



Report 352/2023/I

ANNUAL REPORT  
TO THE EUROPEAN UNION AGENCY FOR THE COOPERATION  
OF ENERGY REGULATORS  
AND THE EUROPEAN COMMISSION  
ON THE REGULATORY ACTIVITIES AND FULFILMENT  
OF DUTIES OF THE ITALIAN REGULATORY AUTHORITY FOR  
ENERGY NETWORKS AND ENVIRONMENT

---

31 July 2023

## TABLE OF CONTENTS

<b>1</b>	<b>Foreword</b> .....	<b>4</b>
<b>2</b>	<b>Main developments in the electricity and natural gas markets</b> .....	<b>5</b>
2.1.1	Evaluation of market development and regulation.....	5
2.1.2	Implementation of the Clean Energy Package .....	34
<b>3</b>	<b>The electricity market</b> .....	<b>35</b>
<b>3.1</b>	<b>Infrastructure regulation</b> .....	<b>35</b>
3.1.1	Unbundling .....	35
3.1.2	Network extension and optimisation.....	35
3.1.3	Investment in new transmission infrastructures .....	37
3.1.4	Tariffs for connection and network access .....	40
3.1.5	Regulation of network security and reliability.....	46
3.1.6	Quality and output standards for distribution and transmission services.....	49
3.1.7	Monitoring the electricity supply and demand balance.....	55
3.1.8	Monitoring investments in generation and storage capacities from a security of supply perspective.....	55
3.1.9	Implementation of Network Codes and guidelines for the integration of European electricity markets .....	55
3.1.10	International coordination on the topics of electricity and natural gas .....	66
<b>3.2</b>	<b>Competition and the functioning of markets</b> .....	<b>73</b>
3.2.1	Wholesale markets.....	73
3.2.1.1	Monitoring of wholesale market prices .....	79
3.2.1.2	Monitoring of the level of transparency, including compliance with obligations on transparency and on the degree and efficiency of market opening and competition.....	82
3.2.2	Retail market .....	84
3.2.2.1	Monitoring of the level of retail market prices, the level of transparency and the degree and efficiency of market opening and competition .....	104
3.2.2.2	Recommendations on final sales prices, investigations, inspections and imposition of measures to promote competition .....	113

<b>4</b>	<b>The natural gas market.....</b>	<b>117</b>
<b>4.1</b>	<b>Infrastructure regulation.....</b>	<b>117</b>
4.1.1	Tariffs for connection and access to LNG networks and infrastructures.....	117
4.1.2	Balancing .....	132
4.1.3	Cross-border issues .....	135
4.1.4	Implementation of Network Codes and Guidelines.....	137
<b>4.2</b>	<b>Competition and the functioning of markets .....</b>	<b>139</b>
4.2.1	Wholesale markets.....	139
4.2.1.1	Monitoring of wholesale market prices .....	144
4.2.1.2	Monitoring of the level of transparency, including compliance with obligations on transparency and on the degree and efficiency of market opening and competition.....	151
4.2.2	Retail market .....	151
4.2.2.1	Monitoring of the level of retail market prices, the level of transparency and the degree and efficiency of market opening and competition .....	162
4.2.2.2	Recommendations on final sales prices, investigations, inspections and imposition of measures to promote competition .....	167
<b>4.3</b>	<b>Security of supply.....</b>	<b>167</b>
<b>5</b>	<b>Customer protection and dispute resolution .....</b>	<b>168</b>
5.1.1	The protection system: dealing with final customer complaints (basic level).....	168
5.1.2	The protection system: out-of-court dispute resolution (second level).....	169
5.1.3	Protecting vulnerable household consumers and measures about energy poverty	172
5.1.4	Guarantees for the effective protection of gas consumers: compliance with art. 41(1)(o) of Directive 2009/73/EC .....	176
5.1.5	Tools available to final customers.....	177
5.1.6	Access to consumption data .....	179
5.1.7	Availability of price comparison tools .....	180

## 1 FOREWORD

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

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

The extreme exogenous stresses that hit the European energy system in 2022 put all institutions, including regulators, to the test.

In the face of such stresses and uncertain times, the greatest value is the speed of a concrete response.

Regulation also had to react promptly, so as not to be itself a brake on the ability of operators and customers to react, in the constant search for a balance, which is not always easy to achieve, between customer protection and system stability.

The energy crisis has also meant a radical change in supply routes from North to South for our country, with all the consequent changes that the gas facilities system and its regulation are facing and will have to face in the future.

