
TOTAL RENEWABLES	7,340	100.00%	8,710	100.00%
CIP 6-equivalent electricity trading	-	-	-	-
CO_2 -related charges	-	-	-	-
Green certificate-related coverage	-	-	-	-
CIP 6 Resolution	-	-	-	-
TOTAL EQUIVALENT CHARGES	-	-	-	-
TOTAL Asos CHARGES	7,340	100%	8,710	100%

Source: ARERA.

[59] Resolution of 23 July 2024, 305/2024/R/eel.

[60] Resolution of 23 July 2024, 306/2024/R/eel.

Nuclear system charges

The 2023 Budget Law stipulated [61]that, from 2023 onwards, nuclear charges will no longer be charged to electricity consumers and will be funded directly from 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. Consequently, the Authority removed[62] these elements from the A_{RIM} tariff component with effect from 1 January 2023. This provision constitutes a structural measure that also applies in the years following 2023.

3.1.4 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. Consequently, a substantial overhaul of the dispatching regulatory framework is required, since the rules established in 2006[63]are no longer adequate to capture ongoing changes, having been conceived for a system relying on centralised, controllable resources, known as generation or consumption units.

Within the current framework, distribution networks are progressively transforming into "active" systems, capable of both importing energy from the national electricity transmission network and exporting it in reverse flow, an operational mode already evident in regions characterised by extensive 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.

Ultimately, if renewable, distributed, and variable sources replace traditional, concentrated, and programmable ones, the need for network regulation rises significantly, both quantitatively (more

[61]Article 1, paragraphs 20, 21 and 22 of Law No. 197 of 29 December 2022.

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

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

services are needed, so all participants must or can provide them) and qualitatively (the services themselves become distributed in nature). As early as 2015, the Authority undertook the task of reforming the dispatching framework by initiating[64]a specific proceeding dedicated to both global and local ancillary services with the ultimate objective 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.

[65]The Electricity Dispatching Integrated Text (TIDE) was approved in 2023, consolidating the extensive experience derived from the pilot projects initiated in 2017 [66]and completing the innovation process. 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;
- separates the unit scheduling phase from the trading phase in the day-ahead and intraday energy markets, an arrangement initially tested in 2021 through the partial coupling of intraday markets limited to XBID transactions. Within TIDE, this separation is comprehensively implemented: unit scheduling is decoupled from traded quantities, thereby enhancing alignment with technical operating requirements. The sole condition is that, at the zonal level, the aggregate scheduled injections and withdrawals of a BRP's units must be no less than the volumes transacted in the markets. Thus, the framework maximises scheduling flexibility whilst maintaining conformity with market trading constraints
- rationalises, in accordance with the European regulatory framework established by the Clean Energy Package and the central dispatch rules under Regulation (EU) 2195/2017, the purposes of the dispatching market, transforming it into a balancing and redispatch market, in which the nodal Integrated Scheduling Process coexists with Terna's participation in the European platforms for trading balancing products;
- 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 generation, and the implementation of procedures for the reduction of distributed generation (RIGEDI);

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

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

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

- 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, in line with the previously mentioned eligibility criteria, the relevant aggregates for unit scheduling and imbalance management: single enabled units (UAS for injection and withdrawal) remain, while nodal virtual units (UVN) for injection and withdrawal are introduced as subsets of UVAN, distinguished by BRP, by injection or withdrawal, and by production unit type. Terna also specifies non-enabled units to be scheduled (UnAP), for which having an explicit programme is helpful for secure system operation. All other units within a BRP's scope are grouped as zonal virtual units (UVZ), categorised by injection/withdrawal and production type;
- revises the dispatching service settlement, introducing non-movement charges, functionally comparable to imbalance costs but attributed to the BSP, together with compensation mechanisms between BSPs and BRPs for activations mandated by Terna on the balancing and redispatching markets, and compensation arrangements for BRPs in respect of activations under the extraordinary modulation service;
- rationalises the dispatching fee by separating from the uplift all financial elements (CCT, CCC, proceeds from international interconnection auctions, and settlement adjustments) that are not strictly connected to the supply of global ancillary services.

Furthermore, the TIDE also streamlines the provisions governing the organisation of the day-ahead and intraday electricity markets, which had become layered over time due to rulings by regulatory bodies and ACER, in accordance with Regulation (EU) 1222/2015 on Capacity Allocation and Congestion Management (CACM). The result is a single document encompassing all rules governing electricity markets, regardless of whether they originate from ACER or from decisions made by national regulatory authorities, including aspects such as product selection, bidding procedures, and the specific responsibilities of GME and Terna.

Finally, the TIDE sets out the criteria for developing network models and the algorithms used to determine the optimal dispatching solution. Significant advancements have also been made in transparency: Terna will be obliged to disclose both the network model employed for dispatching optimisation - comprising nodes, transmission lines, resistances, reactances, and ground susceptances - and granular operational data, including line and plant availability, projected ancillary service requirements, and anticipated injections and withdrawals at each node.

The TIDE was set to come into effect on 1 January 2025, eighteen months after its publication, in order to enable Terna and GME to revise the Transmission, Dispatching, Network Development and Security Code (Network Code), the Integrated Electricity Market Code (TIDME), and the Energy Accounts Platform Regulation (PCE Regulation), as well as to allow other interested parties to carry out the organisational adjustments necessitated by the new regulatory system.

However, during 2024, regulatory changes occurred which led the Authority to update the TIDE even before it came into effect: in particular, in July 2024, the[67] Version 2 of the TIDE containing the procedures for exceeding the Single National Price (PUN) from 1 January 2025 in accordance with the provisions of the ministerial decree of 18 April 2024. In particular, the following measures have been introduced:

[67] Resolution of 23 July 2024, 304/2024/R/eel.

- the transition to a valuation of day-ahead market purchases based on zonal pricing, replacing the PUN, alongside the introduction by GME of a market index (PUN Index) calculated ex-post using the same methodology as the PUN;
- pursuant to the Ministerial Decree of 18 April 2024, the compensatory mechanism, defined as the differential between the PUN Index and zonal prices, will be directly applied to purchases in the day-ahead market. In this way, the regulatory framework concerning transport capacity allocation charges and non-arbitrage mechanisms is preserved.

In July 2024, the Authority, taking into account the complexity of the matter, also deemed it appropriate to articulate[68] the implementation of TIDE in three distinct phases:

- the transitional period, running from 1 January 2025 to 31 January 2026, will include: the implementation of quarter-hourly imbalance settlement in accordance with Regulation 2195/2017; the activation of the nomination platform by GME; and the discontinuation of the PUN. During this phase, the new version of the TIDME, prepared by GME in alignment with the TIDE, will apply, along with a simplified version of the Network Code developed by Terna specifically for this transitional period, based on the version in force as of 31 December 2024;
- from 1 February 2026, the consolidation phase will include: the functional separation between BSPs and BRPs, with corresponding settlement arrangements for all units; the market-based supply of ancillary services through the introduction of UVANs, UVNs, and UnAPs; and the initiation of FCR procurement auctions, replacing the existing mandatory provision with a requirement to offer an equivalent quantity. During this phase, Terna will issue a revised Network Code incorporating the full set of provisions outlined in the TIDE;
- a regime implementation phase of the TIDE will begin on a date set by Terna, involving the full application of all TIDE provisions, including the exclusive market-based supply of Frequency Containment Reserve (FCR).

Until the conclusion of the transitional phase, distributed resources enabled under the UVAM initiative launched [69]in 2017 will retain their authorisation. From 1 February 2026, as part of the consolidation phase, these resources must reapply for authorisation under the new aggregation structures (UVAN and UVAZ) defined by the TIDE.

Two pilot initiatives will remain active: one concerning the ultra-fast frequency reserve, with contracts valid until 31 December 2027; the other focused on coordination between Terna and distribution system operators, applying a traffic-light mechanism that allows the distributor to inhibit, in whole or in part, the activation of resources connected to its network when local grid operation is under stress.

The endorsement of TIDE version 2 does not conclude the Authority's activities within the scope of the TIDE framework. Ahead of the launch of the transitional phase on 1 January 2025, the Authority has adopted the following additional provisions:

- an opinion [70]was issued to the Ministry of Environment and Energy Security (MASE) in November 2024 regarding the updated version of the TIDME drafted by GME, which also reflects the new requirements on market transparency and integrity pursuant to Regulation (EU) 1106/2024;

[68] Resolution of 23 July 2024, 304/2024/R/eel.

[69] Resolution of 05 May 2017, 300/2017/R/eel.

[70] Opinion of 19 November 2024, 488/2024/I/eel.

- a positive assessment [71]was completed for the version of the Network Code and related annexes developed by Terna for the transitional implementation of the TIDE;
- a further revision[72] of the TIDE (third version) has been undertaken to define the coordination mechanisms - particularly in terms of definitions and the calculation of charges - with the previous [73]dispatching framework;
- approval[74] of the new version of the Regulation for the Energy Accounts Platform (PCE), prepared by GME in accordance with the provisions of the TIDE.

Development of the settlement framework

[75]The first phase of the reform process for regulating physical and economic transactions in the electricity dispatching service, as defined by the Integrated Settlement Text (hereinafter: settlement), was finalised in July 2024. [76] Initiated in July 2023, the process also addresses the revision of network loss treatment methodologies.

As a result, measures have been put in place:

- to introduce, as of 1 January 2025 and without altering the current regulatory framework, a quarter-hourly settlement process pursuant to Article 53 of Regulation (EU) 2195/2017 and the TIDE, and to amend the Integrated Settlement Text (TIS) and the Integrated Metering Text (TIME) accordingly, with effect from the same date;
- to define the core components of the revised settlement framework to ensure that distribution system operators, Terna, the Integrated Information System (SII) manager, and Distribution Users are equipped with the information required to initiate system and data flow adjustments;
- to set the start-up phase of the new settlement regulation at 1 January 2026; consequently, the deadline for completing the procedure launched in July 2023 on the regulatory framework for settlement and network losses is extended to 31 December 2025.

With regard to the provisions introduced from 1 January 2025, it is specifically established that:

- settlement sessions shall consistently use all available actual metering data recorded at quarter-hour intervals or, where applicable, quarter-hourly profiled data. For non-quarter-hourly metering points, including interconnection points (IPs) and other injection or withdrawal points, actual data shall be used in monthly, semi-annual, and annual settlement sessions, the latter specifically addressing late corrections;
- distribution system operators, as the entities responsible for metering data management, may, where possible, apply quarter-hourly processing to injection and input points with available power less than or equal to 55 kW and equipped with 1G meters;
- for withdrawal points not processed on a quarter-hourly basis, excluding public lighting,

[71] Resolution of 26 November 2024, 499/2024/R/eel.

[72] Resolution of 10 December 2024, 539/2024/R/eel.

[73]Resolution of 9 June 2006, 111/06.

[74] Resolution of 17 December 2024, 552/2024/R/eel.

[75] Resolution of 30 July 2024, 325/2024/R/eel.

[76] Resolution of 25 July 2023, 336/2023/R/gas.

metering data shall be profiled at quarter-hour intervals using a flat profile by time band for banded meters, or a flat monthly profile for single-rate meters;

- for withdrawal points associated with public lighting and not subject to quarter-hourly processing, the conventional profiling method currently applied under the settlement framework shall continue to be used. This method relies on monthly metering data, which is then allocated across each quarter-hour of the month;
- distribution system operators shall be obliged to submit monthly estimates of metering data to the Integrated Information System (SII) for all single-rate withdrawal points with a capacity of up to 16.5 kW where actual data is unavailable;
- metering data for electricity exchanged at interconnection points between the networks of different operators, which had not been previously processed, shall now be included in the relevant settlement sessions. For this purpose, distribution companies are required, for each network interconnection point, to supply the SII with quarter-hourly measurements of energy injections and withdrawals on a monthly basis, in accordance with procedures and schedules that will subsequently be determined;
- metering data relating to withdrawal points associated with transmission and distribution own-use, whether measured or measurable, shall be incorporated into the relevant settlement sessions;
- all metering data used in the electricity settlement process, including data from withdrawal points (covering transmission and distribution own-use), injection points, and interconnection points, shall be adjusted solely for technical losses, excluding commercial losses;
- residual energy (ER) shall be determined for each grid operator and each bidding zone. It consists of the difference between actual network losses and standard network losses (which fully include commercial losses); the difference between actual and conventional profiles for withdrawals and injections not measured on a quarter-hourly basis; electricity used for transmission and distribution own-use that cannot be measured; and discrepancies arising from errors in the reading and provision of metering data, as well as from the use of estimated data due to the absence of actual measurements;
- residual energy (ER), along with all measured or measurable electricity withdrawn for transmission and distribution own-use, shall be sourced from the open market. No transport charges or associated surcharges shall apply to such withdrawals or to ER.

For the practical implementation of the above measures, the following operational provisions are established:

- distribution system operators and Terna shall be obliged to record in the SII all withdrawal points, measured or measurable, associated with transmission and distribution own-use on their networks;
- SII will be responsible for the following tasks during monthly, semi-annual, and annual settlement sessions:
  - the management, for aggregation purposes, of metering data for interconnection points between different network operators;
  - to carry out the profiling of metering data for withdrawal points not subject to quarter-hourly processing, such as interconnection points and other withdrawal points, and ensure the profiled data is made available to the appropriate stakeholders;
  - to manage the aggregation of electricity withdrawals and interconnection points, in accordance with the updated unit aggregation criteria established under the TIDE framework;

  - to calculate a partial residual energy component for each grid operator and market zone, defined as the difference between the energy injected through interconnection points into other networks and the energy withdrawn from withdrawal and interconnection points;
  - to provide partial residual energy to Terna and all interested parties;
- Terna shall finalise the calculation of ER for each grid operator and market zone by summing the partial residual energy provided by the SII with the energy injected into the grid via the corresponding input points, and shall ensure its availability to interested parties;
- to remove the aggregation fee under Article 15 of the TIS, applicable to non-hourly withdrawal points, and the associated incentive regulation, given that the aggregation of electricity withdrawal metering data is now entirely entrusted to the SII within the revised settlement structure;
- Terna shall be assigned the direct responsibility for updating the SII Register, with respect to withdrawal points on its network, and for providing the SII with electricity metering data for those points where it holds responsibility for both data management and commercial activities;
- to carry out, during the final quarter of 2025, a testing phase involving dry runs to ensure the operational reliability of the updates made to the SII and Terna's systems, effective from 1 January 2026 and applicable to metering data relating to periods after 31 December 2025.

Provisions on Load Profiling and Network Losses for the Year 2025

In December 2024, the Authority amended and supplemented [77] the existing rules on load profiling and network loss equalisation to ensure their applicability for the year 2025, pending their replacement and the entry into force of the new framework from 1 January 2026, as set out in the updated settlement regulation. The two main aspects are as follows:

- the removal of specific simplifications and approximations in the load profiling methodology, which in 2024 caused operational challenges due to the declining share of non-hourly metered electricity, driven by the widespread deployment of hourly metering devices;
- the Authority has established the regulatory components necessary to prolong, for the year 2025, selected provisions governing network loss regulation, including the equalisation mechanism, which had previously applied over the 2022–2024 period.

The updated regulation has redefined the calculation method for the Coefficients for the Allocation of Withdrawal Points (CRPP), which quantify the portion of residual area withdrawals assigned to each non-hourly withdrawal point. The modification involves calculating the energy underlying non-hourly withdrawal points, serving as the denominator of the CRPP coefficients, more directly, by summing the actual energy withdrawn at those points.

Regarding network losses, the updated regulation establishes the following provisions:

- it has confirmed, for 2025, the percentage factors previously applied in 2023 and 2024 for the equalisation of commercial electricity losses on networks with third-party connection obligations, as specified in Table 10 of the Integrated Sales Text (TIV): 0.90% in the North zone, 1.72% in the Central zone, and 4.87% in the South zone;
- it has extended the corrective mechanisms set out in paragraphs 29.2 and 29.3 to 2025, given

[77] Resolution of 3 December 2024, 535/2024/R/eel.

that the extraordinary circumstances which drove high wholesale electricity prices in previous years have not yet been entirely overcome;
- it also confirmed that the recognition mechanism for non-recoverable fraudulent electricity withdrawals, as set out in Article 31 of the TIV, will remain in force for 2025. Accordingly, 2025 has been consolidated with the 2022–2024 regulatory period;
- an advance payment shall be made in 2025 to facilitate the prompt recognition of amounts accrued during the 2022–2024 period and to prevent undue delays. The balance will be paid by the end of May 2026.

Finally, the new regulation has also provided for:

- the revised methodology for calculating CRPPs to be applied in time for the January 2025 coefficients, or no later than February 2025, subject to the condition that the consistency checks performed by the SII have not persistently failed since July 2024;
- the possibility, for each operator of the standard offer service, to request from CSEA, upon submission of a specific application, for compensation aimed at partially offsetting the financial exposure arising from anomalies in the advance estimation of electricity withdrawals at non-hourly processed points.

Capacity Market

First Capacity Market Auctions

The Capacity Market, established under Legislative Decree No. 379 of 19 December 2003, is designed to ensure the adequacy of generation capacity, so that electricity demand is consistently met while maintaining established standards of security and service quality[78].

The first Capacity Market auctions 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 2022-2023 and 2024-2025 delivery periods were defined in 2019 and 2021, respectively[79]: 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,[80] to ensure that the aforementioned price would more closely reflect the variable cost of peak technology, irrespective

[78]For a more detailed description of the regulatory framework governing the Capacity Market, reference should be made to the Annual Reports from previous years.

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

[80]By Resolution of 4 March 2022, 83/2022/R/eel

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[81], modified the methodology for determining the strike price for the year 2024 in line with the methodology for the years 2022 and 2023.

Amendment to the Capacity Market Framework

During 2024, two tendering procedures were conducted, corresponding to the delivery periods 2025 and 2026. The competitive procedures were preceded by a comprehensive administrative process that resulted in substantial amendments to the Capacity Market regulation and its associated technical rules.

Between March and May 2023, Terna has:

- submitted to the Ministry of Environment and Energy Security its assessments on the adequacy conditions of the Italian electricity system;
- proposed to conduct new Capacity Market auctions, accompanied by amendments to the regulatory framework, with the objective of promoting the retrofitting of non-coal thermoelectric plants equipped with water cooling systems, through measures aimed at reducing their reliance on water availability and temperature (so-called retrofitting).

Following communications from Terna, the Minister of Environment and Energy Security requested that [82]Terna submit a proposal to amend the regulatory framework in order to promote retrofitting interventions.

In March 2024, following a public consultation, Terna submitted its proposed amendments to the Ministry of Environment and Energy Security and to the Authority:

- to the regulatory framework applicable to the competitive procedures for the 2022, 2023, and 2024 delivery periods;
- to the regulatory framework for competitive procedures relating to delivery years beyond 2024 (proposed post-2024 framework).

The key amendments introduced in the proposed regulatory framework for the period beyond 2024 relate to the following aspects:

- the introduction of new methods for calculating and remunerating the probabilistic available capacity (CDP) of thermal power plants, structured as follows:
  - an additional CDP reduction factor will be applied to each large-scale thermoelectric unit,

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

[82] Policy act of 12 July 2023.

supplementing those used in earlier auctions. This factor will be determined according to the unit's unavailability rate during peak summer hours;

- prior to each auction, operators may notify, for each significant thermoelectric unit, their intention to undertake retrofitting interventions to improve the cooling system;
- operators opting not to implement retrofitting measures may submit, during the auction, a CDP value reduced to account for unavailability during peak summer periods. Those intending to carry out retrofitting may instead offer a CDP calculated according to the methodology adopted in prior auction rounds;
- where an operator has indicated its intention to undertake retrofitting, the CDP will be remunerated at a reduced level until the intervention is finalised. Upon completion, the operator will be entitled to the fixed remuneration for the entire committed CDP;
- during the delivery phase, the operator who has declared an intention to retrofit will be required to fulfil the offer obligations and return the variable remuneration associated with the committed CDP awarded through the auction;

- the application of a dedicated derating factor to newly built combined cycle gas turbine (CCGT) generation units equipped exclusively with water-based cooling systems;
- the designation of specific months within the year classified as critical for assessing the adequacy of the electricity system;
- in relation to offer obligations, the previous regime of definitive non-compliance, resulting in contract termination, has been substituted with the concept of prolonged non-compliance. Prolonged non-compliance is deemed to occur where temporary non-compliance extends over a number of months (consecutive or otherwise) equal to the lower of three or the total number of committed months within the same year, or alternatively, where non-compliance is recorded in at least one critical month;
- where prolonged non-compliance is established, the operator shall be excluded from entitlement to the fixed remuneration, limited to the months underpinning the non-compliance, and shall furthermore be subject to a penalty corresponding to 10% of the fixed remuneration;
- the possibility to participate in market phases following the main auction (adjustment auctions and secondary market) with existing capacity not offered in the aforementioned auction;
- the opening of adjustment auctions to the participation of new capacity that has not yet received authorisation;
- for new, repowered, or upgraded units, the regulation provides that construction, repowering, or upgrading works must begin after the date on which the competitive procedure is carried out;
- the introduction of a penalty equal to 1% of the monthly fixed remuneration will be applied in the event of delays in the commercial commissioning of newly built capacity;
- regarding the probabilistic available capacity (CDP) of newly developed, significant generation units:
  - the nomination or offer obligation on energy and ancillary services markets has been raised from 50% to 100% for each hour of the delivery year and for each bidding zone, with specific exemptions applying;
  - in case of non-compliance with the offer obligation, the sole penalty applied shall be the difference between the awarded premium in the relevant market phase and the marginal premium for existing capacity applicable to the year being assessed;
- with reference to new CDP from non-significant generation units:

  - the requirement to guarantee average injection capacity has been increased from 50% to 100% for each delivery year and for each zone, to be met in at least 80% of the hours in which the day-ahead market price exceeds the strike price;
  - in the event of a breach of this obligation, the sole penalty applied will be equal to 10% of the annual premium awarded in the final market phase;
- the introduction of a withdrawal option from the contract, which may be exercised by awarded parties by paying an amount equal to 10% of the product of the CDP subject to withdrawal, the maximum annual premium defined for the corresponding CDP type, and the number of years remaining in the contract term;
- the removal of the standard three-year efficient level of planned unavailability, previously used to calculate scheduled maintenance eligible for exemption from the obligation to return the variable remuneration;
- the option to change the nomination after the main auction, up to six months before the start of the delivery period;
- the postponement of the deadline for submitting declarations regarding the attainment of authorisation titles for unauthorised generation units;
- the integration of the regulation with an annex specifically addressing declarations required for anti-mafia verification procedures.

The proposed amendments to the rules governing competitive procedures for the 2022–2024 delivery years are intended to allow, upon request by the awarded party, the application of certain elements of the post-2024 regulatory framework to capacity already contracted in previous auctions.

In April 2024, the Authority issued [83]a favourable opinion on the proposed amendments to the regulatory framework, which were later ratified by the Minister of Environment and Energy Security via Ministerial Decree No. 180 dated 9 May 2024.

Amendment to Technical Operating Procedures

The Capacity Market regulation sets out the technical operating provisions, comprising documents that specify the criteria and methodologies for calculating variable remuneration, managing nominations, handling non-compliance, and reporting the information outlined in paragraph 13.2, along with the corresponding values derived from these methodologies. Terna has thus far defined the provisions concerning variable remuneration, nomination procedures, and non-compliance in Technical Operating Provisions No. 1, while the remaining criteria, methodologies, and reference values are contained in Technical Operating Provisions No. 2.

In March 2024, following a preliminary consultation, Terna transmitted to the Ministry of Environment and Energy Security and to the Authority its proposals for technical operating provisions applicable to competitive procedures for delivery years after 2024.

In April 2024 the Authority has[84], among other things:

[83] Resolution of 16 April 2024, 145/2024/R/eel.

[84] Resolution of 16 April 2024, 145/2024/R/eel.

- issued a favourable opinion on Technical Operating Provisions No. 1 for post-2024 delivery procedures, incorporating the required adaptations to align with the innovations set out in the proposed post-2024 framework;
- postponed to a later decision the assessment of compliance for Technical Operating Provisions No. 2 for competitive procedures relating to delivery years beyond 2024 (DTF 2 post-2024) due to the incomplete nature of the provisions;
- required Terna to submit to the Ministry of Environment and Energy Security and to the Authority a proposal for Technical Operating Provisions No. 1, to be adopted should the retroactive application of the post-2024 framework be exercised, due to inconsistencies in the provisions then in force.

In May 2024, the Authority [85] positively assessed the second version of Technical Operating Provisions No. 2 (post-2024), which incorporates the values calculated according to the methodologies set out therein and applies to the competitive procedure for the 2025 delivery period.

In July 2024, the Authority issued [86]a favourable opinion on Terna's proposals for Technical Operating Provisions No. 1, applicable to competitive procedures for delivery years 2022–2024 in the event of retroactive application of post-2024 rules. Nonetheless, it noted the necessity of addressing certain inconsistencies with the corresponding regulatory framework and correcting specific references.

Between July and September 2024, Terna submitted to the Ministry of Environment and Energy Security and to the Authority the annex to Technical Operating Provisions No. 2, containing the values related to the competitive procedures for the 2026 and 2027 delivery years. The Authority issued a [87]positive assessment in this regard.

Economic Parameters of the Capacity Market

In September 2024, the Minister for the Environment and Energy Security approved [88]the capacity market framework for the competitive procedures relating to the delivery years 2025, 2026, 2027 and 2028.

The combination of the [89]Authority's provisions from July 2011 and the updated capacity market framework requires the Authority to publish the following economic parameters for each competitive procedure:

- the maximum premium value that may be granted to new generation capacity (for up to 15 years, if requested by the participant), which also applies to capacity associated with consumption units and generation capacity requiring upgrades due to administrative measures (for one year);
- the premium value associated with the central point of each demand curve;
- the maximum premium value that may be granted to existing generation capacity and, where differentiated, the highest premium that may be proposed for the same capacity (for one year);

[85] Resolution of 14 May 2024, 185/2024/R/eel.

[86] Resolution of 16 July 2024, 294/2024/R/eel.

[87] Resolutions of 29 August 2024, 353/2024/R/eel, and 29 October 2024, 441/2024/R/eel.

[88] Ministerial Decree of 5 September 2024, n. 180.

[89] Resolution of 21 July 2011, ARG/elt 98/11.

these values also apply to foreign capacity (for one year);
- the minimum investment amount per unit of capacity that must be made by the operator, in the event of acceptance following a capacity market auction, in order to qualify for a 15-year contract for their new generation capacity;
- the parameters for defining the strike price.

Furthermore, the Authority's July 2011 provision stipulates that no less than 70% of the net capacity supply cost must be allocated to the withdrawal of dispatching users during system peak hours. The aforementioned percentage, which is considered among the economic parameters, was set at 70% for the delivery years 2022, 2023, 2024 and 2025.

Following the consultation launched [90]in March 2024, the Authority in May 2024 established [91]the economic parameters for the capacity market competitive procedures for the delivery years 2025, 2026, 2027 and 2028. In detail:

- the maximum premium value that may be granted to new generation capacity is defined based on the upper limit of the fixed cost of the reference technology (open-cycle gas turbine) and is equal to:
  - €85,000 per MW per year for the competitive procedure relating to the 2025 delivery period;
  - €86,000 per MW per year for the competitive procedures relating to the delivery periods 2026, 2027 and 2028;
- the premium at the midpoint of each curve is determined using the lower limit of the fixed cost of the reference technology and is equal to:
  - €71,000 per MW per year per year for the competitive procedure relating to the 2025 delivery period;
  - €72,000 per MW per year per year for the competitive procedures relating to the delivery periods 2026 and 2027;
  - €73,000 per MW per year per year for the competitive procedure relating to the 2028 delivery period;
- the maximum premium value that may be granted to existing generation capacity is determined by the avoidable fixed costs of the main technology in Italy's generation mix (combined cycle) and amounts to €45,000 per MW per year, €46,000 per MW per year, €47,000 per MW per year and €48,000 per MW per year for the auctions covering the delivery years 2025, 2026, 2027 and 2028, respectively;
- the minimum investment amount is equal to €215,000 per MW;
- the parameters for determining the strike price are set using an approach that ensures the price reflects the variable cost of the reference technology, and include, among other things, daily indexation of relevant natural gas and emissions values, a reduction in the standard specific consumption of natural gas, and changes to the calculation method for the standard national logistics cost included in the natural gas component;
- the share of the net cost to be allocated to peak hours is set at 70% until 2028;

[90] Consultation document of 26 March 2024, 102/2024/R/eel

[91] Resolution of 23 May 2024, 199/2024/R/eel.

Outcomes of the main capacity market auctions for the delivery years 2025 and 2026

The main auction of the Capacity Market relating to the 2025 delivery period was held on 25 and 26 July 2024, with the auction for the 2026 delivery period taking place on 18 December 2024.

Terna's reports on the main capacity market auctions for the 2025 and 2026 delivery years reveal, among other findings, that:

- the total expenditure on premiums amounts to approximately €1.72 and €1.82 billion for the years 2025 and 2026, respectively, net of the premiums for new capacity already awarded in previous auctions under fifteen-year contracts that include the 2025 and 2026 delivery years;
- the existing capacity awarded totals around 37.6 GW for 2025 and 38.3 GW for 2026, with balancing premiums set at the respective maximum values for existing capacity (€45,000 and €46,000 per MW per year) across all areas;
- approximately 1 GW of the selected existing capacity concerns thermoelectric plants for which a commitment has been made to carry out retrofitting interventions aimed at increasing availability during critical summer hours;
- the awarded new capacity, all of which is fully authorised, totals around 0.2 GW for 2025 and 0.1 GW for 2026, with balancing premiums of €67,500 and €56,160 per MW per year, respectively;
- in both auctions, the selected foreign capacity amounts to approximately 4.4 GW, with recognised premiums differentiated across the various foreign areas (ranging from approximately €3,500 to €4,800 per MW per year for 2025 and from €4,500 to €11,200 per MW per year for 2026);
- the 2025 auction awarded new capacity comprising 89 MW of battery storage and 85 MW of repowered combined-cycle thermal generation, while the 2026 auction included 84 MW of battery storage, 42 MW of repowered thermal generation, and 10 MW of wind energy.

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[92] its views on the aspects under its responsibility relating to the new long-term procurement system for electricity storage resources[93].

[94]Following the consultation, the Authority defined the criteria and conditions for the operation of the forward procurement system for electricity storage capacity, confirming the general framework and the positions expressed during the consultation, while introducing certain changes, also in light of the elements that emerged during the consultation process. 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

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

[93]Topics covered in the consultation are outlined in detail in last year's Annual Report.

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

technological evolution;

- 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, Article 18 of Legislative Decree No. 210/2021 was abrogated. The repealed provision had imposed on Terna the obligation to devise a plan for the direct construction of unawarded storage systems in cases where competitive procurement procedures for electricity storage resources did not allocate the full capacity required.

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.

In April 2024, the European Commission's decision dated 21 December 2023 (SA.104106) was published, approving the new long-term procurement mechanism for electricity storage capacity under Article 18 of Legislative Decree No. 210/2021, known as the Forward Storage Market (MACSE), and confirming its compatibility with EU State aid regulations.

The European Commission highlighted, among other things, that:

- the measure promotes economic growth linked to the deployment of electricity storage systems;
- the regime is deemed essential and suitable for speeding up investment in the sector, while backing major EU policy efforts, including the European Green Deal and the Fit for 55 package;
- the mechanism is proportionate, as the level of support is aligned with actual financing needs, and safeguard measures will be adopted, including a competitive tendering procedure for the allocation of aid, in order to limit it to the minimum necessary;
- the support acts as an incentive, since the subsidised storage plants would not be financially sustainable without public funding;
- the advantages of the aid exceed any possible distortive effects on competition and trade within the internal market.

Taking into account the criteria and conditions defined by [95] the Authority and the commitments made by the Italian State to the European Commission for the adoption of decision SA.104106, Terna, following consultation, prepared and submitted the proposed framework (MACSE), pursuant to Legislative Decree No. 210/2021.

In October 2024, the Ministry of the Environment and Energy Security, among other things, has[96]:

- approved the proposal, specifically for the long-term procurement of new capacity via the first

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

[96] Ministerial Decree of 10 October 2024, n. 346

auction focused on lithium-ion batteries and other electricity storage technologies excluding lithium-ion and hydroelectric systems;
- provided that Terna shall develop and submit to the Ministry of the Environment and Energy Security the proposed amendment to the framework concerning the modalities and conditions for the participation of hydroelectric storage in the procurement mechanism.

3.1.5 Regulations on the quality of electricity distribution and transmission services

Quality and continuity of the electricity transmission service

As part of the Output-Based Integrated Regulation Text for electricity transmission during the 2020–2023 regulatory period (TIQ.TRA)[97], in October 2024 the Authority granted [98]Terna a premium of €15.32 million for its continuity performance in 2023.

Quality and continuity of electricity distribution and measurement services

In May 2024 the "Technical Instructions 2024-2027 for the recording and documentation of interruptions in the electricity distribution service" were approved[99]: these updated technical instructions are intended for distribution companies and serve as a guide to best practices for the correct recording and documentation of continuity in the electricity distribution service. The instructions were also updated [100]because in December 2023 some rules regarding the recording of interruptions were changed compared to what was previously established in the Integrated Text of the Output-Based Regulation of Electricity Distribution and Metering Services for the 2020-2023 Regulatory Period (TIQE)[101].

As part of the TIQE implementation, [102]the procedure for determining the 2023 premiums and penalties related to the output-based regulation of the electricity distribution service was closed in December 2024.

With respect to managing the duration and number of unplanned interruptions, €24.6 million in penalties were imposed (which are passed back to electricity system users who pay network tariffs), reflecting net premiums of €5.3 million paid to 24 distributors and net penalties of €29.9 million charged to 8 distributors.

Within the 2020–2023 regulatory period, the TIQE established an incentive mechanism known as the "regulatory experiment," aimed at testing innovative technologies in areas whose 2019 quality levels

[97] Annex A to the 27 December 2019 Resolution, 567/2019/R/eel.

[98] Resolution of 29 October 2024, 444/2024/R/eel.

[99] Resolution of 28 May 2024, no. 02/2024 – DINE.

[100] Annex A to resolution 617/2023/R/eel of 27 December 2023, Integrated Text on Quality Distribution (TIQD).

[101] Annex A to resolution 566/2019/R/eel of 23 December 2019.

[102] Resolution of 27 December 2024, 584/2024/R/eel.

were markedly below the Authority's prescribed standards. The scheme envisaged a customised trajectory of improvement leading to the attainment of the target level by 2023, during which ordinary penalties would be waived, conditional upon the final objective being achieved. In 2020, two distribution companies (e-distribuzione (60 areas) and Areti (3 areas)) presented projects under this experimental framework, which subsequently received approval from the Authority.

Table 3.5 provides a summary breakdown by distribution company and performance indicator.

Table 3.5 District areas that achieved the target in 2023 under the regulatory experiment

DISTRIBUTION COMPANY	INDICATOR	NUMBER OF AREAS PARTICIPATING IN THE EXPERIMENT	NUMBER OF AREAS THAT ACHIEVED THE TARGET IN 2023
Areti	duration	3	1
	Number	3	1
e-distribuzione	duration	40	3
	Number	43	3

Source: ARERA.

Pursuant to the TIQE, and taking into account the suspension of 40% of the negative balance for failure to achieve the experiment's target, as envisaged by the TIQD, the Authority determined in December 2024 [103]the financial settlements associated with the 2020–2023 regulatory experiments. The resulting penalty balances totalled €70.7 million, of which €6.4 million applied to Areti and €64.3 million to e-distribuzione.

With reference to the 2023 electricity service continuity data, the Authority published the 12th ranking of electricity distribution companies based on the number and duration of interruptions. To improve comparability between companies, the use of the synthetic index of duration and number of interruptions (introduced with the 10th ranking) has been confirmed; this index assigns equal weight to the duration and number of interruptions and has a value of 10 as the national average: a value below 10 indicates performance better than the national average, while a value above 10 indicates worse performance; in addition to this index, the average annual duration of long unplanned interruptions and the average number of long and short unplanned interruptions have also been published.

Between 2017 and 2023, the TIQE introduced an incentive scheme to reduce the annual total duration of long planned outages per LV user, covering outages originating on MV and LV networks managed by distribution companies (Planned Interruption Duration, DCP): from 2017 to 2019, a reward-only mechanism was applied based on an improvement plan set by e-distribuzione (the sole participant), while from 2020 to 2023, a penalty-only mechanism was used, tied to the target set in 2019 and maintained over the 2020–2023 four-year period.

In December 2024, e-distribuzione incurred [104]penalties amounting to €5.8 million in connection with the experimental incentive-based regulatory framework intended to reduce the duration of planned interruptions in the electricity distribution service during 2023.

[103] Resolution of 27 December 2024, 588/2024/R/ eel.

[104] Resolution of 27 December 2024, 584/2024/R/eel.

Table 3.6 provides a summary of the indicator for e-distribuzione, broken down by regulatory year:

Table 3.6 Incentive scheme for reducing the duration of long planned LV outages for e-distribuzione: bonus and penalties summary

YEAR	BONUS (+) OR PENALTY (-) IN € MILLION
2017	+2.1
2018	+1.1
2019	+0.6
2020	-2.6
2021	-8.6
2022	-6.1
2023	-5.8

Source: ARERA.

Resilience of the electricity distribution system

In December 2023, [105]the provisions to incentivise the resilience of electricity distribution networks for the 2019–2024 period were updated. 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.

In implementation of the TIQE, in July 2024 the[106] list of interventions eligible under the incentive mechanism for enhancing the resilience of electricity distribution networks was updated; in particular:

- a total of 37 new projects addressing the heatwave risk factor, submitted by 28 February 2024, were approved under the mechanism, with an expected overall cost of €8.8 million;
- a total of 78 interventions were excluded from the mechanism due to lack of implementation and a low benefit-to-cost ratio in earlier years (before distribution asset cost increases), with an expected total cost of €58.2 million, distributed as follows:
  - 6 interventions submitted by Areti, with an expected total cost of €4.4 million;
  - 71 interventions for the company e-distribuzione with a total projected cost of €51.6 million;
  - 1 intervention for the company Unareti with a total projected cost of €2.2 million.

Finally, in October 2024, bonuses and penalties were determined [107]for eleven distribution companies, with a total net reward balance of €6.8 million, relating to interventions completed in 2023 to enhance the resilience of the electricity distribution service.

[105]Resolution of 27 December 2023, 614/2023/R/eel.

[106] Resolution of 30 July 2024, 334/2024/R/eel,

[107] Resolution of 29 October 2024, 443/2024/R/eel.

Quality of electricity distribution: duration and number of interruptions

In 2024, the average duration of unplanned outages improved to 76 minutes from 100 in 2023 (Figure 3.1), while the average number of long and short unplanned outages per Low Voltage user slightly worsened, rising to 5.12 from 4.87 (Figure 3.2).

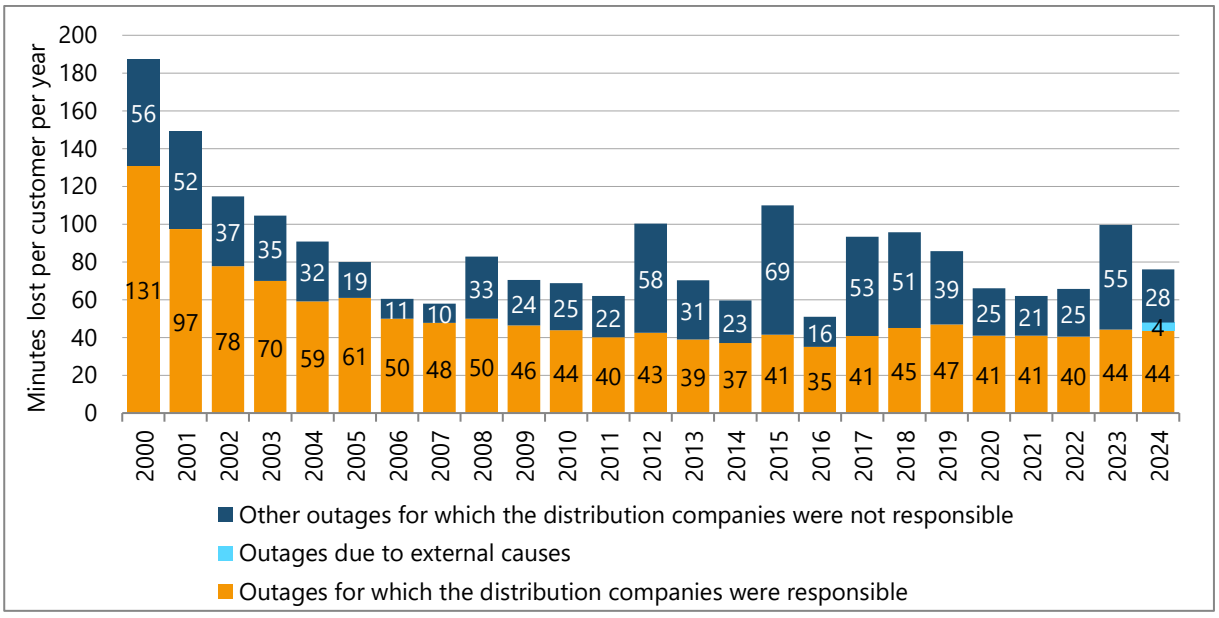
The improved duration performance for 2024 is partly associated with the reduced impact of extreme weather events (floods, windstorms, and heat waves): in 2024, the regions most affected by such weather events were Campania and, to a lesser extent, Sicily, Puglia, and Sardinia.

Analysing in detail the causes of interruption related to 2024, still under review by the Authority, the duration of unplanned interruptions attributable to distribution companies stands at 44 minutes per user in low voltage (Figure 3.1). Furthermore, the frequency of long and short unplanned interruptions, collectively defined as events exceeding one second, reached 3.68 per low-voltage user (Figure 3.2).

In calculating these values, the following are excluded: interruptions originating on the National Transmission Network and the high-voltage network, exceptional interruptions occurring during periods of disturbed conditions and on days with exceptional lightning activity (identified using two specific statistical methods), interruptions due to exceptional events, acts of public authorities and thefts, as well as interruptions caused by external factors starting from the year 2024.

Individual standards on maximum interruption duration have applied since 2009 to low and medium-voltage users, and since 2012 also to producers at the same voltage levels, regardless of the cause of the outage. Starting from 2024, the standard for maximum interruption duration has been set at 8 hours for both low-voltage and medium-voltage users, and applies to both planned and unplanned interruptions (regardless of the population density of the municipality where the user is located, also referred to as the "degree of concentration").