The world of decision-makers finds itself confronted with a systemic complexity probably never experienced in the past, where the speed of innovation and the number of actors involved require a responsible, connected and integrated vision of initiatives.

Milan, 3 August 2023

THE CHAIRMAN

Stefano Besseghini

## 2 MAIN DEVELOPMENTS IN THE ELECTRICITY AND NATURAL GAS MARKETS

### 2.1.1 Evaluation of market development and regulation

#### Main changes in Italian legislation

2022 was characterised, as always, by intense legislative activity, mainly dedicated to the adoption of measures to mitigate the concerning energy price increases, also due to the continuing war conflict in Ukraine. The main rulings of the year relating to the energy sectors are summarised below, as usual in chronological order.

- Article 11 of Decree-Law No. 228 of 30 December 2021,<sup>1</sup> **extends until 31 December 2026** the period of enjoyment of the **benefits recognised to energy-intensive companies** for the commitment to finance **the construction of certain interconnection lines with foreign countries** (interconnectors) and assigns ARERA the task of updating the resolutions containing the list of foreign countries in whose markets the assignees may purchase electricity subject to the **virtual import** service.

- Article 14 of Decree-Law No. 4 of 27 January 2022<sup>2</sup> entrusts ARERA with the task of **cancelling, for the first quarter of 2022, the rates for general system charges** applied to users with available power of 16.5 kW or more, including those connected in medium and high/very high voltage, or for public lighting or electric vehicle recharging in publicly accessible places. The decree stipulated that the costs arising from this measure, amounting to € 1,200 million for 2022, would be covered through the corresponding use of part of the proceeds from the auctioning of CO<sub>2</sub> emission allowances for 2022.

In order to support people who use electricity at home for medical equipment necessary to keep them alive, Article 14-bis establishes a fund at the Presidency of the Council, with an allocation of € 500,000 for 2022.

Article 15-bis provides for the application, from 1 February to 31 December 2022, of a **two-way energy price countertrade mechanism**, with reference to the electricity **fed into the grid by**: i) **photovoltaic plants** with a power output greater than 20 kW that benefit from fixed premiums deriving from the feed-in premium mechanism, which are not dependent on market prices; ii) **plants** with a power output greater than 20 kW **powered by solar, hydroelectric, geothermal and wind** energy sources that do not qualify for incentive mechanisms, and that entered into operation before 1 January 2010.

- Article 5-bis of Decree-Law No. 14 of 25 February 2022<sup>3</sup> introduces provisions for the adoption of **preventive measures necessary for the security of the national natural gas system**. In detail, the article states that, in order to cope with the exceptional instability of the national natural gas system resulting from the war in Ukraine and to allow the filling of gas storages for thermal year 2022-2023, measures aimed at increasing gas availability and the planned reduction

---

<sup>1</sup> Converted by Law no. 15 of 25 February 2022.

<sup>2</sup> Converted by Law no. 25 of 28 March 2022.

<sup>3</sup> Converted into Law no. 28 of 05 April 2022.

of gas consumption, provided for in the Italian natural gas system Emergency Plan may be adopted regardless of the declaration of the level of emergency. In such a case, it entrusts Terna (the Electricity Transmission Grid Operator) with the task of preparing a **programme for maximising the application of electricity generation plants** with a nominal thermal input exceeding 300 MW **using coal or fuel oil** under regular operating conditions, for the **duration of the emergency**, without prejudice to the contribution of plants powered by renewable energy sources.

- Article 1 of Decree-Law No. 17 of 1 March 2022<sup>4</sup> entrusts ARERA with the task of **cancelling, also for the second quarter of 2022 (April-June), the rates for general system charges** applied to all electricity consumers.

Article 2-bis also entrusts ARERA with the task of reporting - to be transmitted by 16 May 2022 to the Ministry of Economy and Finance, the Ministry of Ecological Transition and the competent parliamentary commissions - on the use of the resources earmarked for containing the effects of price increases in the electricity and natural gas sectors. As of 1 June 2022, ARERA is also required to identify further measures to limit the effects of price increases in the electricity and natural gas sectors, to report on the use of the resources allocated to these measures and to transmit them to the aforementioned Ministries and the competent parliamentary commissions. A report on the actual use of the resources earmarked for limiting the effects of price increases in the electricity and natural gas sectors for the current year is also addressed to them.

Article 3 below **reinforces the benefits** on electricity tariffs already granted to economically disadvantaged **households** and households in serious health conditions and the compensation for the supply of natural gas, entrusting ARERA with the task of recalculating them in order to minimise the increases in the cost of supply, foreseen for the second quarter of 2022, up to the amount of € 400 million.

Still paying attention to vulnerable and energy-poor customers, Art. 3-*bis* assigns a decree of the Minister for Ecological Transition the task of **adopting the National Strategy against Energy Poverty**, in order to establish periodic indicative targets for the elaboration, at national level, of structural and long-term measures and for the integration of ongoing and planned actions within public policies.

Article 9-*quater* **broadens the scope of the extension by law of concessions**, even if they have expired, **for large hydroelectric derivations** granted in the autonomous provinces of Trento and Bolzano, and establishes that this extension operates not only for concessions with an expiry date prior to 31 December 2023, but also for those that provide for an expiry date "at a later date identified by the State for similar concessions of large hydroelectric derivations located in the national territory".

Article 10-*ter* envisages **measures for the development of renewable sources and for the containment of energy prices**; while Article 16, in order to contribute to the strengthening of the security of natural gas supplies at reasonable prices for final customers and, at the same time, to the reduction of climate-changing gas emissions, entrusts the GSE, or its subsidiaries, with the **launch of procedures for the long-term supply of domestically produced natural gas from holders of gas production concessions**.

Lastly, Article 16-*bis*, in order to ensure the full integration and medium-term remuneration of

---

<sup>4</sup> Converted into Law no. 34 of 27 April 2022.

investments in renewable sources in the electricity market, as well as to pass on to consumers participating in the electricity market the benefits resulting from the aforementioned integration, provides that the GSE is to offer a **withdrawal and purchase service for electricity from renewable sources** produced by plants established in the national territory, **through** the stipulation of **long-term contracts with a duration of at least three years**.

- Article 6 of Decree-Law No. 21 of 21 March 2022<sup>5</sup> **extends the range of households that can access social bonuses (electricity and gas)**, raising, for the period from 1 April to 31 December 2022, the ISEE threshold value<sup>6</sup> required for eligibility to € 12,000 (currently set at € 8,265). Article 6-bis **extends from 30 April to 30 June 2022** the provisions of the 2022 Budget Law that allow for **the payment in instalments of electricity and gas bills for households**. Article 7 places on the holders of **contracts for the supply of gas volumes** for the Italian market the task of **transmitting**, for the first time within 15 days from the date of entry into force of the decree under analysis, to the Ministry of Ecological Transition and to ARERA the **aforementioned contracts, the new contracts that will be signed and the amendments**, and increases by 25 units the staffing plan of ARERA, in order to comply with the increased tasks assigned by the regulations in force, with specific reference to the monitoring and control of the energy markets.
- Article 1 of Decree-Law no. 50 of 17 May 2022<sup>7</sup>, entrusts ARERA with the task of **redetermining, for the third quarter of 2022, the benefits** relating to electricity supply tariffs recognised for economically disadvantaged households and those in serious health conditions and countertrade for the supply of natural gas (social electricity and gas bonuses), recognised on the basis of the ISEE within the limit of the resources available in the 2022 budget of the Energy and Environmental Services Fund (CSEA), with the aim of maintaining unchanged, compared to the second quarter of 2022, the expenditure of the beneficiary customers of the facilities corresponding to the typical profiles of the holders of the aforementioned benefits. ARERA identifies the specific communication to be included in bills for households. Article 1-bis assigns to the Single Buyer the task of carrying out the electricity procurement service using all the instruments available on the regulated electricity markets, and to ARERA the task of **adopting provisions to ensure the allocation of the service with gradual safeguards for households, through competitive procedures to be concluded by 1 January 2024**, guaranteeing the continuity of electricity supply. Articles 1-ter and 1-quater then attribute to ARERA the task of **cancelling for the third quarter of 2022 the rates relating to general system charges in the electricity sector** applied to all users, for a charge of € 1,915 million for 2022; **as well as the task of further reducing the rates relating to general system charges for the gas sector** up to the amount of € 240 million with particular reference to consumption brackets up to 5,000 cubic metres per year. Lastly, Article 5-bis gives the GSE the task of **providing a filling service of last resort through the purchase of natural gas**, for the **purpose of its storage** and subsequent sale by 31 December 2022, within the limit of an equivalent value of € 4,000 million.

<sup>5</sup> Converted into Law no. 51 of 20 May 2022.

<sup>6</sup> 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).

<sup>7</sup> Converted into Law no. 91 of 15 July 2022.