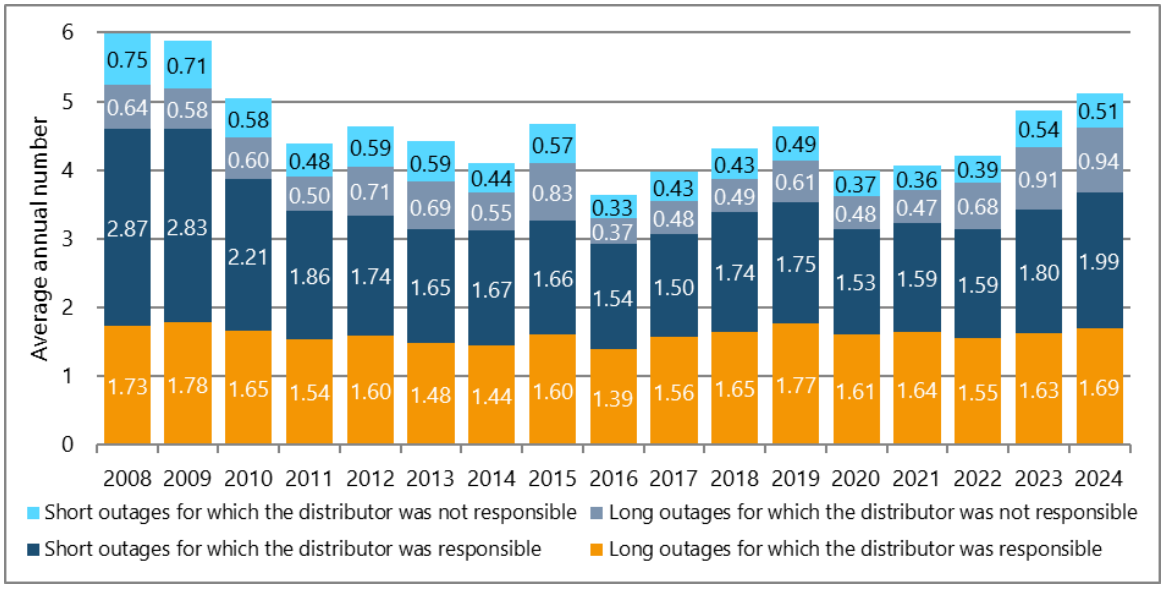
Figure 3.1 Duration of long unplanned interruptions per low-voltage customer(A)



(A) Excluding major incidents on the National Transmission Network, defence system interventions and interruptions caused by theft.

Source: ARERA. Processing of declarations of operators.

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



(A) Excluding major incidents on the national electricity transmission network and defence system interventions.

Source: ARERA. Processing of declarations of operators.

In 2024, distribution companies paid automatic compensation totalling €42.2 million to around 710,000 low-voltage users (an average of approximately €59 per user) and €3.2 million to around 2,800 medium-voltage users (an average of approximately €1,100 per user). For 2024, approximately €27 million in compensation – out of a total of €45.5 million – are covered by the Exceptional Events Fund, established at the CSEA, as they relate to interruptions not attributable to the companies. Just over €18 million in compensation are, instead, borne by the distribution companies or by Terna for long-duration interruptions for which they are responsible.

Network connection times

User connections to the network can be active or passive. "Active connections" are those required by power generation plants to the national electricity 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 national electricity 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[108]. 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.

[108]The calculations made are based on data made available by distribution companies with more than 100,000 customers, in compliance with regulatory requirements. For 2024, data provided by eight of the ten distribution companies that submitted information on electricity generation plant connections to the Authority in time for the preparation of this *Report* were used.

In 2024, Terna received 5,304 connection requests for electricity generation plants, corresponding to a total capacity of 474.3 GW, for which, in the same year, it issued 3,890 connection offers, corresponding to a total capacity of 2,223 GW. The average time for making the quotation available, net of permitted interruptions, was 40 working days. During the year, 1,770 of the 3,890 connection offers made available were accepted, corresponding to a total capacity of approximately 136.6 GW. Only for four of these offers, corresponding to a total capacity of 107 MW, was a request submitted for the provision of the Minimum Technical Solution in Detail (STMD); since Terna did not provide it by 31 December 2024 for any of these requests, no connections related to requests received by Terna in the same year were completed or activated in 2024.

Distribution companies also received over 291,000 connection requests for electricity generation plants to be connected to low- and medium-voltage networks[109]corresponding to a total capacity of 33 GW; in the same year, they issued just over 258,000 offers, corresponding to a total capacity of 20.8 GW, with average times for issuing the offer, net of permitted interruptions, equal to:

- 15 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;
- 58 working days, for required feed-in power of more than 1,000 kW.

More than 245,000 of the total offers made available were accepted during the year, corresponding to a total capacity of 8.3 GW.

In relation to the requests received in 2024, more than 185,000 connections were completed within the year, corresponding to over 1.9 GW, with average connection times, net of permitted interruptions, equal to:

- 22 working days in the case of simple works[110]
- 66 working days in the case of complex works[111];

while the average activation time for connections, net of permitted interruptions, was 5 working days.

As in the previous year, in 2024 e-distribuzione was again the only distribution company to have received connection requests for electricity generation plants to be connected to high-voltage networks. More specifically, e-distribuzione received 630 requests, corresponding to a total capacity of 11.9 GW; in the same year, the company issued 322 offers, corresponding to a total capacity of nearly 6.3 GW, with average times for issuing the offer, net of permitted interruptions, equal to 61 working days. Among the offers made available, 93 of them, corresponding to a total capacity of 1.8 GW, were accepted during the year; for two of these (just over 28 MW in total capacity), a request for the provision of the STMD was submitted by 31 December 2024.

[109] Please note that the data reported refer exclusively to activities that were carried out in 2024 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*.

[110] 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.

[111]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.

Table 3.7 Connections of passive users with electricity distribution networks

VOLTAGE LEVEL	NUMBER OF CONNECTIONS		AVERAGE TIME (WORKING DAYS)(A)	
	2023	2024	2023	2024
Low voltage	250,395	183,556	9.9	7.5
Medium voltage	1,635	1,296	21.5	26.3
TOTAL	252,030	184,852	13.2	11.6

(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.

With regard to **passive user connections** (Table 3.7), the data collected show that in 2024 a total of 184,852 connections were made to distribution networks, almost all of them at low-voltage. For 80% of the requests, the supply was activated during the year. The average time to connect customers was 11.6 working days.

The data show a significant decrease in the number of connections (-26.7%) compared to 2023, but an overall improvement in connection times: from 13.2 to 11.6 days. More specifically, in 2024 low-voltage connections required an average time of 7.5 working days for completion, compared to 9.9 days in 2023. In contrast, medium-voltage connections took an average of 26.3 working days in 2024, up from 21.5 days in 2023. 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.

3.1.6 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).

3.1.7 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).

3.1.8 International coordination on the topics of electricity and natural gas

Coordination between European countries

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 2024, 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 is headed by a director, currently the Danish national Christian Zinglersen, who was reappointed at the end of December 2024 for a second term ending in December 2029, and includes a Board of Regulators (BoR), composed of 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 to the BoR the decisions that the Agency proposes to adopt. The BoR delivers a binding opinion by a qualified two-thirds majority. Pursuant to Regulation 942/2019, the BoR may formulate amendments to the Director's recommendations which, once endorsed by a qualified majority, are binding considerations for 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, frequently assuming leadership positions within working groups tasked with the preparation of the Agency's dossiers. Specifically, in 2024 the Authority's representatives acted as leads of dedicated task forces on electricity (system operation and facilities) while also playing an active role in deliberations within the various working groups through the provision of comments and recommendations.

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 President has been held by

Annegret Groebel, Head of Department at the German regulatory authority.

CEER serves as a platform for cooperation, information exchange and support among national energy regulators in Europe, and acts as their interface at both European and international levels. CEER supports and collaborates with ACER and is also committed to sharing best regulatory practices globally through its membership in the International Confederation of Energy Regulators (ICER), which brings together similar associations from around the world, including NARUC (America), ERRA (Central/Eastern Europe) and MEDREG (Mediterranean region).

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.

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.

ACER Market Monitoring

Under Article 15 of Regulation (EU) 942/2019, the Authority worked with ACER and CEER to gather data for the annual market monitoring report (www.acer.europa.eu/monitoring/MMR).

In 2024, monitoring activities focused on trends in the wholesale electricity and gas markets (LNG included), the availability of transmission capacity for cross-border trades, the advancement of electricity market integration, and security of supply, with emphasis on system adequacy and capacity remuneration. Further attention was given to obstacles to the participation of distributed resources in the market and to retail market dynamics, including consumer protection, the latter addressed in a joint ACER–CEER report. For the first time, detailed insights have been produced on electricity sector infrastructure and the growing hydrogen market.

In light of the expanding breadth of monitoring activities and the increased analytical depth required in certain domains, ACER has, in recent years, modified its publication strategy by releasing a series of volumes over the course of the year, each devoted to distinct thematic areas.

The challenges of the future electricity system

Following the recent energy crisis and European legislative initiatives, ACER and CEER have elaborated reflections on the prospective electricity system, with a view to identifying long-term decarbonisation challenges. These reflections build on analyses undertaken by other organisations and are framed in the context of preparations for the appointment of the new European Commission.

Relations and initiatives with non-EU countries

In 2024, the Authority reaffirmed its international commitment to promoting cooperation and collaboration aimed at encouraging the exchange of best practices and technical and institutional knowledge, both bilaterally and multilaterally. With particular reference to the energy sector, the Authority has strengthened its work through participation in major international *networks* and has promoted the development of energy markets with the aim of facilitating their integration through targeted capacity building activities. Considering the rapid changes and challenges faced by the

energy sector in recent years, the Mediterranean and Balkan regions continue to be of strategic interest for our country's energy system.

Energy market in south-eastern European countries

With a view to supporting the integration process of Euro-Balkan markets, in 2024 the Authority continued the activities undertaken in previous years. Specifically, by taking part in the activities of the Energy Community Regulatory Board (ERCB), the Authority continued to coordinate and support the implementation of the *acquis communautaire* for the contracting parties to the Energy Community Treaty.

In 2024, no significant progress was recorded in the process of integrating the energy markets of the Balkan countries with that of the European Union, as the package of measures (Electricity Integration Package) adopted by the Ministerial Council in December 2022 had not yet been transposed[112], let alone implemented, despite a transposition deadline of 31 December 2023.

The transitional phase of Regulation (EU) 956/2023 Cross Border Adjustment Mechanism (CBAM) began on 1 October 2023. The regulation provides that, starting from 1 January 2026, importers in Member States will be required to pay the equivalent value of the CO_2 embedded in certain goods and services, including electricity, imported from third countries that do not apply a carbon pricing system similar to the ETS. The amount will be determined using the CO_2 price set by the European ETS. The regulation provides for a temporary exemption (until 2030) for electricity imports from third countries whose electricity markets have been integrated with that of the Union by 31 December 2025. The failure of Energy Community countries to transpose and implement the Electricity Integration Package on time threatens the 2025 market integration target and effectively excludes them from CBAM exemption.

On 5 and 6 June 2024, the 29th Energy Community Electricity Forum was held in Athens. The debate focused on key strategies for developing an integrated and sustainable electricity market, in particular the transposition and implementation of the Electricity Integration Package, the energy transition, and investment in renewable energy resources. During the discussion, the need to implement regulatory reforms and adopt contractual instruments such as Power Purchase Agreements (PPA) and Contracts for Difference (CfD) to improve market efficiency was addressed. In addition, the necessary conditions were identified for the implementation of market coupling, namely the integration of the Energy Community contracting parties into the European Union's single market for day-ahead trading (SDAC) and intraday trading (SIDC). The discussions also highlighted the need to integrate renewable energy sources and improve grid connection processes to support the energy transition.

The 19th Energy Community Gas Forum was held in Vienna on 17 September 2024, focusing on two key factors reshaping the gas sector: the replacement of gas supplies from Russian sources and Europe's commitment to decarbonisation. The Forum acknowledged Europe's commitment to

[112]The legal framework provides for the transposition of European Union energy-related measures, in particular the adoption of Directive 2019/994/EC On common rules for the internal market for electricity and amending Directive 2012/27/EU, Regulation (EC) 943/2019 On the internal market for electricity, Regulation (EU) 942/2019 Establishing a European Union Agency for the Cooperation of Energy Regulators, Regulation (EU) 941/2019 Risk Preparedness Regulation, the network Codes/Guidelines on markets and system operation, and specifically the regulations on Capacity Allocation and Congestion Management – CACM 2015/1222, Forward Capacity Allocation – FCA 2016/1719, Balancing – BAL 2017/2195, System Operation – SO 2017/2226, and Emergency and Restoration – E&R 2017/2196.

decarbonisation through the recently adopted package on hydrogen and the gas market and considered the future adoption of these measures within the context of the Energy Community.

Balkan Energy School – BES

The Balkan Energy School (BES)[113] is managed by a non-profit association under Italian law, promoted by the Italian regulator; it organises technical seminars that support the acquisition and transfer of knowledge, as well as the development of regulatory capacity in the energy sector, with particular reference to the Balkan and South-East European regions.

In 2024, the association played a prominent role in fostering technical knowledge exchange to support the full integration of Euro-Balkan energy markets. Indeed, cooperation continued successfully with the intergovernmental Central European Initiative (CEI), within the framework of the Know Exchange Programme (KEP), funded by a grant from the Italian Government managed by the European Bank for Reconstruction and Development. The project "Support for strengthening energy regulatory authorities in the Western Balkans" is currently underway, within which the following seminars have been organised:

- Decarbonisation in the Balkans and the implications of the CBAM regulation, 4 April, Milan;
- The future of the electricity market in Montenegro and Bosnia and Herzegovina, 12 and 13 November, Sarajevo.

Also in 2024, the KEP project "Supporting the Albanian Regulatory Authority to improve the efficiency of the wholesale electricity market", started in 2023 for the Albanian regulator (ERE), came to an end; the following seminars were organised during the year:

- The new European electricity market design and its implications for the Balkans, 8 May, Tirana;
- The operation of the Gestore dei Mercati Energetici, with a visit to the GME trading room, 23 September, Rome.

On 7 May, the report "Assessment of the Albanian electricity market design and performance" was presented at the Italian Residence in Tirana. It starts with an overview of key aspects of the Albanian electricity market - supply, demand, interconnections and cross-border flows - and continues with an assessment of the legal and regulatory framework and the sector's governance. The report examines the operation of Albania's wholesale electricity market, which was structured around a power exchange introduced in April 2023. The Report reviews market outcomes for the period from May to December 2023 and highlights the strong correlation between electricity prices listed on the Albanian exchange ALPEX and those listed on the Hungarian exchange HUPX. Further attention is given to the market coupling project between Albania and Kosovo, to the issues raised by some operators regarding the functioning of the balancing market, and to the measures aimed at mitigating market power. Finally, the Report includes a comparison between the recently launched Albanian market and the initial structure of the Italian market (2005), with the aim of providing useful insights for Albanian *policy makers* based on the Italian experience. The report concludes with a list

[113] V. www.balkanenergyschool.org. Founded in 2022, the association is based in Milan at the Italian Regulatory Authority for Energy, Networks and Environment, and includes as founding members the Authority itself along with the energy regulators of Albania (ERE), Bosnia and Herzegovina (SERC), Montenegro (REGAGEN), and North Macedonia (ERC). As of 2023, the Greek regulator (RAAEY) also became a member of the Association, while the Serbian regulator (AERS) is an observer. BES operates within a geographical scope that covers Energy Community Treaty signatories, EU Member States subject to Title III of the Treaty (i.e. those bordering signatory countries), and any other countries with current or potential interest in the region.

of recommendation papers regarding market liquidity, the timing of price updates applied to final customers, tenders for the supply of the supplier of last resort, the deployment of smart meters, and long-term price signals.

At the request of the Albanian regulator, the document was subsequently integrated with an *addendum*, also available on the BES website, regarding the impact of the EU Cross Border Adjustment Mechanism regulation. (CBAM) on electricity exports from Albania.

During the year, attention was also devoted to bilateral relations between Italy and Montenegro and their respective regulators, in light of the physical interconnection between the two countries - the Monita power line - and the process leading to electricity market coupling between them. On 24 May, a first meeting of the Italy–Montenegro energy roundtable was held in Rome, hosted by the Ministry of the Environment and Energy Security, with the participation of Montenegro's counterparts in regulation, transmission system operation and the power exchange, with the aim of drafting a Memorandum of Cooperation between the two countries in preparation for electricity market coupling. On 8th May, the two regulators signed a Memorandum of Cooperation, which defined the governance of their cooperation.

Energy market in Mediterranean countries

In 2024 the Italian regulator continued its activities in support of the MEDREG Association (Mediterranean Energy Regulators), of which it is the permanent Vice-President, taking part in the following meetings:

- On 12 June, the 4th MEDREG Presidents' Workshop, bringing together energy regulators at Selinunte. The workshop provided participants with the opportunity to debate the potential of the Mediterranean region and, more precisely, on:
  - central role of the Mediterranean and energy dynamics in the region. This session explored the connection between geopolitics and the energy dynamics of the Mediterranean region in terms of energy security and cooperation;
  - cross-border energy trade and isolated energy systems. This session addressed the challenges and opportunities of cross-border energy trade in the Mediterranean region, given the presence of isolated systems and differing regulatory frameworks. Additionally, participants analysed business models, innovative financing mechanisms and strategies for the integration of renewable energy into isolated energy systems.

  The workshop concluded with a round-table discussion with the presidents of MEDREG, who agreed on a joint stance, the "Selinunte Statement", aimed at reinforcing their cooperation.
- On 13th June, 37th MEDREG General Assembly, in Selinunte, during which the activities set out in the work plan were presented, to be completed by the end of the year:
  - Institutional Group: update of the "Regulatory Outlook" report;
  - Electricity Group: update of the "MEMO" (Mediterranean Electricity Market Observatory) report;
  - Renewables Group: preparation of the report "Regulatory Framework for the Development of Energy Storage and Distributed Flexibility Resources";
  - Gas Group: drafting of the report "Green LNG as a Hub for the Energy Transition". Furthermore, within the gas group, the hydrogen task force has presented the first report on the implementation of hydrogen in the Mediterranean countries.
- On 3rd and 4th December, Workshop Shaping the Euro-Mediterranean Energy Market: Progress and Prospects and 38th MEDREG General Assembly, in Brussels. The purpose of the debate was to discuss the development of infrastructure and energy exchanges, in order to ensure greater

security of supply in the Mediterranean area. It is worth noting that MEDREG provides support to its members in order to establish an integrated Mediterranean energy market. This becomes even more relevant when considering the appointment of a Commissioner for the Mediterranean, as well as the introduction of the "Pact for the Mediterranean", aimed at building partnerships focused on energy, investments, and other key areas in the Euro-Mediterranean region, extending to the Middle East and the Gulf regions.
The following day, the 38th General Assembly took place, during which the positions of President, Vice-Presidents, and heads of the working groups were renewed for the 2024–2026 term. The Association's new Board consists of the President of the Montenegrin regulator (REGAGEN), Branislav Prelevic, serving as President, the President of the Algerian regulator (ARH), Rachid Nadil, and a member of the Board of the Jordanian regulator (EMRC), Mohammad Maayah, in the role of Vice-Presidents. The Italian Authority will continue to hold the role of permanent Vice President. The Authority has also been given the position of Head of the technical group for institutional matters. With regard to technical activities, all the reports included in the 2024 activity plan were approved.

Eastmed Gas Forum (EMGF) Advisory Committee of Independent Authorities

The Regulatory Authority Advisory Committee (RAAC), or Advisory Committee of the Regulators of the Eastmed Gas Forum (EMGF) – an international organisation comprising Cyprus, Egypt, France, Jordan, Greece, Israel, Italy, and the Palestinian Authority with the aim of promoting the exploitation of the region's natural gas resources and creating an integrated regional market – did not carry out specific activities in 2024, except for a dialogue with the Organisation's Secretariat, which focused on updating the Rules of Procedures.

National Energy Ombudsmen Network (NEON)

NEON – National Energy Ombudsmen Network – promotes the development and dissemination of ADR (Alternative Dispute Resolution) in the energy sectors, also within the framework of activities and initiatives related to the evolution of the European regulatory framework, both sector-specific and cross-cutting, for consumer protection, including through the exchange of experiences and good practices and the sharing of activity reports among its members.

Arera has been a member since 2016, having established the Conciliation Service and as the authority responsible for ADR under the Consumer Code (for more details, see the following Chapter on consumer protection).

In addition to Italy, the association *Ombudsmen* [114] includes out-of-court dispute resolution bodies operating both within and outside the EU, 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 Wallonia (CWAPE Commission Wallonne pour l'Energie).

[114] *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.

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 2024 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:

- India. On 22 April, a bilateral meeting took place at the European University Institute in Florence between the Italian regulator and the Electricity Regulatory Commissions of India. The event, promoted by the Florence School Global, aimed to facilitate the knowledge sharing related to the energy transition and the integration of renewables.
- Malawi. The bilateral meeting between this Authority and a high-level delegation from the Malawi Energy Regulatory Authority (MERA) was held on 18 April. Topics covered included the importance of setting up an independent regulator, the role of the national regulatory authority in the evolution of the Italian power system in the context of rising renewable energy, and the digitalisation processes.

3.1.9 Implementation of Network Codes and Guidelines for the Integration of European Electricity Markets

Integration of the wholesale electricity market and implementation of European regulations

Network Codes and Guidelines constitute technical regulatory rulings, designed to facilitate the completion of the internal energy market. Informally, they can be grouped into three major categories: market, connection, and network management.

Table 3.8 Network codes and guidelines provided for by Regulation (EC) 714/2019

CODE	REGULATION	ABBREVIATION (ACRONYM)	EFFECTIVE DATE
Market Codes	Regulation (EU) 2015/1222	*Capacity allocation and congestion management guideline* (CACM Gl)	15 August 2015
	Regulation (EU) 2016/1719	*Forward capacity allocation guideline* (FCA Gl)	17 October 2016
	Regulation (EU) 2017/2195	*Electricity balancing guideline* (EB Gl)	18 December 2017
Connection Codes	Regulation (EU) 2016/631	*Requirements for network code generators* (RfG NC)	17 May 2016
	Regulation (EU) 2016/1388	*Demand connection network code* (DCC NC)	7 September 2017
	Regulation (EU) 1447/2016	High voltage direct current network code (HVDC NC)	28 September 2016
Network management codes	Regulation (EU) 1485/2017	System operation guideline (SO Gl)	14 September 2017
	Regulation (EU) 2196/2017	Emergency and restoration network code (ER NC)	18 December 2017

Source: ARERA.

Regulations are categorised as Network Codes (NC) and Guidelines (GL): the Network Codes define rules that can be directly applied by all Union countries, whereas the Guidelines offer general guidelines, on the basis of which a series of implementing measures, known as Terms and Conditions or Methodologies are to be elaborated. The publication of regulations does not, therefore, complete the work of developing and issuing secondary rules; conversely, each regulation as a guideline

foresees the preparation, by the Transmission System Operator (TSO) and/or the Nominated Electricity Market Operator (NEMO), of specific provisions (namely, the methodologies) to be assessed and approved by the regulatory authorities of each EU member state or ACER; methodology development can also be provided for under Network Codes, albeit to a lesser extent.

Regulation (EU) 2195/2017 (Balancing Regulation)

During 2024 there have been developments regarding the implementation of the Balancing Regulation and participation in European balancing platforms. In February 2024, the Authority formally concluded[115] the fact-finding inquiry launched in September 2023, the purpose of which was to analyse the underlying causes and explore potential solutions to the anomalies detected in imbalance price formation following the Italian system's integration into the European PICASSO platform for the exchange of balancing energy from automatic frequency restoration reserves (aFRR). According to the Authority's analyses, the occurrence of negative marginal prices on the platform for the Italian system invariably coincided with the convergence of two or more Load Frequency Control (LFC) Areas within the same uncongested region, noting that Italy's sole interconnection with other aFRR platform countries is via Austria. In nearly all instances, this phenomenon was attributable to downward aFRR requirements issued by Terna in excess of the shared secondary reserve half-band, which resulted in the procurement of foreign offers at uncapped prices. Initially, PICASSO required connected TSOs to address immediate balancing requirements through aFRR procured from the platform absent any price guidelines, disregarding the existence of alternative, slower reserves that were equally capable of maintaining system balance and frequency restoration, and which might have been more cost-efficient.
On the basis of these findings, the Authority determined to temporarily withhold participation in the platform, at least until such time as the mitigation measures advanced by the European TSOs at the beginning of 2024 have been implemented. These proposals included amendments to the platform implementation framework and pricing methodology and were approved by ACER in July 2024. Following this development, the prerequisites for platform reconnection have been met, and dialogue is ongoing between Terna and the regulator to define the regulatory framework necessary for the secure resumption of participation.
The February 2024 [116]provisions also required Terna to prepare and submit to the Authority, for approval, an updated work plan for the launch of participation in the MARI platform for the exchange of balancing energy from manual frequency restoration reserves (mFRR), allowing sufficient time for operator consultation regarding implementation choices and for assessing potential negative impacts on the national system. This work plan has been approved[117] in May 2024.
In the context of European cooperation under the compliance and enforcement working group, regulatory authorities reached unanimous agreement on an opinion document by which they commit to incorporating, within their national regulatory frameworks, verification mechanisms and potential enforcement actions against the TSO, with the aim of securing adherence to connection obligations and participation in European platforms.
Finally, 2024 marked the last year of Terna's operations on the TERRE platform, for the exchange of

[115] Resolution of 27 February 2024 60/2024/R/eel.

[116] Resolution 60/2024/R/eel.

[117] Resolution of 8 May 2024, 174/2024/R/eel.

balancing energy from replacement reserves. In October 2024, the Authority approved [118]Terna's proposal to withdraw from the platform by the end of the year. This decision is consistent with that of the TSOs engaged in the TERRE project to permanently discontinue the platform by 2025, in light of innovations introduced by Regulation (EU) 1747/2024 to the European market design, which render the platform's traded product incompatible with the trajectory of the intraday market.

Regulation (EU) 1222/2015 (CACM Regulation)

During 2024, the process of reorganising Capacity Calculation Regions (CCRs) in Europe was finalised. In March of that year, ACER authorised [119] the merger of the Core and Italy North regions, thereby creating the Central Europe CCR for the purposes of capacity calculation in the day-ahead market.
Following this decision, the TSOs of the new region, together with Swissgrid, launched a public consultation on 17 October 2024 on the proposed methodology for capacity calculation for the day-ahead market in accordance with the CACM regulation. Under this methodology, the Italian system will also adopt the flow-based capacity calculation and allocation mechanism, in contrast to the current ATC approach. Through active engagement in working groups alongside other regional regulators and participating TSOs, the Authority monitored and evaluated the methodological development process, with the objective of guaranteeing that the forthcoming flow-based capacity calculation procedures are consistent both with the objectives of market integration and with the operational security requirements of the national electricity system.
With reference to the application of the CACM Regulation, 2024 saw ARERA and the Montenegrin regulator REGAGEN commence the activities of the implementation group dedicated to the Italy–Montenegro market coupling project. The group brings together the transmission system operators Terna and CGES, as well as the market operators GME and BELEN. In this context, the Ministerial Council of the Energy Community had, by the end of 2022, adopted the principal market regulations (CACM, FCA, SOGL, ER, and Balancing), adapted to the Balkan regional framework. A key outcome was the establishment of the Italy–Montenegro Capacity Calculation Region, within which the methodologies mandated by the CACM regulation, and already adopted for Italy in the Italy North and Greece–Italy regions, are to be elaborated and formally approved.

European Network Code for Demand Response

Under Article 59(1)(e) of Regulation 943/2019 on electricity, the European Commission began in 2021 the process of developing a Network Code to standardise participation rules in demand response markets, covering both storage and distributed generation. During 2022, ACER, in cooperation with all European regulators, developed and approved the reference framework guidelines, which must be followed by the entities tasked with drafting the future Network Code. In March 2023, the European Commission formally invited ENTSO-E and DSO Entity to develop and submit to ACER a proposal for the demand response network code, in line with the principles established by the framework guidelines. This proposal was formally submitted in May 2024. Throughout the year, the Authority engaged actively in the working groups convened under ACER's coordination, providing input to the revision of the code and to the drafting of ACER's formal recommendation addressed to

[118] Resolution of 29 October 2024, 449/2024/R/eel.

[119] Decision 4/2024 of 19 March 2024.

the European Commission.
The Authority's objective has been to guide rules and procedures towards balanced, non-discriminatory approaches, preventing unjustified subsidies for distributed and flexible resources, consistent with the national regulatory framework defined through pilot projects.

Regulation (EU) 943/2019 – Adequacy

Following the provisions of Regulation (EU) 943/2019, ENTSO-E has developed a series of methodologies for the determination of the Value of Energy Not Delivered (VoLL), the Cost of New Entrant (CoNE) and the Adequacy Standard (RS) and for the European Resource Adequacy Assessment (ERA). – ERAA), approved by ACER during 2020 (see in particular decision no. 24/2020).
The ERAA, via a simulation model based on data from TSOs covering demand, generation, storage, and the electricity network, allows ENTSO-E to assess annually the projected adequacy of the European electricity system across a ten-year horizon. Through the ERAA, it is therefore possible to identify potential expected adequacy issues, thus providing a solid and objective basis for the decisions of States in support of the possible introduction of complementary measures to the energy market (for example, capacity markets). The analysis can be supplemented by adequacy assessments at the national level (NRAA).
The ERAA methodology is expected to be fully implemented by ENTSO-E with the 2024 ERAA. In the meantime, ENTSO-E implemented simplified versions in 2021 (ERAA 2021) and in 2022 (ERAA 2022), which ACER decided not to approve precisely because such simplifications could potentially compromise their reliability (overestimating, according to the Agency, the concession risk).
On 15 December 2023, ENTSO-E submitted the results of the ERAA 2023 to ACER for approval, including Scenario A (reference) and an additional Scenario B (sensitivity), as required by the regulation. ENTSO-E's analysis concludes that:

- adequacy at national level depends heavily on assumptions about the evolution of the electricity systems of neighbouring countries and, therefore, highlights the importance of regional coordination in the decision-making process (see, for instance, the introduction of the capacity market);
- in the short and medium term (target years 2025 and 2028), economic assessments indicate the existence of a significant amount of capacity at risk of decommissioning that will not be replaced by equivalent investments over the same time frame. This translates into the potential reduction of available margins with adequacy risks in some countries and, above all, the critical issue of maintaining the current pace of integration of renewable energy resources;
- in the long term (target years 2030 and 2033), economic assessments indicate significant risks for the projected thermal generation fleet and, simultaneously, potential new major investments (mainly natural gas power plants), driven by high market prices expected for a few hours per year (so-called scarcity hours). In 2033, the countries with the highest capacity at risk are Great Britain, Poland, Italy, Czech Republic, Cyprus, Germany, Luxembourg, Hungary, Denmark, Serbia, France, Belgium.

The 2023 ERAA introduces, for the first time, modelling of the automatic market price cap adjustment pursuant to ACER Decision No. 1/2023, under which the simulated cap rises from €4,000/MWh to €8,500/MWh. The principal theoretical implication is an enhanced incentive for investment, contributing to the relative adequacy of the system in the coming years, also in light of the simplified representation of the risk premium. This is particularly evident in Scenario A (central reference, which serves as a reference for the potential introduction of the capacity market under Regulation (EU) 943/2019), whereas Scenario B (sensitivity), albeit due to methodological simplifications, shows a

lower propensity for purely market-driven investments.
With Decision No. 6/2024 of 2 May 2024, ACER approved the ERAA for the first time, specifically recognising that the analysis produced by ENTSO-E improved the consistency of the assumptions used in modelling adequacy risks and investment behaviours, properly taking into account the evolution of the European grid over time and the EU's greenhouse gas emission targets for 2030.
However, for the ERAA to be fully methodologically compliant and a reliable tool for decision-makers, ACER recommends that ENTSO-E enhance the 2024 ERAA through more robust modelling approaches, particularly in relation to investment strategies in generation and storage assets, estimating interzonal capacity using the flow-based methodology, and achieving greater consistency with European market rules.

Regulation (EU) 943/2019 – Congestion Rents

Article 19 of Regulation (EU) 943/2019 stipulates that congestion rents must primarily be applied to ensuring the availability of capacity for inter-zonal exchanges or to maintaining and increasing such capacity (priority objectives). Only once these objectives are fulfilled may congestion rents be allocated to reducing network tariffs. Responsibility for verifying compliance with these objectives lies with the regulatory authorities, on the basis of a methodology developed by the TSOs and approved by ACER (see ACER Decision No. 38/2020).

In this context, in April 2024 the Authority published [120]data on the balance of revenues and costs resulting from the procedures for allocating transmission capacity on the interconnection network with foreign countries and on the borders between internal market zones within Italy for the period January 2023 to December 2023. Unlike in previous years, from the 2023 reporting period onwards, figures are calculated before deducting firmness costs and compensation for non-nominated long-term physical or financial transmission rights, in line with ACER Recommendation No. 01/2022. These values are shown in the Table 3.9 for the portion attributable to Terna, broken down by border, and also including the congestion rents related to borders between internal bidding zones in Italy.

Table 3.9 Border congestion rents for the year 2023

BORDER	CONGESTION RENT (€M)
Austria	37.18
France	673.57
Greece	63.82
Montenegro	47.98
Slovenia	92.28
Switzerland	270.55
Internal areas	169.10
TOTAL	1,354.48

Source: Terna.

Congestion rents net of firmness costs and the remuneration of non-nominated rights (Terna's share, thus attributable to the Italian system) for the period January to December 2023 amount to approximately €922 million (compared with €832 million in 2022), of which €737 million relates to capacity allocation at the borders with foreign countries and the remaining €185 million to the

[120] Resolution of 9 April 2024, 137/2024/I/eel.

borders between internal Italian bidding zones (the value resulting from the sum of national rents of €169 million and the FTR balance of +€16 million).

In April 2024, the Authority confirmed that Terna had used these proceeds in line with the purposes defined in Article 19(2) of Regulation (EU) 943/2019, and that none were allocated to reducing network tariffs.

3.2 Competition and the functioning of markets

3.2.1 Wholesale markets

Table 3.10 shows the electricity balance in Italy for 2024 compared with the previous year; the data are sourced from Terna and are provisional for 2024.

Table 3.10 Terna's balance of electricity in Italy

AVAILABILITY AND USE (GWh)	2023	2024(A)	VARIATION
Gross production	264,708	273,295	3.2%
Auxiliary services	8,146	9,435	15.8%
Net production	256,562	263,860	2.8%
Received from foreign suppliers	54,572	55,908	2.4%
Sold to foreign customers	3,321	4,908	47.8%
Intended for pumping	2,186	2,074	-5.1%
Absorption of stand-alone storage	12	135	1060.8%
Availability for consumption	305,616	312,650	2.3%
Network leakages	18,244	19,577	7.3%
Consumption net of leakage	287,372	312,650	2.0%

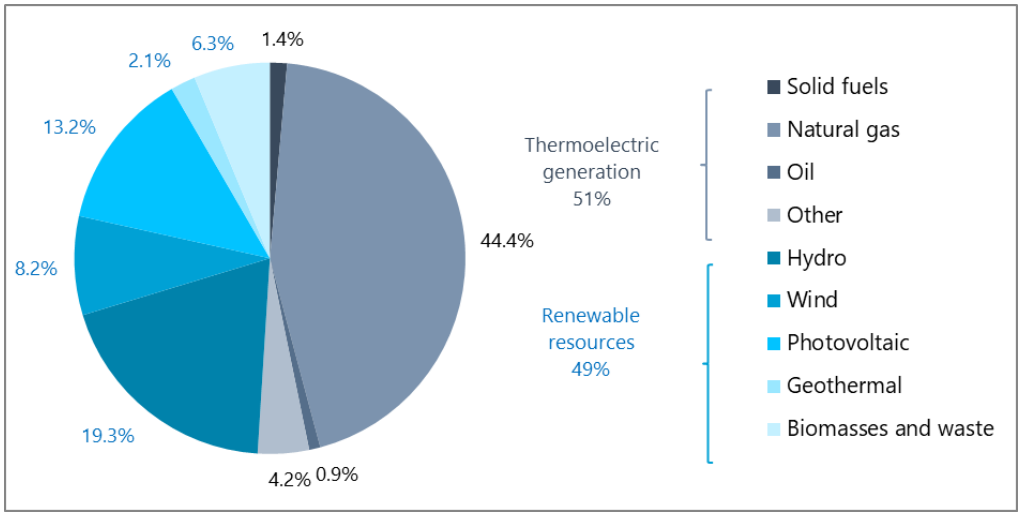
(A) Provisional data.

Source: ARERA processing based on Terna data.

In 2024, electricity demand amounted to approximately 312.7 TWh, up 2.3% compared with 2023. Considering that network losses amounted to 19.6 TWh, electricity consumption rose to 312.7 TWh from 287.4 TWh recorded the previous year. The recovery has affected almost all sectors (see below). Energy available for consumption was met 84.4% by domestic net production, with the remaining 16.3% covered by the balance of imports and exports. Net domestic production increased by 2.8% compared to the previous year, alongside a 2.4% rise in imports and a 47.8% surge in energy exports.

Gross national electricity production also increased from 264.7 to 273.3 TWh (+3.2%). More specifically, there was a 6% decrease in thermoelectric production against a 14.9% increase in energy production from renewable energy resources.

Figure 3.3 Gross electricity production by source in 2024



Source: Terna, provisional data.

In the field of thermoelectric generation, the most significant decrease occurred in production from solid fuels (-70.8%) and petroleum products (-30.4%), while generation from natural gas saw a slight increase (2.1%).

For renewable sources, which contributed 49% (Figure 3.3) to the national electricity production mix in 2024 (up from 44% the previous year), only wind generation decreased (-5.6%) and geothermal generation contracted slightly (-0.8%), while hydroelectric (+30.2%) and photovoltaic (+17.2%) production increased significantly; bioenergy generation also rose markedly, by 7.4%.

Table 3.11 shows, for thermal, renewable, and mixed sources, the number of producers, available capacity, and corresponding production in 2024, using data collected from the Annual Survey on Regulated Sectors conducted by the Authority, which this year covers 89% of the gross generation reported by Terna (provisionally released data). The table shows that mixed operators, with both thermal and renewable generation, hold a large portion of the total capacity, namely 49,050 MW (43% of all capacity), and, as usual, account for just over 3% of the energy producers participating in the survey (574 out of 17,542); their percentage contribution to total generation has decreased further compared with last year, falling from 37.3% to 32.6% (79.5 out of 244.2 TWh in total).

Table 3.11 Producers, plants and electricity generation in 2024

PRODUCERS, PLANTS AND GENERATION BY SOURCE	THERMOELECTRIC	RENEWABLES	MIXED	TOTAL
Number of producers	437	16,531	574	17,542
Gross power (MW)	22,539	42,587	49,050	114,176
Gross generation (TWh)	70.7	94.0	79.5	244.2

Source: ARERA. Annual survey of regulated sectors.

Gross generation by the three main corporate groups, Enel, Eni, and Edison, decreased to 28.6% (from 34.3% in 2023), primarily due to Enel's share falling from 16.9% to 13.4% and Edison's from 7.9% to 6.1%, while the overall reduction for these groups is explained by the decrease in thermal generation. The groups A2A (this year 5.7% versus 5.9% in 2023) and EPH (4.3% instead of 4.8% in 2023) remained, respectively, in fourth and fifth position. The Herfindahl-Hirschman Index (HHI) for gross generation, which has always been very low over time, was 396, showing a significant decrease compared with 2023 (537).

In 2024, the total gross capacity recorded in the Annual Survey stood at 114.2 GW (provisional data), divided into 51% renewable and 49% thermal[121]. The maximum power demand of the electricity system was recorded on 19 July, reaching 57.9 GW (down from the 2023 peak, when peak power demand reached 58.5 GW). The summer peak, however, no longer reached the all-time maximum for the Italian electricity system, recorded in summer 2015 at 60.5 GW.

The four groups with a share of installed gross capacity exceeding 5% remain the same as in 2023: Enel, A2A, Edison, and Eni. The share of capacity held by the first three groups is 38.3%. The HHI index for gross capacity is 762.

The maximum peak demand, amounting to approximately 57.9 GW, was recorded on 19 July between 14:00 and 15:00.

[121] Terna's provisional figure is approximately 137 GW.

Table 3.12 Evolution of demand and installed capacity in the electricity sector

YEAR	REQUEST(A) (TWh)	PEAKING DEMAND (GW)	INSTALLED CAPACITY NET 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	89.4	5	57.1
2007	339.9	56.8	93.6	5	54.7
2008	339.5	55.3	98.7	5	52.0
2009	320.3	51.9	101.6	5	50.6
2010	326.2	56.4	106.6	5	48.2
2011	332.3	56.5	118.8	4	43.6
2012	325.5	54.1	124.6	3	41.2
2013	316.0	53.9	124.5	3	39.1
2014	308.2	51.6	121.8	3	41.2
2015	315.0	60.5	117.0	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	117.2	5	33.6
2022	312.4	57.4	120.9	5	34.4
2023	303.4	58.5	127.8	4	34.3
2024(B)	310.6	57.9	135.3	4	28.6

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

Source: Compiled by ARERA using data from Terna and the Annual Survey on Regulated Sectors.

In Italy, multiple incentive mechanisms coexist for electricity production plants using renewable energy resources, ranging from all-inclusive incentive tariffs (feed-in tariff[122]) to feed-in premium schemes[123]. The calculation of annual public expenditure on feed-in tariff incentives is a function of electricity output and prevailing average market prices. Such costs may be negative where the expenditure incurred by GSE in disbursing fixed all-inclusive tariffs is outweighed by the income realised from wholesale electricity sales. In contrast, for a variable feed-in premium, the cost impact cannot fall below zero.

Overall, the incentivisation of renewable energy resources cost approximately €8.9 billion in 2024, an increase of 26% compared to the previous year. Resources for the support of renewable energy resources are generally placed in the Account for new installations powered by renewable 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

[122] 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.

[123] 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.

(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.

Over the course of the year, approximately 53.5 TWh of electricity benefited from incentive schemes, of which 36% derived from photovoltaic generation, 25% from wind, 22% from biomass, 14% from hydroelectric production, and 2% from geothermal sources. Compared with 2023, hydro and biomass recorded a slight increase, of 0.9 and 0.2 TWh respectively, while the other sources showed a decline. In particular, incentivised production from wind plants decreased (-2.7 TWh) as did that from solar sources (-0.8 TWh).

In 2024, imports increased by about 1.3 TWh over the previous year, from 54.6 to 55.9 TWh (+2.4%). However, exports also increased, and by a higher percentage - from 3.3 to 4.9 TWh (+47.8%); as a result, the sharp rise in net imports seen in 2023 did not occur again in 2024. While electricity imports into the Italian grid increased by 19.2% in 2023, they decreased by 0.5% in 2024. Since electricity demand (according to Terna's provisional data) was 312.7 TWh, the share of national demand met by foreign electricity slightly decreased to 16.3% from 16.8% recorded last year, but remains one of the highest in the past twenty years. Compared with 2023, in 2024 we imported approximately 2.6 TWh more from France, about 500 GWh more from Switzerland, while imports from Slovenia (around 1.6 TWh less), Malta, and Montenegro fell sharply. As a result of changes in volumes, import shares have shifted slightly compared with previous years: in 2024, France accounted for the largest portion (41.4%) of our foreign balance, followed by Switzerland with 40%, and then Slovenia with 8.4%.

The structure of the electricity market

The Energy Markets Operator (GME) is in charge of managing the energy markets, historically divided between the Spot Electricity Market (MPE) – itself subdivided into the Day-Ahead Market (MGP), the Intraday Market (MI), and the Daily Products Market (MPEG) – and the Forward Electricity Market (MTE), which requires physical delivery of electricity. The GME now collects offers on the Balancing and Redispatching Market, previously known as the Dispatching Service Market (MSD) and managed by Terna.

During 2024, no changes occurred in the process of extending the coupling of the Italian day-ahead 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 participating states in Single Day-Ahead Coupling (SDAC)[124]. 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

[124]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.

platform on 19 July 2023, while for access to the MARI platform it has obtained an exemption until 24 July 2024. Operational participation in the PICASSO platform was, however, suspended on 15 March 2024, and Terna was asked to develop a timetable to assess the risks both of re-entering the aforementioned platform and of participating in the MARI platform[125].