- Article 6 of Law No. 118 of 5 August 2022, the *2021 Annual Law for the Market and Competition*, provides for a detailed **regulation of natural gas distribution concessions**, in order to adequately value the gas distribution networks owned by local authorities and to relaunch investments in the distribution sector, while speeding up the procedures for tenders for the natural gas distribution service provided for by the regulation set forth in Ministerial Decree No. 226 of 12 November 2011.
- Decree-Law No. 115 of 9 August 2022<sup>8</sup>, again entrusts ARERA with the task of **redetermining, also for the fourth quarter of 2022, the benefits** for electricity supply tariffs recognised to economically disadvantaged households and to households in serious health conditions and the countertrade for the supply of natural gas recognised on the basis of the ISEE threshold value (€ 12,000), with the aim of containing the variation with respect to the previous quarter in the expenditure of subsidised customers corresponding to the typical profiles of the holders of the aforementioned benefits, within the limit of 2,420 million in total between electricity and gas for 2022.
- Article 2 of the same decree **defines vulnerable customers** as civil customers who are in an economically disadvantaged condition; who are disabled; whose utilities are located on non-interconnected minor islands; whose utilities are located in emergency housing facilities following calamitous events; and who are over 75 years old. **To such customers, as of 1 January 2023, suppliers and operators of the service of last resort must offer the supply of natural gas at a price** reflecting the actual cost of supply in the wholesale market, the efficient costs of the marketing service and the contractual conditions and quality of service, as defined by ARERA, which also has the mandate to determine the specific equalisation measures in favour of the operators of the service of last resort.  
Article 3 **suspends unilateral changes to electricity and natural gas supply contracts** by the electricity and natural gas supply company.  
By virtue of Article 4, ARERA **cancel, for the fourth quarter of 2022, the rates for general electricity system charges** applied to all users. According to Article 5, ARERA **maintains unchanged the rates for general system charges for the natural gas sector** in force in the third quarter of 2022.  
Article 11 **extends until 30 June 2023 the application of the two-way countertrade mechanism on the price of energy**, provided for in Article 15-bis of Decree-Law No. 4/2022 (described above).
- Article 42 amends Paragraph 6 of Article 15-bis ("Further interventions on electricity produced by renewable-source plants") of Decree-Law No. 4/2022 concerning the implementation of the provisions relating to the two-way countertrade mechanism on the price of energy, providing that ARERA shall regulate only the procedures for implementing Article 15-bis and not also the procedures by which the proceeds are paid into a special fund established at CSEA and brought to reduce the need to cover the general charges pertaining to the electricity system. The proceeds resulting from the implementation of the rule will instead be paid by the GSE, by 30 November 2022, on a cumulative basis for the period from February to August 2022 and on a monthly basis for the following months, to the State budget and will remain acquired by the Treasury up to the total amount of € 3,739 million.

<sup>8</sup> Converted into Law no. 142 of 21 September 2022.



- The start of the 19th Legislature, following the general elections of 25 September 2022 for the renewal of the composition of Parliament, opens, as far as it is of interest, with the approval of Law no. 197 of 29 December 2022, *State Budget Law for FY 2023 and multi-year budget for the three-year period 2023-2025*, which allows ARERA to **cancel, for the first quarter of 2023, the rates relating to the general electricity system charges** applied to domestic users and low voltage non-domestic users, for other uses, with available power up to 16.5 kW (paragraphs 11 and 12) and to **set a negative component of the general system charges for the natural gas sector** for consumption brackets of up to 5,000 cubic metres per year, up to the amount of € 3,043 million, while maintaining the zeroing of all other rates of these charges to the amount of € 500 million (paragraph 15).

Paragraph 17 **raises the ISEE threshold value for households of economically disadvantaged households eligible for the social bonus** for the supply of electricity and natural gas **to € 15,000 for 2023**. ARERA is obliged to **redetermine for the first quarter of 2023 the facilities for these customers**, up to a total limit of € 2,400 million between electricity and gas (paragraph 18).

Implementing the commitment made in milestone M1C2-7 of the Italian National Recovery and Resilience Plan (PNRR) regarding system charges, the law under analysis stipulates that **nuclear charges included in electricity bills and territorial countertrade measures are no longer subject to collection by energy suppliers**. Therefore, Article 1, paragraph 298 of the 2005 Financial Law and Article 1, paragraph 493 of the 2006 Financial Law, which provided that part of the revenue from the nuclear charges collected from suppliers was to be paid annually to the State budget to compensate for the planned measures, are repealed.

Paragraph 24 then establishes a fund at the Ministry of the Environment and Energy Security, with an endowment of 220 million for 2023, to be allocated to the limitation of the effects of price increases in the natural gas sector for final customers, and provides that, by ruling of ARERA, **proceedings for the interruption of the supply of natural gas** for final customers directly connected to the natural gas transportation network **may be suspended until 31 January 2023**, up to a limit of 50 million.

Paragraph 26 authorises expenditure of € 350 million for 2023 for financial compensation arising from the recognition of costs incurred by Snam (Balancing Operator) for the last resort storage filling service. Any remaining resources are allocated to the reduction of general system charges for the natural gas sector in 2023.

Paragraph 30 provides for the **application, as of 1 December 2022 and until 30 June 2023, of a cap on market revenues obtained from the production of electricity**, through a one-way countertrade mechanism, with reference to the electricity fed into the grid by: i) plants powered by renewable sources that do not fall within the scope of Article 15-bis of Decree-Law No. 4/2022; ii) plants powered by non-renewable sources pursuant to Article 7, paragraph 1, of Regulation (EU) 1854/2022.

Then, paragraph 41 establishes an **electricity consumption reduction service until 31 March 2023**, entrusted by the Electricity Transmission Grid Operator through competitive procedures open to all customers or groups of customers, for the achievement of the peak-hour electricity consumption reduction targets set forth in Article 4 of Regulation (EU) 1854/2022 of 6 October 2022.

- Article 3 of Decree-Law No. 176 of 18 November 2022<sup>9</sup> lays down **support measures to cope**

<sup>9</sup> Converted by Law no. 6 of 13 January 2023.

**with bill increases.** In detail, companies with registered users based in Italy may ask to make payment in instalments of the amounts due as charges for the energy component of electricity and natural gas used for uses other than thermoelectric uses and exceeding the average amount accounted for on a like-for-like consumption basis in the reference period between 1 January and 31 December 2021, for consumption effected between 1 October 2022 and 31 March 2023 and billed by 30 September 2023.

Article 3-ter makes **changes to the close-out netting rules** to increase the liquidity of energy markets and reduce transaction costs by extending this clause across the board, without a time limit.

Article 4 establishes **measures to increase the production of natural gas**, in order to contribute to the strengthening of security of supply and to the reduction of climate-changing gas emissions, including methane, by fulfilling Italy's voluntary commitment to the Global methane pledge, relaunched at COP27, through the increase in the supply of domestically produced gas to industrial end-users at an affordable price.

Article 5 **postpones the end of standard offer service in the natural gas sector by one year, i.e. to 10 January 2024.**

In addition, in order to align the protection of vulnerable gas customers with the date of the end of standard offer service for domestic gas and electricity customers (10 January 2024), paragraph 2-ter postpones from 1 January 2023 to 10 January 2024 the deadline from which suppliers and operators of the service of last resort are obliged to offer vulnerable customers the supply of natural gas at a price reflecting the actual cost of supply in the wholesale market, the efficient costs of the marketing service and the contractual and quality of service conditions, defined by the regulator.

The same Article 5 extends: i) from 31 December 2022 to 10 November 2023 the final deadline for the sale of natural gas purchased by the GSE in the context of the provision of the filling service of last resort; ii) from 20 December 2022 to 20 November 2023 the deadline for the return by the GSE of the resources transferred for the filling service of last resort. The obligation remains for the GSE to repay the amount received as a non-interest-bearing loan to finance purchases to provide the filling service of last resort.

- Lastly, Article 11 of Decree-Law No. 198 of 29 December 2022<sup>10</sup> **extends to 30 June 2023 the suspension of the effectiveness of any contractual clause that allows the electricity and natural gas supplier to unilaterally amend the general terms and conditions of the contract** relating to the definition of the price, even if the counterparty is contractually recognised as having the right of withdrawal. The rule does not apply to contractual clauses that allow the electricity and natural gas supplier to update the contractual economic conditions upon their expiry, subject to the contractual notice periods and without prejudice to the other party's right of withdrawal.

The same law envisages that, **until 30 September 2023**, within the limit of the resources actually available, ARERA shall **identify the need for resources** to be allocated to the limitation of the consequences deriving for end users from price increases in the natural gas sector, giving priority to **financing the mechanisms for remedying non-payment of bills in favour of the operators of the default distribution service and the service of supply of last resort**, at the same time setting out procedures aimed at reducing the length of time for receiving payment of these amounts. Any additional remaining resources are allocated to the reduction of general system

---

<sup>10</sup> Converted by Law no. 14 of 24 February 2023.

charges for the natural gas sector in 2023.