As of 31 December 2024, there were 376 registered operators in the electricity market (26 more than in 2023) and 417 on the PCE bilateral contracts platform (29 more than in 2023).

Stock exchange and bilateral contracts

In 2024, the volume of electricity traded on the MGP in the Italian System amounted to 283.9 TWh, an increase of 2.1% compared with 2023. In particular, the volumes traded on the stock exchange increased (226.8 TWh; +8%), to the detriment of bilateral trading recorded on the PCE (57.1 TWh; -16.1%), almost entirely referring to national zones (Table 3.13 and Table 3.14).

Table 3.13 Day-ahead electricity market

YEAR	CONTRACTS ON THE MGP (TWh)		
	Comprehensive	*of which Stock Exchange*	*of which bilateral*
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*
2024	283.9	*226.8*	*57.1*

Source: ARERA processing of GME data.

Table 3.14 Bilateral contracts purchased in the electricity sector

CONTRACTS (GWh)	2019	2020	2021	2022	2023	2024
National	129,368	114,745	112,531	106,736	96,914	90,089
of which Acquirente Unico	-	-	0.02	-	186	317
of which other operators	129,368	114,745	112,531	106,736	96,728	89,772
Foreign	-	4	34	19	2	6
PCE programme balance	-46,804	-44,403	-43,445	-24,490	-28,861	-32,967
Bilateral contracts	82,564	70,346	69,121	78,265	68,055	57,128

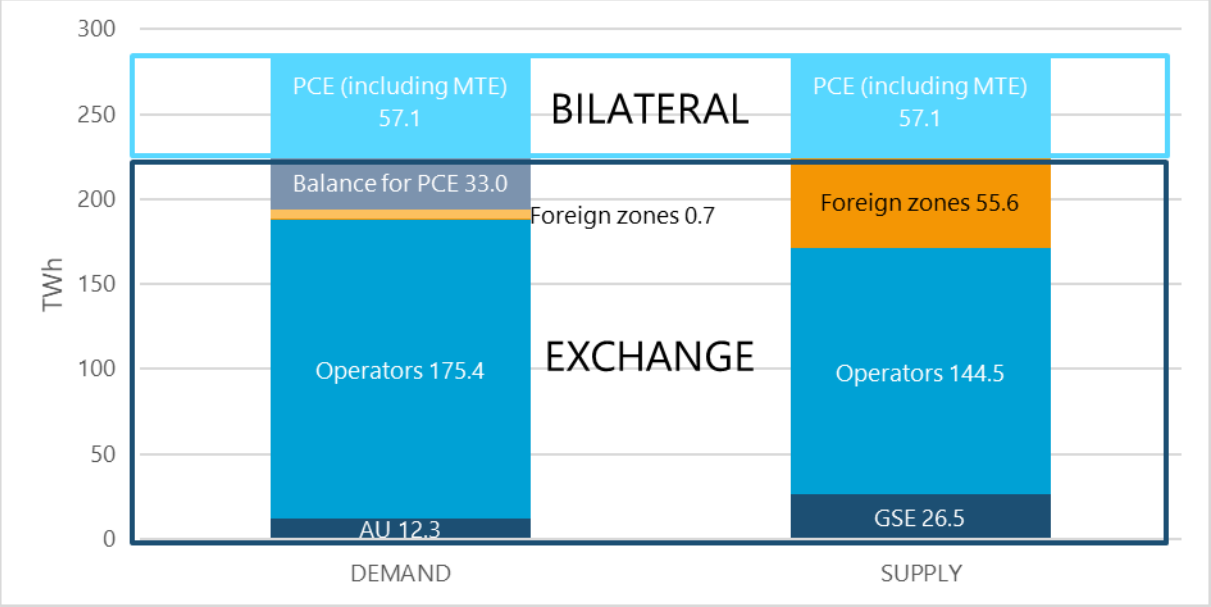
Source: ARERA processing of GME data.

[125] As provided for by resolution 60/2024/R/eel of 27 February 2024.

Cross-border exchanges also increased, driven by a rise in imports, totalling 57.4 TWh (+3%), representing 25% of total exchange sales and 3% of bilateral transactions. Moreover, exports also increased, totalling 5.4 TWh (+41%), with the vast majority traded on the exchange. Following the end of the standard offer service for non-vulnerable household customers, the share of volumes contracted by the Acquirente Unico decreased further (13 TWh; -32%), while GSE sales increased (26 TWh; +8%), which together represent 7% of the volumes traded (-1% compared to 2023) (**Figure 3.4**).

Overall, volumes sold within the national areas grew to 227 TWh (+2% relative to 2023), corresponding to 80% of the system's total sales. By zone, supplied volumes increased in the North (120 TWh; +7%) and Central-South (27 TWh; +8%), while the South (40 TWh; -9%) and Sicily (13 TWh; -12%) experienced a fall.

Figure 3.4 Breakdown of electricity demand and supply in 2024



Source: ARERA processing of GME data.

Thermal plants produced 51% of the electricity, that is, 114 TWh, sold across the national zones. These values are down compared to 2023, when the energy traded in the national zones and originating from thermal plants amounted to 127 TWh, equivalent to 57% of the total. All fuel sources were impacted by the decrease: coal (3.7 TWh; -59%) dropped particularly in the North (-100%), natural gas (94 TWh; -3%) fell in Sicily (-29%) but rose in the Central-South (+84%), and fuel oil (0.3 TWh; -93%) decreased predominantly in the South (-100%).

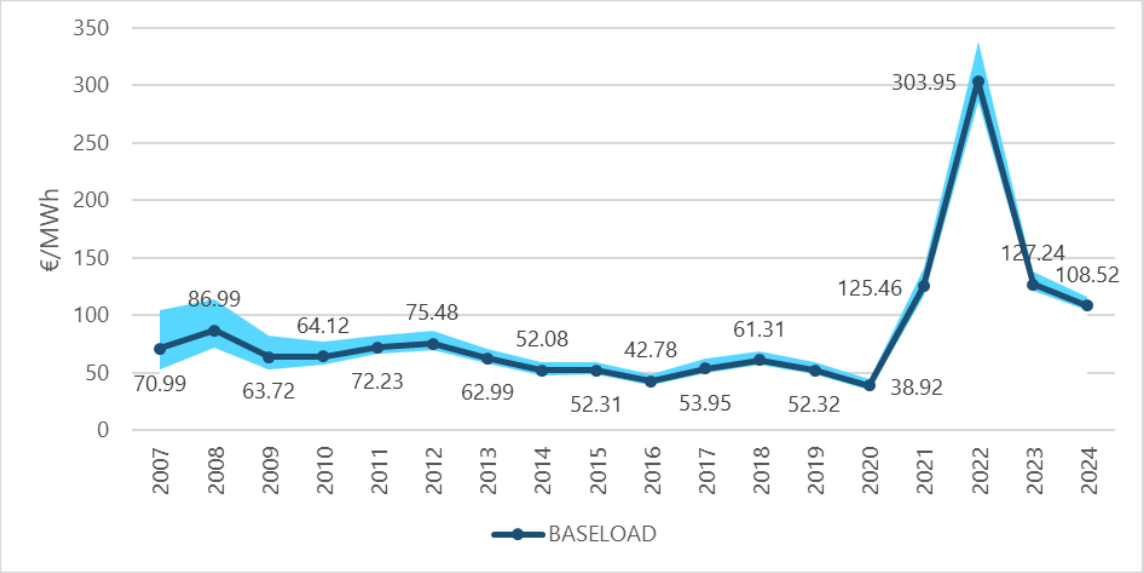
Conversely, sales from plants powered by renewable sources increased (109 TWh; +16%), representing 49% of total sales (+6% compared with 2023). In particular, the share of hydroelectric generation excluding pumped storage rose by 6 percentage points (55 TWh; +31%), especially in the North (+47%), while the share of photovoltaic generation increased by one percentage point (3.3 TWh; +75%), with particularly strong growth in the islands (+264% in Sicily and +104% in Sardinia). Finally, the share produced by wind power plants remained stable (21 TWh; -3%).

3.2.1.1 Monitoring of wholesale market prices

The day-ahead market

The average purchase price of electricity (PUN) in 2024 decreased compared to 2023, reaching €108.5/MWh (-14% compared to 2023); this decrease was distributed across all three-time bands: €116/MWh (-16%) during peak hours, €108/MWh (-14%) during off-peak hours on weekdays and €100/MWh (-14%) during holidays. (Figure 3.5).

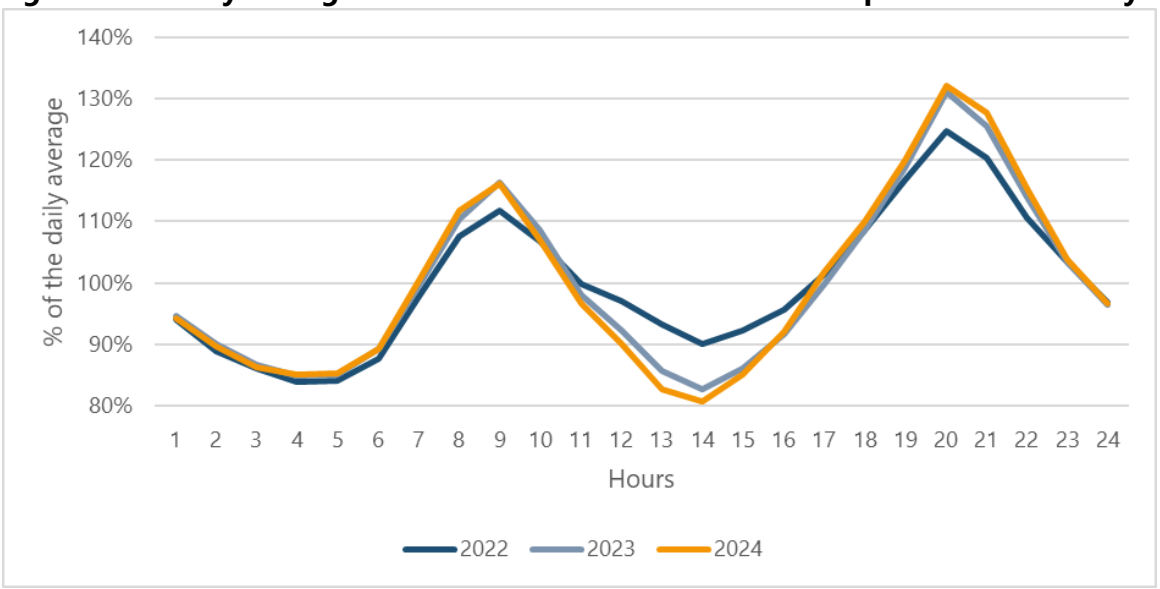
Figure 3.5 Annual trend of the PUN and the peak/off-peak differential



Source: GME.

Examining the hourly profile (Figure 3.6), in 2024 the deviation from the daily average during morning hours (1–8) was unchanged at 91% (as in 2023). The differential in peak hours (9–19) declined slightly to 96% (–1% compared with 2023), while the evening hours (20–24) rose slightly to 113% (+1% on 2023).

Figure 3.6 Hourly average trend of the PUN over 24 hours compared with the daily average

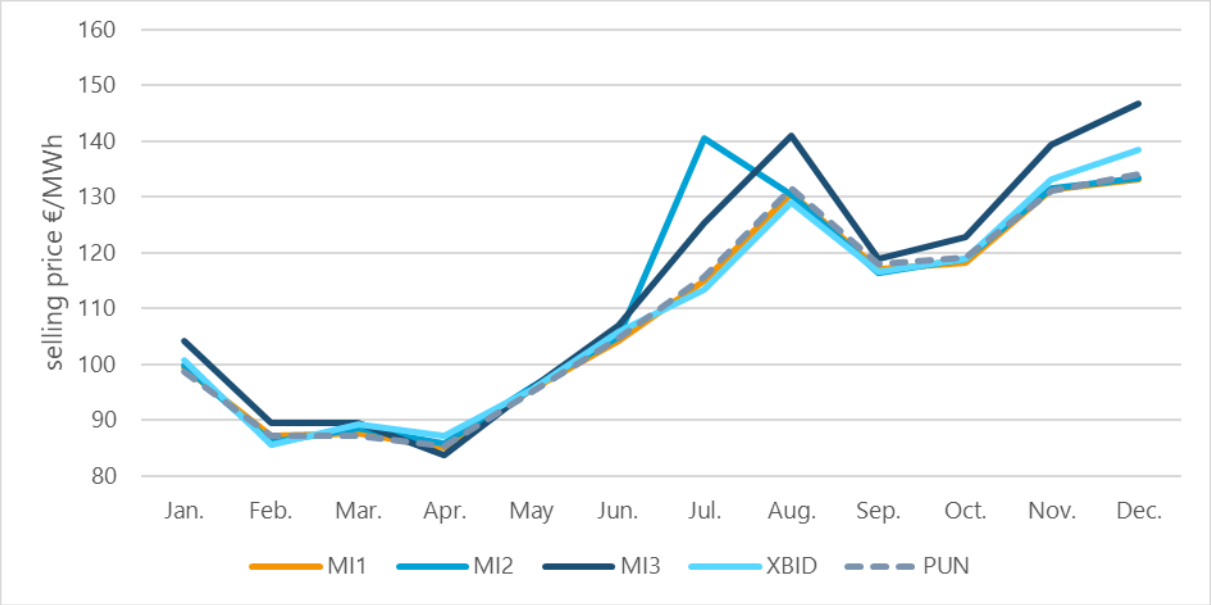


Source: GME.

Intra-day market

Overall volumes traded in 2024 on the Intraday Market (35.4 TWh) increased significantly compared with the previous year (+22%). Most of the volumes (43%, –6 percentage points) were traded in the first auction session MI-A1 (15 TWh; +3% on 2023). Smaller shares were traded in MI-A2 (17%; 5.9 TWh) and MI-A3 (8%; 3 TWh), while the remaining 32% (+9 percentage points) were exchanged in the XBID continuous session (11.5 TWh; +69% compared with 2023).

Figure 3.7 Monthly price trend in the Intraday Market (MI) in 2024



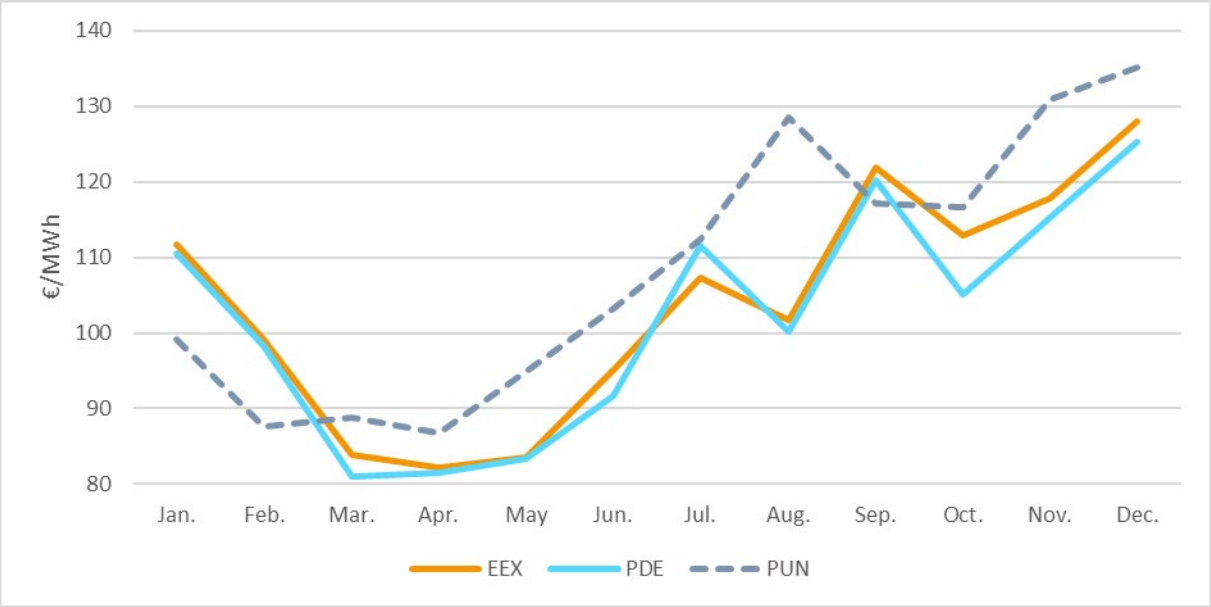
Source: GME.

Average MI prices (Figure 3.7) were strongly correlated with the respective MGP average levels, especially during the first auction session (MI1), for which the yearly average differential versus the MGP price was negative and under one percentage point in all zones; in the second auction session (MI2), the differential was positive in all zones, as was the case in the third auction session (MI3), referring to hours 13-24 only, with a +5.8% increase in Sicily. Throughout the year, average monthly prices were broadly in line with the corresponding MGP sale prices, except in July for MI2 (with an average deviation of about +€15/MWh) and in August, November, and December for MI3 (with an average deviation of up to +€12/MWh).

Forward energy market

In the GME-managed forward market, for standardised products with physical delivery, no matches were recorded in 2024; instead, there were 19 bilateral transactions solely for clearing purposes, totalling 85 GWh (-21% compared with 2023); these transactions concerned only the baseload profile for mostly quarterly and annual maturities. After eight years of inactivity, bilateral transaction registrations for clearing purposes resumed on the MTE, amounting to 107 GWh across 16 pairings.

Figure 3.8 Monthly trend in 2024 of forward prices for the M+1 product by delivery month



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

Examining the price trend of the generally most liquid forward product, namely the monthly baseload with delivery in the following month (M+1), operator transactions (reported on the PDE forward contracts platform under the Integrated Text for monitoring the wholesale electricity and dispatching services markets[126]) caused 2024 prices to fall in Q1 to a minimum of €81/MWh in March and then rise to a peak of €125/MWh in December (Figure 3.8).

This trend is consistent with that observed throughout the year for the underlying PUN, except for the month of August (-€28/MWh).

In 2024, trading in the Daily Products Market (MPEG) increased, recording 509 transactions (+70% compared with 2023) for a total of 752 GWh exchanged, almost entirely for the baseload profile. With regard to the latter, the average price of daily baseload products stands at around €0.86/MWh (-30% compared with last year).

The Italian market in the European context

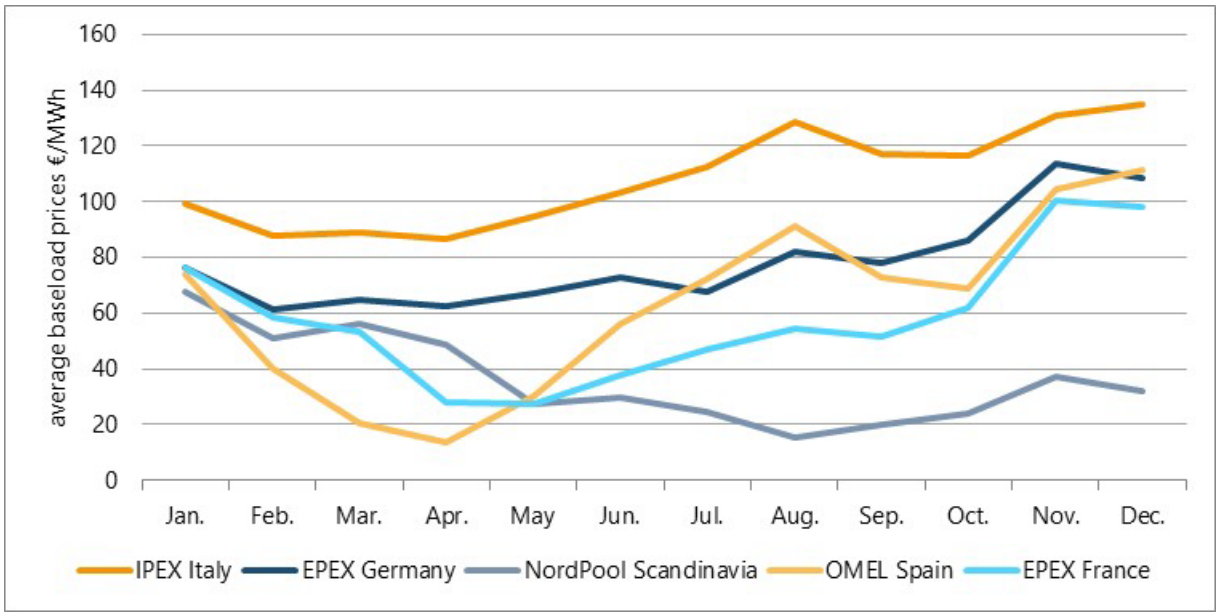
European stock market prices in 2024 recorded a decrease everywhere compared to 2023, despite having had fluctuating trends throughout the year.

In the first quarter of the year, prices on all European stock exchanges continued to decline, at least until the month of May (Figure 3.9). During the summer months, the decline halted and prices began to rise again. In the last month, there has been a further decrease.

Even in 2024, the energy crisis that began in 2021 has not been resolved, as demonstrated by the fact that average prices observed in 2024 are still on average 75% higher than those of 2019. Except for the Scandinavian exchange, where prices have fully recovered to 2019 levels, the average 2024 price remained just over double in Italy and Germany, and nearly 50% higher in France and Spain.

[126] Pursuant to resolution of 5 August 2008, ARG/elt 115/08.

Figure 3.9 Monthly average price trend in the main European power exchanges in 2024 (average baseload values)



Source: ARERA analysis using data from the European electricity markets.

On average in 2024, European electricity prices ranged from €36.1/MWh, the minimum in Nordpool, to €108.5/MWh, the maximum on the Italian exchange, reflecting enduring differences linked to national generation portfolios. The Italian PUN has again diverged significantly from prices on the Spanish and French exchanges, owing to its heavy reliance on gas-fired generation and consequent sensitivity to fluctuations in international gas markets.

Very similar annual average prices were observed for the Spanish OMEL (€63/MWh) and the French EPEX France (€58/MWh), while the German exchange EPEX Germany stood at an intermediate level of €78.5/MWh. Germany, in fact, shares with Italy a substantial use of gas, yet its wholesale price remained around €30 lower than the Italian one (as in 2023), also due to the widening spread between the gas price on the Italian market (PSV) and that of the German market (THE), as well as the European reference market (TTF), which during the summer months expanded to more than €3/MWh.

As usual, the Scandinavian area recorded a lower price (€36/MWh), consistent with its longstanding trend of prices both below and distinct from those of the other countries considered.

The highest price drop was seen on the French stock exchange, where the average annual price fell by 40% from 2023. A slightly smaller decrease, but of a very similar magnitude, affected the Scandinavian (-36%) and Spanish (-28%) exchange prices. The smallest decline occurred on the Italian exchange, where prices fell by 15% compared with 2023, while the German exchange saw a decrease of 18%.

Peak levels were reached in the last two months of the year, when prices hit €100/MWh in France, exceeded €110/MWh in Germany and Spain, and reached €135/MWh in Italy.

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,[127] since 2008 the Authority has adopted the Integrated Text on Monitoring of the Wholesale Electricity Market and the Dispatching Service Market (TIMM) to reinforce its monitoring role.

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.

In February 2024, [128]the inquiry into the causes and possible remedies for anomalies in imbalance price formation following Italy's participation in the European PICASSO balancing platform was concluded, leading to the publication of a dedicated report[129]. In its decision concluding the inquiry, the Authority further required that Terna (the TSO):

- suspends, as soon as technically feasible and in any case by 15 March 2024, operational participation in the PICASSO platform, pending the approval and implementation of the mitigation measures proposed by the TSOs at the European level;

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

[128] By Resolution of 27 February 2024, 60/2024/R/eel, which concluded the inquiry initiated by Resolution of 17 October 2023, 475/2023/R/eel.

[129] Report on the formation of imbalance prices, following the start of the Italian TSO operation on the European 'PICASSO' platform for the exchange of AFRR.

- examines in the appropriate forums the platform algorithm's pricing and settlement rules, to clarify potential inconsistencies in the results identified through data analysis, and to report these findings to the Authority within two months;
- submits within four months, a report on the phenomenon of persistent aFRR demand deviations, identifying the causes, the link with reserve sizing, and proposals for possible mitigation measures;
- prepares and submits, within one month, an updated work plan to the Authority for approval for the commencement of participation in the MARI platform.

In addition, the Authority mandated its offices, operating within the scope of TIMM monitoring and in collaboration with Terna, to conduct an in-depth analysis of the standards and reserve procurement procedures adopted in recent years, with the dual purpose of explaining the observed reduction trend and verifying conformity with Commission Regulation (EU) 1485/2017 of 2 August 2017 (laying down guidelines for electricity transmission system operation), Regulation (EU) 943/2019 of the European Parliament and Council of 5 June 2019 (on the internal electricity market), the Frequency Control Block Operational Agreement (LCBOA), and Terna's Network Code.

In October, moreover, the Authority launched [130]a fact-finding investigation aimed at assessing the outcomes of short-term auction electricity markets over the 2023–2024 period. Under the resolution, a first investigative report is to be published by 31 March 2025, aimed at assessing the operation of the day-ahead market and intraday auction sessions. A second report, to be issued by 30 June 2025, will evaluate the functioning of the balancing energy market, with full consideration of the findings from the aforementioned inquiry.

Implementation of REMIT

The importance of the monitoring function carried out by national regulatory authorities – already provided for ARERA by its founding legislation – is also recognised at European level: in addition to the energy market directives, Regulation (EU) 1227/2011, as amended and supplemented by Regulation (EU) 1106/2024 of the European Parliament and Council of 11 April 2024 on wholesale energy market integrity and transparency (REMIT), has strengthened and expanded the monitoring powers of national regulatory authorities. 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).

During 2024, preliminary investigations were carried out *ex officio* as part of market monitoring activities or following external reports of suspicious orders and/or transactions in the wholesale electricity and natural gas markets, potentially abusive under REMIT. These activities, in some cases, were preparatory to the initiation of sanction proceedings.

In addition, the Authority was involved in the process of revising the REMIT Regulation, which culminated in the adoption of Regulation (EU) 1106/2024, liaising with ACER and national regulators across Europe regarding the amended topics and coordinating its position with the Ministry of

[130] With resolution of 8 October 2024, 401/2024/R/eel.

Environment and Energy Security.

Penalty proceedings in the wholesale market

In 2024, a sanctioning procedure was initiated for violations of the provisions on the integrity and transparency of wholesale markets under the REMIT Regulation. In particular, the operator was accused of violating Article 4 of REMIT for failing to communicate to the public, effectively and in a timely manner, the inside information in its possession regarding the unavailability of a production facility. In these proceedings, the company submitted a proposal for commitments that is currently being examined by the Authority.

Regarding the same matter, two cases were closed resulting in an administrative penalty of €940,000, establishing a violation of Article 5 of REMIT concerning the prohibition of manipulation in wholesale energy markets. Specifically, and for the first time, the manipulative practice subject to sanction has been classified within the scope of point iii) of Article 2, paragraph 2(a), of REMIT. This provision concerns the deployment of sham instruments or any alternative contrivance or stratagem liable to transmit false or distorted indications regarding the supply, demand, or pricing of wholesale energy products.

3.2.2 Retail market

In 2024, based on provisional data published by Terna, total consumption (net of losses) amounted to approximately 293 TWh, an increase of 2% compared with 2023. The decline affected all sectors (classified according to a new breakdown requested by Eurostat), except for transport and fishing, which increased by over 5% (Table 3.15).

Table 3.15 Breakdown of national electricity consumption by end-use sector

PRODUCTION SECTOR (GWh)	2023	2024(A)	VARIATION
Energy	8,497	8,450	-0.5%
Industry	106,733	105,700	-1.0%
Transport	8,846	8,850	0.0%
Household	63,413	66,000	4.1%
Trade and public services	93,432	97,500	4.4%
Agriculture/Forestry	6,089	6,236	2.4%
Fishing	244	229	-6.1%
Other	107	109	1.5%
TOTAL	287,361	293,074	2.0%

(A) Provisional data.

Source: Terna.

Within the Authority's registry of operators, declarations of electricity sales in 2024, whether for the whole year or only part of it, comprised 99 operators in the standard offer service, 7 in the gradual standard offer service for household customers, 16 in the gradual standard offer service for small

businesses, 18 in the gradual standard offer service for microenterprises[131], 3 in the safeguard service, and 692 in the free market.

Of the 692 companies listed in the Authority's registry of operators as selling to customers in the free market, 593 (i.e., 86%) responded to the Annual Survey, reporting in 50 cases that they had remained inactive during the year. Taking into account that 47 companies sell electricity in both the free and protected markets, and that firms operating in the safeguard and gradual protection services also sell electricity in the free market and/or under the standard offer service (and are therefore already counted in those segments), the total number of active companies that participated in the retail electricity market in 2024 and responded to the Annual Survey is 642.

Table 3.16shows the breakdown of final sales of electricity (net of fuel gas and network leakages) together with the total number of customers [132]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. Survey results account for roughly 90% of the final electricity consumption estimated by Terna for 2024[133], however, this percentage should be considered indicative, due to the pre-final nature of the data from both Terna and the Authority's Annual Survey of suppliers

Table 3.16 End-User Electricity Market (net of self-consumption and network losses)

MARKET AND CUSTOMERS	VOLUMES			WITHDRAWAL POINTS		
	2023	2024	CHANGE	2023	2024	CHANGE
Standard offer service	14,422	8,488	-41.1%	9,219	5,553	-39.8%
Household	13,728	8,488	-38.2%	8,866	5,553	-37.4%
Non-household	694	0	-	353	0	-
Gradual standard offer service for households		3,103	-	-	1,675	-
Gradual standard offer service for micro enterprises(A)	1,547	1,516	-2.0%	827	829	0.3%
Gradual standard offer service for small enterprises(A)	1,506	1,238	-17.8%	93	77	-16.8%
Safeguard service	5,119	3,563	-30.4%	98	80	-18.2%
Free market	220,458	225,075	2.1%	27,146	29,399	8.3%
Household	42,343	47,169	11.4%	21,423	23,222	8.4%
Non-household	178,114	177,906	-0.1%	5,723	6,177	7.9%
END MARKET	243,051	242,983	-0.0%	37,382	37,613	0.6%

(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.

[131] The figures for suppliers under the gradual protection schemes also include operators which, while not participating in the auctions, provide the service conditions to entitled customers in the non-interconnected islands.

[132]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).

[133] The percentage shown is calculated by summing the final consumption reported in Table 3.15 with the amounts declared in the Survey as self-consumption, either personal or group, which are excluded from the table.

The main change in 2024 relates in the substantial reallocation of households between markets, attributable to the discontinuation of the protection regime for the majority of domestic users and the simultaneous introduction of the gradual standard offer service, designed for those who, following the expiry of the standard offer, had yet to opt for a supplier in the free market. As explained further on, starting 1st July 2024, the standard offer service will be limited to vulnerable household customers[134].

The data also show that the decline in electricity consumption, which began in 2022 and worsened in 2023, slowed in 2024: according to the collected figures, after a slight decrease in 2022 (-0.3%) and a more marked drop in 2023 (-3.6%), electricity consumption remained stable in 2024, with total sales of 243 TWh to 37.6 million customers (Table 3.16). Compared with 2023, the number of withdrawal points increased by approximately 230,000 units, or 0.6%.

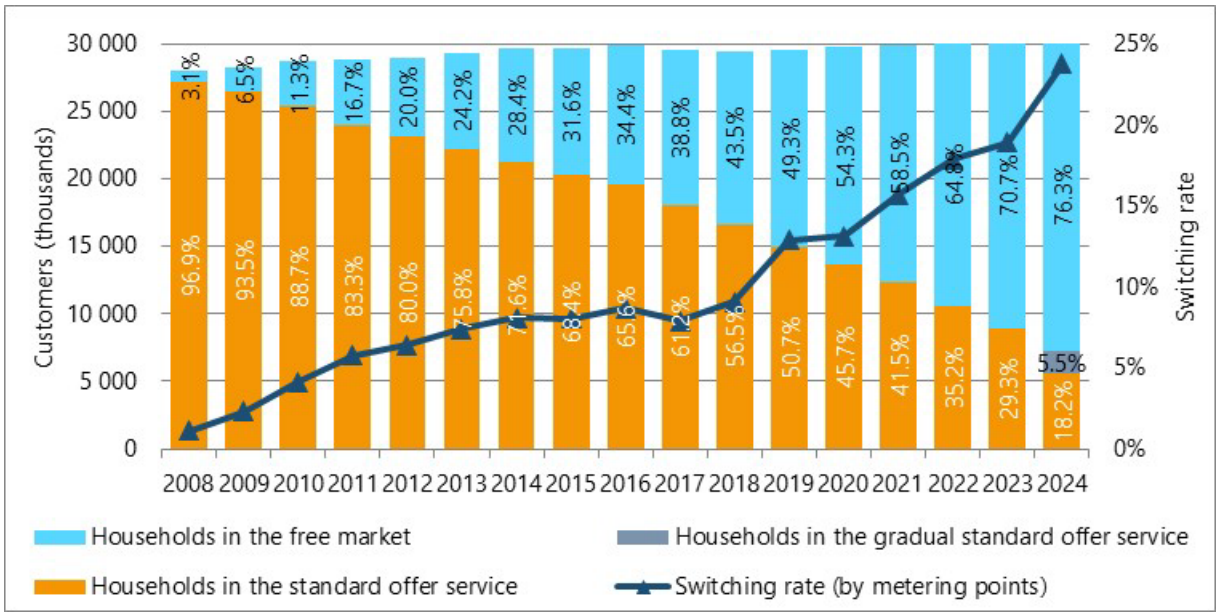
Overall consumption remained stable due to a drop in sales to non-household customers being balanced out by a rise in sales to household customers. In fact, the household sector purchased a total of 58.8 TWh compared to 56.1 TWh in 2023, recording an increase of 4.8%. Conversely, energy acquired by the non-household sector fell from 185.4 to 184.2 TWh, showing a decrease of 0.7%, and thus remaining well below pre-Covid levels (198 TWh in 2019), which had been partly recovered in 2022.

In 2024, the number of domestic withdrawal points reached 30.5 million, marking a 0.5% increase (+161,000 points) compared with 2023. Of these, 5.6 million were served under the standard protection scheme, 1.7 million under the new gradual standard offer service, and approximately 23.2 million in the free market. (Figure 3.10). Domestic connections in the free market reached 76.3%, those in the standard protection service decreased to under 20%, and the gradual standard offer service made up 5.5%. As previously indicated, the calculation of customer numbers on a pro rata daily basis entails that a customer exiting the standard offer service at the end of June and subsequently transferred automatically to the gradual standard offer service from 1 July (owing to non-vulnerable status) is recorded in the 2024 data for both services: 0.5 under standard protection and 0.5 under the gradual standard offer service. Accordingly, a further reduction in standard protection points is anticipated in 2025, accompanied by a proportional increase in points classified under the gradual standard offer service. In 2025, the number of household customers in the gradual standard offer service will include additional points due to the possibility, introduced by the Government[135], for vulnerable customers served by either a free-market or standard protection provider to request activation of the gradual standard offer service by 30 June 2025.

[134] That is, those who meet at least one of the following conditions: are aged 75 or over, are entitled to the social electricity bonus, have a disability (as defined in Article 3 of Law 104/1992), reside in emergency housing due to calamities, or live on a smaller, non-interconnected island.

[135] Pursuant to Article 24 of Law No. 193/2024 (Competition Law 2024).

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



Source: ARERA, Annual survey on regulated sectors.

As observed, 76.3% of **domestic** points were served by the free market in 2024, resulting in the domestic sector accounting for 80.3% of total energy volumes sold. In terms of volume distribution, the **standard offer service** decreased to 14.5%, whereas the **gradual standard offer service** accounted for 5.3%.

In 2024, consumption in the **gradual standard offer service for small businesses** (introduced in 2021 to accommodate small low-voltage businesses and microenterprises with contracted power exceeding 15 kW, which were no longer entitled to the standard offer service and had not chosen a free-market offer), fell by 268 GWh (-17.8%), and the number of served withdrawal points decreased by 15,000 (-16.8%). Similarly, consumption in the **gradual standard offer service for micro-enterprises** (launched on 1 April 2023 to serve non-domestic customers with withdrawal points up to 15 kW who had lost the right to the standard protection service and had not yet chosen a supplier in the free market), fell to 1.5 TWh (-2%), while the number of served withdrawal points remained stable (+0.3%) at just under 830,000. According to data collected through the Annual Survey (to be considered provisional here and throughout the report), the **safeguard service** also experienced a decline: 80,039 withdrawal points were served, 18.2% fewer than in 2023, with a withdrawal of 3,563 GWh, down from 5,119 GWh in 2023 (-30.4%). Conversely, **free market** sales grew by 2.1%, attaining an impressive total of 225 TWh, serving 29.4 million customers.

Switching

According to distributor data from the Annual Survey and SII information[136], switching among

[136] 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

domestic consumers remained very high in 2024, likely influenced in part by communications regarding the end of the standard offer service. In fact, it seems plausible that leaving the standard offer service encouraged some customers to explore other options and find a new supplier, given that a contract change was inevitable.

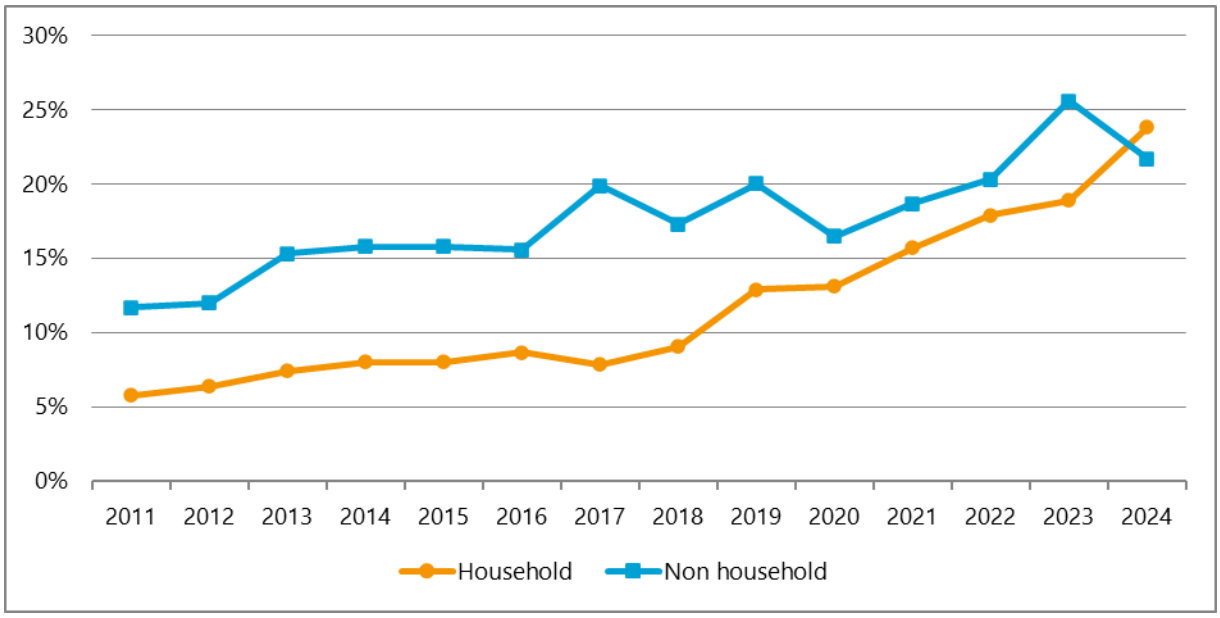
Household consumer switching remained very high in 2024, probably influenced in part by communications regarding the termination of the standard offer service. Switching among household customers (excluding automatic transfers from the standard protection service to the gradual standard offer service) increased by nearly five percentage points compared with 2023 in terms of customer numbers and by over two percentage points in terms of volumes (Table 3.17), surpassing the level observed for non-domestic users (Figure 3.11). In 2024, 23.8% of households, corresponding to over 7 million withdrawal points and 26.8% of energy bought by the domestic sector, opted to change supplier.

Table 3.17 Electricity customer switching rates

CUSTOMER TYPE	2023		2024	
	CUSTOMERS	VOLUMES	CUSTOMERS	VOLUMES
Household	18.9%	24.5%	23.8%	26.8%
Non-household:	25.6%	27.8%	21.7%	22.6%
of which:				
- low voltage	25.6%	32.8%	21.8%	26.9%
- medium voltage	23.2%	29.3%	19.7%	22.5%
- high and extra-high voltage	25.9%	13.0%	27.8%	13.5%
TOTAL	20.1%	27.0%	23.4%	23.6%

Source: ARERA. Annual survey of regulated sectors and the SII.

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.

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.

The switching rate among non-household customers, on the other hand, fell compared with 2023, both in terms of points (from 25.6% to 21.7%) and volumes (from 27.8% to 22.6%), though it remained relatively high. Specifically, low-voltage non-household customers recorded a supplier switching rate of 26.9% in 2024 (equivalent to 21.8% of volumes), nearly six percentage points lower than in 2023. Here too, part of the explanation lies in the fading of the stimulus effect resulting from the gradual *ex lege* exclusion of non-household customers from the standard offer service, which terminated in 2023. The switching activity among other non-household customers remained high, although for medium-voltage clients it was lower than in previous years.

In total, over 8.5 million withdrawal points switched suppliers during 2024. In terms of underlying volumes, this amounted to 57.5 TWh, representing 22.6% of total electricity market purchases.

Standard offer service

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.

From its inception, the service has catered to customers without a supplier in the free market, but over time it has undergone a gradual removal of those entitled to access it. In particular, from 1 January 2021, access to the service was withdrawn for small enterprises connected [137]in low voltage and for micro-enterprises [138]holding at least one low-voltage withdrawal point with a committed contractual capacity greater than 15 kW. As of 1 April 2023, this provision was extended to encompass all other micro-enterprises. Since May 2023, therefore, the service has been reserved exclusively for household customers. Finally, as of 1 July 2024, only vulnerable household customers[139] may continue to be supplied by the existing providers of the standard protection

[137]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.

[138] Microenterprises are businesses with fewer than 10 employees and an annual turnover not exceeding 2 million euros, holding only low-voltage withdrawal points.

[139] Vulnerable customers are household customers who meet at least one of the following conditions:

- they are 75 years of age or older;
- are entitled to receive the social electricity bonus because they are in a state of economic hardship or the bonus for serious health conditions (such as requiring the use of medical-therapeutic equipment powered by electricity);

service.

In 2024, sales under the standard offer service amounted to 8.5 TWh, distributed across approximately 5.6 million withdrawal points (calculated on a pro-rata *pro die* basis) (as shown in Table 3.16). Compared to 2023, there was a significant decline in consumption, amounting to 5.9 TWh (-41.1%), along with a decrease in the number of points served by about 3.7 million units (-39.8%). Specifically, in 2024, in addition to non-household customers, around 3.3 million household customers left the standard offer service (-37.4%), including 2.5 million residents (-37.4%) and 0.8 million non-residents (-37.3%), reflecting a proportional reduction between the two categories. Given the above, it is unsurprising that in 2024 such significant declines were observed, both in terms of energy supplied and active withdrawal points, due to the exit from the service of all non-household users and non-vulnerable household customers.

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.

For **household customers** (Table 3.18), nearly all supply points (93.6%) are in the first four consumption class, purchasing at most 3,500 kWh annually; of the household customers, residents account for 87.4% of the withdrawal points and 76.1% of the consumption. In 2024, the average annual overall consumption was 1,528 kWh, down 1% compared to 2023. For resident customers, the value stood at 1,755 kWh, down from 1,771 kWh (-0.9%), while for non-residents the decrease was more marked (-3.6%), falling from 837 to 807 kWh. Over three-quarters of household customers (79%) served under the standard offer service belong to the first four consumption classes, purchasing at most 3,500 kWh per year.

Table 3.18 Households in the standard offer service in 2024, 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	877	10.3%	2,227	38.80%	394
1,000-1,800 kWh	1,994	23.5%	1,437	26.80%	1388
1,800-2,500 kWh	1,887	22.2%	892	16.80%	2115
2,500-3,500 kWh	1,789	21.1%	616	11.20%	2904
3,500-5,000 kWh	1,100	13.0%	271	4.60%	4059
5,000-15,000 kWh	709	8.4%	107	1.70%	6626
> 15,000 kWh	132	1.6%	5	0.10%	26400
TOTAL HOUSEHOLDS	8,488	100.0%	5,555	100.0%	1,528
OF WHICH:					
Resident households	7,418	87.4%	4,227	76.1%	1,755
Non-resident households	1,070	12.6%	1,326	23.9%	807

Source: ARERA. Annual survey of regulated sectors.

- are persons with disabilities pursuant to Article 3 of Law no. 104 of 1992;
- they are residing in an emergency housing facility following a natural disaster;
- are located on a smaller non-interconnected island.

The contractual conditions offered in the standard offer service are structured in two ways: single-rate and dual-rate. The two-tier (dual-rate) system continues to be the predominant choice among household customers, encompassing 99.5% of metering points.

The main operator, Servizio Elettrico Nazionale of the Enel group, held a share of 84.0%, essentially in line with the previous year (-0.1%), despite the overall drop in volumes. The other main companies also show limited changes in their market shares: Acea Energia reports an increase of 0.3%, A2A records a decrease of 0.2%, while Iren Mercato registers a slight rise of 0.1%. In fact, the top six positions in the ranking of leading operators remain unchanged compared with the previous year, confirming a stable competitive structure. The top three companies account for 93.9% of the standard offer service, confirming a very high concentration in this market, although slightly down compared with 2023 (94.2%). The HHI index, on the other hand, remained largely unchanged, even rising slightly (+0.5%) from 7,221 in 2023 to 7,257, staying not too far from the maximum value of 10,000, which represents the presence of a single operator.

Gradual standard offer service

The gradual standard offer service is the service regulated by the Authority to support the transition to the free electricity market and to ensure continuity of supply for those customers who, after the removal of price protection (i.e., when they lose the right to purchase electricity under the standard service), have not chosen an offer in that market. This service varies according to the type of customers and is divided into three categories: one for non-vulnerable households, one for micro-enterprises, and one for small enterprises. The supply is provided by selected suppliers through specific tender procedures. Each territorial area is served by a single supplier, who may operate in multiple areas simultaneously, provided they have participated in and won the tenders for the award of the service.

Gradual standard offer service for Non-Vulnerable Household Customers

The gradual standard offer service is intended for non-vulnerable household customers who, at the end of the standard offer service, had not yet selected a supplier in the free electricity market. The service became operational as of 1 July 2024.

Following the competitive procedures for the supply period from 1 July 2024 to 31 March 2027, the twenty-six territorial areas were allocated to seven operators (with the number of areas won in brackets): A2A Energia (2), E.On Energia (1), Edison Energia (4), Enel Energia (7), Hera Comm (7), Illumia (3), Iren Mercato together with Salerno Energia Vendite (2). Enel Energia and Hera Comm have secured the largest number of areas, emerging as winners in seven areas each.

According to the (provisional) data from the Annual Survey, in 2024 the gradual standard offer service for non-vulnerable household customers recorded sales of 3.1 TWh of electricity, distributed across 1,675,000 withdrawal points, calculated on a pro-rata *pro die* basis (Table 3.19).

Table 3.19 Gradual standard offer service for non-vulnerable household customers in 2024 by consumption class

CONSUMPTION CLASS	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
< 1000 kWh	244.9	7.9%	553.7	33.1%	442
1,000 - 1,800 kWh	561.1	18.1%	395.6	23.6%	1,419
1,800 - 2,500 kWh	610.2	19.7%	291.0	17.4%	2,097
2,500 - 3,500 kWh	782.7	25.2%	260.2	15.5%	3,008
3,500 - 5,000 kWh	479.7	15.5%	117.0	7.0%	4,101
5,000 - 15,000 kWh	371.6	12.0%	55.5	3.3%	6,700
> 15000 kWh	52.4	1.7%	2.1	0.1%	25,426
TOTAL	3,102.7	100.0%	1,675.0	100.0%	1,852.4

Source: ARERA. Annual survey of regulated sectors.

74 % the withdrawal points fall within the first three size categories, meaning they consume less than 2,500 kWh per annum. Despite accounting for the largest share of customers, the top three classes consume less than half of the energy (45.6%). The fourth consumption class, covering customers who use between 2,500 and 3,500 kWh annually, is the most significant in terms of energy absorbed; despite accounting for just 15.5% of total withdrawal points, it represents a quarter of total volumes consumed. The average household consumption under the gradual protection scheme is 1,852 kWh. However, the breakdown by customer type reveals marked differences: resident customers consume an average of 2,116 kWh annually, compared with 1,124 kWh for non-residents.

Gradual standard offer service for small enterprises

As stated in the previous paragraphs, from 1 January 2021 the standard offer service ended for small electricity enterprises connected to low voltage and for micro-enterprises holding at least one withdrawal point connected to low voltage with contractually committed capacity exceeding 15 kW. The Authority has therefore established the economic and contractual conditions for providing the gradual standard offer service to small enterprises.

In the first period of service implementation, running from 1 July 2021 to 30 June 2024, four companies were awarded the service: A2A Energia, Axpo Italia, Hera Comm and Iren Mercato, one for each of the four territorial areas. For the second period, running from 1 July 2024 to 31 March 2027, the new tender procedure assigned the service, split into seven territorial areas, to three suppliers: A2A Energia (which secured two areas), Enel Energia (which secured two areas) and Iren Mercato (which secured three areas).

The data from the Annual Survey show that in 2024, 1.2 TWh were sold in the gradual standard offer service for small businesses to 77,132 withdrawal points (calculated using the *per die* criterion; Table 3.20). Compared to 2023, consumption has decreased (-268 GWh, -17.8%), while the withdrawal points served have decreased by 15,000 units (-16.8%).

Table 3.20 Non-household customers in the small enterprise gradual standard offer service in 2024, 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	59.6	4.8%	38.7	50.1%	1,541
5 – 10 MWh	77.7	6.3%	10.2	13.3%	7,590
10 - 15 MWh	83.4	6.7%	6.6	8.5%	12,707
15 - 20 MWh	79	6.4%	4.5	5.8%	17,719
20 - 50 MWh	364.8	29.5%	11.4	14.8%	31,924
50 - 100 MWh	280.2	22.6%	4.1	5.3%	69,093
100 - 500 MWh	274.4	22.2%	1.7	2.2%	163,529
500 – 2,000 MWh	18.7	1.5%	0	0.0%	659,460
TOTAL NON-HOUSEHOLD	1,237.8	100.0%	77.1	100.00%	16,050
OF WHICH:					
Public lighting	112.6	9.10%	9.1	11.8%	12,374
Other non-household uses	1,125	90.92%	68	88.2%	16,550

Source: ARERA. Annual survey of regulated sectors.

Within the service, the largest customer group is non-domestic users excluding public lighting (other-use customers), who account for 91% of total volumes purchased and 88% of withdrawal points.

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 17.8% of the category's consumption. The majority of consumption (74.3%) is concentrated in the three medium-large classes (ranging from 20 to 500 MWh per year), which account for 22.3% of withdrawal points, whereas the subsequent classes have an almost negligible impact, both in terms of points served and energy purchased (Table 3.20). The national average consumption is 16,050 kWh

Gradual standard offer service for micro-enterprises

As of 1 April 2023, micro-businesses, meaning non-household clients with withdrawal points up to 15 kW, have lost the right to access the standard offer service. The Authority has therefore established the economic and contractual conditions for providing the gradual standard offer service to micro-enterprises for a period of four years.

Following the tender procedures for the service award period from 1 April 2023 to 31 March 2027, the twelve territorial areas were assigned to seven operators: A2A Energia, ACEA Energia, AGSM AIM Energia, Estra Energie, Hera Comm, Illumia and Sorgenia. A2A Energy and Sorgenia won the largest number of areas, securing victories in four and three regions respectively.

The data from the Annual Survey show that in 2024, 1.5 TWh were sold to 829,000 withdrawal points (calculated using the *per die criterion)* in the gradual standard offer service for micro-enterprises (Table 3.21). Within the service, nearly all withdrawal points and volumes come from non-household customers with uses other than public lighting ("other-use" customers); indeed, public lighting represents only 0.1% of total points and 0.3% of volumes.

Table 3.21 Gradual standard offer service for micro-enterprises in 2024 by consumption class

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-5 MWh	745.8	49.2%	759.9	91.7%	981
5 – 10 MWh	295.7	19.5%	41.5	5.0%	7,125
10 - 15 MWh	200.2	13.2%	16.1	1.9%	12,471
15 - 20 MWh	96.7	6.4%	5.5	0.7%	17,564
20 - 50 MWh	162.4	10.7%	5.9	0.7%	27,713
50 - 100 MWh	12.9	0.8%	0.2	0.0%	60,476
100 - 500 MWh	1.1	0.1%	0.0	0.0%	155,770
500 – 2,000 MWh	1.0	0.1%	0.0	0.0%	1,003,439
TOTAL NON-HOUSEHOLD	1,547	100.0%	827.6	100.0%	1,871
OF WHICH:					
Public lighting	4.0	0.3%	0.8	0.1%	4,737
Other non-household uses	1,542.4	99.7%	828.2	99.9%	1,825

Source: ARERA. Annual survey of regulated sectors.

In 2024, other-use customers consumed approximately 1.5 TWh and accounted for around 828,000 withdrawal points. The average consumption per customer in this group, at 1,825 kWh, fell by 2.3% compared with the previous year; by contrast, the average consumption of public lighting customers dropped much more sharply (-21.3%), from 6,000 to 4,737 kWh.(Table 3.21).

91.7% of withdrawal points fall within the first size class (up to 5 MWh per year) and account for 49.2% of total volumes. These users have a very low average consumption of 981 kWh. The next three classes (from 5 to 20 MWh per year) include only 7.6% of points, representing 39.1% of total consumption.

Safeguard service

The safeguard service accommodates non-households who find themselves, even temporarily, 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 auction for the supply of last resort service for the 2023-2024 biennium concluded in November 2022, awarding the service to the same three suppliers who managed it in the previous biennium: A2A Energia, Enel Energia and Hera Comm. However, the allocation of the territories assigned to them 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. Since 2023, the safeguard service has been carried out by A2A Energia in 11 regions (Liguria, Piedmont, Aosta Valley, Trentino-Alto Adige, Lombardy, Veneto, Emilia-Romagna, Friuli-Venezia Giulia, Marche, Tuscany and Sardinia), up from the previous 4; Enel Energia manages the service in Lazio, Apulia, Molise, Basilicata and Sicily (5 regions, compared with 13 in the previous biennium); Hera Comm serves the remaining 4 regions: the first three already

covered in the prior biennium (Campania, Abruzzo and Umbria) plus Calabria.

According to data provided by the three operators, the supply of last resort contracted in 2024, breaking the growth trend observed in the previous year. Specifically, 80,039 withdrawal points were served, calculated using the pro die criterion. The data show a decrease of 18.2% compared with 2023, when 97,830 points were served, and are also lower than the value recorded in 2022, which was 88,903 points. The lowest level on record remains that of 2020, with 69,900 customers served, marking the lowest threshold seen in the safeguard market since it began. Overall, 3,563 GWh were withdrawn in 2024, compared with 5,119 GWh recorded in 2023, representing a decrease of 30.4% (Table 3.22).

Table 3.22 Supply of last resort by customer type

CUSTOMER TYPE	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2023	2024	VARIATION	2023	2024	VARIATION
Public lighting	394	290	-26.4%	20	16.2	-19.0%
Other uses	4,725	3,273	-30.7%	78	64	-18.0%
TOTAL SAFEGUARD	5,119	3,563	-30.4%	88.9	97.8	10.0%

Source: ARERA. Annual survey of regulated sectors.

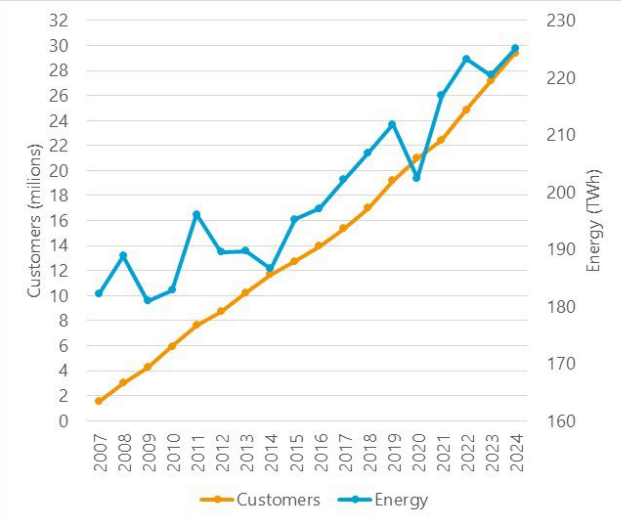
79.8% of the withdrawal points served under the supply of last resort service are for other uses, while 20.2% are public lighting points. Both recorded a decline compared with 2023: around 14,000 units for other uses (-18%) and approximately 3,700 points for public lighting (-19%). Volumes sold in this service also fell sharply compared with the previous year: overall, 1.6 TWh less was purchased than in 2023. Of the more than 3.5 TWh sold under safeguard, 92% (3.3 TWh) is used for industrial and commercial purposes, while 8% (0.3 TWh) is allocated to public lighting. Compared with 2023, the first decreased by 30.7%, while the second showed a reduction of 26.4%. The average consumption per user connected at low voltage fell by 4.4% (from 15.9 to 15.2 MWh), while that of users connected at medium voltage dropped by 18.1% (from 468.8 to 384 MWh); finally, a 5.5% reduction was recorded in the average consumption at high voltage (from 18 to 17 GWh).

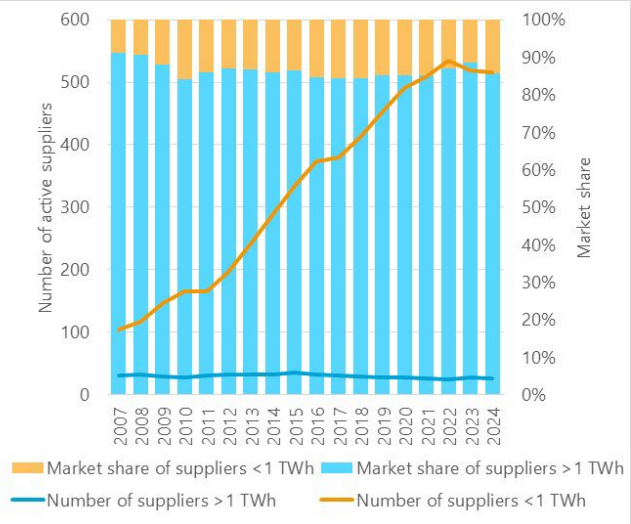
In light of the different territorial dynamics and the contraction of consumption on a national scale, all operators of the supply of last resort (Salvaguardia) have recorded a reduction in the volumes of electricity sold. In particular, A2A Energia, which holds a 46% share of the total volumes sold under supply of last resort, recorded a decrease of 33.7%, from 2.5 TWh to 1.6 TWh. Enel Energia, with a share of 29.4%, showed a contraction of 31.5%, from 1.5 TWh to 1.0 TWh in 2024. Finally, Hera Comm, holding 24.2% of the volumes, reduced its supplies by 21.4%, decreasing from 1.0 TWh to 0.8 TWh.

Free market

As mentioned earlier, provisional figures from the Annual Survey on regulated sectors show that 225.1 TWh were sold in the 2024 electricity free market, 4.6 TWh higher than in 2023, to approximately 29 million clients, up 8.3% from 2023. Customers in the free market, continuing to grow strongly, now account for 78.2% of the total Italian electricity sales market, and the energy intermediated has risen from 182 TWh in 2007 to 225 TWh, although this growth has not been uniform and has occasionally faced interruptions (Figure 3 .12). Irrespective of market developments, the number of active suppliers expanded steadily from 2007 through 2022. 2023 was the first year in which this trend was interrupted, and a slight decline was also recorded in 2024.

Figure 3.12 Development of the free electricity market





Source: ARERA. Annual survey of regulated sectors.

In 2024, according to responses from the Annual Survey on regulated sectors, the number of active companies in the free market was 543, four fewer than in 2023 (-0.7%). As sales grew by 2.1% over the period, the average unit sales volume of companies operating in this market has started to rise again, after years of steady decline. In 2024, the average unit sales volume of companies operating in the free market was 415 GWh, compared with 403 GWh recorded in 2023. Compared to the 1,349 GWh observed in 2007, when the market was fully opened, the present value is 3.3 times lower.

[140]As at 31 December 2024, the shareholding structure of companies selling to free-end customers, considering only first-level direct holdings, highlights the significant presence of individuals, who own 34% of the capital; national energy companies hold 11.6%, while local energy firms account for 6%. Public bodies and financial institutions do not appear to be very present in the shareholding structure of the suppliers (their respective shares amounting to 3% and 0.2%), 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 4.4% being held by individuals of foreign origin.

21.9% of the 543 active suppliers who responded to the Annual Survey sell energy in between 1 and 5 regions; 42.9% of suppliers sold electricity across the entire national territory (i.e., in at least 18 regions); the remaining 35.2% of companies operated in 6 to 17 regions. The share of companies serving the entire country is growing steadily over time: in 2023 it was 37.5%.

The breakdown of customers by type and voltage (Table 3.23) shows an increase of over 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. Domestic points served in the free market increased by 1,799,000 units, or 8.4% compared with 2023; around 8,000 new withdrawal points purchased electricity in the free market for other low-voltage uses (+3.4%), while medium-voltage points grew by nearly 1,800 units (+1.7%). Conversely, high and extra-high voltage withdrawal points decreased by nearly 100 units (-

[140]Shares are calculated without applying any weighting.

7.6%), bringing the total to around 1,050 units. A small increase (+8,000 units) also affected low-voltage public lighting uses, while medium-voltage points remained stable.

Table 3.23 Free electricity market by customer type

CUSTOMER TYPE	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2023	2024	VARIATION	2023	2024	VARIATION
Low voltage	105,140	111,775	6.3%	27,043	29,295	8.3%
Household	42,343	47,169	11.4%	21,423	23,222	8.4%
Public lighting	3,111	2,938	-5.5%	248	256	3.4%
Other uses	59,686	61,668	3.3%	5,373	5,816	8.3%
Medium voltage	91,723	92,575	0.9%	102	103	1.7%
Public lighting	212	214	0.7%	0.74	0.75	1.2%
Other uses	91,511	92,361	0.9%	101	103	1.7%
High and extra-high voltage	23,595	20,725	-12.2%	1.14	1.05	-7.6%
Other uses	23,595	20,725	-12.2%	1.14	1.05	-7.6%
TOTAL	220,458	225,075	2.1%	27,146	29,399	8.3%

Source: ARERA. Annual survey of regulated sectors.

With respect to energy sold, excluding high/extra-high voltage customers and public lighting, all other uses and voltage categories recorded an increase. Sales to low-voltage customers increased by 6.3% compared with 2023, mainly due to growth in the domestic sector; medium-voltage customers purchased around 850 GWh more than the previous year (+0.9%), while, as mentioned, high-voltage customer consumption fell by nearly 3 TWh, a decrease of 12.2%.

In 2024, the average consumption of **household customers** was 2,031 kWh per year, a slight increase compared with 2023 (+2.8%). As usual, the most significant classes in terms of withdrawal points are the first two, namely those with annual consumption up to 1,800 kWh, which together account for more than half of the customers. However, the next two classes also have a fairly comparable weight. In fact, 87% of Italian customers consume less than 3,500 kWh/year (Table 3.24).

In the various classes, with the exception of the first and last, the average consumption emerging from free market data is very similar to that of household customers purchasing under the protected and gradually liberalised services (Table 3.18 and Table 3.19). Largely due to the discrepancies in the first and last classes, the total average consumption of households in the free market, 1,977 kWh, exceeds that of households under the regulated scheme, 1,548 kWh, by 28%.

In 2024, around 1.6 million households had signed a dual fuel contract[141]. The number of these customers has grown significantly compared with 2023 (when it was 1.3 million); their share of the total household customers in the free market rose to 6.7%, up from 5.9% last year. The total electricity consumption of customers with a joint supply contract for electricity and gas is just under 3.3 TWh, 6.9% of all electricity sold to households on the free market. Except for the first class, average consumption for dual fuel customers is generally lower than that of customers with electricity-only contracts. Due to higher consumption in the first class (+6.6% compared with electricity-only customers), overall average consumption is 3.5% higher than that of the general household customer

[141]Dual fuel customers are those receiving a single invoice for both electricity and gas supply; excluded from this count are customers who, although having contracts with the same provider for both electricity and natural gas, receive separate invoices for the two services.

base.

Table 3.24 Household free electricity market in 2024 by consumption class

CONSUMPTION CLASS	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	SHARE ON WITHDRAWAL POINTS	AVERAGE CONSUMPTION (kWh)
< 1,000 kWh	3,519	7.5%	6,490	27.9%	542
1,000-1,800 kWh	8,253	17.5%	5,837	25.1%	1,414
1,800-2,500 kWh	9,155	19.4%	4,286	18.5%	2,136
2,500-3,500 kWh	10,663	22.6%	3,626	15.6%	2,941
3,500-5,000 kWh	8,107	17.2%	1,978	8.5%	4,099
5,000-15,000 kWh	6,576	13.9%	969	4.2%	6,784
> 15,000 kWh	896	1.9%	36	0.2%	25,203
TOTAL HOUSEHOLDS	47,169	100.0%	23,222	100.0%	2,031
of which with dual fuel contract					
< 1,000 kWh	177	5.4%	306	19.7%	578
1,000-1,800 kWh	615	18.8%	437	28.2%	1,407
1,800-2,500 kWh	720	22.1%	338	21.8%	2,131
2,500-3,500 kWh	824	25.2%	281	18.1%	2,926
3,500-5,000 kWh	555	17.0%	137	8.8%	4,066
5,000-15,000 kWh	343	10.5%	52	3.4%	6,594
> 15,000 kWh	29	0.9%	1	0.1%	22,741
TOTAL WITH DUAL FUEL CONTRACT	3,263	100.0%	1,552	100.0%	2,102

Source: ARERA. Annual survey of regulated sectors.

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. In 2024, the share of customers choosing the single-rate price rose by almost two percentage points compared with 2023, maintaining an upward pattern over the years with limited exceptions. This option is attractive because it simplifies bill calculation and control and does not impose consumption constraints. The two-tier tariff now accounts for only a very small share of users, whereas the time-of-use tariff has been growing significantly for three years.

In 2024, **non-domestic household customers** showed a slight increase in uptake of dual fuel contracts, with 1.7% of the roughly 6.2 million total non-domestic household customers selecting it, almost entirely connected at low voltage. *Dual fuel* customers purchased 3.6TWh, or 2% of the energy sold to non-household customers (Table 3.25). In 2023, non-domestic household customers with joint electricity and gas supply contracts represented 1.5% of non-domestic customers, and their consumption accounted for 1.7%.

The breakdown of non-household customers by consumption class shows that sales volumes are largely concentrated in the consumption classes from 100 to 20,000 MWh/year, which together account for 57.9% of the energy purchased by this customer base. However, 66.2% 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 2023. The only exceptions are the smaller high/extra-high voltage customers (below 20 MWh per year), whose average consumption almost doubled, and those in the highest class (over 150,000 MWh per year), whose average usage grew by 6.4%. By contrast, the average consumption of medium and high-voltage customers in the 20,000–

50,000 MWh/year and 50,000–70,000 MWh/year classes fell sharply, dropping by 13.7% and 26.4% respectively.

Table 3.25 Non-household free market in 2024 by voltage level

CUSTOMER TYPE	VOLUMES GWh	OF WHICH DUAL FUEL GWh	WITHDRAWAL POINTS	OF WHICH DUAL FUEL
Low voltage	64,606	1,674	6,072,433	105,103
Medium voltage	92,575	1,807	103,432	1,516
High and extra-high voltage	20,725	149	1,052	14
TOTAL NON-HOUSEHOLD	177,906	3,631	6,176,948	106,633

Source: ARERA, Annual survey on regulated sectors.

Overall, the average consumption of all non-domestic customers purchasing electricity in the free market in 2024 amounted to 28,802 kWh, 7.5% lower than that recorded in the 2023 data (31,122 kWh).

Available offers and sales contracts in the free electricity market

As in previous years, the Annual Survey on the Regulated Sectors included questions to electricity and natural gas suppliers regarding the range of offers available to customers in the free market, with particular focus on how customers are divided among the various contracts they have opted for[142]. 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.

In 2024, the **average number of non-household offers** that each sales company could make available to household customers was 30, of which 11 were available exclusively online. For non-household customers, who naturally enjoy greater choice and to whom the supplier can certainly offer more personalised services and customised contracts, the average number of offers rises to 36, but only four of these are available through digital channels. The number of offers available has increased compared with 2023, when it stood at 26.4 for household customers, as well as for non-household customers (30 in 2023).

The percentage of suppliers with at least one offer available online (21%) is slightly down compared with the previous year (23%). 31.3% of suppliers (26.4% in 2023) offer the same number of online deals as the overall number they propose to customers; as a result, three quarters of suppliers put forward fewer online deals than their total offers. Despite the growing digitalisation of services, the spread of online offers in the energy sector remains marginal. Offers purchased online account for only 9.5% of the total for household customers. The percentage is even lower for non-household customers, where offers purchased online make up only 2.8% of the total.

As for the preferred **price type** (Table 3.26), the share of household customers choosing fixed-price contracts in the free market fell sharply, dropping from 66.8% in 2023 to 54.8%. A different trend

[142] The data discussed in the section on customer contract types also take into account PLACET Offers (free-price offers with standardised contractual conditions).

emerges among non-household customers, where the preference for variable-price contracts continues to strengthen. This type of offer, already dominant in 2023 with a share of 68.3%, has reached 80% in the current year.

Table 3.26 Contracts for the supply of electricity in the free market in 2024 by price type and average price

CONTRACTS	HOUSEHOLDS		NON-HOUSEHOLDS	
	SHARE(A)	PRICE(B) €/MWh	SHARE(A)	PRICE(B) €/MWh
Fixed-price contracts	54.8%	259.42	20.0%	208.19
Variable-price contracts	45.2%	212.47	80.0%	148.89
TOTAL CUSTOMERS	100%	237.18	100%	153.34

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

Source: ARERA, Annual survey on regulated sectors.

In 2024, household customers paid an average price for the energy component of €237.18/MWh, lower than the €259.84/MWh of 2023 - almost €23/MWh less than the previous year. A similar reduction was seen for non-household customers: in 2024, the average price paid was €153.34/MWh, down from €181.31/MWh the previous year.

Among customers who chose a variable-price contract, household customers once again showed a strong preference for **indexation to the single national price (PUN)**, linked to the average market electricity price, which accounted for over 90% of withdrawal points. A similar clear preference was observed among non-household customers: nearly 82 out of 100 contracts have a variable price linked to the PUN. Worth noting is also the growth over time of dynamic-price contracts: the share of household customers with this type of contract rose to 5.9% from 3.3% last year, while that of non-household customers increased from 8.7% in 2023 to 12.7%, becoming the second most important form of indexation among non-household customers.

Among household customers, contracts with limited [143] indexation accounted for only a negligible share, equal to 0.11%; similarly, the proportion of those choosing a contract indexed to the trend of an external and controllable variable (such as the Brent oil price, the Istat inflation index, or the ITEC/ITEC12 index[144]) has become virtually insignificant. Among non-household customers, after contracts indexed to the average PUN and dynamic pricing options, only 1% hold contracts with prices tied to the trend of one or more charges determined by the Authority.

Among household customers, analysis of average supply component values shows that, excluding cases of unspecified indexation, the most beneficial arrangement was a discount on prices fixed in Consip or other public tenders, with contracts under limited indexation (-23%) next in line. However,

[143] 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*.

[144] 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.

both types account for only a very small proportion of contracts.

For non-household customers, contracts indexed with a discount on Consip or other public tender prices show an energy component 7% lower than the overall average, while contracts linked to other forms of indexation (e.g. ITEC, ITEC12, consumer price index, Brent, etc.) are even more advantageous at -9%.

An analysis of the supply component for PUN-indexed contracts, which are the most widely used, reveals that it matches the average of all indexed contracts[145], but remains more costly than the overall average, by 1% for household customers and 5% for non-household customers.

Around 32% of household customers signed contracts that included a **rebate or discount**, provided either as free periods, a fixed sum of money or energy volume, which could be one-off or permanent and sometimes conditional (e.g. for referrals or direct debit payments). More specifically, the discount applies to 53% of household customers who opted for a fixed-price contract and to 47% of those with a variable-price contract. The shares of contracts purchased that include a rebate or discount are in line with those of 2023. Among non-household customers, only 16% of signed contracts provide for a rebate or discount; of these, fixed-price contracts account for 29%.

As usual, the Annual Survey investigated the inclusion of **additional services** in contracts and their significance (Table 3.27).

As in previous years, the findings reveal a clear inclination among household fixed-price customers to buy energy through contracts that provide at least one additional service (the share of those signing contracts without any additional service is 1.8%, down from 2.2% in 2023). Among additional services, as in the previous year, the strongest preference is for contracts guaranteeing the purchase of electricity from renewable sources (50.7%) and for contracts with loyalty programmes (39.7%). There is also a fair interest in the possibility of having other products or services bundled with the electricity supply (3.5%). 28.3% of household customers on variable-price contracts opt for a contract without additional services, down from 32.3% in 2023. Among customers choosing contracts with additional services, the most preferred option is the guarantee of purchasing electricity generated from renewable energy (42.9%). Contracts with loyalty points represent the second choice (11.9%), while the third preference is for the possibility of obtaining accessory energy services along with electricity (8.2%).

Non-household customers, on the other hand, show a clear lack of interest in additional services, with 58.2% of fixed-price contracts and 55.4% of variable-price contracts excluding any added services. Among non-household customers choosing fixed-price contracts, 33.5% place importance on the guarantee of renewable energy, while showing only limited interest in ancillary services, loyalty schemes, or other products offered with electricity. For non-household customers on variable-price contracts, indifference towards additional services remains strong; nevertheless, just over one third opted for contracts with at least one extra feature, the most popular being a renewable energy guarantee (35.5% of withdrawal points).

[145] It should be noted that prices are calculated as weighted averages based on the energy billed to customers, not on the number of customers.

Table 3.27 Contracts for the supply of electricity in the free market in 2024 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	1.85%	236.52	58.21%	202.30
Guarantee of energy from renewable energy resources	50.66%	258.42	33.54%	211.27
Guarantee of energy produced in Italy	0.00%	228.91	0.00%	262.17
Points collection programme (own or others)	39.70%	264.44	3.35%	237.52
Auxiliary energy services	1.53%	231.49	4.18%	366.09
Free gift or gadget	1.22%	237.82	0.01%	162.89
Electric mobility services	0.00%	252.49	0.00%	234.72
Other products or services offered together with electricity	3.52%	269.04	0.23%	206.43
Other	1.52%	228.78	0.47%	262.17
TOTAL FIXED-PRICE CONTRACTS	100%	276.92	100%	235.95
Additional services of variable-price contracts				
No additional service	28.25%	204.83	55.41%	146.61
Guarantee of energy from renewable energy resources	42.88%	214.02	35.50%	157.45
Guarantee of energy produced in Italy	0.00%	302.39	0.00%	0
Points collection programme (own or others)	11.86%	216.36	1.14%	0
Auxiliary energy services	8.17%	217.86	5.18%	143.48
Free gift or gadget	1.53%	223.93	0.04%	174.41
Electric mobility services	0.00%	0	0.00%	0
Other products or services offered together with electricity	3.48%	219.09	1.15%	242.17
Other not included in the aforementioned items	3.82%	215.69	1.57%	150.55
TOTAL VARIABLE-PRICE CONTRACTS	100%	212.47	100%	148.89

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

Source: ARERA, Annual survey on regulated sectors.

When looking at supply cost components, household customers on fixed-price contracts pay on average 9% less when no additional services are included (a decrease of 10 points compared with 2023). For contracts including the most common additional service (i.e. the renewable energy guarantee), the cost is in line with the average of all contracts with extras. For household customers on variable-price contracts without additional services, a small saving is seen compared with the average of all contracts (-3.6%); for contracts with the most popular additional service (the renewable-source guarantee), however, there is a slight increase (0.7%) in the average value of the energy component for variable-price contracts.

For non-household customers on fixed-price contracts without any additional service, the procurement component also shows a price 3% lower than the average price paid by customers with contracts including 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. Finally, in variable-price contracts for non-household customers, the procurement cost of contracts without additional services is slightly below the average (-2%); all other contract types are more expensive than the average, except for those with auxiliary services, which are marginally cheaper (-4%).

Concentration in the electricity retail market

The ranking (provisional, given the preliminary nature of the data collected) of the top twenty groups by total sales to the final market in 2024 shows few changes in position, almost all in the middle ranks: Alperia, Duferco and Sorgenia advanced, while Acea, E.On and Agsm Aim lost ground (Table 3.28).

The Enel group remains the dominant operator in the entire Italian electricity market, though with a 26.8% share, significantly down from 33.5% in 2023, due to a sharp drop in the group's total sales (-20%). While sales to household customers and non-household customers in low and medium voltage fell by around 15%, those to high-voltage customers more than halved (from 8.1 to 4.4 TWh), causing the group to lose its leading position in this segment. Enel's predominance in the mass market, consisting of the household sector and non-household customers connected at low voltage, has nonetheless remained significant: 33.7% of this market is served by Enel (down from 41.6% in 2023), while the nearest competitor's share remains far behind (A2A with 7.1%).

Table 3.28 Top twenty groups by end-electricity market sales in 2024

GROUP	SALES (GWh)					SHARE	POSITION IN 2023
	CUSTOMERS HOUSEHOLDS	NON-HOUSEHOLDS			TOTAL		
		LV	MV	HV/VHV			
Enel	25,955	16,989	18,801	3,448	65,194	26.8%	1 °
A2A	2,592	6,441	10,684	1,981	21,698	8.9%	2 °
Hera	3,318	4,685	7,761	232	15,997	6.6%	3 °
Edison	2,639	2,818	6,542	2,530	14,528	6.0%	4 °
Axpo Group	333	2,690	7,551	2,440	13,014	5.4%	5 °
Eni	5,936	1,471	3,840	423	11,669	4.8%	6 °
Engie	645	363	3,104	5,310	9,422	3.9%	7 °
Alperia	776	1,365	3,143	273	5,557	2.3%	9 °
Duferco	367	1,796	1,511	1,561	5,235	2.2%	13 °
Acea	1,851	1,660	1,548	119	5,179	2.1%	8 °
Iren	2,136	1,617	1,035	234	5,021	2.1%	11 °
Sorgenia	681	2,265	1,403	51	4,400	1.8%	14 °
E.On	838	1,122	2,264	2	4,226	1.7%	10 °
Nova Coop	77	982	2,909	81	4,049	1.7%	16 °
Repower	0	2,183	1,821	2	4,006	1.6%	15 °
Agsm Aim	588	1,549	1,602	160	3,898	1.6%	12 °
C.V.A.	121	748	2,542	44	3,455	1.4%	17 °
Dolomiti Energia	715	1,204	1,001	1	2,921	1.2%	18 °
Alpiq	0	85	1,956	195	2,236	0.9%	20 °
Exergia	1	320	1,463	163	1,948	0.8%	22 °
Other operators	9,190	16,151	11,916	2,071	39,328	16.2%	-
TOTAL OPERATORS	58,760	68,505	94,396	21,322	242,983	100.0%	-

Source: ARERA. Annual survey of regulated sectors.

With a share of 8.9%, the A2A group has consolidated its second place in the overall ranking. In 2024, A2A group's sales grew overall by 1.4 TWh (6.8%), across almost all segments and particularly in the household customer segment (16.7%); consequently, it also retained second place in the mass market segment (with a 7.1% share), half a percentage point higher than in 2023. For this group too, however, sales to high-voltage customers fell sharply compared with the previous year (-10%).

The Hera group also remained in third place with an overall share of 6.6%, with sales nearing 16 TWh (up 11.2% compared with 2023); this growth is mainly due to sales in the household segment (+55%) and to high-voltage customers (+14%).

Table 3.29 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.

Using concentration measures based on energy sold, it can be seen that in 2024 the overall market concentration decreased across all market segments, as shown by the various indicators normally used to measure it. The top three corporate groups' cumulative share (C3) declined, dropping from 47.8% to 42.3%. The Herfindahl–Hirschman index (HHI) index fell from 1,356 to 988, well below the first threshold of concern, set at 1,500; indeed, an HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 signals a highly concentrated one (the maximum possible HHI is 10,000). The number of corporate groups needed to exceed 75% of total sales increased from 11 to 14.

The concentration of the Italian electricity market, however, has two contrasting sides: in the household segment it remains rather high (C3 fell from 69.2% to 59.9%, HHI declined from 3,248 to 2,164), though constantly decreasing, whereas in the non-household segment it is low, with C3 dropping to 38.6% (from 43.1%) and HHI falling from 1,016 to 783.

When applying indicators based on withdrawal points, concentration levels are somewhat higher than those indicated by energy sales volumes, with the obvious exception of non-household customers supplied at high and extra-high voltage.

Table 3.29 Concentration measures in the electricity retail sector (based on corporate groups)

VOLTAGE LEVEL	2023			2024		
	GROUPS >5%	C3	HHI	GROUPS >5%	C3	HHI
MEASURES CALCULATED ON THE BASIS OF ENERGY SOLD BY CORPORATE GROUPS						
Households	2	69.2%	3,248	3	59.9%	2,164
Non-households	5	43.1%	1,016	5	38.6%	783
Low voltage	3	45.5%	1,113	3	41.0%	857
Medium voltage	5	41.4%	900	5	39.5%	795
High and extra-high voltage	5	60.4%	1,722	6	52.9%	1,328
TOTAL MARKET	5	47.8%	1,356	5	42.3%	988
MEASURES CALCULATED ON THE BASIS OF OF CUSTOMERS SERVED BY CORPORATE GROUPS						
Households	2	70.5%	3,473	3	62.8%	2,460
Non-households	3	49.6%	1,410	4	42.6%	964
Low voltage	3	49.6%	1,414	4	42.5%	963
Medium voltage	4	48.3%	1,205	4	46.8%	1,095
High and extra-high voltage	6	37.7%	803	7	31.6%	659
TOTAL MARKET	2	65.9%	2,983	4	57.5%	2,089

Source: ARERA. Annual survey of regulated sectors.

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

For retail electricity market pricing, the Authority has access to two main data sources:

- that of the A*verage 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 [146]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)[147], 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*[148].

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 are applied in the event of non-compliance with the half-yearly reporting obligations on average electricity and gas prices[149]. This is because such failures to communicate create distortions of information which, in addition to hindering the Authority's functions or leading to the publication of incorrect data by the Authority itself (albeit under the responsibility of the companies), harm transparency in the two sectors and negatively affect consumers and other operators. 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 submit data relating to the first half of 2024[150] penalties were imposed to eight companies (one of which received a 10% increase, having already failed to transmit data in the second half of 2023); for failure to submit prices for the second half of 2024, [151]penalties were imposed on seven companies (three of which saw a 10% increase, as they had already failed to transmit data in the first half of 2024).

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

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

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

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

[150] Resolution of 17 December 2024, 545/2024/E/com

[151] Resolution of 15 April 2025, 163/2025/E/com.

The prices gathered through the *Annual Survey*, recorded on an accrual basis, are more consistent with the requirements of annual reporting

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 shown in Table 3.30, which presents the average prices applied to household customers by annual consumption class, the values range from €219/MWh, for large customers (consuming over 15,000 kWh/year) to €633/MWh for the smallest class (0–1,000 kWh). This pattern reflects the behaviour of supply costs, which consistently decline with increasing per capita consumption - from €344/MWh for the lowest consumption group to €158/MWh for the highest.

Table 3.30 Average electricity prices for household customers in 2024

CONSUMPTION CLASS (kWh/year)	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
< 1,000 kWh	4,640	9,270	632.6	344.5
1,000-1,800 kWh	10,809	7,669	350.7	236.2
1,800-2,500 kWh	11,651	5,469	303.3	213.4
2,500-3,500 kWh	13,235	4,502	280.1	200.5
3,500-5,000 kWh	9,687	2,367	263.8	191.1
5,000-15,000 kWh	7,657	1,131	242.5	177.3
> 15,000 kWh	1,080	42	218.9	158.2
TOTAL HOUSEHOLDS	58,760	30,450	316.8	215.6

Source: ARERA. Annual survey of regulated sectors.

In Table 3.31, by contrast, the breakdown of prices between the free market and the standard offer service is presented, with the latter reserved exclusively for vulnerable customers as of 1 July 2024. Except for 2022, the free market consistently shows values well above those of the standard offer service for all consumption classes. In detail, for the supply component, the higher cost of the free market ranges from 61% in the largest class (consumption above 15,000 kWh/year) to 91% in the second class (small-to-medium customers with consumption between 1,000 and 1,800 kWh/year). The final price, including all components except taxes, shows similar differences between the two markets, less pronounced in proportion but still high: from a minimum of 37% for the largest class (over 15,000 kWh/year) to 55% for the two medium-small classes (consumption between 1,000 and 2,500 kWh/year).

As for non-household customers, Table 3.32 reports the data on their quantities and the prices applied to them, broken down by voltage level. Unsurprisingly, the highest prices relate to low-voltage customers, whose average unit consumption is very low.

Table 3.31 Average electricity prices for household customers in 2024 by consumption class and market type

CONSUMPTION CLASS (kWh/year)	AVERAGE PRICE NET OF TAXES (€/MWh)			OF WHICH: SUPPLY COSTS (€/MWh)		
	STANDARD OFFER	FREE MARKET	DIFFERENCE	STANDARD OFFER	FREE MARKET	DIFFERENCE
< 1,000 kWh	235.2	397.1	69%	577.3	666.2	91%
1,000-1,800 kWh	140.8	269.6	91%	247.4	384.0	69%
1,800-2,500 kWh	128.0	238.1	86%	210.3	328.8	57%
2,500-3,500 kWh	121.5	219.7	81%	197.5	299.5	46%
3,500-5,000 kWh	116.7	205.2	76%	188.9	277.4	34%
5,000-15,000 kWh	112.1	187.0	67%	158.3	253.6	23%
> 15,000 kWh	104.2	167.3	61%	166.6	227.5	12%
TOTAL HOUSEHOLDS	137.6	237.2	72%	246.5	335.7	52%

Source: ARERA. Annual survey of regulated sectors.

Table 3.32 Average electricity prices for non-household customers in 2024

VOLTAGE LEVEL	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Low voltage	68,505	7,053.7	175.6	284.1
Medium voltage	94,396	108.2	136.7	192.1
High and extra-high voltage	21,322	1.1	117.9	136.9
TOTAL NON-HOUSEHOLDS	184,223	7,163.2	149.0	219.9

Source: ARERA. Annual survey of regulated sectors.

Table 3.33 shows the breakdown of non-household low-voltage customers by market type, which presents high price differences. The two gradual protection services (micro-enterprises and small enterprises), benefit from competitive tendering and therefore record the lowest procurement components (€120 and €139/MWh respectively). These are followed by the free market (€176/MWh), while the supply of last resort service is far higher at €254/MWh.

Table 3.33 Average electricity prices for non-domestic low voltage customers in 2024, by market type

TYPE OF MARKET	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Gradual standard offer for small enterprises	1,238	77	138.9	244.3
Gradual standard offer for micro enterprises	1,515	829	120.3	335.1
Safeguard	1,145	75	253.9	351.6
Free market	64,606	6,072	176.3	282.4
NON-HOUSEHOLDS IN LV	68,505	7,054	175.6	284.1

Source: ARERA. Annual survey of regulated sectors.

Table 3.34 Average electricity prices in 2024 by type of time-of-use tariff

HOURLY PRICING	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Non time-of-use	32,754	16,437	336.1	239.9
Two-tier	14,220	8,350	280.2	178.3
Time-of-use	11,786	5,663	307.4	193.4
Households	58,760	30,450	316.8	215.6
Non time-of-use	30,919	1,724	228.2	155.4
Two-tier	27,941	713	203.7	147.8
Time-of-use	121,799	4,646	219.3	145.5
Non-households(A)	180,659	7,083	218.4	147.6

(A) Excluded are safeguard customers for whom this type of pricing is not available.

Source: ARERA. Annual survey of regulated sectors.

Table 3.35 Electricity prices in the free market for customers with dual fuel contracts in 2024

CONSUMPTION CLASS (kWh/year)	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Households				
< 1,000 kWh	177	306	583.8	310.3
1,000-1,800 kWh	615	437	338.3	218.6
1,800-2,500 kWh	720	338	288.7	195.9
2,500-3,500 kWh	824	281	261.8	181.8
3,500-5,000 kWh	555	137	240.8	169.2
5,000-15,000 kWh	343	52	220.4	155.5
> 15,000 kWh	29	1	195.7	140.3
TOTAL HOUSEHOLDS	3,263	1,552	291.1	193.6
Low voltage	1674	105.1	213.7	138.1
Medium voltage	1807	1.5	163.6	125.6
High and extra-high voltage	149	0.0	138.7	121.4
TOTAL NON-HOUSEHOLDS	3631	106.6	185.7	131.2

Source: ARERA. Annual survey of regulated sectors.

Finally, Table 3.35 shows the supply costs paid by free market customers who signed a dual fuel contract. For household customers in the free market, electricity prices under dual fuel contracts (€291 /MWh) are less advantageous than purchasing electricity through a separate single-commodity contract.

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 was launched in 2011 for both sectors with the *Integrated text of the*

monitoring system for the retail electricity and natural gas sales markets (TIMR)[152], which introduced the requirement for 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.

The ***Retail Monitoring: Report for the year 2023***[153] presents the key findings of the monitoring activity and, where possible, illustrates the development of major trends beginning in 2012, the first year of monitoring. In line with previous reports, the 2023 Report examines the data collected regarding: competitive behaviour, offers and prices, service quality in sales, billing standards, and payment default.

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 2023 retail monitoring results, first and foremost, confirm that, for MV other-use customers in the electricity sector, no particular significant issues were identified. According to numerous indices, concentration is decreasing, aligning with a market characterised by effective competition. Customer dynamism is strong and has shown a slight increase compared with the previous year. Therefore, for 2023 too, it may be concluded that the market for MV other-use customers operates without requiring specific regulatory intervention.

For low-voltage other-use customers, the evidence on competition and sales market structure points to positive signs of dynamism, though certain aspects still warrant monitoring. These indications call for closer scrutiny in future monitoring, with particular attention to confirming them through more data, notably on concentration patterns and final customer activity.

For households in the electricity sector, as well as households and condominiums in the gas sector, despite notable improvements (particularly in customer dynamism), the longstanding critical issues affecting these segments persist. These suggest more attention in the accompanying process, including regulatory, to the full liberalisation of the market. Specifically, focus should be placed on the high degree of concentration, the ongoing competitive edge of protection service providers, and the limited capacity of the "average" customer to engage effectively in the market.

In both sectors, the aspects outlined above, relating to market structure and the challenges end customers face in navigating the offers available in the free market, must be duly taken into account in the process of full liberalisation set out by Law No. 124 of 4 August 2017, so as to ensure that, in the forthcoming context of complete liberalisation, customers are able to fully benefit from the opportunities of the free market.

To reduce information asymmetries among operators, improve collaboration with national and European institutions, and stimulate academic research, the Authority - within the ongoing evolution of the retail monitoring system - has provided tools for consulting average monthly electricity and natural gas consumption, detailed down to provincial level. Furthermore, as part of the retail Monitoring, the Authority has introduced a Price Indicator (PI) of the offers chosen by customers in

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

[153] Report of 23 July 2024, 317/2024/I/ com, (2023 Report). All the content of the 2023 Report, together with previous reports and the data and analyses from the retail Monitoring, is published on the retail Monitoring section of the Authority's website (https://www.arera.it/rapporti-e-relazioni/monitoraggio-retail).

the free market[154], available on the page *Prices applied to household customers in the free market*. This Indicator is calculated by taking, for each month from January 2023 onwards, the offers actually chosen by households that switched supplier and simulating the related annual expenditure over the following 12 months, together with the corresponding expected average price. The value of this index, updated to the latest month available, therefore represents the best estimate of the unit expenditure that customers who have switched supplier will incur over the following 12 months. The index is linked to the overall unit cost, covering all items (energy component, transport, system charges and taxation), in order to give a realistic picture of the full cost incurred by the consumer.

In addition to the annual Retail Monitoring Report, the Authority is forced by law [155]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 to continue the monitoring referred to in this report in the two-year period 2023-25[156].

From 27 July 2021 onwards, the Authority has submitted monitoring reports to MASE every six months[157]. The analyses contained therein focus on customers entitled to standard protection in the electricity sector, households and other low-voltage users, and on those covered by the protection service in the natural gas sector, households and residential condominiums with consumption of up to 200,000 S(m^3)/year.

The MASE Report – January 2025 Update – provides a summary of the key evidence regarding the retail electricity and gas markets, with data updated to September 2024:

- The majority of household customers (77.9%) and LV other-use customers (86.6%) are in the free electricity market, and in gas too more than 86% of household customers source their supply from the free market. However, many offers in the free market prove less advantageous than the protection services.
- The rate of supplier switching is increasing, driven particularly by younger customers and those no longer under protection schemes, though notable regional differences remain. Most switchers move to free-market offers, often from companies within the same group as their protection supplier, even if not always choosing the cheapest option.
- Customer awareness of the free market remains weak, though digital channels are the most frequently used for contract signings. Many customers do not check the offers available on the *Portale Offerte* [Offers Portal].
- The Authority has stepped up controls on the *Portale Offerte*, checking the reliability of data and the compliance of contract terms (with anomalies in roughly 3.8% of cases). It has also taken

[154] Presented for the first time in the 27 February 2024 Report 59/2024/I/com, which the Authority publishes annually for the Ministry of Environment and Energy Security (see below).

[155]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*".

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

[157] Report of 27 July 2021, 327/2021/I/com; Report of 1 February 2022, 37/2022/I/com; Report of 19 July 2022, 342/2022/I/com; Report of 31 January 2023, 30/2023/I/com; Report of 25 July 2023, 343/2023/I/com; Report of 27 February 2024, 59/2024/I/com; Report of 30 July 2024, 346/2024/I/com; and Report of 18 February 2025, 52/2025/I/com.

steps to strengthen transparency and comparability of offers, particularly in light of the forthcoming phase-out of price protection.
- Tools such as the "Energy Receipt" and the *Portale Consumi* [Consumption Portal] have been introduced to simplify the understanding of expenses and improve customer awareness.
- Communication campaigns and support initiatives for vulnerable customers have also been carried out, with the aim of raising consumer awareness about the free market and their rights.

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)[158], 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. Irrespective of the escalation process, compensation must always be paid to the customer within six months by the supplier who received the written complaint or the request concerning billing 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 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 2024, 492 companies reported data on the commercial quality of sales services in the electricity sector, declaring that they had served a total of 32.6 million electricity customers. The actual average response times for complaints, billing corrections and requests for information declared by suppliers

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

for 2024 are below the specific standards set by TIQV, while the actual times for double billing adjustments are above the established standard (Table 3.36).

Table 3.36 Standards for electricity sales service and actual average times in 2024

PERFORMANCE	SPECIFIC STANDARDS (calendar days)	OVERALL STANDARDS (%)	EFFECTIVE AVERAGE TIMES (calendar days)
Maximum time for a reasoned response to written complaints	30	-	15.29
Maximum time for bill adjustments	60 or 90(A)	-	33.11
Maximum time for double bill adjustments	20	-	34.64
Replies to written requests for information sent within a maximum of 30 calendar days	-	95%	6.16

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

Source: ARERA, processing of data declared by operators.

Overall, companies serving electricity sector customers received 298,690 **written complaints**, down on the previous year (-8.3%); 58.0% of complaints came from household customers in the free market, 18.6% from non-household customers in the free market, 9.5% from household customers under standard protection, 6.4% from multi-site customers, 4.4% from non-household customers in gradual protection for micro-enterprises, 2.0% from household customers in gradual protection, and 1% from medium-voltage customers (Table 3.37).

Table 3.37 Complaints, requests for information and billing adjustments received from suppliers

	2020	2021	2022	2023	2024
Number of complaints	297,341	289,035	337,863	325,681	298,690
Number of requests for information	193,960	228,171	313,144	329,429	261,117
Number of bill adjustments	8,053	7,862	10,567	6,606	6,566
Number of double bill adjustments	967	859	713	1,320	565

Source: ARERA processing of data declared by operators.

The **requests for information** received by companies totalled 261,117, a decrease of 20.7% compared with the previous year. The majority of requests (62.1%) come from household customers in the free market, with 14.7% from non-household customers in the free market. An 8.2% share of the information requests referred to multi-site customers, 6.1% to household clients under protection, 4.8% to non-household customers in gradual protection for micro-enterprises, and 3.3% to household customers in gradual protection. 0.8% of the information requests concerned medium-voltage customers.

Billing adjustments totalled 6,566, a decrease of 0.6% compared with the previous year. The corrections, which follow written complaints about invoices already paid but disputed, mainly concerned household electricity customers in the free market (68.4%), followed by non-household free market customers (17.7%). A share of 8.8% of the corrections concerned multi-site customers, while 2.8% of billing adjustments related to non-household customers in gradual protection (micro-enterprises), 1.2% to medium-voltage customers, 1% to household customers under protection, and 0.2% to household customers in gradual protection.

Double billing adjustments caused by errors in the switching procedures (for the same

consumption period, the final customer receives an invoice both from the outgoing and the incoming supplier) amounted to 565, down 57.2% compared with the previous year and still limited when compared with the millions of annual switchings. The adjustments primarily affected household electricity clients in the free market (60.5%), with non-household free market customers next (22.1%) A share of 9.2% of the corrections concerned multi-site customers, while 5.8% came from non-household customers in gradual protection for micro-enterprises, 1.4% from household customers in gradual protection, and 0.5% concerned medium-voltage customers. Finally, 0.4% of the adjustments concerned the household segment under protection.

The analysis of non-compliance with performance standards reveals that in 98.1% of cases the failure to meet service-specific standards was due to causes attributable to the company, in 1.88% to third parties (such as customers or others), and in 0.02% to force majeure.

Considering instead the number of **automatic compensations** paid for non-compliance with specific standards by electricity suppliers, 95.9% of compensations are linked to failure to meet response times for written complaints, 3.5% to non-compliance in billing adjustments, and 0.6% to non-compliance in double billing corrections. 56.1% of compensations were received by household customers in the free market, 21.88% by non-household customers in the free market, 8.8% by household customers in the market with a reference price, 8.44% by multi-site customers, 2.8% by non-household customers in gradual standard offer services for micro-enterprises, 1.4% by medium-voltage customers, and 0.6% by household customers in the gradual standard offer services. In terms of amounts paid to customers, as compensation due for commercial quality services that did not meet standards, automatic compensation of more than € 1.1 million was paid in bills in 2024.

Of total compensations paid, 55.13% went to household customers in the free market, 22.92% to non-household free market customers, and 9.19% to multi-site customers. Households under the enhanced protection scheme received 8.05% of the compensations, while non-household customers in the gradual standard offer service for micro-enterprises and customers in medium voltage received 2.79% and 1.52% of the total, respectively. Finally, household low-voltage customers in the gradual standard offer service received 0.4% of compensations

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

Investigations and inspections

Consumer protection and enforcement activities are carried out by the Authority through monitoring the conduct of operators, identified case by case on the basis of annual planning documents or following reports or evidence available to 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.

Inspections at regulated entities are carried out in cooperation with the *Guardia di Finanza*'s Special Unit for Goods and Services, on the basis of the current Memorandum of Understanding between the two institutions, pursuant to Article 3 of Legislative Decree No. 68 of 19 March 2001. In cases where monitoring activities reveal non-compliance with regulatory provisions, the resulting sanctioning and/or prescriptive measures are adopted against the operators. The outcomes of this activity are also relevant for the implementation or updating of regulatory rules, with a view to their

continuous improvement and effectiveness, within the adopted regulatory cycle process. Control activities are accompanied by an increasing number of Authority initiatives designed to promote *ex ante* regulatory compliance, including stakeholder engagement and information or dissemination seminars that explain how decisions, particularly newly issued ones, are to be applied. In 2024, the *Guardia di Finanza*, at the request of the Authority, carried out telephone checks on the call centres of certain free market suppliers, focusing on the pre-contractual information provided during telephone contacts with potential customers.

Furthermore, the Authority approved the measures necessary to make operational, from October 2024 at its Milan headquarters, the *Carabinieri* Unit reporting to the Command for Environmental Protection and Energy Security. The Unit will be involved in project activities as well as enforcement.

In 2024 as well, supervisory activity was conducted through inspections, telephone checks, and documentary audits, enabling oversight of a wide range of operators and extending monitoring into new areas of activity. More specifically, the supervisory activity was carried out through:

- on-site inspections, concerning priority issues such as consumer protection (social bonus), the proper functioning of markets, the setting of tariffs and incentives, and the safety and quality of the service;
- telephone checks through calls to the call centres of electricity and gas suppliers;
- documentary checks, particularly concerning the verification of tax data declared by energy-intensive companies, accounting unbundling, and the declaration of investments by operators in electricity and gas infrastructure services, as well as the correct contribution by regulated firms to the Authority's operating costs.

In 2024, the total number of inspections stood at 22, a slight decrease compared to the previous year (Table 3.38). Of the 22 inspections, 7 (including 4 on the Social Bonus) focused on consumer protection; the remaining inspections concerned issues relating to tariffs and unbundling, service quality, and the connection of production plants.

In parallel, new verification methods were introduced and, in particular, telephone checks were carried out by the Special Unit for Goods and Services on the numbers of commercial call centres of electricity and gas suppliers in the free market, regarding the pre-contractual information provided to final customers when presenting their offers. As a result of this activity, 8 sanctioning proceedings were initiated for breaches of the Code of Business Conduct, due to shortcomings in the information provided by operators on the expected annual total expenditure and the charges owed by final customers, as well as on specific supply conditions such as required guarantees, duration of economic terms, renewal procedures or early termination fees.

Table 3.38 Number of on-site inspection audit

SUBJECT	2020	2021	2022	2023	2024
Customer protection	1	1	4	3	7
Tariffs and unbundling	-	-	2	-	3
Quality of service	36	16	17	19	8
Wholesale and retail markets	5	2	2	2	2
Connection of production facilities	3	-	-	-	2
TOTAL	45	19	25	24	22

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 *Guardia di finanza*.

The inspections resulted in charges for infringements amounting to approximately €8.4 million. Notably, inspections relating to electricity and gas social bonuses led the companies concerned to "unblock" payments, enabling 16,000 economically vulnerable households to receive bonuses worth a total of €2.4 million

Sanction proceedings concerning conduct in retail markets and protecting final customers

In 2024, **two** sanctioning proceedings were opened against two companies for breaches relating to transfers, switching, and operator accreditation to the Integrated Information System (SII) and, in one case, also concerning the social bonus. Specifically, the companies were charged with implementing customer retention strategies by managing certain SII processes, such as transfers and switching, as well as the information provided to the SII, in violation of regulation.

Four proceedings were also launched against four sales companies for breaches relating to the **social bonus**. All concluded under the simplified procedure, resulting in the correct disbursement of bonuses to eligible beneficiaries, proper bimonthly reporting to the SII, and the payment of reduced fines amounting to €109,266. Still on the subject of the social bonus, one sanctioning proceeding was initiated against a natural gas distribution company for failing to bill and pay the gas social bonus to its distribution service users.

In addition, as already mentioned, **five** sanctioning proceedings were initiated concerning the **operation of the SII.** The behaviours challenged against the operators concerned violations of provisions safeguarding the security of the SII. As previously mentioned, three of these proceedings concluded with financial penalties, while in one case the company submitted a proposal of commitments which was declared inadmissible, resulting in the continuation of the ordinary sanctioning process.

Moreover, a sanctioning procedure was initiated against a sales company for breaches concerning **billing transparency**, as well as accounting unbundling.

Finally, **one** sanctioning proceeding was initiated **concerning the recognition of general system charges not collected** from final customers but already paid to distribution companies.

On the subject of **protection of end customers,** in 2024 **one** proceeding concluded with the imposition of an administrative fine of €10,000 for violation of the obligation to participate in the Authority's conciliation procedures under Article 9, paragraph 4 of the TICO (Integrated Conciliation Text – Annex A to Resolution 209/2016/E/com and subsequent amendments).

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;
- a comprehensive revision of the Bill 2.0 regulation, aimed at enhancing its simplicity, clarity, and consistency;
- definition of information obligations for sales operators.

For the consistency of these tools, 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** (10,597 km) **and Regional** (24,839 km) **Gas Transmission Network**: three for the national and regional network and five for the regional network only. The largest gas transmission company and Italian TSO is Snam Rete Gas; in addition, two other companies operate on the national network, owning and managing smaller sections: 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.

The TAP is the newest gas pipeline; it forms the European section of the Southern Gas Corridor, entered service at the end of 2020, and in 2013 received from the competent authorities in Greece, Albania, and Italy a 25-year exemption from third-party access for its initial capacity of 10 billion cubic metres per year (its current capacity can be expanded up to 20 G m^3 per year). The long-term capacity expansion of the gas pipeline is underway and is expected to increase from 10 to 11.2 G m^3 per year starting in 2026.

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 for Ecological Transition, in agreement with the Minister for Infrastructure and Sustainable Mobility, authorised [159]the company to increase the

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

regasification capacity of the plant by 1 G(m^3), raising it 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 and is operated by OLT Offshore LNG Toscana, also increased in 2023; in May [160]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 intended for the port of Piombino was acquired by Snam in June 2022; it is a vessel capable of storing around 170,000 m^3 and has a regasification capacity of 5 G(m^3)/year. In the first half of 2023, procedures were completed for the initial allocation of regasification capacity at this terminal for a 20-year period spanning the thermal years 2023/2024 to 2043/2044, resulting in 95% of the capacity being assigned for the period 2023/2024–2025/2026 and 86% up to 2044. In the second half of 2026, the regasifier ship in Piombino is expected to be relocated to another location. During 2024, the Ministry of Environment and Energy Security conducted a consultation regarding the relocation of the ship to Liguria, off the coast of Vado Ligure in the province of Savona, where the FSRU would remain for 17 years.

The fifth regasification plant, the FSRU anchored about 8 km offshore from Ravenna and purchased by Snam in July 2022, is scheduled to start operations in 2025. Built in 2015, this vessel has a regasification capacity of 5 G(m^3)/year. Once fully operational, it will enable Italy's total regasification capacity to reach 28 G(m^3)/year, equivalent to the volumes imported via gas pipeline from Russia in 2021, before the Russia-Ukraine conflict. On 12 June 2025, the first commercial shipment was unloaded at the Ravenna terminal. At the end of June 2025, Snam published the procedure for the first allocation of regasification capacity for twenty, ten, and five-year products.

Natural gas **storage** is carried out under 15 concessions held by five companies: Stogit, Edison Stoccaggio, Ital Gas Storage, Geogastock, and Blugas Infrastrutture. In June 2024, Snam submitted a bid to acquire Edison's gas storage facilities. Then, in March 2025, Snam, via its subsidiary Stogit, announced the completion of the acquisition of 100% of Edison Stoccaggio, following the receipt of the required antitrust approvals: Edison Stoccaggio's share capital was fully acquired by Stogit, and the company was renamed Stogit Adriatica.

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. In 2023, the Ministry of the Environment and Energy Security (MASE) authorised the upgrading of the Ripalta and Sergnano sites, in view of the challenges faced by the national gas system due to the reduction in gas flows from Russia. Stogit was authorised to expand storage capacity in the Ripalta reservoir by gradually increasing the maximum operating pressure up to 110% of the reservoir's original pressure, until 31 December 2026, that is, until the expiry of the Ripalta storage concession. 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%.

In June 2024, moreover, the Ministry granted Stogit the second ten-year extension of the concession for the Fiume Treste site, setting the new expiry date at 20 June 2032.

The Italian gas storage system is of significant size: in the 2024-2025 thermal year, which ended on 31 March 2025, the system offered a total working gas capacity of 17.85 G(m^3), of which 4.6 G(m^3)

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

were allocated for strategic storage. The available capacity for peak modulation storage amounts to 7.861 G(m^3); the remaining capacity is linked to products with a uniform withdrawal profile throughout the year or that, in any case, enhance the flexibility offered.

The **distribution** of natural gas in Italy takes place through a network of 272,175 km (of which 303 km were non-operational in 2024), with 57.1% at low pressure, 42.3% at medium pressure, and 0.6% at high pressure. The length of the networks increased by approximately 1,000 km compared to 2023. In addition to the networks, gas distribution takes place via 6,921 reduction stations and 104,363 final reduction units. 57.1% of the networks (155,475 km) are located in the North, 22.6% in the Centre (61,600 km) and the remaining 20.2% (55,100 km) are in the South and Islands. In 2024, there were 183 active gas distribution companies (four fewer than in 2023), including six very large ones (with over 500,000 customers), 22 with between 100,000 and 500,000 customers, 20 medium-sized (50,000–100,000 customers), 89 small (10,000–50,000 customers), and 46 very small (fewer than 5,000 customers). Since 2020, the number of companies with more than 100,000 redelivery points has been 28, and their share of gas distributed has remained stable at around 85%. In total, the 183 operators operating in 2024 supplied 25.8 G(m^3), which is 0.2 G(m^3) more than in the previous year, reaching 21.8 million consumers.

Ten-year development plans for the gas transmission network

In January 2024, the Authority initiated [161]a proceeding to update its provisions on natural gas transmission network development plans, with the aim, among others, of taking into account recent legislative requirements mandating the main transmission operator to submit the Unified Natural Gas Transmission Plan on a biennial basis, thereby rendering ineffective the obligation for transmission network operators to submit their own 2024 Development Plans.

At the same time as this initiation, the Authority repealed the exemption from the obligation to apply cost-benefit analysis for the ten-year development plans of the gas transmission network relating to 2023, while also requiring system operators who had used this exemption to supplement their development plans submitted in December 2023 with the corresponding cost-benefit analyses.

Pursuant to Article 16, paragraph 2, of Legislative Decree No. 93 of 1 June 2011 and to the Authority's resolution of September [162]2018, the Authority submits the ten-year development plans for the natural gas transmission network to consultation with actual or potential network users and all other interested parties, subsequently publishing the results of such consultation; accordingly, the 2023 development plans of nine undertakings managing sections of the national or regional transmission network (Consorzio Media Valtellina Trasporto Gas; Energie Rete Gas; Enura; Gasdotti Alpini; Infrastrutture Trasporto Gas; Metanodotto Alpino; Retragas; Società Gasdotti Italia; Snam Rete Gas) were made available on the Authority's website.

The Authority has also made the following documents available:

- the coordination document of the Plans, drawn up pursuant to regulation [163]by Snam Rete Gas,

[161] Resolution of 30 January 2024, 23/2024/R/com.

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

[163]Article 5 of Resolution 468/2018/R/gas of 27 September 2018.

in its capacity as the main transmission operator, contains all the interventions included in the 2023–2032 ten-year development plans of the transmission system operators (including Snam Rete Gas itself), highlighting for each project any overlaps between network development interventions and any actions required to ensure their implementation;
- the application criteria of the cost–benefit analysis, including the related information appendix containing the estimate of standard unit costs and other relevant unit parameters for the preparation of the 2023 Plans;
- the document describing the scenarios applied in the 2023 Plans.

Stakeholders were able to submit their comments to the Authority by 14 August 2024; these were then forwarded to the transmission system operators for their analysis and assessment. Both the comments and the counter-arguments were published on the Authority's website.

On 11 July 2024, in accordance with regulation[164], Snam Rete Gas, in coordination with the other transmission system operators, organised a public session to present the Plans, with the aim of ensuring the widest possible participation in the consultation process, giving it appropriate publicity on its website.

New methodology for the unified gas transmission development plan

During 2024, the Authority also began updating its provisions for the preparation of natural gas transmission network development plans, in connection both with amendments to the primary legislative framework [165]and with a set of other developments and recommendations at European level concerning planning activities; therefore, within the procedure initiated[166] in January 2024, the Authority in December of the same year presented[167] its guidelines for the preparation of a Unified Transmission Network Development Plan.

The Authority's proposals take into account, as noted, recent developments in the EU framework, both with regard to the "Decarbonisation Package" [168]and in relation to recent energy and environmental policies.

More precisely, the consultation detailed guidelines relating to:

- the process of preparing the Unified Plan, in particular with regard to the responsibilities of the parties involved, their coordination, and the timelines;
- updating the minimum requirements for the preparation of the Unified Plan and for the cost–benefit analysis.

[164] Art. 4 paragraph 3 of resolution 468/2018/R/gas.

[165] Law of 30 December 2023, n. 214.

[166] Resolution of 30 January 2024, 23/2024/R/com.

[167] Consultation document of 3 December 2024, 522/2024/R/gas.

[168] The "decarbonisation package" consists of two legislative texts: Directive (EU) 2024/1788 of the European Parliament and of the Council of 13 June 2024 on common rules for the internal markets in renewable gases, natural gas and hydrogen, and Regulation (EU) 2024/1789 of the European Parliament and of the Council of 13 June 2024 on the internal markets in renewable gases, natural gas and hydrogen.

With regard to the process of preparing the Unified Plan, the Authority has expressed the following guidelines:

- the main transmission operator would be tasked not only with assessing the coordination of all interventions and ensuring that the development proposals of other transmission undertakings are consistent with the potential network configuration, but also with verifying their cost estimates and preparing and updating cost–benefit analyses. By contrast, responsibility for identifying (and later refining or updating) the design details of specific development interventions, along with their actual implementation and monitoring, would remain with the individual operators;
- the current coordination document on the development activities of the various operators should no longer be published separately from the Plan but instead integrated into it. This would illustrate the coordination process between operators, the inputs supplied to the main transmission operator, and the actions taken in preparation for drafting the Plan;
- starting in 2027, set a two-year deadline for submitting the Unified Gas Plan, aligning it broadly with the electricity transmission sector and, in future, with the hydrogen sector, and fix the deadline at 28 February of odd-numbered years;
- require that operators other than the main transmission companies submit to it all information relevant to the finalisation of the Unified Plan (including the tabular summary) by 31 January of each odd-numbered year;
- fix 31 July 2025 as the deadline for the 2025 Unified Plan, serving as a transitional step between December 2023 and February 2027, and enabling an organised move towards the new biennial cycle and the associated coordination and preparation activities.

With regard instead to revising the minimum requirements for preparing the Unified Plan and the cost–benefit analysis, the Authority's positions cover:

- the requirement that the Unified Gas Plan must also contain information on network infrastructures scheduled for decommissioning, including planned timelines, whether for removal/dismantling or for reuse, together with details of decommissioning costs, revenues from asset disposal, and overall tariff impacts, as well as any effects on the natural gas system. This information would be mandatory for all decommissioning activities;
- the requirement that, whenever specific decommissioning cost–benefit analyses are conducted, the same investment thresholds apply as for cost–benefit assessments of development initiatives;
- the requirement that the physical costs of dismantling sections of the network, where the activity does not comply with general principles of system efficiency, shall not be admissible (either for the purpose of cost recognition or in the assessment of investment plans), particularly where new gas transmission capacity projects are under way or have been completed within the ten years preceding the plan along the same route or a parallel route;
- the requirement that the Unified Plan include the fullest possible information on transport projects promoted by third parties (i.e. other than national or regional gas pipeline operators) outside the national gas pipeline system, even if still under study or evaluation, as well as on development projects for storage and regasification infrastructure at any stage from study and evaluation through to planning, permitting, or execution;
- the requirement that project promoters provide information (especially expected costs and timelines and, optionally, benefits) in a standardised format through concise project sheets, with the main transmission operator responsible for preparing and publishing the template and

subsequently collecting the data;
- the requirement that project briefs from third-party promoters and from operators (including potential ones) of storage and regasification infrastructure be attached to the Unified Plan in a dedicated Annex, which will also monitor the progress of connection and interconnection projects to the transmission network requested by users and/or operators. Projects listed in this Annex would not be subject to specific assessment by the Authority;
- the requirement that the largest transmission company explicitly indicate in the Unified Plan any infrastructures deemed necessary as a result of carrying out the third-party projects mentioned above;
- the consideration of adopting a more structured and integrated method for identifying system needs in the gas sector, aligning with the approach already applied for several years in the electricity transmission sector through the report on target transmission capacities, by coordinating the time horizons of the analyses;
- the requirement that, whenever the natural gas system has available capacity, an evaluation be carried out to determine whether it could be used in a cross-sectoral manner to alleviate constraints in electricity transmission capacity;
- the need to align the study of available transmission capacities with the identification of target capacities in the electricity sector, and to assess whether this information might support future plans for repurposing infrastructures for hydrogen transport or other applications;
- the replacement of the existing benefit category B6 with a quantitative indicator, namely impact I6 – Variation in emissions of non-climate-altering polluting gases;
- the removal of benefit category B2m – Fuel substitution for the methanisation of new areas;
- the requirement to present a tabular summary of all interventions in the Unified Plan, provided in an editable spreadsheet format, distinguishing between those subject to cost–benefit analysis and those not subject to it;
- the requirement that a dedicated progress monitoring report on the Development Plan, including the Unified Gas Plan, be produced in even-numbered years on a biennial basis, since in odd-numbered years such monitoring will be incorporated directly into the Plan.

4.1.2 Access to gas networks and facilities

Access to plants and delivery of the LNG regasification service

With a view to increasing the availability of gas to replace supplies of Russian origin, after the new regasification terminal located in the port of Piombino came into operation in 2023, during 2024 works were completed on the Floating Storage and Regassification Unit (FSRU) and on the mooring platform of the new regasification terminal, situated near the coast of Ravenna, which has an annual regasification capacity of around 4.5 billion Sm^3 and is operated by Snam FSRU Italia. In January 2024, the Authority approved the [169] regasification code and the proposed procedure for the initial allocation of regasification capacity at the Ravenna Terminal. The commissioning of the new regassification plant is scheduled for the first half of 2025.

Decree-Law No. 50 of 17 May 2022 contains provisions for the development of additional

[169] Resolution of 30 January 2024, 16/2024/R/gas.

regasification capacity using floating storage and regasification units, to be connected to the existing transmission system, with the purpose of diversifying sources of gas supply and ensuring national energy security. For these purposes, Article 5 of the aforementioned Decree established a fund of €30 million for each year from 2024 to 2043, providing that the criteria for access and the methods of use of the fund be defined by decree of the Minister of Economy and Finance, in agreement with the Minister of the Environment and Energy Security, after consultation with the Authority, which delivered its opinion in[170] March 2024.

Access to the storage service

In 2018, incentives for storage companies were introduced, incorporated into the Regulation on guarantees of free access to the natural gas storage service (hereinafter: RAST), with the aim of promoting the availability of short-term capacity and services that allow greater flexibility in storage performance.

Since 2022, storage companies have introduced several innovative services (such as the residual inventory service, the winter backhaul service), and intra-seasonal services, which, also via the implicit allocation of seasonal capacity, have contributed significantly to meeting filling targets. This development has required clarification that the incentive scheme applies solely to capacities over and above those linked to basic services.

In this context, in March 2024 the Authority introduced [171]certain amendments to the RAST, aimed at adapting both the regulatory framework for storage services in light of the evolving context and the structure of the incentive system, making it a structured and established regulatory instrument. The Authority has also set, for the two-year period 2024-2025, the parameters by which storage companies calculate the revenues retained as an incentive.

In July 2022, in response to the consequences of the outbreak of the Russian–Ukrainian conflict, the Minister of the Environment and Energy Security (then Minister for the Ecological Transition) provided that [172]the GSE should offer a last-resort filling service (hereinafter: STUI service), in order to ensure the achievement of storage filling targets. That decree also provided that the Authority should recognise the "any unrecovered costs incurred by the GSE, taking into account the overall costs of the service and with the aim of safeguarding the economic and financial balance of the GSE itself". To this end, in June 2024 the Authority ordered the [173]disbursement by the Energy and Environmental Services Fund to the benefit of the GSE, charged to the "Storage Charges Account", of the compensatory and environmental costs (component CCOMP) associated with the use of storage for the period August 2022–December 2023, as well as the costs relating to the transactions carried out for the sale of gas in storage for the period August 2022–March 2023, as reported by the GSE.

In May 2024, the Authority updated[174], for the period 1 October 2024–31 March 2025, the value of

[170] Opinion of 19 March 2024, 88/2024/I/gas.

[171] Resolution of 12 March 2024, 76/2024/R/gas.

[172] Decree of the Minister for Ecological Transition of 20 July 2022.

[173] Resolution of 11 June 2024, 229/2024/R/gas.

[174] Resolution of 14 May 2024, 182/2024/R/gas.

the additional tariff component CRV^{OS}, [175]setting it at €0.0364/Smc. At the same time, the Authority adopted the following provisions (confirmed [176]in June 2024 after a short consultation) concerning the application of the CRV^{OS} component to consumption points connected to thermoelectric production plants:

- the full application of the aforesaid tariff component, with subsequent reimbursement of the share relating to the costs of the last-resort storage filling service (STUI service), and with detailed implementing provisions to be defined in a later measure;
- in line with the above, thermoelectric producers will be reimbursed, for the period 1 October 2024 – 31 March 2025, for natural gas withdrawals used in generating electricity fed into the grid, corresponding to the share of €0.0226/Smc of the CRVOS component allocated to cover STUI service costs;
- the assignment to GSE of responsibility for managing the reimbursements mentioned in the previous point;
- the distribution among all electricity end-users of the part of STUI service costs not borne by thermoelectric producers.

In September 2024, the Authority [177]defined the implementing arrangements concerning the reimbursement to thermoelectric producers of the part of the CRV^{OS} component allocated to cover the costs of the STUI service, and the recovery of that share not borne by thermoelectric producers through a tariff component charged directly to all end customers in the electricity sector. In detail, it has been established that:

- the reimbursement mechanism, from GSE to thermoelectric producers, of the OSSTUI element shall be analogous to the mechanism 178already in force for the reimbursement of the RE_{TEE} element;
- that GSE, following consultation, update and submit to the Authority for approval the "Operating Regulation for the reimbursement of the RE_{TEE} element", ensuring full procedural consistency between the reimbursement of the OS_{STUI} element and that of the RE_{TEE} element;
- that the revenue required to guarantee the reimbursement of the OS_{STUI} element be collected by Terna (through the dispatching charges applied by dispatching users to the electricity withdrawn) over the entire calendar year, and not only during the winter period, as initially proposed by the Authority;
- that the revenue referred to in the previous point feed into the Storage Charges Account from which GSE draws to make the reimbursements;
- that Terna, GSE and CSEA submit, for approval, an operating procedure for the management of the flows relating to the reimbursement of the OS_{STUI} element.

[175] Paragraph 41.1(f) of the RTTG.

[176] Resolution of 11 June 2024, 227/2024/R/gas.

[177] Resolution of 17 September 2024, 364/2024/R/com.

[178] Resolution of 26 March 2020, 96/2020/R/eel.

In March 2024, the Minister of the Environment and Energy Security issued [179]the provisions for the 2024–2025 storage gas year, confirming the existing structure of the storage services. In implementation of the aforementioned provisions, in April 2024 the Authority [180]defined the overall framework of rules applicable to storage services for the 2024–2025 gas year, determining, among other things, the reserve prices for all capacities subject to allocation.

Access to the gas transmission service

In April 2024, the Authority updated[181] certain provisions of the Integrated Balancing Text (TIB) to adapt them to the new management methods of some financial transactions (related to self-consumption, network leakage and unaccounted gas) introduced by the "Tariff Regulation for the Natural Gas Transport and Metering Service for the Sixth Regulation Period 2024-2027" (RTTG), approved [182] in April 2023. At the same time, a fixed price for the linepack was established, conventionally set in line with the current market value, ensuring that Snam remains neutral with respect to price fluctuations under the previous valuation method.

In September 2024, the regulation concerning the default transport service was amended[183], stipulating that the quantities of gas necessary for the service may be supplied by Snam using the same mechanisms and criteria required for the functioning of the system[184], or through methods defined by Snam and approved by the Authority. In detail:

- the procurement methods for the quantities required for the default transport service were introduced in the Integrated Balancing Text (TIB), through the AGS platform of the GME (where the quantities for the system's operation are purchased), along with the integration of the neutrality mechanism for Snam concerning the associated financial transactions;
- the price [185]applied to users of the default transport service has been changed. In particular, it is stipulated that the price covering the costs of sourcing the raw material is not only linked to the costs incurred by Snam but must have a minimum level equal to the imbalance price applied to "short" users, in order to prevent potential misuse of the service due to more favourable conditions than those applied to such users.

Furthermore, amendments to the TIB have been approved regarding the neutrality system, introducing methods that reflect the provisions [186]on the risk coverage mechanism for non-payment. It has also been established that, from 1 October 2024, neither the item covering the difference between actual and estimated consumption in gas settlement procedures nor the imbalance linked

[179] Decree of 28 March 2024 issued pursuant to Article 14 of Decree-Law No. 1 of 24 January 2012 and Article 12, paragraph 7, of Legislative Decree No. 164 of 23 May 2000.

[180] Resolution of 2 April 2024, 129/2024/R/gas.

[181] Resolution of 2 April 2024, 120/2024/R/gas.

[182]Resolution of 4 April 2023, 139/2023/R/gas.

[183] Resolution of 24 September 2024, 374/2024/R/gas.

[184] Paragraph 1.4 of the TIB.

[185] Resolution of 14 June 2012, 249/2012/R/gas.

[186] Art. 10 of resolution 249/2012/R/gas.

to the default transport service will fall under economic regulation within the neutrality mechanisms[187].

In November 2024, some amendments [188] were made to the balancing rules, with particular reference to:

- a new version of the so-called *small adjustment*[189] has been introduced to limit arbitrage opportunities arising from the temporal asymmetry between the GME and Snam settlement systems. The value of the *small adjustment* is now tied to the cost of a short-term financing operation, matching the timing gap between payment schedules for gas purchases on the centralised market (GME) and imbalance costs (Snam). Since this modification affects the entire community of balancing users, the resolution provides that it will take effect in October 2025, allowing it to be anticipated in wholesale gas trading dynamics;
- the adjustment of Snam's incentive system, both to reflect specific situations in which it may need to operate (such as market price volatility) and to enhance the accuracy of expected withdrawal estimates for withdrawal points measured at frequencies other than monthly, with daily granularity. Regarding this matter, the Authority has ordered:
  - additions to be made to Snam's performance indicator p2 to capture situations where it would be arbitrary to judge performance as efficient or inefficient against preset targets, such as when prices are excessively low (below €20/MWh) or highly volatile;
  - additions to be made to performance indicator p3 to take into account differences between nominated and transited volumes, which naturally occur in the operation of interconnected systems and are inherently unforecastable (OBA);
  - the seasonal adjustment of the I4 incentive is based on evidence relating to the performance of p4, including volumes from the default transport service, which, as decided in September 2024, must be procured in the same way as those necessary for system operation;
  - the reduction of resources allocated to the I5 incentive that are no longer necessary to achieve the objectives of minimising RdB interventions in the infraday session of the sector for System Gas Supply (AGS), while freeing up resources for other incentive areas;
  - the introduction of a new performance indicator p6, which defines the daily error in the forecast of expected withdrawals for redelivery points with a measurement frequency other than monthly, providing, in the first application, a non-negative annual cumulative value for the I6 incentive;
  - the four-year duration of the incentive period.

Finally, in September 2024, the Authority partially amended [190]the core provisions [191]governing access to the transport service, introducing greater flexibility in the use of transport capacity. The aim

[187] Art. 8 of the TIB and paragraphs 16.3 and 24.3 of the TISG.

[188] Resolution 19 November 2024, 482/2024/R/gas.

[189]Article 5, paragraph 1, letter (a) of the TIB.

[190] Resolution of 17 September 2024, 363/2024/R/gas.

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

was to remove uncertainties linked to early termination of supply contracts caused by final customer non-compliance, while also promoting contracts with durations shorter than one year. In more detail, for redelivery points linked directly to industrial and thermoelectric users, rules now allow the user assuming supply to terminate the associated annual transport capacity before expiry, where the supply contract ends within the same gas year and is not renewed, subject to set procedures and timings.

Access to transport service at foreign interconnection points

In September 2023, [192]the rules on requesting access to transmission capacity at points interconnected with foreign countries [193]were updated, 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.

Approval and Update of the Service Codes

The regulations governing access to and provision of natural gas transport, storage, and regasification services, contained in Legislative Decree No. 164 of 23 May 2000, require that the companies providing these services define their own codes in accordance with the criteria set by the Authority, which approves them once their consistency with those criteria has been verified.

During 2024, some transportation, storage, and regasification service codes were updated to incorporate new regulatory provisions, Authority provisions, or management methods designed to improve service provision.

Among the measures adopted, the following are particularly noteworthy:

- with Resolution No. 455/2024/R/gas of 5 November 2024, the Authority approved a proposal to amend the Network Code and the Tariff Code of TAP, aimed at introducing intraday capacity products, in line with the relevant European regulation on capacity allocation at interconnection points;
- with Resolution No. 16/2024/R/gas of 30 January 2024, the Authority approved the draft Regasification Code for the new Ravenna Terminal, submitted by Snam FSRU Italia, the operator of the facility;
- with Resolution No. 389/2024/R/gas of 1 October 2024, the Authority approved, within its remit, the proposal for the update of the Network Code of Snam Rete Gas, aimed at incorporating the provisions established by Resolution No. 333/2024/R/gas of 30 July 2024, which introduced amendments and/or additions to the TISG necessary for incorporating the settlement procedures for points equipped with G4 and G6 smart meters;

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

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

- with Resolution No. 438/2024/R/gas of 29 October 2024, the Authority approved the proposal to update the Regasification Code submitted by OLT Offshore LNG Toscana, which includes: the increase in operational tolerance for cargo delivery and the types of LNG that can be received by the terminal, the adoption of the calendar year as the reference period for the scheduling of unloading slots, instead of the gas year, and the introduction of complementary unloading slots, or small slots that can be offered on an intra-annual basis;
- with Resolution No. 500/2024/R/gas of 26 November 2024, the Authority approved the proposal to update the Regasification Code submitted by GNL Italia, which provides for the introduction of Small Scale LNG services and virtual liquefaction services, as well as the option for the terminal to offer, within the spot allocation procedures, smaller slots with a regasification capacity of two days, equivalent to approximately 35,000 m^3 of liquid LNG;
- with Resolution No. 559/2024/R/gas of 17 December 2024, the Authority approved GNL Italia's proposal to launch a trial in the procedures for offering regasification capacity in the ongoing gas year, aimed at promoting the use of the Panigaglia Terminal, particularly for the winter 2024-2025; as well as for the offer of a new capacity product with implicit allocation of the temporary storage service.

4.1.3 Tariffs for access to gas infrastructures

Tariffs for the LNG regasification service

In May 2023, the Authority adopted [194]the tariff regulation criteria for the LNG regasification service for the sixth regulatory period (RTRG 2024-2027). In relation to these criteria, in February 2024, the Authority issued [195] its guidelines on the criteria for determining the rate of change of the deflator for gross fixed capital investment and consumer prices for workers' and employees' households, to be used for tariff determinations for the LNG regasification service, as well as on the treatment of updates to the rate of return on invested capital;

As a result of this consultation, in June 2024, the Authority implemented [196]changes to the RTRG 6PR LNG, specifically providing for:

- the alignment of the gross fixed capital investment deflator (including the so-called connection) with the ROSS criteria, maintaining consistency with the regulation of the transport service;
- the alignment of the methods for recognising inflation with the ROSS criteria;
- in order to allow the tariff to reflect the service's own costs, establish a mechanism to adjust deviations resulting from the re-determination of reference revenues, taking into account any changes in WACC, deflator, inflation, and final balance sheet data.

Simultaneously, the Authority approved [197]the tariff proposals for the LNG regasification service for 2025, including the proposal for the new Ravenna Terminal, and authorised the release of the

[194]By Resolution of 9 May 2023, 196/2023/R/gas.

[195] Consultation document of 27 February 2024, 56/2024/R/gas.

[196] Resolution of 25 June 2024, 253/2024/R/gas.

[197] Resolution 253/2024/R/gas.

clearance for the disbursement of the revenue coverage factor and settlement balances for 2023.

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[198].

[199]In August 2023, the Authority approved the reference revenues for the natural gas storage service for the year 2024. After defining the revenues, the companies Stogit, Edison Stoccaggio, and Ital Gas Storage have calculated, submitted, and published the tariff charges for the 2024-2025 gas year, in accordance with the regulation.

In July 2024, the Authority initiated [200]a procedure to define tariff regulation criteria for the natural gas storage service for the sixth regulatory period, starting in 2026. In November 2024, the Authority outlined [201]its guidelines on the matter, which, although within a framework of substantial stability compared to the existing criteria, contain some new elements, as detailed below:

- alignment with the ROSS criteria for the duration of the regulatory period, the treatment of inflationary items, the operational cost items excluded from tariff recognition, and the activation methods for the Y parameter;
- the introduction of a mechanism that can establish a strong link between cost efficiency, system benefit, and incentives for the company, by limiting the recognition of capital costs to the ex-ante estimated costs and introducing a mechanism for sharing any savings achieved;
- the introduction of a new category of asset with a useful life shorter than that of wells and pipelines, for extraordinary maintenance interventions aimed at maintaining operation and extending the useful life of assets, without requiring their replacement or refurbishment;
- the removal of the enhanced incentive mechanism, which allows the storage company to retain a larger share of revenue from the offering of short-term storage services, in exchange for a reduction in the share of income subject to guarantee through the coverage factor;
- for the reference revenues of new storage companies, consistent with the LNG regasification service rules, a mechanism has been introduced for symmetric sharing between the company and the system of any efficiencies or inefficiencies achieved against cost estimates, with ex-post re-determination of the revenue item covering operating costs;
- the elimination of the reconciliation mechanism based on the reference revenue level of the following year and the introduction of a mechanism for compensating deviations with the Fund through the revenue coverage factor.

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

[198]Resolution of 23 October 2019, 419/2019/R/gas.

[199] Resolution of 3 August 2023, 379/2023/R/gas.

[200] Resolution of 30 July 2024, 336/2024/R/gas.

[201] Consultation document of 12 November 2024, 473/2024/R/gas.

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. 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[202]. 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.

In 2024, Stogit, Edison Stoccaggio, and Ital Gas Storage held the auctions for the gas year 1 April 2024 – 31 March 2025. Compared to the previous year, there was a slight reduction in the capacity allocated via auction (-2.6 TWh, -3%) and a halving of the charge levels (average allocation prices), which dropped from €6.04/MWh in 2023 to €2.98/MWh in 2024, representing, however, a return to pre-pandemic orders of magnitude.

Tariffs for gas transmission service

In April 2023, the Authority approved [203]the tariff regulation for the natural gas transport and measurement service (RTTG) for the period 2024-2027 (sixth regulatory period - 6PRT); in particular, the regulation includes the criteria for:

- 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 2024, following the review of the tariff proposals submitted by the transport companies under the RTTG 6PRT, the Authority approved [204]the reference revenues and determined the tariff charges for the natural gas transport and measurement service for the year 2025.

[202]Resolution of 26 February 2019, 67/2019/R/gas.

[203]Resolution of 4 April 2023, 139/2023/R/gas.

[204] Resolution of 29 May 2024, 216/2024/R/gas.

Tariffs for distribution and metering services

At the end of December 2022, [205]the regulation of the distribution and measurement service tariffs (RTDG) for the years 2023-2025 was approved.

[206]In December 2024, the mandatory tariffs for the distribution, measurement, and commercialization of natural gas services for the year 2025 were approved.

In June 2024, the Authority initiated [207]the procedure to implement the rulings of the Council of State [208]regarding tariffs for the natural gas distribution and measurement services, with particular reference to the determination of the operating costs recognised for the 2020-2025 regulatory period, following extensive litigation brought by multiple operators. Taking into account the clarifications provided by certain rulings of the regional administrative court (TAR) Lombardia[209], in October 2024, the Authority outlined[210] its guidelines, identified according to a general principle of regulatory action coherence, as detailed below:

- lack of transparency:
  - criteria for the processing of cost/revenue data for the companies;
  - quantification of the total value of the greater productivity gains achieved by the sector in the 2014-2019 regulatory period;
  - clarification of the criteria and calculation methods used to determine the operational costs recognised for the 2020-2025 period, approved with resolution 570/2019/R/gas;
- calculation of the actual operational costs for 2018:
  - representativeness of the samples;
  - criteria for the exclusion of outlier values;
  - calculation of the sector's average actual unit costs;
- rates of reduction of recognised operating costs (X factor):
  - recalculation of the X-factor to be applied to all businesses;
  - correction mechanism of the enterprise-specific X-factor, ensuring the achievement of efficiency targets set by the regulation, activated upon request when specific conditions are met;
  - adjustment of coefficients to differentiate recognised costs based on the density of the served user base.

[205] By Resolution of 29 December 2022, 737/2022/R/gas.

[206] Resolution of 27 December 2024, 587/2024/R/gas.

[207] Resolution of 11 June 2024, 231/2024/R/gas.

[208] Section II, numbers 10185/2023, 10293/2023, 10294/2023, 10295/2023 and 1450/2024.

[209] Section I, numbers 507/2024, 877/2024, 883/2024, 884/2024 and 1029/2024.

[210] Consultation document of 22 October 2024, 427/2024/R/gas.

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 2020-2025 regulatory period (RQSG 5PRS) were approved in [211]October 2019, maintaining substantial continuity with the previous regulation.

In July 2024, the Authority launched [212]a procedure for defining regulation criteria for the quality of natural gas storage service for the sixth regulatory period, starting in 2026. In November 2024, the Authority outlined[213] its guidelines on the matter, which, while largely maintaining the stability of the existing criteria, include some new elements, summarised below:

- with regard to service safety, provisions on gas leakage have been reinforced by introducing new obligations, including the detection and reporting of leaked gas volumes, the identification and reporting of the number of emission events and their respective volumes, and the publication of the methodology used for emission estimates;
- regarding service continuity, the penalty mechanism for failing to meet contractual obligations has been removed, and a new comparison introduced between the overall availability of delivery/injection services to users and the performance curves set out by ministerial decree, with results also included in the service quality report.

Quality of gas transmission system

In December 2023, the Authority, after consultation[214], approved[215]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 instruct the main transmission operator, within working groups that include other transmission operators, to lead an initiative defining technical and performance requirements for clearly identifying the characteristics of a network fit for hydrogen transport, drawing also on the Asset Health methodology developed at the Authority's instigation[216];
- 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

[211]Resolution of 23 October 2019, 419/2019/R/gas.

[212] Resolution of 30 July 2024, 336/2024/R/gas.

[213] Consultation document of 12 November 2024, 473/2024/R/gas.

[214]Consultation document of 10 October 2023, 451/2023/R/gas.

[215]Resolution of 12 December 2023, 589/2023/R/gas.

[216]Resolution of 3 May 2022, 195/2022/R/gas

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.

In September 2024, the Authority amended the [217] Regulation of the measurement service on the natural gas transport network (RMTG[218]) to address issues raised in recommendation papers received in the first months of 2024, specifically including:

- exemption from the application of the economic fee system set out in the RMTG for measuring systems with a Q_{ero} lower than 200 S(m^3)/h;
- the extension of the criterion for determining the charges for non-compliance with service levels in the metering activity, based on the fixed unit cost set by the regulation for Unaccounted Gas, to also include distribution companies (given the introduction of the accountability mechanism for distribution companies on the in-out delta);
- the reduction of the minimum frequency for updating quality data for entities subject to legal metrology with measuring installations having flow rates lower than 4,000 S(m^3)/h and connected to pressures higher than 5 bar, thus falling under the scope of indicator D, from monthly to quarterly, with a transitional period of three years, until 31 December 2026, with a minimum semi-annual frequency.

At the same time, the proposed amendments to the Snam Rete Gas Network Code and SGI, in line with the aforementioned changes, were approved.

Quality of gas distribution system

The regulation of the quality of gas distribution and metering services for the regulatory period 2020-2025 (RQDG)[219] 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

[217] Resolution of 24 September 2024, 377/2024/R/gas.

[218] The RMTG was approved in 2021 (512/2021/R/gas) and defines: (i) the responsibilities and scope of metering and meter reading activities; (ii) minimum and optimal requirements for plant, performance, and maintenance; (iii) predefined service quality levels; (iv) an incentive system to ensure compliance with these quality levels; (v) a system to monitor the quality level requirements.

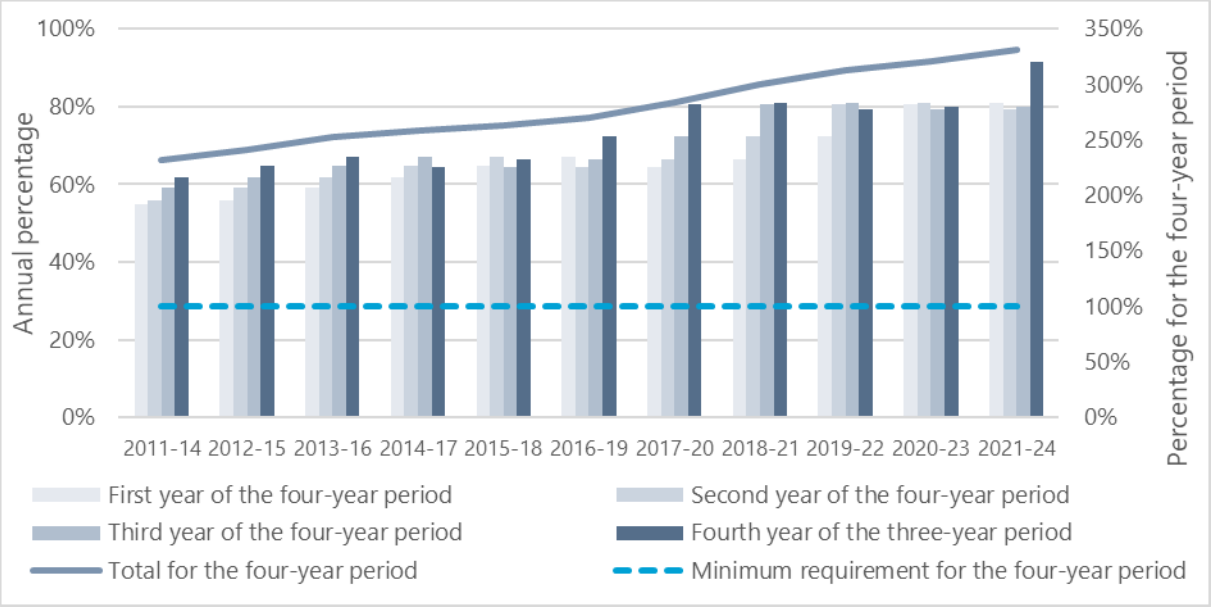
[219] Approved by Resolution 569/2019/R/gas of 27 December 2019.

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.

Figure 4.1 Percentage of high/medium pressure network inspected since 2014, per three-year period

Source: Distributing companies' declarations to ARERA.

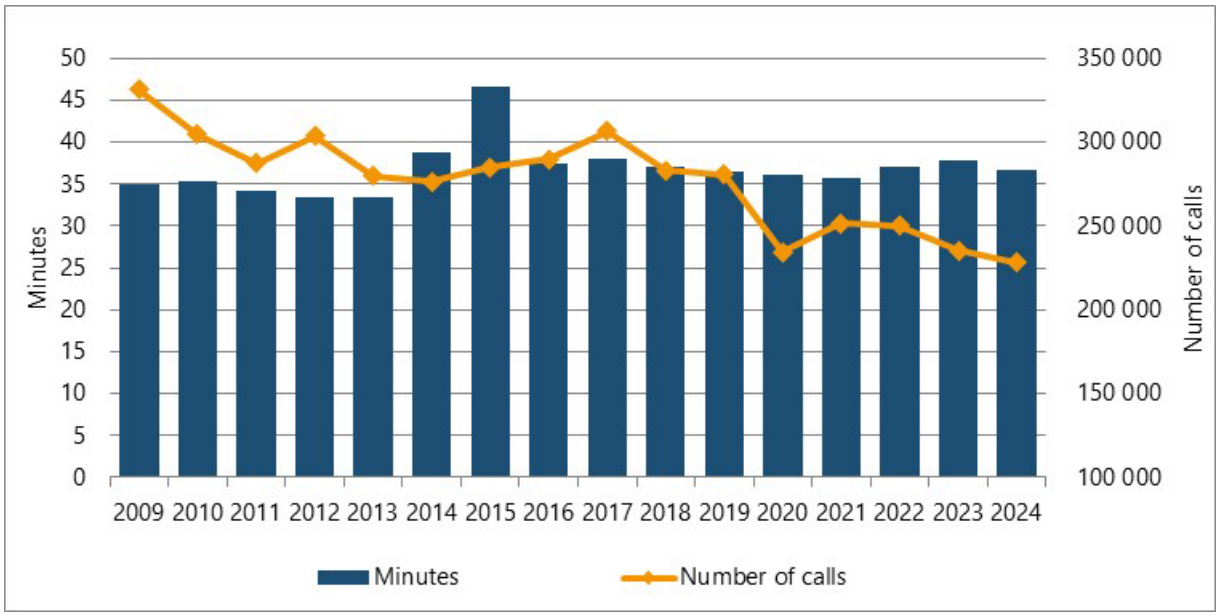
Figure 4.2 Percentage of low-pressure network inspected since 2014, by four-year period



Source: Distributing companies' declarations to ARERA.

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). The Figure 4.1 and the 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 2023, there is an increase in the inspection percentage for both high/medium pressure networks and low-pressure networks in 2024. As for the total percentage for the reference period, which is still well above the minimum requirement, it shows a clear increase for the low-pressure network and a slight rise for the high/medium pressure network.

Figure 4.3 Emergency service on distribution system since 2009



Source: Distributing companies' declarations to ARERA.

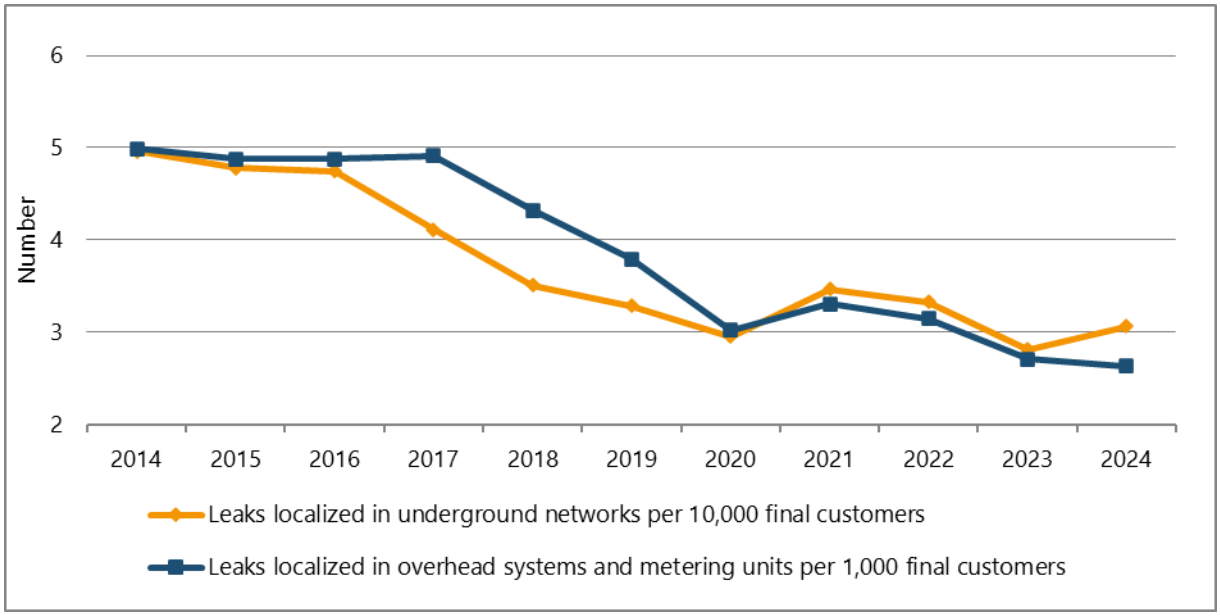
With reference to the emergency response obligations, the Figure 4.3 shows the updated arrival time at the call site (telephone) as of 2024. The national average has decreased by nearly 37 minutes compared to 2023. In addition, the percentage of compliance with the maximum arrival time within 60 minutes was 99.9% 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 from 1 July 2009 and accompanied by the regular control campaign on companies' gas emergency services, carried out with the support of the *Guardia di Finanza*, encourages companies to record data accurately, which is why data is presented starting from that year. 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. The timeliness of interventions can prevent gas accidents that could have very serious consequences. For this reason, compliance with emergency response regulations is an essential requirement for the recognition of rewards within the framework of the reward-penalty regulation related to safety recoveries, a regulation whose scope has been extended to all distribution companies, regardless of the number of final customers.

Half of the calls to emergency response call centres turn out to be false alarms.

The 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 2024, leaks found on the network and the underground part of service connections, which are typically the most dangerous, are on the rise, both in absolute value and as a percentage relative to customers.

Figure 4.4 Number of localised dispersions with respect to customers



Distributing companies' declarations to ARERA.

Connection times to transmission and distribution networks

The data regarding connections differ depending on whether they involve the linking of gas pipelines with transportation networks or the connection of pipelines with the distribution network (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 2024, 64 connections to transmission networks were made, of which 58 were high-pressure pipelines and 6 medium-pressure pipelines. On average, a waiting time of 139.8 working days was recorded for high-pressure connections and 14.4 days for medium-pressure connections. Compared to the previous year, the number of high-pressure connections has decreased, while the number of medium-pressure pipe connections has increased; regarding the average time for making the connections, there was an increase for high-pressure pipelines (20 more working days), while for medium-pressure pipes, there was a significant reduction. Just under half of the 64 connections made in total activated the supply during the year (more precisely, 24 out of 58 for high pressure and 2 out of 6 for medium pressure).

In the case of local distribution networks, there was a slight decrease in the number of connections made: 59,236 in 2024 compared to 61,826 in 2023. As usual, the majority of the connections involved low-pressure pipelines (94.2%), with the remainder relating to medium-pressure pipes, as no connections were made to high-pressure distribution pipelines, as in previous years. There is an increase in waiting times, both for connections to medium-pressure pipelines (from 9.2 to 11.8 working days) and for connections to low-pressure pipes (from 34.1 to 36.7 working days).

On average, each distributor made 295 connections to low-pressure pipelines throughout the year. Excluding distributors who did not make any connections (26 entities), the average rises to 342 connections per distributor.

Table 4.1 Connections to electricity networks and average connection time

PRESSURE	2023		2024	
	NUMBER	AVERAGE TIME(A)	NUMBER	AVERAGE TIME(A)
CONNECTIONS TO TRANSMISSION NETWORKS				
Medium pressure	2	132.0	6	14.4
High pressure	65	119.7	58	139.8
TOTAL	67	120.1	64	128.0
CONNECTIONS TO DISTRIBUTION NETWORKS				
Low pressure	58,504	9.2	55,771	11.8
Medium pressure	3,322	34.1	3,465	36.7
High pressure	0	-	0	-
TOTAL	61,826	10.6	59,236	13.2

(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 2024, the settlement framework in the gas industry evolved according to two key directions: firstly, through enhanced detail in consumption measurement, and secondly, by minimising the gap between expected and actual daily gas withdrawals to better balancing the system.

The initiative of [220]July 2024 falls under the first objective, where Acquirente Unico, as the Manager of the Integrated Information System (SII), was tasked with making the necessary changes to ensure that monthly measurements from withdrawal points with small-scale electronic meters (G4 and G6 smart meters) are also acquired and processed during settlement sessions. The change came into effect on 1st October 2024 for all meters of this type installed by 30th June 2024; for meters installed after this date, the regulation stipulates that the switch to monthly measurement will take effect from the first day of the month following the ninetieth day after the installation of the G4 or G6 smart meter.

Regarding the second objective, in July 2024, the adoption of the conventional profiling

[220] Resolution of 30 July 2024, 333/2024/R/gas.

methodology was confirmed[221] for all consumption points with monthly measurements, including those with the small devices mentioned above, to determine the expected daily gas quantity allocated to users, which had already been used for withdrawal points with a meter reading frequency lower than monthly. These forecasted daily withdrawals are determined by Snam in advance of the gas day end and are also used to determine the provisional daily physical balances for each balancing user. The financial transactions arising from the difference between actual and estimated consumption are subsequently reconciled by Snam with the user. This change is accompanied by appropriate informational obligations for Snam to ensure balancing users are in a position to know the acquired measurements and, therefore, the daily gas supply profiles, in order to minimise imbalance charges.

Furthermore, in order to improve user transparency and balancing performance, it has been established that, upon switching, the new supplier must be given access to the past 12 months of measurement data for final customers with monthly or annual measurements.

With a view to improving consumption forecasts, in November 2024 the Authority ordered[222] that the conventional profiling methodology, as defined in the Integrated Settlement Text gas (TISG), be further refined by introducing a parameter designed to adjust the withdrawal profile based on the actual daily withdrawal trends, thus enabling timely capture of both transient and structural consumption dynamics. Snam is tasked with defining, after consultation, a methodology for calculating the new parameter that ensures an adequate level of transparency and predictability. The full application of the provisions is set for 1st October 2025, to allow the Integrated Water Services Operator time to adjust the information systems.

In November 2024, provisions were approved [223]regarding the settlement of the financial transactions determined as a result of the adjustment sessions carried out in 2024, along with the related provisions for the Energy and Environmental Services Fund (CSEA). In particular, it has been stipulated that Snam shall proceed as follows:

- concerning the issuance of accounting documents and settlement of financial transactions arising from the multi-year adjustment session for 2019–2022, this applies solely to balancing users who were net creditors;
- regarding invoicing and the settlement of financial transactions from the 2019–2022 multi-year adjustment session, once the accounting documents from the 2023 annual adjustment session have been issued, the process provides for offsetting transactions from both sessions for the remaining balancing users who were net debtors in the 2019–2022 multi-year adjustment.

These provisions were introduced to avoid inefficiencies in settling financial transactions from the two adjustment sessions, namely the risk that balancing users would pay Snam the amounts due from the 2019–2022 multi-year adjustment by the end of 2024, only for Snam to reimburse a large share of these sums to them in early 2025 after the 2023 annual adjustment.

[221] Resolution 333/2024/R/gas

[222] Resolution 19 November 2024, 482/2024/R/gas.

[223] Resolution of 26 November 2024, 505/2024/R/gas.

Making distribution companies responsible for the difference between gas injected and withdrawn (Delta^{IO})

In July 2024, the Authority ordered [224]the postponement of the entry into force of the simplified mechanism for holding distribution companies accountable, adopted[225] in August 2022. The objective of the mechanism is to encourage distribution companies to improve the efficiency of distribution activities, reduce network leakages, and enhance the collection and quality of measurement data. The so-called delta in-out is a parameter that summarises the overall quality of distribution activity, representing the daily difference between what is measured entering the network and what is measured (or estimated) exiting, a difference that ideally tends towards zero. The regulation stipulates that the delta in-out is not allocated to balancing users but is provided by Snam, with the related costs being borne by the system. In light of the results from a detailed analysis of the settlement procedures implemented, the Integrated Water Services Operator has planned a series of interventions aimed at addressing most of the issues identified in the settlement session, which will be completed in 2025. Therefore, in July 2024, it was established [226]that, during 2025, three penalty calculation sessions will be held, namely:

- two sessions referring to the three-year periods 2020-2022 and 2021-2023, based on the results of the multi-year adjustment session;
- one session for the three-year period 2022-2024, based on the results of the multi-year adjustment session for 2022 and 2023, and for 2024, based on the results of the annual adjustment session[227].

4.1.6 International coordination

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.

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). As part of its assessments, as required by the tariff

[224] Resolution of 23 July 2024, 303/2024/R/gas.

[225]Resolution of 2 August 2022, 386/2022/R/gas.

[226] Resolution 303/2024/R/gas.

[227] Paragraph 8.1 of Resolution 386/2022/R/gas.

regulation for natural gas transportation and measurement services (RTTG), the Authority ensures that investments are compatible with the efficiency and safety of the system and with criteria of cost-effectiveness.

In June 2024, the Authority conducted a consultation on the Ten-Year Development Plans for the Transmission Network for 2023, which concluded in August 2024 (see paragraph 4.1.1).

The update of the provisions for preparing scenarios for the PNIEC energy networks and their consistency with the scenarios prepared for the purposes of the TYNDP of ENTSO-E and ENTSO-G is common across both the electricity and gas sectors, and is described in paragraph 3.1.3 of this *Annual Report*.

4.2 Competition and the functioning of markets

4.2.1 Wholesale markets

According to provisional data released by the Ministry of Environment and Energy Security, gross natural gas consumption in 2024 increased by 340 M(m^3) compared to 2023 (Table 4.2). The change is only slightly positive, but it represents an important result after two years during which gas consumption experienced two significant declines. The recovery was supported by the weather conditions, which boosted consumption in the residential sector, as well as by the still positive - albeit weak - performance of the economy as a whole.

Table 4.2 Gross natural gas consumption in Italy

AVAILABILITY (M(m^3))	2023	2024(A)	VARIATION
Domestic production	2,705	2,595	-4.1%
Imports	61,824	59,436	-3.9%
Exports	2,619	620	-76.3%
Stock variation	-457	381	183.4%
GROSS DOMESTIC CONSUMPTION	61,452	61,792	0.6%

(A) Provisional data.

Source: Ministry of the Environment and Energy Security.

In 2024, national production recorded a decrease of 4.1%, falling to 2.6 G(m^3) from the 2.7 G(m^3) achieved in 2023. The foreign balance also decreased by 0.7%, due to a 3.9% drop in imports, which fell to 59.4 G(m^3) from 61.8 G(m^3) in 2023, only partially offset by a sharp reduction in exports of 2 G(m^3) (from 2.6 to 0.6 G(m^3)). Since the volumes stored in the storage facilities at the end of the year were about 0.4 G(m^3) higher than the quantities at the beginning of the year, gross domestic consumption in 2024 amounted to 61.8 G(m^3), a value 0.6% higher than that of 2023. As a result, the level of dependence on foreign supply, measured as the ratio between net imports and the gross value of national consumption, has slightly decreased: in 2024, 95.2% of the gas available in Italy came from abroad (compared to 96.3% in 2023). Taking system consumption and network leakages into account, net gas consumption in 2024 can be estimated at 60.4 G(m^3), which is 0.6 percentage points higher than in 2023.

Production

The data collected through the usual Annual Survey on the energy sectors conducted by the Authority, which since 2022 also includes biogas production, confirm the decline in national gas production. In 2024, national production is reported to have stopped at 2,671 M(m^3) compared to 2,980 M(m^3) recorded in 2023; therefore, the decline in national production in the data collected by the Survey is greater than the ministerial figures.

The decrease in cultivated gas volumes is significant for the large operators. In 2024, the Eni group companies extracted about 123 M(m^3) less than in 2023, recording a production decrease of 6.6%. However, the group remains the dominant operator in this segment, with a significantly majority share, far ahead of the second group, Royal Dutch Shell. The production of the latter group also saw a 6.6% decline, with 32 M(m^3) less extracted than in 2023. The same happened to the Gas Plus group, which extracted 81 M(m^3) compared to 92 M(m^3) in 2023 (-12%). In 2024, the Total group, on the

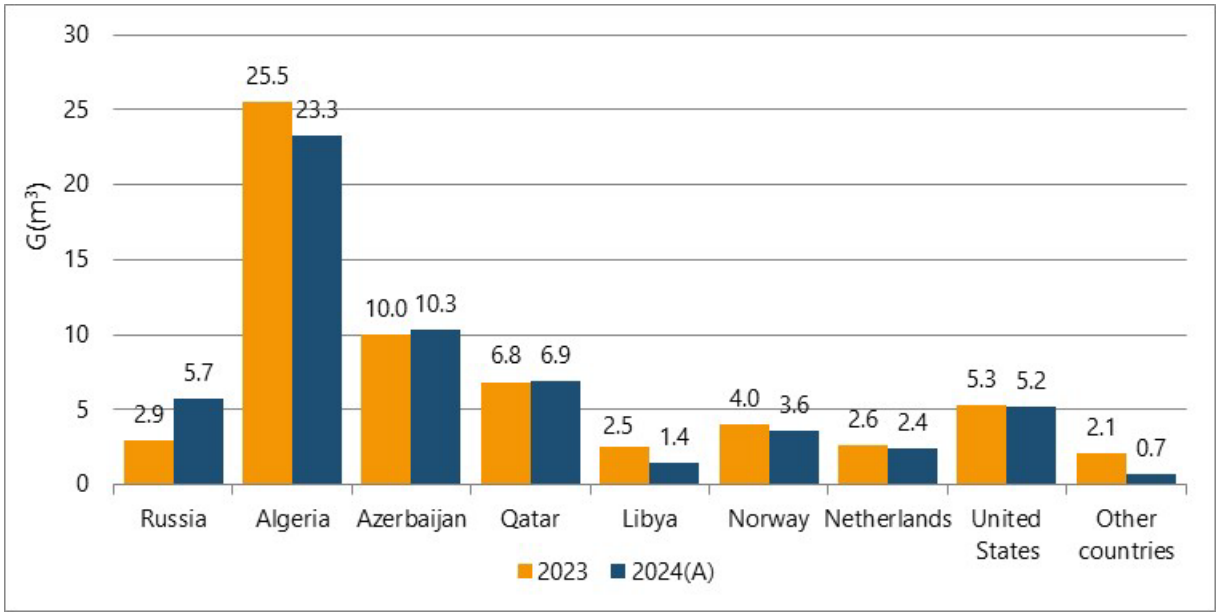
other hand, extracted 62 M(m^3), 6 more than the previous year (9.9%).

Biogas production in 2024 slightly exceeded 220 M(m^3), accounting for 8.4% of national production. The major contributors in this sector are Estense Servizi Ambientali (S.E.S.A.), with a production of 35 M(m^3), Bioman of the Finam group, which produced 19.8 M(m^3), Herambiente and Biorg, both part of the Hera group, which together produced about 10 M(m^3), and Società Agricola Agriman, whose production surpassed 28 M(m^3). A slightly lower production (13.3 M(m^3)) was achieved by the Sant'Ilario Bioenergia company of the Vallette group. The Snam group is also active in biogas production through various companies; overall, the group produced just under 13.8 M(m^3). The biogas production from all the companies mentioned earlier has grown compared to 2023.

Imports

As mentioned earlier, according to preliminary data released by the Ministry of the Environment and Energy Security, in 2024 Italy imported 2.4 G(m^3) less natural gas compared to 2023: gross imports fell to 59.4 G(m^3) from 61.8 G(m^3) in 2023, showing a decrease of 3.9%. This marks the third consecutive decrease, bringing the level of gross gas imports close to that of 2014 (55.8 G(m^3)), which represents the lowest point in the past 15 years.

Figure 4.5 Gross gas imports according to origin



(A) Preliminary data.

Source: Ministry of the Environment and Energy Security.

The most significant decrease, amounting to -3.6 G(m^3), was seen in the volumes of North African gas: in 2024, imports from Algeria decreased by 2.2 G(m^3), with 1.7 via pipeline and 0.5 via ship, as well as imports from Libya, which nearly halved, dropping from 2.5 to 1.4 G(m^3). Significant reductions were also recorded from other regions: compared to 2023, we imported 651 M(m^3) less from Northern Europe (-426 from Norway and -225 from the Netherlands) and -1.4 G(m^3) from the group of countries classified as "Others" in the Figure 4.5, which includes regions with more recent trade relations with Italy, such as Nigeria, Mozambique, Congo, Equatorial Guinea, and others. On the other hand, we imported more gas from Azerbaijan (+300 M(m^3)), Qatar (+62 M(m^3)), and Russia (+2.8

G(m^3)) as compensation. However, this increase is not due to a rise in gas imports from Russia via Ukraine (which remained constant until the complete interruption from 1st January 2025), but rather to higher withdrawals from Austrian storages passing through the Tarvisio point, which are statistically attributed to Russia.

Last year, imports of liquefied natural gas also decreased, despite its growing importance in recent years for Italian and European supplies. Compared to the 16.5 G(m^3) purchased in 2023, LNG volumes in 2024 reached 14.7 G(m^3), showing a decrease of 11%. The share of LNG in total imports decreased from 27% in 2023 to 25% in 2024. As in 2023, 95% of all LNG imports came from Qatar, Algeria, and the United States. Alongside these sources, shipments from Congo (1.9%), Trinidad and Tobago (1.3%), and Equatorial Guinea (0.7%) also became quite significant in LNG imports by ship in 2024.

According to the (provisional) data gathered through the Authority's annual survey of the energy sectors, Italy imported 57.6 G(m^3) in 2024, slightly less than the 57.7 imported in 2023[228]. Therefore, the decrease is smaller than the one estimated in the data from the Ministry of Environment and Energy Security[229].

Approximately 8% of the total gas sourced from abroad, around 4.6 G(m^3), was purchased through European exchanges. Despite the decrease in total imports, the share of gas imported through European exchanges has increased compared to 2023, when it was 6.6%.

The list of the top twenty importers shows no changes in the top three positions. As always, Eni is in first place, having imported 17.8 G(m^3) in 2024, almost 0.9 G(m^3) less than the previous year. As a result of the decrease in Eni's imports (-4.8%), the company's market share dropped from 32.3% to 30.9% (29.9% when calculated based on the ministerial import data). The volumes purchased abroad by Edison, ranked second, have slightly increased from 10 to 10.1 G(m^3) (1.4%); as a result, its market share has risen slightly to 17.6% (up from 17.3%), and the gap from Eni has narrowed by about two percentage points. A significant increase was seen in the quantities imported by Azerbaijan Gas Supply Company, which imports Azerbaijani gas arriving at Melendugno via the TAP: with 9.2 G(m^3) imported during the year (one billion more than in 2023, +12.8%), it has strongly solidified its third position with a rising market share (from 14.1% to 15.9%). The other two major import companies, Enel Global Trading and Shell Energy Europe, alternated between the fourth and fifth positions: the import volumes of the former decreased by 0.6 G(m^3), while the latter imported 1.3 G(m^3) less compared to 2023.

The groups[230] that each hold a share of 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 2023) (Table 4.3). Together, they imported 44 of the 57.6 G(m^3) of foreign gas entering the Italian market. Considering also the quantities produced within national borders, the five groups account for 76.7% of all the gas supplied. The five groups are also the only ones each holding more than 5% of the available gas (which, besides imports and production, also includes gas in storage),

[228]Data also from the Annual Energy Sector Survey.

[229]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.

[230]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.

collectively covering 77.8% of it - a figure slightly higher than that of the supplied gas.

Table 4.3 Development of the wholesale gas market

Year	Demand Total(A) G(m³)	Peaking demand(B) M(m³)/g	Production G(m³)	Import capacity via tube M(m³)/g	No. of groups with supply quota >5%(C)	No. of groups with available gas quota >5%(D)	C3 of major groups on total demand
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	269.0	333	2.7	294.4	5	5	37.6%
2024	286.5	339	2.6	294.4	5	5	34.5%

(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.

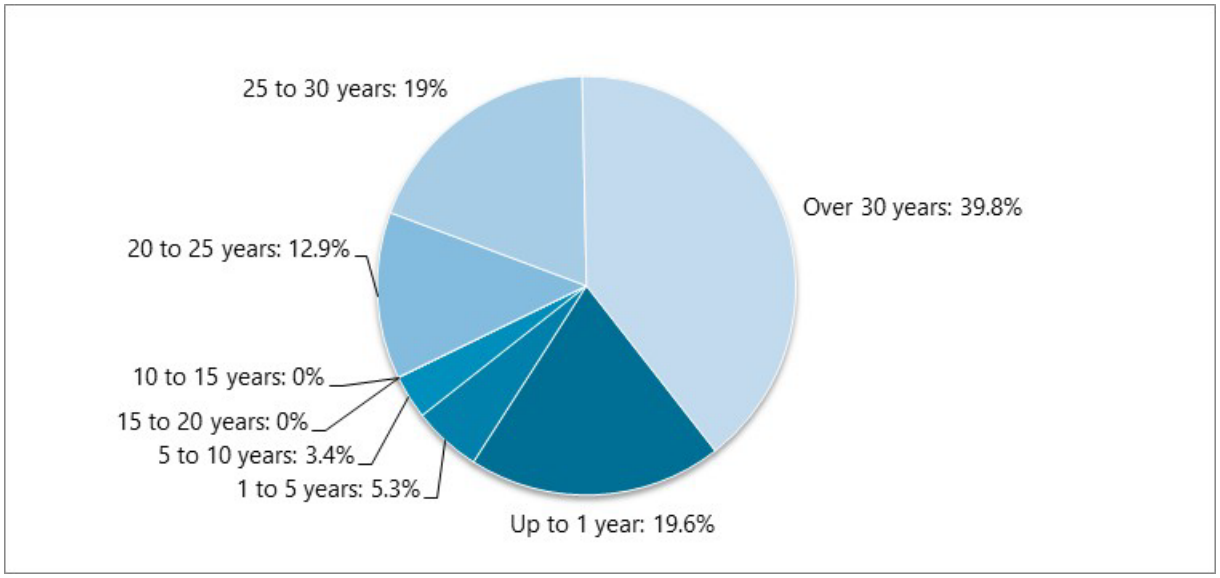
Source: ARERA processing of Snam Rete Gas data and on operators' declarations.

The structure of the import contracts (annual and multi-year) active in 2024 according to their full duration (Figure 4.6) remained virtually unchanged compared to 2023. In fact, the share of short-term imports, those with a duration of less than five years, has slightly increased to 24.9% from the 23.4% recorded in 2023. The share of medium-term contracts (5-20 years) has decreased from 4.9% to 3.4%, while the share of long-term imports (over 20 years) has decreased slightly from 71.7% to 71.6%. The share of spot imports[231], those with a duration of less than a year, has decreased by half a percentage point, bringing it to just under 20%. However, it is important to note that, as in 2023, the Annual Contract Quantities underlying the shares shown in the figure have not decreased, as happened in nearly every year from 2010 to 2021, when the old long-term import contracts gradually expired and were neither renewed nor replaced with contracts of equivalent duration.

From the perspective of remaining life, the import contracts in place as of 2024 (Figure 4.7) show some extension compared to last year: 50.5% of contracts will expire within the next five years (the same share was 46% in 2023), and 59% will reach their end within the next ten years (up from 52.1%). Of the contracts in force today, 14.8% have a residual life of more than 15 years. This share has slightly increased compared to last year, when it was 13.8%.

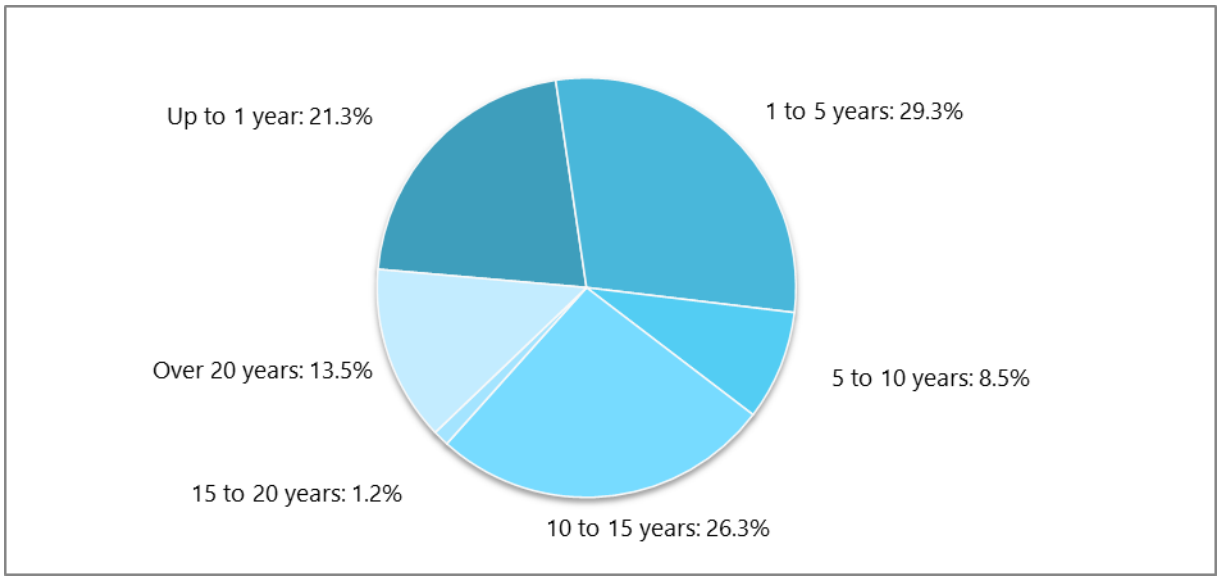
[231] As in previous years, the Annual Contract Quantities of spot contracts, which did not result in imports to Italy because the gas was resold directly abroad by the operator active in Italy who purchased it, are excluded from the calculation.

Figure 4.6 Structure of the import contracts active in 2024, according to their full duration



Source: ARERA. Annual survey of regulated sectors.

Figure 4.7 Structure of the import contracts active in 2024, according to their residual duration



Source: ARERA. Annual survey of regulated sectors.

In 2024, the total demand in the gas sector, defined as the sum of the volumes of gas sold in the wholesale market (including resales) and in the retail market, plus self-consumption, increased by 6.5%, reaching 286.5 G(m^3) (Table 4.3). This was mainly due to a strong recovery in gas traded on the wholesale market and, to a lesser extent, in the retail market.

The growth in the wholesale market was 7.6%, as in 2024 this market handled 228.4 G(m^3) compared to 212.2 G(m^3) in 2023. The increase in the retail market is also significant, with 46 G(m^3) sold, 1.3 G(m^3) more than in 2023 (+3%), while self-consumption remained virtually unchanged at just over 12 G(m^3). The industrial groups that in 2024 hold a share of total demand greater than 5% are 4, whereas in 2023 there were 5. More specifically, these are the groups: Eni (14.3%), Engie (12%), Edison (8.2%), and Royal Dutch Shell (8%). In 2023, Enel was also included, with its share decreasing from 6.2% to 4.8%. The top three groups together account for 34.5% of the total demand, a share three

percentage points lower than last year's (37.6%).

4.2.1.1 Monitoring of wholesale market prices

As in previous years, the data on the wholesale gas market derive from the preliminary processing of information gathered through the Annual Survey on Regulated Sectors, carried out by the Authority on the state of the electricity and gas markets. Questionnaires were distributed to companies listed in the operator registry that had declared wholesale gas or retail sales activity in the previous year, even if only for part of the year.

The number of companies that declared to be engaged in gas sales was 930. 712 companies (77%) responded to the *Annual Survey*, of which 64 stated they were affiliated with a natural gas distribution company and 14 with a transmission operator.

Of the 712 companies that participated in the survey, 83 stated that they had remained inactive during the year. Of the remaining 629 active ones, 154 sold gas only to the wholesale market and were classified as **pure wholesale suppliers**, 328 sold gas only to final customers and were classified as **pure suppliers**. The remaining 147, 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 2024

Operators	Number	Sales M(m^3)	Price c€/m^3
Pure wholesale suppliers	154	154,600	40.9
Mixed operators	147	73,758	43.4
TOTAL WHOLESALE	301	228,358	41.7

Source: ARERA. Annual survey of regulated sectors.

The wholesale market was supplied 68% by pure wholesale suppliers and the remaining 32% by mixed operators. In 2024, the number of companies operating in the wholesale market remained essentially unchanged compared to 2023 (although it is important to note that the operator count-based on those responding to the Annual Survey - is the figure most affected by varying response rates year to year), while the volume of gas sold, as mentioned earlier, increased by 16 G(m^3), resulting in an 11% rise in the average unit sales volume, from 682 to 759 M(m^3). The data therefore reflect a significant recovery, the first after three consecutive years of substantial downsizing, though the volumes are still far from the high point reached in 2020, when 314.5 G(m^3) were intermediated in the wholesale market.

The majority of companies (61%) operating exclusively in the wholesale market that responded to the 2024 Survey are foreign-based companies.

During the year, 11 companies started natural gas wholesaling and 3 companies ceased the activity; 5 companies were incorporated and 5 changed corporate groups.

In 2024, the level of concentration in this market has remained largely unchanged: the combined share of the top three companies (Shell Energy Europe, Engie Global Markets, and Eni) was 23.6%, compared to 25.9% in 2023. The cumulative share of the top five companies (the three mentioned earlier plus Edison and Eni Global Energy Markets) decreased from 37.0% to 35.1%. The HHI index

for the wholesale market alone has marginally fallen from 442 to 427.

In 2024, the average price in the wholesale market was 41.7 c€/m³, still sharply down (-30% approximately) from the 59.1 c€/m³ charged in 2023. The price decrease is consistent with the trend in international commodity prices, which saw reductions across all European markets in 2024. The price charged by mixed operators was 43.4 c€/m³, which is 2.49-euro cents higher than that charged by pure wholesale suppliers (40.9 c€/m³).

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 [232]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[233].

In 2024, 322 entities carried out trades, transfers, and acquisitions of gas at the PSV (**Fi**gure 4.8). Only 54 qualified as standalone traders, since they were not transport system users. The number of PSV subscribers slightly increased compared to the previous year, reaching 387 units against 374 in 2023 (+3%). The number of subscribers who carried out trades increased by the same amount (+4%), from 311 entities to 322. Unlike previous years, the number of pure traders remained stable at 55 (compared to 54 in 2023).

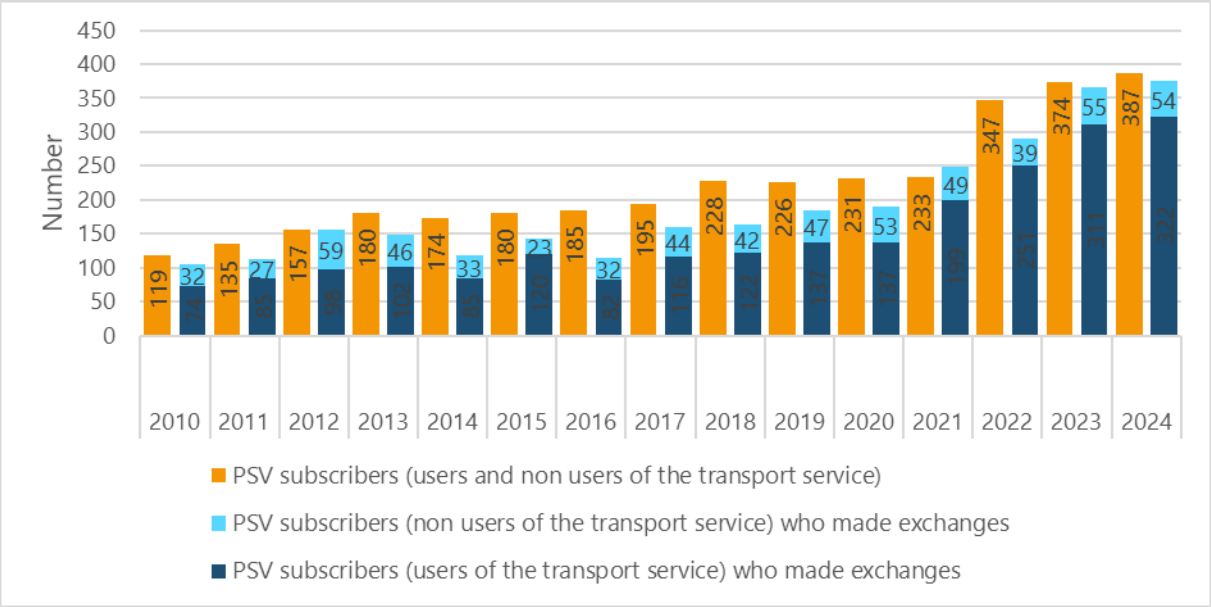
The Figure 4.9 shows the development of the trades recorded at the PSV. In the graph, the label "PSV" groups together redeliveries from daily OTC transfers, multi-day OTC transfers, and forced LNG transfers, while "PSV-Markets" includes trades at the PSV arising from transactions on centralised markets and those processed through a clearing house.

In 2024, OTC volumes increased by 8.1%, from 113.9 to 123 G(m³); a strong growth was also observed in volumes with forced delivery at the PSV, which rose from 28 to 183 M(m³) in one year. Therefore, the total deliveries at the PSV increased by 8.2% compared to 2023, rising from 114 to 123 G(m³). Volumes from market trades also showed a marked increase (+13.5%), fully recovering the decline of the previous year. The volumes traded on the exchange have, in fact, returned to 35.9 G(m³), slightly above the level of 2022 (35.5); this is thanks to the increase in volumes managed in centralized markets (+14.8%), which was accompanied by a modest rise in gas traded as a clearing house (+4.6%).

[232] 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.

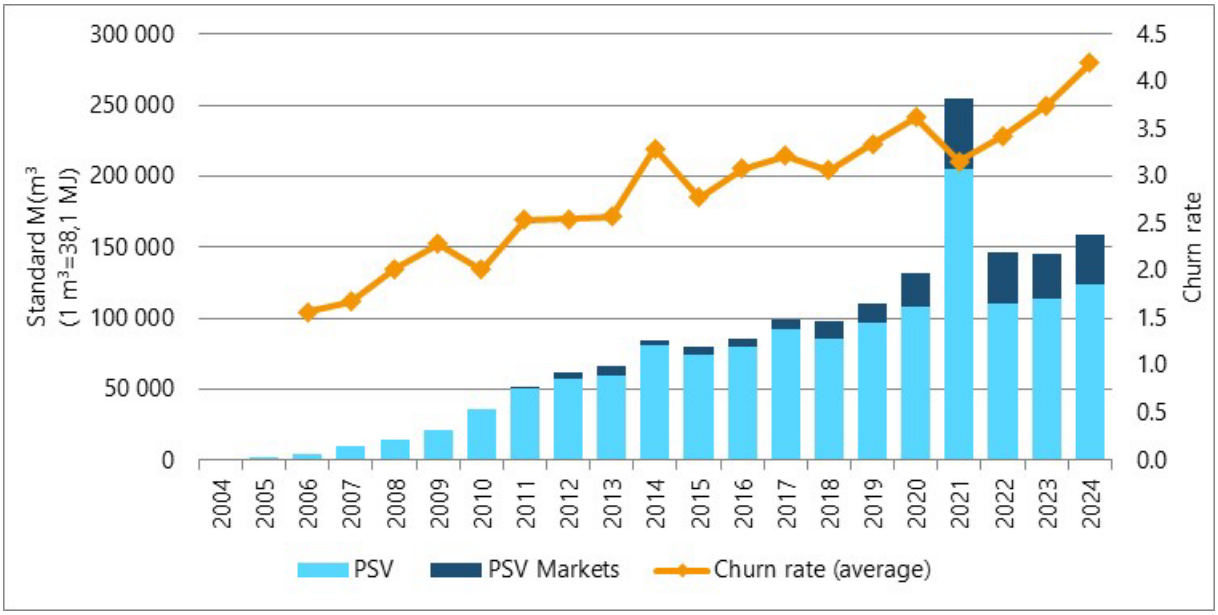
[233]By resolution of 16 March 2017, 147/2017/R/gas.

Figure 4.8 PSV subscribers since 2010



Source: ARERA. Annual survey of regulated sectors.

Figure 4.9 Transaction volumes at PSV and churn rate



Source: ARERA processing of Snam Rete Gas data.

Of course, the growth also occurred in the average number of daily transactions, which increased by 15% in 2024, from around 1,100 to nearly 1,300. This was due to the increase in transactions in the markets (+13.8%), but especially to those carried out OTC (+15.7%).

The rise in trading activity and underlying volumes accounts for the increase in the churn rate from 3.8 to 4.2, an aggregate indicator showing the average number of times gas is traded between its initial sale and 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 activities brought its value to 3.3, and the growth was even more significant in 2020, when it reached a value of 3.6. After returning to 3.2 in 2021, it has instead consolidated a growth trend over the last three years. The 4.2 reached in 2024 is the highest value since the inception of the PSV.

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. Since 2015, operators have also been able to extend the PSV registration to transactions concluded at exchanges managed by entities other than 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.

Between January and February 2018, some measures were introduced to promote the development of liquidity in the natural gas markets, particularly 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 liquidity providers who have performed market making activities in accordance with the terms, conditions, and procedures set out, for a calendar month, GME grants a fixed fee of €160 for each eligible session and a fee of €0.01/MWh for each MWh traded on the MGP-GAS for the daily G+1 product. In 2018, it was also decided to integrate the markets managed by GME into the Trayport platform, where the main foreign markets were already present. This measure allows users to optimize trading activities by operating simultaneously on multiple 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, from 1st January 2020, a new section of the M-GAS was activated, enabling the Balance Responsible Entity (RdB) to supply the resources needed for the system's operation[234]. 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.

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. 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.

[234] Its structure was defined by Resolution No. 451/2019/R/gas of 5th November 2019.

Prices and Volumes

In the gas markets managed by GME, a total of 181.7 TWh was traded in 2024, an increase compared to 2023 (+17%) (Table 4.5).

Liquidity in the Day-Ahead Market (MGP) increased to 76%, up 7% compared to 2023, driven by a significant rise in traded volumes (137 TWh; +29% over 2023). The largest share of these volumes (82%; +8%) was traded via continuous trading (111.7 TWh; +42%). The monthly trend also showed higher levels in the last two months of the year. The AGS segment of the MGP recorded trades totalling 25.3 TWh, down by 10% compared to 2023.

The share of volumes traded in the Intra-day Market decreased to 22% (down from 29% in 2023), totalling 40.2 TWh, which is a 10% decline compared to 2023. Continuous trading volumes (39.2 TWh; -12%) remained predominant, accounting for 97% of the entire market, while in the AGS segment the volumes were slightly less marginal than the previous year (1 TWh).

Table 4.5 Annual volumes for each of the gas markets managed by the GME (GWh)

MARKETS	2018	2019	2020	2021	2022	2023	2024
P-GAS							
Rates	2,426,485	444,292	-	2,216,982	2,031,021	629,548	957,915
M-GAS							
MGP-GAS	13,048,604	24,794,256	55,782,408	79,292,760	127,159,680	106,451,328	136,987,608
MGP-Continuous	13,048,604	24,676,608	30,043,296	45,593,472	75,780,648	78,522,624	111,713,568
MGP-AGS	-	117,648	25,739,112	33,699,288	51,379,032	27,928,704	25,274,040
MI	27,815,964	41,052,864	51,064,320	45,932,952	43,126,512	44,544,312	40,207,512
MI-Continuous	27,815,964	41,052,864	46,701,360	44,325,192	40,528,008	44,385,336	39,202,152
MI-AGS	-	-	4,362,960	1,607,760	2,598,504	158,976	1,005,360
MGS	13,502,340	13,365,494	6,449,968	5,084,077	5,133,885	3,274,177	3,515,669
MPL	-	-	-	-	-	-	-
MT-GAS	790,080	3,192,048	478,272	22,320	-	-	-
TOTAL	56,793,393	79,656,906	113,296,696	132,526,771	177,451,098	154,899,365	181,668,704

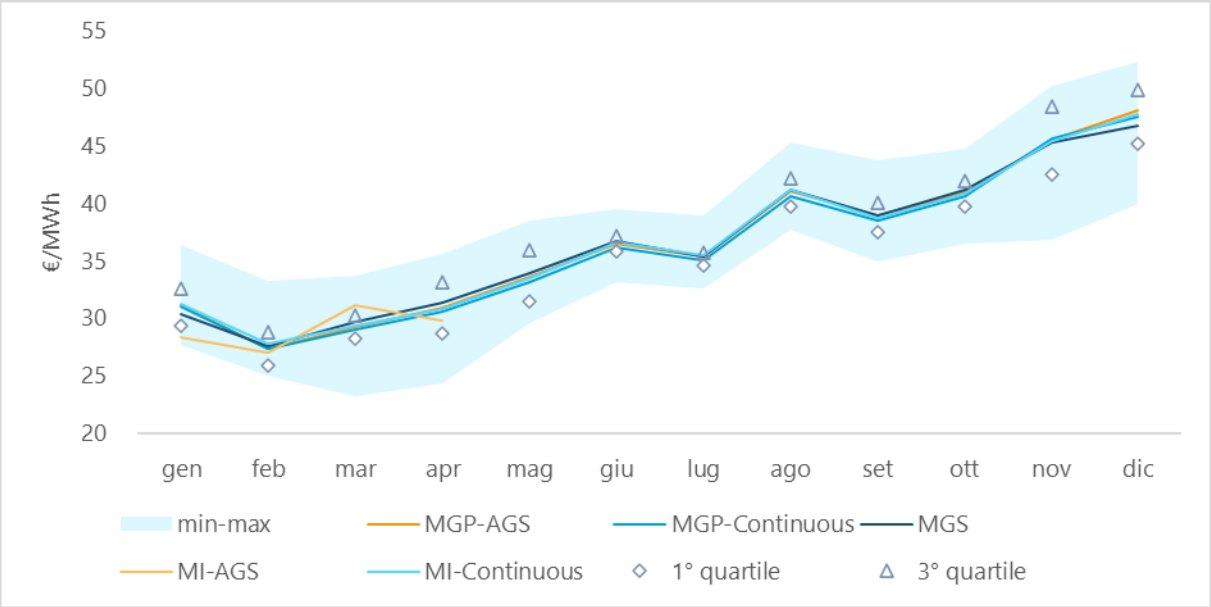
Source: GME.

In 2024, trading in the Gas Storage Market (MGS) also increased, with transactions totaling 3.5 TWh (+7%), while, as before, Snam did not activate any sessions in the Locational Products Market.

Regarding the forward products traded on the MT-GAS, there were no recorded trades, while allocations in the "Royalties" sector of the P-GAS amounted to 1 TWh (+52%).

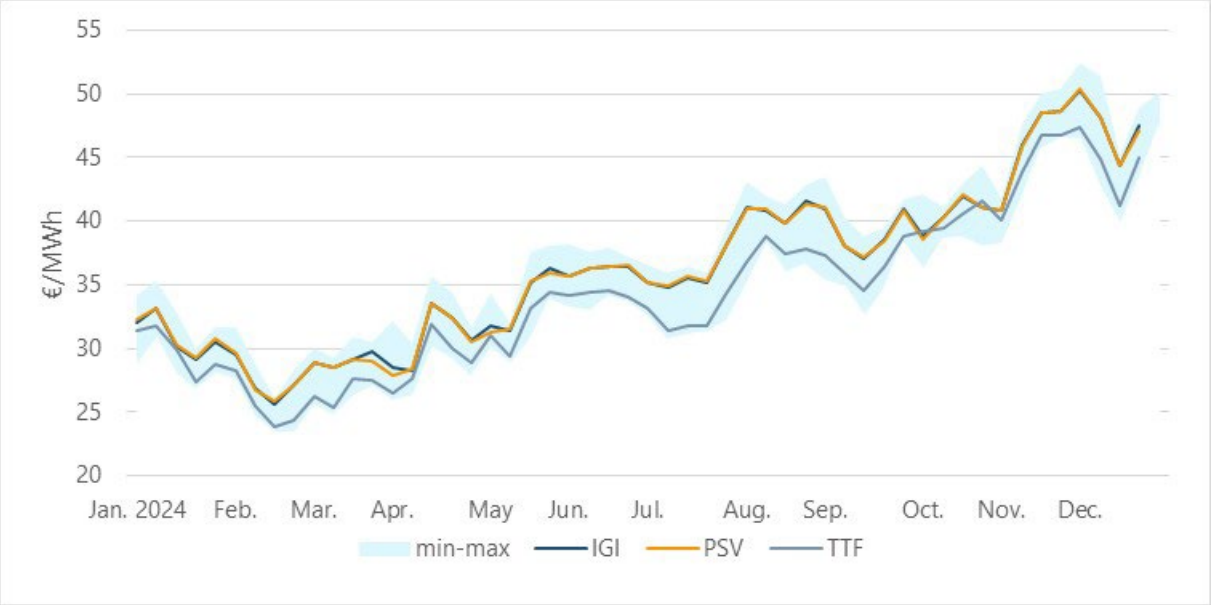
Lastly, 42 slots were allocated on the Regasification Capacity Platform (PAR), which is 20 fewer than in 2023, for a total of 1.7 M(m^3) liquefied gas (-69%).

Figure 4.10 Prices in M-GAS markets and minimum and maximum values in 2024



Source: GME.

Figure 4.11 Comparison of price indices by flow day (weekly arithmetic averages)



Source: ARERA, analysis based on GME (IGI) and Refinitiv (PSV and TTF) data.

Regarding the prices recorded on the different trading platforms, they can all be approximated to an annual average of about €36.54 /MWh (Figure 4.10), a 13% decrease compared to 2023, and in line with the annual average price of over-the-counter transactions at the PSV (€36.59 /MWh), which also dropped by 15% compared to the previous year. In particular, the average prices of the two continuous trading segments of the M-GAS, at €36.49/MWh for the MGP and €36.60/MWh for the MI respectively, showed an intra-annual trend that mirrors that of the PSV price.

The annual average of the IGI price index calculated by GME (Figure 4.11) is €36.36 /MWh, and its trend throughout the year was in line with the average price recorded at the PSV (from ICIS) for the day-ahead and weekend products (€36.34 /MWh). The graph also includes the average TTF price

(sourced from LSEG Data & Analytics) for the day-ahead product, which shows a closely correlated trend.

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 the [235] Integrated Text of Natural Gas Wholesale Market Monitoring (TIMMIG) in order to strengthen its monitoring function in the sector[236]

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.

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 implementation of the aforementioned decree law, the Authority[237] defined the procedures for the transmission of gas supply contracts for the Italian market. In particular, the holders of such contracts are required to transmit in full the supply contracts with a duration of at least one year, together with the related 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 in every year, and in line with regulations, the final costs borne by the main transmission operator in 2023 for monitoring the wholesale natural gas market were approved[238], along with the Activity Plan and related cost estimate it submitted for wholesale gas market monitoring in 2025[239].

[235] By Resolution of 5 December 2018, 631/2018/R/gas.

[236] For more details on the structure, purpose and provisions of the TIMMIG, please refer to the 2019 *Annual Report*.

[237] By Resolution of 30 March 2022, 143/2022/R/gas.

[238] By resolution of 21 May 2024, 191/2024/R/gas.

[239] By resolution of 17 December 2024, 557/2024/R/gas.

4.2.2 Retail market

According to the provisional results of the Annual Survey, which traditionally underpin the analysis in these pages, 45.7 G(m^3) were sold on the retail market in 2024, in addition to 243 M(m^3) provided via last-resort and default services. Overall, therefore, the value of final sales amounted to just under 46 G(m^3), with an increase of 0.7 G(m^3) compared with 2023 (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, 12.2 G(m^3), which brings the value of total consumption resulting from the Annual Survey to 58.1 G(m^3), i.e. a value comparable to the 60.3 G(m^3) from the ministerial source. source. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. The Annual Survey data thus showed a slight recovery in total consumption levels in 2024, with an increase of 1.2% compared to 2023.

Table 4.6 Final consumption of natural gas

	VOLUMES M(m^3)			WITHDRAWAL POINTS (thousands)		
	2023	2024	VARIATION	2023	2024	VARIATION
Retail sales	44,664	45,724	2.4%	21,738	21,671	-0.3%
Last resort and default supplies	630	243	-61.4%	199	31	-84.4%
TOTAL MARKET	45,295	45,967	1.5%	21,937	21,702	-1.1%
Fuel gas	12,142	12,181	0.3%	1.8	1.6	-8.3%
END CONSUMPTIONS	57,437	58,148	1.2%	21,939	21,704	-1.1%

Source: ARERA. Annual survey of regulated sectors.

Of the 46 G(m^3) of gas sold in the retail market, 11.9 G(m^3) were supplied by pure suppliers, while the remaining 30.9 G(m^3) were intermediated by suppliers also operating in the wholesale market (Table 4.7).

Table 4.7 Gas retail sales and prices in 2024

Operators	Number	Sales M(m^3)	Price c€/m^3
Pure suppliers	328	13,731	93.7
Mixed operators	147	32,236	61.5
TOTAL RETAIL	475	45,967	71.1

Source: ARERA. Annual survey of regulated sectors.

The average price charged to retail market customers by sales companies operating in this market was 71.1 c€/m^3, around 5 cents lower (-6.7%) compared with 2023. As usual, this price is higher than that offered to the final market by wholesale suppliers, which – as shown in the previous pages – amounted to 61.5 c€/m^3. The reason for the positive differential is primarily due to the nature of the customers served and their characteristics. Suppliers in the retail market mainly serve household customers connected to the distribution networks, who, while numerous, tend to have relatively modest consumption levels. Wholesalers' end customers, by contrast, are generally large users, particularly in industry, who, owing to their substantial consumption, can secure more favourable prices and are often directly connected to the transmission grid, thereby avoiding distribution costs.

As in 2023, also in 2024 the number of suppliers active in the retail market decreased[240]. Since at the same time the volumes of gas sold increased, the average unit sales volume recorded a significant recovery: from 92 to 97 M(m^3) (5.5%). For many years, the increase in the number of suppliers kept this value in steady decline from the 237 M(m^3) of 2010 (the historical peak); this increase is essentially the first to occur in over 10 years. In 2024, 5.5% of the companies active in the end market, that is 26 out of 475, sold more than 300 M(m^3); taken together, these companies account for 83.9% of all the gas purchased in the retail market.

Also in 2024, numerous corporate transactions were reported through the Authority's registry of operators: 24 companies started the activity of selling to final customers, while 10 ceased it; 1 company acquired or transferred the sales activity (even partially); 12 companies were incorporated; 6 companies changed corporate group.

33.3% (that is, 158 companies) of the 475 active suppliers who responded to the Annual Survey serve customers across much of the national territory, namely in at least 17 Italian regions; 51.2% (243 companies) sold gas in between 6 and 16 regions; the remaining 74 companies (15.5%) operated in between 1 and 5 regions. The share of companies operating across the whole or a large part of the national territory (from 17 to 20 regions) has grown sharply compared with 2023 (when it was 22.3%). The share capital composition of gas suppliers, restricted to direct participations, indicates a low level of foreign presence: only 34 enterprises have a majority shareholder who is not Italian. The direct foreign participants are mostly Chinese, Swiss, British, Spanish and Luxembourgish companies, but firms from a further 12 nationalities are also present.

As already mentioned, in 2024, just over 58 G(m^3) were sold – 12 for self-consumption and almost 46 for sale – to 21.7 million customers (redelivery points) (Table 4.8). Overall, compared with 2023, gas consumption increased by 2.9%. Self-consumption, mostly linked to the industrial sector and electricity generation, remained broadly stable (0.3%); the quantities of gas sold on the free market, equal to 44.2 G(m^3), showed an increase of 6.8%, while sales under the vulnerability protection service and last resort services, equal to 1.7 G(m^3), more than halved. For 2023, 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 which in 2023 were equal to 630 M(m^3).

Domestic sector consumption (households and condominiums) increased by 1.1%, from 13.5 to 13.6 G(m^3), while consumption in the productive sectors (industry and thermoelectric generation) rose from 36.6 to 37.5 G(m^3), marking a 2.5% increase. Tertiary sector consumption (including trade, services, and public service activities) grew by 4.3%, rising from 6.7 to 7 G(m^3).

[240] As highlighted in the section dedicated to the wholesale market, in fact, this year 712 companies responded to the Annual Survey out of the 930 which, in the Authority's registry of operators, declared that they carried out wholesale or retail gas sales during 2024 (even if only for a limited period of the year). Apart from the 83 companies that declared to have remained inactive, out of the remaining 629 there are 154 that sold gas exclusively in the wholesale market. This resulted in a total of 475 persons operating in the retail market, 12 fewer than in 2023.

Table 4.8 End market of natural gas by sector of consumption

CUSTOMER SECTOR	2023				2024			
	STANDARD OFFER SERVICE	FREE MARKET	SELF CONSUMP-TION	TOTAL	VULNERABILITY PROTECTION AND DEFAULT	FREE MARKET	SELF CONSUMP-TION	TOTAL
VOLUMES (M(m^3))								
Household	3,044	8,689	0	11,734	1,477	10,268	0	11,745
Condo households	181	1,566	10	1,756	25	1,854	7	1,887
Trade and services	-	6,104	17	6,120	126	6,146	39	6,310
Industry	-	14,256	752	15,008	2	14,587	784	15,373
Power generation	-	10,256	11,364	21,620	0	10,817	11,350	22,167
Public service activities	-	569	0.4	569	91	574	0.4	666
TOTAL VOLUMES	3,225	41,439	12,135	56,807	1,721	44,247	12,181	58,148
REDELIVERY POINTS (thousands)								
Household	5,685	14,683	0.0	20,367	2,640	17,689	0	20,330
Condo households	36	141	0.5	178	2	170	0.4	173
Trade and services	-	993	1.1	994	20	971	1.0	992
Industry	-	152	0.1	152	1	150	0.1	151
Power generation	-	1	0.1	1	0	1	0.1	1
Public service activities	-	48	0.0	48	9	49	0.0	58
TOTAL REDELIVERY POINTS	5,721	16,018	1.8	21,740	2,671	19,031	1.6	21,704

Source: ARERA. Annual survey of regulated sectors.

More specifically, in 2024 gas sales:

- in the household sector, consumption remained broadly stable at 11.7 G(m^3) (0.1%); that under the vulnerability protection service amounted to 1.5 G(m^3), while that in the free market rose to 10.3 G(m^3) (18.2%);
- for condominiums (net of self-consumption), consumption grew by 7.6% (18.4% in the free market);
- in the industrial sector, consumption rose from 14.3 to 14.6 G(m^3) (2.3%) and self-consumption increased by 4.3%; overall, therefore, in 2024 industrial consumption grew by 2.3%;
- in the thermoelectric sector, consumption grew by 5.5% (+0.6 G(m^3)), while self-consumption showed a very slight decline (-0.1%): taking both items into account, therefore, sector consumption rose from 21.6 to 22.2 G(m^3), thus 2.5% higher than in 2023;
- in the trade and services sector, consumption increased by 2.7%; self-consumption also rose, and therefore, overall, trade consumption reached 6.3 G(m^3), recording a change of 3.1%;
- in public service activities, consumption rose from 569 to 666 M(m^3), quantifying the increase at 17%.

Average consumption amounted to 578 m^3 for households, 10,929 m^3 for condominiums with domestic use, 6,363 m^3 for commerce, 101.9 thousand m^3 for industry, 24 M(m^3) for electricity generation, and 11,456 m^3 for public service activities. In the free market, the average household consumption (580 m^3) remained slightly higher than that recorded in the vulnerability protection market (560 m^3).

On average, 76.1% of volumes are purchased on the free market, 3% through the vulnerability protection service and last resort services, and 20.9% are self-consumed. Considering sales in the strict sense and thus excluding self-consumption, 96.3% of the gas is purchased on the free market,

with the remaining 3.7% acquired through the vulnerability protection and last-resort services. In terms of customers, on the other hand, 87.7% purchase from the free market.

Considering only the **household sector**, 2024 figures show free-market purchases accounted for 87.4% of household volumes and 98.7% of condominium volumes, with both percentages calculated net of self-consumption. In 2023 the values were, respectively, 74.1% and 89.6%. In terms of withdrawal points, in 2024 the share of households benefiting from the vulnerability protection service is 13%.

Table 4.9 End market of natural gas in 2024 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)
PROTECTION OF VULNERABILITY AND LAST RESORT	1,477	127	45	51	19	-	1,502
Household	1,448	29	0	-	-	-	1,477
Condo households	1	20	4	1	-	-	25
Trade and services	20	46	23	25	12	-	126
Industry	1	1	0	-	-	-	2
Power generation	-	-	-	-	-	-	0
Public service activities	8	31	18	26	8	-	91
FREE MARKET	11,349	4,088	1,973	4,728	8,338	13,771	44,247
Household	10,096	168	3	1	-	-	10,268
Condo households	137	1,363	301	52	1	-	1,854
Trade and services	919	1,786	962	1,605	732	141	6,146
Industry	151	568	573	2,627	5,961	4,707	14,587
Power generation	0	2	13	301	1,579	8,922	10,817
Public service activities	46	202	120	142	64	-	574
TOTAL	12,826	4,216	2,018	4,780	8,357	13,771	45,749

Source: ARERA. Annual survey of regulated sectors.

The breakdown of sales to the end market (net of self-consumption) 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 28% of all gas sold in the retail market, the class with consumption between 5,000 and 50,000 m^3/year accounts for 9%, the third class (50,000–200,000 m^3/year) 4.3%, the fourth class (200,000–2,000,000 m^3/year) 10.3%, the penultimate (2 to 20 million) 18.2%, and the last (over 20 million) 30.1%. 98.3% of the volumes sold to the household sector are purchased by families whose annual consumption does not exceed 5,000 m^3. The largest share of volumes sold to condominiums is, instead, concentrated in the annual consumption class between 5,000 and 50,000 m^3, which accounts for 73.5%. 59.9% 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 significant for industrial and thermoelectric generation consumption. The consumption of public service activities is concentrated among the intermediate classes: 35.1% 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, 25.3% is consumed by customers with annual consumption between 200,000 and 2,000,000 m^3, another 10.8% is sold to customers consuming between 2 and 20 M(m^3)/year.

Switching

The analysis of switching activity in the natural gas sector this year also includes data collected from transmission and distribution operators through the Annual Survey on the energy sectors and data from the Integrated Information System (SII), managed by the Acquirente unico. Based on data provided by transmission operators and data from the SII, the switching percentage, i.e., the number of customers[241] who changed supplier in the 2024 calendar year, was 18.7% overall, or 23.5% when assessed based on the consumption of customers who switched (Table 4.10).

Table 4.10 End gas customer switching rates

CUSTOMERS BY SECTOR	2023		2024	
	CUSTOMERS	VOLUMES	CUSTOMERS	VOLUMES
Household	14.6%	20.9%	18.6%	24.1%
Condo households	27.6%	41.1%	24.1%	30.0%
Public service activities	37.1%	57.2%	35.8%	54.7%
Other uses	21.2%	14.1%	18.1%	22.4%
TOTAL	15.2%	17.1%	18.7%	23.5%

Source: ARERA. Annual survey of regulated sectors and the SII.

Household consumer switching in 2024 increased by four percentage points, further enhancing the already significant activity seen in recent years. More specifically, around 4 million customers have switched suppliers at least once, representing 18.6% of total household customers (and corresponding to 24.1% of the volumes). Household switching has undoubtedly been driven by the end of access to the Authority's protected economic conditions for household customers, which from 1 January 2024 have been reserved solely for vulnerable households[242]. In fact, it seems plausible to assume that leaving the protection scheme has driven some of them to seek out information and search for an alternative supplier, aware that they would need to change their contract regardless.

An equally large proportion, amounting to 24.1%, of domestic-use condominiums switched to a different supplier, corresponding to 30% of the consumption volume in that sector. This customer group lost the right to access the protection service already in 2023, and indeed, the supplier switching rate remained high, although it decreased compared to 2023.

35.8% (equivalent to 54.7% 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 18.1% of the total in terms of customers, and 22.4% in terms of volumes (corresponding to about 2.8 G(m^3)).

[241] For convenience, the text generally refers to customers. 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.

[242] Vulnerable household customers are individuals in the following categories: over 75 years of age, recipients of the gas social bonus based on the equivalent economic status indicator (ISEE), persons with disabilities under Law 104/92, and users in emergency housing following natural disasters.

Available offers and sales contracts in the free gas market

As already highlighted in Chapter 3 (see paragraph 3.2.2), this year too the Annual Survey on the Energy Sectors asked electricity and natural gas suppliers several questions to evaluate the number of offers companies make available to free-market customers and, above all, how their customers are distributed across the various types of contract actually chosen[243]. Here too, as already noted in Chapter 3, it is reiterated that the purpose of the questions on the number and quality of commercial offers is to provide a classification of the many offers available on the market, albeit without being fully comprehensive. The results presented in these pages should be treated with caution.

The **average number of commercial offers** that each gas supplier is able to present to potential customers is 20.5 for household customers (9.2 of which are available only online), 8.8 for condominiums with domestic use (2.6 only online), and 15.7 for non-household customers (3.5 only online). All numbers have decreased compared to 2023 (when they were 17.1, 7.7, and 14.1, respectively), with household customers, as in 2023, having a greater range of choices than the other two customer categories.

In 2024, similar to what was observed in the electricity sector, household interest in **online offers** remains limited, despite the growing process of digitalisation. Only 9.7% of household customers have indeed chosen to subscribe to an offer through digital channels. The share is higher among non-household customers, where it stands at 20.6%, while it remains particularly low in the segment of residential buildings with household use, with a penetration rate of 2% (data substantially unchanged compared to 2023).

Regarding the preferred **price type** (Table 4.11), it was found that the percentage of household customers who signed a fixed-price contract in the free market (where the price does not change for at least one year from the time of signing) has significantly decreased compared to the previous year, dropping from 44% to 28.6%. For residential condominiums, the variable pricing model, meaning the price changes according to the times and methods established by the contract itself[244], continues to be widely prevalent, representing 93.6% of the contracts concluded. Even among non-household customers, this type is dominant, with a share of 85.7%.

Compared to 2023, a more pronounced price difference is observed between fixed and variable price contracts, particularly in the household sector; this difference, which can be assessed based on the procurement cost component, is, in fact, always in favour of the variable price. More specifically, the differential in favour of variable price contracts is particularly high for household customers (29.4 c€/m^3), very significant for condominiums (23.1 c€/m^3), and more modest for non-household customers (6.9 c€/m^3).

[243] The data discussed in the section on contract types chosen by customers also take into account PLACET Offers (free-price offers under standardised contractual conditions).

[244] 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).

Table 4.11 Natural gas supply contracts in the free market in 2024 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	28.6%	101.50	6.4%	79.85	14.3%	51.60
Variable-price contracts	71.4%	72.09	93.6%	56.78	85.7%	44.75
TOTAL CUSTOMERS	100%	79.92	100%	57.29	100%	49.95

(A) Supply cost component.

Source: ARERA, Annual survey on regulated sectors.

For all customer types, the most commonly adopted **indexing method** in variable price contracts appears to be the one linked to the PSV price (Virtual Trading Point). However, this option does not prove to be the most economically advantageous, as already observed in 2023 (Table 3.39). Among household customers, 72.6% choose this indexing method, despite it resulting in a price 3% higher than the average of variable price contracts. The second most chosen type is the one based on the price trend with a discount applied to one of the tariff components set by the Authority for the vulnerability protection service, adopted in 15.1% of variable contracts. This option is the most favourable among the different indexing methods, featuring a supply component price that is 19% below the average. On the contrary, the least economically favourable option is that of contracts with unspecified indexing, which, however, remains marginal, representing only 2.6% of the total.

Among condominiums as well, the most chosen option is the one indexed to the PSV, which is 1% more expensive than the average of variable price contracts. The most expensive option, however, is the one indexed to Brent, with a price 34% higher than the average, although it is chosen in less than 1% of cases. In contrast, the most economical option is the one with unspecified indexing (also adopted in less than 1% of cases), followed by contracts with a discount on a component set by the Authority, which have a price 9% lower than the average and are chosen in 14.1% of cases.

For non-household customers, the PSV indexing method is also the most common (67.2% of contracts), but, unlike the other customer categories, the price is aligned with the average of variable price contracts. Contracts indexed to the markets managed by the GME also show similar prices, despite accounting for only 3.7% of choices. The most expensive contract remains the one indexed to Brent, with a price 21% higher than the average, although its adoption remains below 1%.

43.5% of household customers have signed a contract that includes a **discount or rebate** for one or more free periods or a fixed sum of money or volume, which can be one-off or permanent, and possibly contingent upon a specific condition (e.g., discount for contracts signed by a customer's friends, discount for direct debit payment of the bill, etc.). More specifically, it appears that, among this type of contract, 59.5% is a variable price contract. The percentages are lower for other types of customers: 21.1% of condominiums have subscribed to a contract with a discount (mostly variable price: 83.3%), while 23.4% of non-household customers have a contract with a discount in any form (mostly variable price: 80.3%).

The *Annual Survey* also investigated the presence of **additional services** in contracts and their consistency in the same way as last year[245]. Just like in the electricity survey, the gas one also required suppliers to specify the combination of additional services included in the contracts selected by their customers. Consequently, customers with contracts including several additional services were

[245] See the *Annual Report* 2022 for a detailed description of the methodology.

redistributed pro rata across the individual services indicated by suppliers.

The spread of additional services in fixed-price gas supply contracts varies significantly depending on the type of customer. Among household customers, only 18.2% are without at least one additional service. On the other hand, the proportion of contracts without additional services is considerably higher among residential condominiums and non-household customers, standing at 64.9% and 79.2%, respectively. In variable price contracts, the share of household customers with contracts that lack additional services rises to 52.3%. For this type of customer, therefore, the preference for additional services is more common in fixed-price contracts than in variable-price ones. For condominiums with household use and non-household customers, the percentages of contracts without additional services in variable price contracts are, however, very similar to those in fixed-price contracts: 79.8% and 75.5%, respectively, confirming a high level of disinterest in additional services for both customer types.

With reference to household customers, it is noted that, among fixed-price contracts that include at least one additional service, there is a clear preference for those that provide participation in a points-based loyalty programme (55.7%), a significant increase from 43.6% in 2023) and for those that guarantee 100% green energy supply (13.6%, up from 10.5% in 2023). The remaining types of additional services register incidences of less than 3.8% (Table 4.12).

Regarding the price of such contracts – measured based on the component related to supply cost and sales – it is observed that the most cost-effective contract is the one associated with benefits on the purchase of other goods or services, chosen, however, by a marginal share of customers (1.8%). Contracts offering additional energy services are also cheaper in terms of price, yet only a small share of users (2.2%) subscribe to them. By contrast, the most popular additional-service contract, namely one offering a points programme, proves the most expensive, with a price 5.4% higher than the fixed-price contract average. Among household customers with variable-price contracts that include additional services (representing 47.7% in total), the same patterns seen for fixed-price contracts emerge: the most common choices are participation in a points programme (26.5%) and a 100% renewable energy guarantee (11.3%). In this category of contracts, all additional services (excluding those not specifically identified in the survey) are priced above the average for variable-price contracts.

For condominiums with household use that have opted for fixed-price contracts including at least one additional service (representing 35% of the total), the most popular option, as with household customers, is participation in a points collection scheme (17.5%). For this customer category, the most cost-effective contract is the one bundled with other products or services alongside gas, priced 28.4% below the average for fixed contracts; however, only a negligible proportion of customers (0.4%) selected this option. Within the variable-price contract category, the least expensive option with additional services for domestic-use condominiums is the contract offering gifts or gadgets. However, in this case as well, the percentage of customers opting for this option is practically zero.

In the case of non-household customers, where 20% of contracts feature at least one additional service, the most popular fixed-price option matches that of other customer types: participation in a points programme (10.2%).

Considering supply and sales elements, the most economically favourable fixed-price contract with an add-on is that which includes additional energy services. However, in this case as well, the share of customers who opted for this option is virtually zero. As for variable price contracts, the preferences expressed are similar to those found in fixed-price contracts. The most cost-effective offer among those with additional services is the contract that includes gifts and gadgets, which is

also selected by an extremely limited share of customers.

Table 4.12 Contracts for the supply of natural gas in the free market in 2024 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	18.20%	101.36	64.97%	81.51	79.92%	56.76
100% green energy guarantee	13.69%	92.52	12.56%	72.20	7.87%	87.57
Auxiliary energy services	2.23%	82.18	2.01%	89.28	0.18%	64.79
Advantages over the purchase of other goods or services	1.82%	80.21	0.31%	74.38	0.68%	78.36
Other products or services offered together with gas	3.08%	102.19	0.38%	57.18	0.04%	70.26
Points collection programme	55.77%	107.00	17.75%	66.65	10.89%	91.89
Free gift or gadget	1.40%	104.10	0.33%	82.02	0.07%	92.97
Other not included in the aforementioned items	3.82%	89.39	1.68%	97.40	0.36%	31.74
TOTAL FIXED-PRICE CONTRACTS	100%	101.50	100%	79.85	100%	51.60
ADDITIONAL SERVICES OF VARIABLE-PRICE CONTRACTS						
No additional service	52.28%	70.92	79.84%	55.93	75.48%	43.99
100% green energy guarantee	11.32%	75.23	2.68%	59.95	5.98%	62.25
Auxiliary energy services	4.69%	73.31	12.65%	62.94	3.60%	62.52
Advantages over the purchase of other goods or services	0.68%	74.68	0.03%	66.21	0.32%	64.39
Other products or services offered together with gas	2.98%	72.56	0.19%	63.23	0.40%	62.85
Points collection programme	26.51%	74.89	2.99%	50.68	10.27%	55.14
Free gift or gadget	0.62%	80.55	0.13%	40.03	0.10%	41.24
Other not included in the aforementioned items	0.93%	55.11	1.48%	79.89	3.85%	42.23
TOTAL VARIABLE-PRICE CONTRACTS	100%	72.09	100%	56.78	100%	44.75

(A) Supply cost component.

Source: ARERA. Annual survey of regulated sectors.

Concentration in the natural gas retail market

The analysis of the sales performance of corporate groups, instead of those achieved by individual companies, allows for a more accurate assessment of market shares and concentration levels in the final sales market (Table 4.13) and includes some significant changes for 2024.

The Eni group, which for the first time in 2023 had lost its top position and dropped to third, regained second place in 2024, surpassing the Enel group in total sales quantities. However, the data show that the sales volumes of the two competing groups are very close: indeed, there is a difference of 405 M(m³) between Eni's and Enel's volumes. The market shares are therefore quite similar and have both declined compared to 2023: 12% for the Eni group (down from 13.3% in 2023) and 11.2% for the Enel group (down from 13.1% in 2023). Conversely, the Edison group has distanced itself further, with its share rising from 13.7% in 2023 to 15.5% in 2024, thanks to a particularly significant increase in sales volumes (16.4%). In contrast, the sales volumes of Eni and Enel have decreased by 5.6% and 13.9% respectively.

Table 4.13 Top twenty groups for natural gas sales to the end market in 2024

GROUP	VOLUME M(m^3)	SHARE	POSITION IN 2023
Edison	7,120	15.5%	1 °
Eni	5,533	12.0%	3 °
Enel	5,128	11.2%	2 °
A2A	3,014	6.6%	4 °
Hera	2,898	6.3%	5 °
Royal Dutch Shell	2,447	5.3%	6 °
Iren	2,122	4.6%	7 °
Energeticky a Prumislovy Holding (Eph)	2,010	4.4%	8 °
Axpo Group	1,551	3.4%	9 °
Sorgenia	1,492	3.2%	11 °
Engie	898	2.0%	10 °
Met Holding	696	1.5%	13 °
E.On	632	1.4%	12 °
Agsm Aim	583	1.3%	15 °
Estra	552	1.2%	14 °
Unoenergy	516	1.1%	16 °
Duferco	450	1.0%	19 °
Solvay	429	0.9%	18 °
Dolomiti Energia	420	0.9%	17 °
Repower	337	0.7%	22 °
Other	7,139	15.5%	-
TOTAL	45,967	100.0%	-

Source: ARERA. Annual survey of regulated sectors.

Given the narrowing of the gap between the top three groups and the decline of two of their shares, the level of concentration in the final gas sales market in 2024 has slightly decreased, as it did in 2023, although this market has historically low concentration, but is differentiated across the various customer types served. The Table 4.14 highlights, precisely, the details of the concentration measures, also broken down by consumption 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.

Based on the measures calculated on the volumes sold, the number of groups with a market share above 5% has risen to 5. Moreover, in 2024, the top three groups control 43.9%, while in 2023 the share was 45.3%. The Herfindahl-Hirschman Index (HHI) calculated on the sales market was 859, lower, therefore, than the 2023 index, which was 894. 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 industry and electricity generation, where the C3 exceeds 50%, while the lowest is observed in sales to apartment buildings and public service customers. Compared to 2023, slight increases in the level of concentration are observed (using the C3 and HHI indicators) in the segments of condominiums, commerce, industry, and public service activities, while decreases are observed in the remaining sectors. When calculated based on the customers served, concentration increases in the household sectors and decreases in the non-household sectors.

Table 4.14 Concentration measures in the gas retail sector (based on corporate groups)

	2023			2024		
SECTOR	GROUPS >5%	C3	HHI	GROUPS >5%	C3	HHI
MEASURES CALCULATED ON THE BASIS OF ENERGY SOLD BY CORPORATE GROUPS						
HOUSEHOLDS	4	48.8%	979	4	45.4%	852
Household	4	53.2%	1,148	4	49.7%	1,003
Condominiums	5	34.9%	644	5	35.7%	659
NON-HOUSEHOLDS	5	46.2%	987	5	46.1%	987
Trade and services	5	40.8%	729	5	41.8%	764
Industry	4	54.6%	1,295	4	56.5%	1,371
Power generation	7	53.1%	1,308	8	52.0%	1,276
Public service activities	8	34.8%	719	7	35.1%	685
TOTAL MARKET	4	45.3%	894	5	43.9%	859
MEASURES CALCULATED ON THE BASIS OF CUSTOMERS SERVED BY THE CORPORATE GROUPS						
HOUSEHOLDS	4	55.2%	1,266	4	52.8%	1,154
Household	4	55.4%	1,276	4	53.0%	1,163
Condominiums	6	38.4%	710	6	37.3%	666
NON-HOUSEHOLDS	4	36.7%	596	4	35.6%	561
Trade and services	4	37.3%	620	4	36.0%	588
Industry	5	38.1%	800	5	34.7%	673
Power generation	5	63.4%	2,187	4	50.3%	1,037
Public service activities	7	31.3%	595	6	34.6%	654
TOTAL MARKET	4	54.1%	1,216	4	51.8%	1,107

Source: ARERA. Annual survey of regulated sectors.

In general, however, the level of concentration in the Italian natural gas market remains low: with few exceptions, the C3 does not exceed 55%, and most importantly, the values of the HHI index have dropped in all sectors below the first attention threshold of 1,500[246].

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 [247]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).

[246]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).

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

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.

The analysis of the data collected in the Survey conducted by the Authority on 2024 highlights that last year, the average gas price (weighted by the quantities sold), excluding taxes, charged by suppliers to final customers was 71.1 c€/m^3 (Table 4.15), a value 6.5% lower than the previous year's price (76 c€/m^3).

This reduction, resulting from additional declines in the wholesale markets, does not affect all customer categories and, where present, varies significantly across different size classes. Its maximum value (-22.2%) is observed for customers with consumption between 2 and 20 million m^3/year, while the smallest decrease (-5%) pertains to medium-small customers between 5,000 and 50,000 m^3/year. In stark contrast, the smaller customers (up to 5,000 m^3/year, essentially household customers) show an 11% increase compared to the previous year.

Table 4.15 Average selling prices (net of taxes) in the gas retail market

ANNUAL CONSUMPTION CLASS	PRICES (c€/m^3)										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Less than 5,000 m^3	58.8	55.7	51.7	52.1	58.3	63.4	58.1	65.9	103.1	100.2	111.3
Between 5,000 and 50,000 m^3	46.9	46.0	42.1	43.1	48.4	50.7	43.7	55.0	117.9	88.5	84.0
Between 50,000 and 200,000 m^3	41.4	41.0	37.0	36.2	43.7	44.7	37.3	48.8	113.6	85.0	73.5
Between 200,000 and 2,000,000 m^3	35.0	32.5	28.3	26.8	31.4	33.8	27.3	38.5	101.4	71.3	59.0
Between 2,000,000 and 20,000,000 m^3	34.0	28.0	24.2	23.0	26.5	28.2	21.9	35.1	93.9	65.3	50.8
More than 20,000,000 m^3	32.2	26.5	21.8	24.3	29.2	22.4	16.9	52.8	130.4	56.1	46.0
TOTAL	42.3	38.9	33.8	34.3	40.0	39.2	33.9	52.3	111.2	76.0	71.1

Source: ARERA. Annual survey of regulated sectors.

This result stems from two factors, discussed further below: firstly, the systematic price increases in free market supply for household customers; and secondly, the obligation for some households to resort to this market, as the protection service has, since 2024, been reserved exclusively for vulnerable customers.[248].

The Table 4.16 shows the breakdown of average prices in 2024 by size and customer type. 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).

The Table 4.17 illustrates the distribution of household customers (families and, until 2023, condominiums) between the two main contractual frameworks: the protection service, reserved exclusively for vulnerable customers from 2024 and, the free market, with a breakdown by size class and trends over the past decade.

[248] Vulnerable household customers are defined as: individuals aged above 75, those receiving the gas social bonus according to ISEE, people with disabilities as identified by Law 104/1992, and households placed in emergency housing following natural disasters.

Table 4.16 Selling prices (net of taxes) in 2024 in the retail gas market by consumption sector and customer size

SECTOR	CUSTOMERS DISTRIBUTED BY ANNUAL CONSUMPTION CLASS (m^3)						TOTAL (c€/m3)
	< 5,000	5.000-50.000	50.000-200.000	200.000-2,000,000	2.000.000-20,000,000	> 20,000,000	
Household	111.9	87.1	76.6	-	-	-	111.4
Condo households	94.8	86.7	82.9	76.1	-	-	86.4
Public service activities	105.5	85.8	74.5	68.9	53.0	-	77.2
Trade and services	107.7	82.4	72.4	59.5	54.4	56.3	74.8
Industry	104.6	81.0	70.4	58.1	50.1	46.0	52.8
Power generation	-	67.0	64.9	56.6	51.8	45.8	47.0
TOTAL	111.3	84.0	73.5	59.0	50.8	46.0	71.1

Source: ARERA. Annual survey of regulated sectors.

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	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Less than 5,000 m^3											
Standard offer service(A)	56.8	52.8	47.7	48.2	55.8	60.4	51.0	62.3	115.7	82.6	90.5
Free market	64.0	61.5	58.4	56.8	60.4	65.9	62.7	67.9	95.3	105.6	114.9
Difference	12.7%	16.5%	22.4%	17.8%	8.2%	9.1%	22.9%	9.0%	-17.6%	27.9%	27.0%
Between 5,000 and 50,000 m^3											
Standard offer service(A)	43.4	44.7	37.8	39.2	46.4	48.9	39.6	49.3	115.8	75.9	75.5
Free market	51.7	47.1	46.1	45.8	51.3	53.5	46.1	58.0	124.7	92.2	89.2
Difference	19.1%	5.4%	22.0%	16.8%	10.6%	9.4%	16.4%	17.6%	7.7%	21.4%	18.2%

(A) Until 2023, it included families and condominiums; from 2024, the protection service is reserved for vulnerable household customers only.

Source: ARERA. Annual survey of regulated sectors.

The protection service consistently shows lower values across years and size bands, apart from the case of the smallest class (≤5,000 m^3 per year) in 2022. In that year, the free market showed a price lower than the protection service (-17.6%), due to the widespread use in that market of fixed-price contracts which, in the short term, limited the pass-through to final customers of the sharp rise in wholesale gas prices following the outbreak of the Russia-Ukraine conflict. This shift persisted through 2023 and 2024: in both years the free market rose by about 10 c€/m^3, while the protection service dropped by as much as 33 c€/m^3 before partly recovering with an 8 c€/m^3 increase in the most recent year. This trend has resulted in the free market becoming once again clearly more expensive: over the past two years, its price has consistently been between 27% and 28% higher than that of the protection service.

In the largest class (consumption between 5,000 and 50,000 m^3/year, mainly condominium users until 2023 and marginal from 2024), prices have fallen in both markets over the past two years, though less sharply in the free market. As a result, the higher costs in the free market, seen consistently throughout the decade, have widened further in the last two years, reaching around 20%.

Naturally, the price differences observed between the two markets may also be due to other factors. In particular, reference should be made to the section on the free market, which highlights the presence of commercial offers combining energy supply with the purchase of other goods or services

(such as assistance, maintenance, insurance, telecommunications, supermarket discounts, or fuel discounts).

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. Please therefore refer to section 3.2.2.1, where the Annual Report on the retail market monitoring activity for 2022 [249]is presented, outlining the main findings and, where possible, the evolution of relevant phenomena since monitoring began in 2012, together with the half-yearly monitoring reports on the electricity and gas retail markets prepared for the Ministry of the Environment and Energy Security[250].

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 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 2024, 389 suppliers communicated data on the commercial quality of sales services in the gas sector, reporting that they serve a total of 18.9 million final customers supplied at low pressure.

Analysing the data on the actual average response times for customer requests in 2024, responses to written complaints and billing adjustments recorded average times below the set standards (16.3 and 32.8 calendar days, respectively), while double billing corrections were typically completed above the standards set by the Authority, similar to what occurred in the electricity sector. In particular, regarding rectifying double billing, the average actual response time is 31.93 calendar days, compared to the standard of 20 calendar days. The actual average response times for request for information, however, with an average of 6.25 calendar days, are significantly lower than the general standard (Table 4.18).

[249]Report 3 of 25 July 2023, 42/2023/I/com (2022 Report).

[250] For the analysis of the 2023 data, please refer, in particular, to the Report of July 25, 343/2023/I/com and the Report of February 27, 2024, 59/2024/I/com.

Table 4.18 Sales service standards and actual average times in the natural gas sector in 2024

PERFORMANCE	SPECIFIC STANDARDS (calendar days)	OVERALL STANDARDS %	ACTUAL AVERAGE TIMES
Maximum time for a reasoned response to written complaints	30	–	16.3
Maximum time for bill adjustments	60 or 90(B)	–	32.8
Maximum time for double bill adjustments	20	–	31.93
Minimum percentage of replies to written requests for information sent within the maximum time of 30 calendar days	–	95%	6.25

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

Source: ARERA on data declared by operators.

The natural gas supply companies received a total of 202,784 **written complaints**, an increase compared to the previous year (19.5%); the majority of the written complaints (83.11%) come from household customers in the free market. Written complaints relating to household customers served under the vulnerability protection service accounted for 5.58% of the total complaints. A share, amounting to 4.57% of the complaints, is attributable to multisite gas customers, while complaints from household condominiums and public service activities represent 0.84% and 0.14% of the total complaints (Table 4.19).

Table 4.19 Complaints, requests for information and bill adjustments in the gas sector

	2020	2021	2022	2023	2024
Number of complaints	197,928	172,004	156,407	167,675	202,784
Number of requests for information	107,937	121,054	133,063	142,153	127,311
Number of bill adjustments	19,325	16,487	11,400	12,498	7,775
Number of double bill adjustments	2,256	849	607	406	274

(A) Partial data referring to 64% of gas customers.

Source: ARERA processing of data from the Energy Customer Help Desk.

In 2024, gas customer information requests totalled 127,311, down 19.9% from the previous year. Of these, 80.76% came from free-market household customers; far behind were multisite gas customers (7.58%), non-household free-market customers with different uses (6.73%), household customers under the vulnerability protection service (3.79%), household condominiums (1.08%), and lastly, free-market gas customers from public service activities (0.06%).

The **written billing adjustments** totalled 7,775, down 16.8% on the previous year; notably, 78.2% of these corrections were requested by household customers in the free market. Following that, 10.30% of requests were lodged by household customers in the market with a reference price and 4.28% by multisite customers. Of the total corrections, 0.97% related to billing adjustments for protected household condominiums, while only 0.1% concerned customers using gas for public service activities.

As in past years, in 2024 the double billing adjustments remained extremely limited (274 cases), particularly given the millions of bills issued annually by suppliers; overall, this represents a slight increase of 1.9% compared with 2023. Of the total double billing corrections in the year, the majority came from free-market household customers (70.76%), followed by household condominiums (10.95%).

In 2024, there were 21,134 cases of non-compliance with commercial quality standards in the gas sales sector that entitled customers to **compensation**, marking a 4.65% decline from the previous

year. Similarly to the electricity sector, the majority of compensations in the gas sector are due to failure to meet the standards for responding to complaints from household customers (95.37%). The market segment with the highest number of compensations overall is that of households in the free market, accounting for 74.03%.

In the year, compensations were paid to gas customers amounting to over €922,000, a slight decrease compared to the previous year (-5%). Similar to the electricity sector (see paragraph 3.2.2.1), in the gas market, most automatic compensations applied directly to bills (95.18%) were due to missed responses to written complaints.

In 2024, 82 suppliers reported serving 1,682,351 customers with **dual fuel** contracts. These customers submitted 30,355 written complaints, a decrease of 2.72% compared to the previous year, and 31,525 written requests for information, a decrease of 34.9%. Bill and double-bill adjustments amounted to 1,549 (-26.9%) and 54 (+45.9%) respectively.

Altogether, for customers with *dual fuel* contracts, the number of cases of non-compliance with the standards that triggered the right to automatic compensation on the bill for commercial quality performance was 3,439. 93.5% 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 (92.6%); to a lesser extent, bill adjustments (6.3%) and double bill adjustments (1.1%). Overall, compensation amounting to Euro 149,855 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 2024, 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: handling customer complaints (basic level)

The consumer protection system in the sectors regulated by the Authority is structured into two main areas: the first relates to providing customers with information and assistance (basic level), and the second to resolving issues and disputes between customers and service providers.

In 2024, unlike in 2023, there was a general decline in the number of requests (both written and by telephone) received by the Energy and Environment Consumer Help Desk of the Authority, managed on its behalf by Acquirente Unico, relating to the activation of various services for customers and users in regulated sectors. (**Table 5.**1).

Table 5.1 Protection System: Incoming volumes to the Help Desk and second-level activities(A)

ACTIVITY	2023		2024	
Basic level (information and assistance)	ENERGY SECTORS	ALL SECTORS	ENERGY SECTORS	ALL SECTORS
Calls to the call centre (received during working hours)	1,494,378	1,546,809	1,083,236	1,122,521
Written requests for information(B)	49,930	54,750	48,658	52,632
Requests for activation of special information procedures	44,929	44,929	51,423	51,423
Second level (dispute resolution)			31,638	31,638
Requests for the activation of special settlement procedures	31,638	31,638	17,326	17,326
Requests to the Authority Conciliation Service (mandatory conciliation)	28,693	32,677	29,180	34,564
Conciliation requests to ADR entities on the Authority's List (mandatory conciliation)	1,351	1,676	1,956	2,300

(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.

In fact, in 2024 the **call centre** received 1,122,521 calls during service hours, a decrease of 27% compared to 2023. Just over one million calls were handled (i.e., excluding those abandoned by customers or end users without waiting for a response from the operator), pertaining only to the energy sectors: in fact, 97% of the requests relate to the electricity and gas sectors. The average duration of calls to the call centre was 233 seconds, down from 252 seconds in 2023.

In 2024, the topics of the calls were the same as the previous year, although with variations in the percentage weights. The social bonus makes up 42% of the total calls, a 25-percentage point drop from 2023. Requests regarding dispute resolution methods have increased to 26% (+13%), while 14% concerns the gradual standard offer service and the vulnerability in the energy sectors. In 2024, the call centre also handled 356 calls related to the waste sector and 204 calls concerning district heating, values up from 2023 (when they were 201 and 112, respectively), all related to the topic "rights and regulation". In 2024, calls providing information on the removal of price protections in the energy sectors more than doubled (either by specific request or during discussions on related topics): approximately 158,000, compared to about 64,000 in 2023.

Regarding **written requests for information**, the Help Desk received 52,632, of which 48,658 were related to the energy sectors, showing a decrease compared to the previous year. The top five topics of requests in the energy sectors, excluding complaints redirected to conciliation (around 35%), are

unchanged from 2023: the social bonus remains the leading issue (24%), though it has dropped significantly (–21% vs. 2023), with most queries concerning the automatic recognition mechanism. On the other hand, the other topics have increased: "market" with 17% (+5%), "billing" with 15% (+1%), and "contracts" with 13% (+2%). Regarding "contracts", the main sub-topics were, respectively, "change of supplier" (70%), "estimated consumption" (46%), and "unilateral changes" (42%). Additionally, 9.5% of requests were related to vulnerable customers in the energy sectors, who submitted written inquiries regarding the legal requirements for recognising vulnerability, within the process of removing price protections.

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 have been operational since 1st January 2017, only for certain specific issues in the energy sectors, which are codified in centralised databases (Integrated Information System, Compensation System). For this reason, and due to regulation of the "automatically applied" case, the Desk provides the requested information to final customers or their delegates. In 2024, the written requests that led to the activation of a special information procedure amounted to 51,423, an increase of 14% compared to 2023. These requests involved the electricity sector in 62% of cases, the gas sector in 26%, and both sectors in 12%. 50% of the requests relate to the supplier change date (switching) and the name of the supplier itself (-2.5% compared to 2023), 23% pertain to identifying the "unknown supplier" in the case of a transfer (-6.5% compared to 2023); almost a third (27%) is linked to the special procedure for the fee related to outstanding arrears in the electricity and natural gas sectors (C^{MOR}), with this last type of special procedure seeing the largest year-on-year increase, both in percentage terms (+69%) and in absolute values (+5,609 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 settlement 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. Unlike information procedures, special settlement procedures establish the outcome of the dispute and involve assistance from Help Desk staff, where additional information is required to consult databases or to check compliance with regulations after the dispute has been resolved. 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.

In 2024, the Help Desk received 17,326 requests to initiate resolution procedures, representing a 45% decrease compared to 2023. The most frequently used procedure remains that concerning the social bonus (82%, down 11.5 percentage points from 2023), followed by the special procedure on C^{MOR} (verification of cancellation conditions), which rose by 11% from 2023 to account for 17% of the total. All other procedures were scarcely used in 2024, with double billing representing just 1% of the total. Specifically, and in line with 2023 findings though at greater scale, 42% of social bonus requests related to non-issuance of the benefit; the remainder mainly addressed issues with the bonus amount being considered incorrect or with recognition in households having multiple ISEE redelivery/withdrawal points.

The average processing time for the special bonus procedure has fallen further, from 28 days in 2023 to 17 working days, whereas the average closure time for C^{MOR} cases is now 14 working days, slightly up from 13 in 2023.

The sector most affected by the special settlement procedures was electricity, accounting for nearly half of the requests (49%, the same as in 2023), while the gas sector recorded a slight increase (+1%), reaching 30%. In the other cases, the issue involved both sectors or dual fuel customers.

The household sector was involved in 94% of the special settlement procedures, and 85% of the requests were submitted by end customers without the assistance of delegates. The principal method for triggering these procedures was via email, used in 62% 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. Furthermore, with the approval of Article 141, paragraph 6, letter c) of the Consumer Code[251], the attempt at conciliation has become a condition for the admissibility of legal action before the judiciary in disputes arising in sectors regulated by the Authority (with the exception of tax or fiscal matters), unless urgent and precautionary judicial rulings are required. The Authority, in implementation of article 141-*sexies* of the Consumer Code, has laid down specific information obligations for energy suppliers towards end customers.

In 2024, customers and end users in the energy sectors submitted 29,180 requests to the Conciliation Service, about 480 more than in the previous year (+2%). This represents an increase, albeit with a smaller percentage change than in earlier years.

With a 40% share (13,954 requests), the sector that recorded the highest number of applications in 2024 was electricity, although it fell by 9% compared to 2023; gas followed with 33% (+7%, 11,373 requests). Dual fuel customers submitted 3,636 requests, accounting for 11% of the total (down 1%).

[251]The legislative decree no. 130/15 implemented in the Italian legal system Directive 2013/11/EU of the European Parliament and Council of 21 May 2013, on *Alternative Dispute Resolution* (ADR) for consumers, which amends Regulation (EC) 2006/2004 and Directive 2009/22/EC (Directive on ADR for consumers).

The main methods of submitting requests are through delegates other than consumer associations (38%, equivalent to 13,728 requests), direct submissions by customers (i.e., without the assistance of delegates), accounting for 33% of requests (-2%); followed by submissions through consumer associations registered with the CNCU[252] (29%, equivalent to 9,892 requests, a 2% increase compared to 2023).

79% of the requests received by the Service (+3% compared to 2023) concerned the domestic sector, while 21% related to the non-domestic sector (-3%). When considering only the requests from household customers, the gas sector is predominant, accounting for 38% of the requests (+8% compared to 2023), while the electricity sector totals 33% (-9%). Completing the picture for the energy sectors are the 2024 data relating to 3,636 requests from dual fuel customers and 217 requests from *prosumer* customers.

Regarding the topic of disputes, billing remains the most prevalent issue (44%, a decrease of 2 percentage points compared to 2023); followed by contract-related disputes at 24% (+1%), and damage claims account for 8% (+2%). More than half of the *prosumer* requests relate to economic net metering (36%, +6% compared to 2023) and "connections, works, and technical quality" (17%, -8% compared to 2023).

In 2024, the eligibility rate for conciliation requests submitted to the Service was 82% (+1% compared with 2023); 10% of applications were incomplete (unchanged from 2023), while 8% were not accepted[253] (–1%).

Regarding the outcome[254] of requests handled by the Service, the agreement rate for procedures concluded in 2024 was 63%, down from 70% in 2023. In the energy sectors specifically, excluding pending cases, suppliers reached an agreement in 66% of concluded procedures (–7% vs. 2023), while distributors recorded a 32% agreement rate (–6%). It took the parties an average of 57 calendar days to reach agreement, 1 more than in 2023. With reference to the procedures initiated in 2024 and concluded with an agreement, the compensation value is estimated at around €21 million. This represents the total economic benefit (through recovered amounts, refunds, compensations, corrected bills, cost or late-payment interest waivers, etc.) secured collectively by customers or users, including those represented.

Based on 11,668 questionnaires completed at the end of the procedures, 95% of applicants gave an overall positive assessment (unchanged from 2023), with responses split between the highest satisfaction level (55%, +3 percentage points vs. 2023) and the “fairly satisfied” rating (27%, down from 28% in 2023). More specifically, the conciliator's work was rated very positively by 67% of the above-mentioned applicants (+1% compared to 2023).

[252] 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).

[253] In these instances, the request can be resubmitted once the reason for inadmissibility has been rectified.

[254] The data presented in the remaining part of the section also include information on the water sector.

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 of art. In accordance with Article 141-decies of the Consumer Code, in December 2015, the Authority established[255] the List of bodies responsible for managing ADR (Alternative Dispute Resolution) procedures under Title II-bis of Part V of the same Code.

At 31 March 2025, 27 ADR entities were registered in the Authority's List. Of these, 7 are sectoral joint conciliation bodies, based on specific memoranda of understanding between consumer associations and companies, 1 operates in a single region, while the remaining 19 are cross-sector bodies, operating in sectors beyond the Authority's scope; among the latter, 18 are mediation bodies and, as such, are also registered in the Mediation Bodies Register maintained by the Ministry of Justice[256]. One body, including the regional-level one, is responsible solely for the water sector, while the remaining bodies are all competent in the electricity and gas sectors.

Based on the information provided by the ADR bodies in 2024, there is a significant increase in the total number of requests received compared to the previous year (+37%). Specifically, out of a total of 2,300 requests (1,676 in 2023), 1,956 concerned disputes in the electricity, gas, and dual fuel sectors (compared to 1,351 in 2023).

82% of the submitted requests (68% in 2023) across all sectors are attributed to the ADR bodies for joint conciliation. The predominant issue in disputes within the energy sectors is "contracts" (53%, +35.5% compared to 2023), followed by billing (25%, -19.5% compared to 2023).

The percentage of applications accepted, relative to the total number of requests received, remains high: of the 2,300 requests received by the bodies listed in the Register, the admissibility rate stands at 90% in 2024 (compared to 88% in 2023, with 1,676 requests received), and in 64% of the concluded procedures, the parties reached an agreement (compared to 58% in 2023).

Finally, as regards the average time taken to conclude procedures, in 2024, 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 57 days in the case of an agreement (60 days in 2023), while, in the case of no agreement, they were closed in 58 days (compared to 54 days in 2023). 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) were complied with.

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 electricity and natural gas supplies aimed at household customers facing economic hardship or serious health conditions, who receive a bonus,

[255] Resolutions of 17 December 2015, 620/2015/E/com and of 14 July 2020, 267/2020/E/com.

[256] Legislative Decree No. 28 of 4 March 2010 and Ministerial Decree No. 180 of 18 October 2010.

i.e., a discount on their electricity and/or natural gas supply.

At first, access to the benefit was made available upon request. This created a significant gap between the potential beneficiaries and the actual recipients of the benefit. To bridge this gap[257], the Decree-Law of 26 October 2019, no. 124[258], established that from 1 January 2021, bonuses would be automatically granted to those entitled, without the need for them to submit a specific request to the Municipalities and/or tax assistance centres. In February 2021, the implementation methods for the automatic recognition system of the electricity, gas, and water social bonuses for economic hardship were approved[259], entirely replacing the previous "upon request" regulation. The electric social bonus for physical hardship, however, is not covered by the automatic recognition system; it remains available upon request by the interested party and continues to be managed through the SGAte[260,] under the specific agreement[261].

Given the significant increase in electricity and gas prices experienced after the pandemic and the continued price pressures in the wholesale markets, starting from the third quarter of 2022 and throughout 2023, the government implemented numerous measures aimed at containing energy costs for consumers and, most importantly, providing increasing protection and support for economically disadvantaged families.

Given the continued upward trend in energy commodity prices internationally during the early months of the year, the 2024 budget law[262] has provided an additional extraordinary contribution for household customers holding the electricity social bonus for the months of January, February, and March 2024.

Therefore, the Authority updated[263] in 2024 the calculation criteria for the base bonuses: the criteria that were in effect until the third quarter of 2021 (previously suspended until the third quarter of 2023) were applied, meaning the bonus was calculated based on the expected average expenditure for customers in 2024. The amount of the electricity social bonus has also been supplemented with the extraordinary contribution mentioned above.

For the year 2024, the legislative provisions that, until 31 December 2023, had extended the group of beneficiaries of the social bonuses were not renewed; therefore, in 2024, the ISEE threshold required to receive the social bonuses for economic hardship reverted to the standard level of €9,530. However, households that entered the system by 31 December 2023 with an ISEE threshold between

[257]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 (INPS) and the SII 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.

[258]Converted with amendments by Law No. 157 of 19 December 2019.

[259] By Resolution of 23 February 2021, 63/2021/R/com.

[260] The Energy Tariff Subsidy Management System (SGate) is managed by the National Association of Italian Municipalities (ANCI), in accordance with paragraph 6, Article 57-bis of Law 19 December 2019, No. 157.

[261] Resolution of 28 January 2020, 13/2020/R/com.

[262] Law of 30 December 2023, No. 213, State Budget for the financial year 2024 and multiannual budget for the period 2024-2026.

[263]With the resolution of 28 December 2023, 633/2023/R/com, the update was carried out in accordance with the provisions of Decree-Law No. 131 of 29 September 2023, converted with amendments by Law No. 169 of 27 November 2023.

€9,530 and €15,000, or under €20,000 for households with at least four dependent children, continued to benefit from the social bonus throughout 2024.

Bonuses in figures

In recent years, the automatic recognition mechanism for social bonuses for eligible individuals has obviously greatly increased the number of recipients, just as government interventions following the international price crisis have both increased the amount of the bonuses and expanded the pool of beneficiaries by raising the thresholds of the Equivalent Economic Situation Indicator (ISEE)[264] required for access to compensation.

In 2024, however, in the absence of government interventions to raise the ISEE threshold for accessing the benefit, the total number of beneficiaries of social bonuses for economic hardship has decreased compared to 2023. In 2024, over 2.8 million families benefited from the **electricity social bonus**; however, regulatory changes reduced the number of beneficiaries by 38.8% compared to the previous year. The total amount disbursed (estimated) for direct electricity bonuses was approximately €360 million.

Beneficiaries of the electricity social bonus are spread regionally as follows: North-West 19.5%, North-East 11.2%, Centre 15.8%, South 35.1%, and Islands 18.4%. 49.6% of the beneficiaries are made up of households with up to 2 members, 37.7% with 3 or 4 members, and 12.7% with more than 4 members.

In 2024, the number of families benefiting from the **social bonus for gas supplies** also decreased by 43.1% compared to the previous year due to regulatory changes. More than 1.7 million families received the social gas bonus; the total amount disbursed for direct gas bonuses was approximately €93 million.

Regarding the percentage breakdown by the number of members in the households benefiting from the gas bonus for economic hardship, 49.6% are households with up to 2 members, 37.7% are households with up to 4 members, and 12.7% have more than 4 members. As for the territorial distribution, 27% of the gas bonus was assigned in the North-West, 15.6% in the North-East, 19.6% in the Centre, 30.6% 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.

Alongside the social bonus to ease the economic hardship of families in Italy, there is also a bonus to assist families using electrical devices for life support (**physical hardship bonus**). 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 Authority, the customer is placed into one of three tiers: consumption up to 600 kWh/year, between 600 and 1,200 kWh/year, or above 1,200 kWh/year.

[264]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).

In addition, the three categories are differentiated by the contracted power, which may be up to 3 kW, 3.5 kW, 4 kW, or 4.5 kW[265]. For 2024, the amount of the bonus for physical hardship, as defined by the Authority[266], ranges from a minimum of €139.08 to a maximum of €450.18 per year per beneficiary. The charges related to the disbursement of the electricity bonus for economic and physical hardship are included amongst the general charges pertaining to the electricity system and are covered by the A_{SRIM} element of component A_{RIM}, which final customers pay in the bill and which is applied to all customers who do not benefit from the electricity bonus.

In 2024, 77,175 families benefited from the bonus for the use of electrical devices for life support, marking a 16% increase compared to the previous year. In 2024, 64.7% of the bonuses distributed belong to the minimum tier (up to 600 kWh/year), showing a slight increase compared to 2023 (+0.35%); bonuses for the middle tier (consumption between 600 and 1,200 kWh/year) account for 21.4% (compared to 21.5% in 2023), while those for the maximum tier (over 1,200 kWh/year) make up 13.9%, also slightly decreased from 2023 (when they were 14.1%).

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[267];
- the Integrated Sales Service Quality Text (TIQV)[268];
- the Integrated Billing Text (TIF)[269];
- The Integrated Text on electricity, gas, and water bonuses for economic hardship[270];
- the Integrated Text on Confirmation of the Electricity and/or Natural Gas Supply Contract and Voluntary Restoration Procedure (TIRV)[271];
- the Integrated Conciliation Text (TICO)[272]

[265] For details on the operation of bonuses, see also the 2013 *Annual Report*.

[266] Resolution 633/2023/R/com, resolution 45/2024/R/com,

[267] Resolution 366/2018/R/com.

[268] Resolution 413/2016/R/com.

[269] Resolution 463/2016/R/com.

[270] Resolution 63/2021/R/com.

[271] Resolution 228/2017/R/com.

[272] Resolution 209/2016/R/com

5.1.5 Tools available to final customers

Information initiatives to overcome price protections

Since 2017, the Authority has required[273] that standard offer operators and gas standard offer suppliers, from 1 January 2018 until the expiry of price protections under specific legislation, include in customer bills a special notice, whose content is set by the Authority, concerning the expiry of price protections. Price protections were fully removed by the end of 2023 in the natural gas sector and by June 2024 in the electricity sector.

For 2024, the Authority determined the content of the disclosures:

- to promote the section of the Authority's *website* dedicated to consumers, which allows them to better understand their consumption habits, historical consumption, and compare their consumption with the same period in previous years (as required of both free market and regulated electricity and gas suppliers);
- 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);
- to promote the activation of this service and inform customers of the contractual and financial terms (a requirement for suppliers of the gradual standard offer service);
- on the rights of vulnerable gas customers as well as the vulnerability protection service (a requirement for free-market suppliers).

Strengthening of the Code of Business Conduct

[274]The Code of Business Conduct for electricity and natural gas sales to end customers sets out, in line with the Consumer Code and EU energy directives, the conduct rules that electricity and/or natural gas suppliers (and their agents in any capacity) must follow in dealings with end customers (households and small non-households).

In 2024, the Authority approved[275]updates and efficiency measures to the pre-contractual and contractual regulation under the Code of business conduct, benefiting end customers of electricity and natural gas concerning:

- the implementation of the amendments to the Consumer Code introduced by Legislative Decree No. 26 of 7 March 2023 and Law No. 214 of 30 December 2023 (the so-called Competition Law 2022);
- the obligations of suppliers in the event of changes to contractual terms;
- the provisions on telemarketing and telesales, as well as the consequent harmonisation of the rules regarding changes to the contractual terms of PLACET offers and the vulnerability

[273] Resolution 746/2017/R/com, as amended by Resolution 197/2019/R/com.

[274]Legislative Decree No. 206 of 6 September 2005.

[275] Resolution 395/2024/R/com

protection service.

In particular, the provisions require that, for distance contracts or those concluded outside the supplier's premises, information must be provided on a durable medium. The withdrawal period is extended to 30 days for contracts arising from unsolicited supplier visits to a household customer's home, or from marketing activities undertaken by a professional with the purpose or effect of promoting or selling electricity and/or natural gas supply contracts to consumers. For contracts concluded by telephone, consent becomes valid only once confirmation of receipt of the contract has been provided on a durable medium.

Obligations have also been reinforced in the event of changes to contractual terms (variations, renewals, automatic adjustments), requiring: communication on a durable medium, a minimum notice period of three months (one month for price reductions), separation from commercial messages, and automatic compensation of €30 in case of delays or omissions. In addition, the supplier's responsibility for telemarketing activities outsourced to third parties has been reaffirmed. Finally, the Authority has extended[276] the obligation to provide the Expenditure Comparability Sheet, applicable only to vulnerable customers

Revision of the Bill 2.0

At the end of 2023, the Authority started [277]a procedure for the comprehensive revision of Bill 2.0, with the goal of enhancing its simplicity, clarity, and consistency. Given the significance of this process and the need for broad stakeholder involvement, it is being conducted under the regulatory impact analysis (AIR).ers, it is subject to the application of the regulatory impact analysis (AIR). The process included focus groups with consumer associations and operators, a survey, and two consultation documents. 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 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.

Following these activities, the new regulation approved by the Authority[278]provides for a structure consisting of:

- A summary bill, including:
    - a single front page, containing key information (customer details, amounts, emergency contacts, and an information section for the supplier);
    - an energy receipt, which substitutes the existing "by destination" entries, presenting charges based on the quantity multiplied by the unit price;
    - a supply contract window, providing simplified information about the subscribed plan;
    - core informational sections, with standardised headings;
- The so-called detailed elements, unchanged from the previous Bill 2.0 rules.

The new rules apply from 1 July 2025 to low-voltage electricity users and gas customers (including

[276] Resolution 167/2024/R/eel

[277]Resolution of 7 November 2023, 516/2023/R/com.

[278] Resolution 315/2024/R/com

households, apartment buildings, public authorities, and other users) with yearly consumption of up to 200,000 Smc, with streamlined arrangements for non-natural gas customers. The scope of application has also been extended to gas last-resort services (from 2025–2026) and to supplies to public administrations.

Further stakeholder discussions led to resolutions[279] approving the option to show additional services after the total on the bill, to extend the offer box with two extra cost-breakdown lines, and to revise the layout for multi-site customers to enhance how POD/PDR and receipt information are displayed.

5.1.6 Access to consumption data

A first guarantee for customers of access to consumption data is provided by the billing regulation. As outlined earlier, the bill should contain details of the annual consumption and its allocation according to hourly bands. Further elements can be found in the detailed bill, which suppliers must make available through the Internet. Customers can also access the data by submitting a complaint or request to their supplier, who in turn will request them from the distributor.

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 ruled [280]that consumption data, comprising historical billing records and historical withdrawal time profiles, must be made accessible via the Integrated Information System (SII), which already serves as the repository for such information under 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 [281]came into force, which specified deadlines and time-frames within which to complete the process.

In June 2019, the Authority therefore defined [282]the way in which final customers from 1 July 2019 can access their consumption data via the ***Portale Consumi*** [Consumption Portal][283]. The *Portale Consumi* is continuously evolving, with the aim of both monitoring and improving its performance and implementing its specifications.

In 2024, to implement the 2022 Competition Law (Article 2, paragraph 3), the Authority initiated a

[279] Resolutions 12/2025/R/com and 64/2025/R/com

[280]Consultation document of 14 December 2017, 865/2017/R/efr.

[281]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".

[282]Resolution of 25 June 2019 270/2019/R/com.

[283] https://www.consumienergia.it/portaleConsumi/.

procedure [284]to allow end customers to authorise specifically designated third parties to access their consumption data via the *Portale Consumi*, in compliance with privacy regulations. Under the procedure, a pre-approved list of third parties eligible for authorisation is drawn up by the SII Manager (Acquirente Unico), alongside the creation of an electronic register of access, detailing the chronology and nature of the data accessed by authorised third parties.

Subsequently[285]the technical procedures and requirements for third-party access to data were defined for the two intended purposes: comparison of comparable offers and provision of energy services; as well as the types of data that may be accessed.

5.1.7 Availability of price comparison tools

Electricity and gas "Portale Offerte"

In February 2018 the Authority adopted the [286]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*** [Offers Portal][287]. 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 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 2024, the site had 10,813,113 visits. The total number of pages viewed was 94,199,755. Site traffic monitoring indicates that in 2024 the portal attracted 2,550,717 unique visitors, up 1.8% from 2023, 38.1% from 2022, and 195.6% from 2021. The number of users using the *Portale Offerte* therefore increased both in absolute terms and as a percentage of total visits. On average, over 212,600 unique visitors accessed the Portal each month in 2024, with a peak of more than 508,000 users in January 2024.

As of 31 December 2024, the Portal's database contained 12,489 offers: 9,935 free market offers, 2,554 PLACET offers, and 722 offers for which an annual cost estimate cannot be calculated due to their unique features and innovative pricing formulas.

[284] Resolution 158/2024/R/com

[285] Resolution 509/2024/R/com,

[286]Resolution of 1 February 2018, 51/2018/R/com, as amended by Resolution of 5 March 2019, 85/2019/R/com.

[287] https://www.ilportaleofferte.it/portaleOfferte/.

In total, 7,144 offers are available for the electricity sector, including 5,303 for natural gas and 42 for dual fuel. For the electricity sector, 41% of offers directed at household customers were at a fixed price, with a comparable proportion recorded for non-household customers (40.7%). 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 71.5% of the available offers, condominiums for 68.1% and non-households for 70%.

In 2024, several important measures were introduced to steer non-vulnerable end customers towards the free market, following the withdrawal of safeguarded services. In particular, the following have been introduced:

- access via SPID/CIE, which allows identification of the supplies registered to the individual or legal entity and makes the relevant data available for consultation and for simulating annual expenditure. More precisely, by drawing on historical consumption data (actual data), expenses can be simulated according to the customer's genuine consumption, mirroring their unique usage behaviour;
- the calculation of the annual cost for the gradual standard offer service dedicated to non-vulnerable household customers;
- a new section of the *Portale Offerte* that allows end customers, by logging in with SPID/CIE or entering the offer code, to view the features and terms of their offer, even if it is no longer valid;
- the introduction of the single dispatching fee provided for by TIDE.

Finally, with the aim of facilitating the use of the site for end customers, the content of the tutorial videos on the *Portale Offerte* website has been expanded and enriched.

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. [288]With this in mind, in July 2017, the Authority introduced 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 of 31 December 2024, Portale Offerte contained 2,554 PLACET offers (Table 5.2).

[288]Resolution of 27 July 2017, 555/2017/R/com.

Table 5.2 Number of PLACET offers present in the Portale Offerte as at 31 December 2024, broken down by type of end customer

SECTOR	FIXED PRICE	VARIABLE PRICE	TOTAL
Household customer	248	311	559
Non-household customer	241	288	529
TOTAL ELECTRICITY SECTOR	-	-	1088
Household customer	235	362	597
Non-household customer	211	247	458
Condo households with consumption of less than 200,000 m^3	164	247	411
TOTAL GAS SECTOR	-	-	1,466
TOTAL PLACET OFFERS	-	-	2,554

Source: ARERA. Processing of data from Acquirente Unico.