The decree also makes **changes** on the promotion of the use of energy from renewable sources, stipulating that the decrees by which the **methods for incentivising biomethane produced or fed into the natural gas network** are to be implemented and coordinated must be adopted by 31 December 2023, and that they may also extend the tariff incentive to the production of gaseous fuels from renewable sources, including the production of hydrogen from biomasses.

- Finally, it should be mentioned that during 2022, numerous **provisions** were issued **to simplify the authorisation procedures for power plants powered by renewable energy sources**.

## Developments in the electricity market

### *Main changes in regulation*

In Italy, **power transmission** is carried out by approximately 75,250 km of power lines and circuits and more than 900 switching and conversion stations. The operator of the National Transmission Grid (TSO) is the company Terna, 29.85% owned by the Italian state (through CDP Reti). The remaining 70.15% of the capital belongs to the market. In 2022, the number of companies owning National Transmission Grid (RTN) assets became 7, compared to 8 the previous year, due to the incorporation of the assets of some companies into those of the Terna Group. Considering the assets of all the companies belonging to the corporate group, in 2022, the Electricity Transmission Grid Operator will own 99.9% of the national power lines.

In July 2022, ARERA forwarded to the Minister for Ecological Transition the **results of its assessment of the outline of the ten-year plan for the development of the national transmission network 2021** (the 2021 Plan), with clearance given for the proposed interventions, with the exception of a few specific projects. ARERA expressed a favourable opinion on the HVDC Sicily-Continent development project and an unfavourable opinion, due to their insufficient usefulness for the electricity system in terms of the ratio between expected benefits and costs and/or the availability of more efficient alternative solutions, on the second pole within the Italy-Montenegro interconnection, the HVDC interconnection project between Italy and Slovenia, and the interconnection projects with the island of Giglio and the island of Favignana. It also laid down conditions on the implementation of interventions of SA.CO.I. 3 Sardinia-Corsica-Italy mainland, Italy-Tunisia interconnection and the new Italy-Greece HVDC link.

In September 2022, ARERA outlined its guidelines regarding the updating of the provisions and minimum requirements already set for the consultation and preparation of the Ten-Year National Transmission Grid Development Plan.

As at 31 December 2022, 123 **electricity distribution** companies were registered in ARERA Registry of Operators, of which only 10 serve a number of customers exceeding 100,000 and together serve 98.5% of all users. There are four companies with more than 500,000 withdrawal points: e-distribuzione (Enel group), Unareti (A2A group), Areti (Acea group) and Irete (Iren group). Overall, power distribution in Italy takes place through 1,281,500 km of networks, most of which (69%) are low voltage. The company e-distribuzione (Enel group) is the leading operator, with the dominant share of 85.3% of the distributed energy.

In terms of **distribution quality**, there was a slight worsening in 2022 compared to 2021 both for

the average duration of outages per user (65 minutes) and for the average number of outages per user (4.21). In any case, the data confirms the marked improvement in the duration and number of outages is confirmed compared to the three-year period 2017-2019, years in which the impact of exceptional weather events contributed substantially to the increase in the duration and number of outages. The duration of unannounced outages for which the distributors are responsible stands at 40 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 3.14 outages per low-voltage user nationwide.

In implementation of the Integrated Text on output-based regulation of electricity distribution and metering services, in November 2022, the proceedings for the determination of bonuses and penalties for the year 2021 of the electricity distribution service were closed. For the **regulation of the duration and number of unannounced outages, € 30.8 million in net bonuses were paid out** (determined as the balance of premium and penalty amounts). Based on the 2021 electricity service continuity data, ARERA also published the tenth national ranking of electricity distribution companies regarding the number and duration of interruptions.

With regard to **requests for connection to high or extra-high voltage**, in the year 2022, the Electricity Transmission Grid Operator received a total of 2,956 connection requests for electricity production plants, corresponding to a total power of 253.6 GW. In relation to the requests received, it made available 1,645 quotations (corresponding to a total capacity of 111.5 GW), of which 813 were accepted; for four of these, corresponding to a capacity of 113 MW, a request was made to make available the Minimum Technical Solution of Detail (STMD), only one of which had been accepted by 31 December 2022, for a power of 34 MW. Despite this, the corresponding connections have not been made and activated within the year. As far as active connection requests to medium- and low-voltage grids are concerned, in 2022, the distribution companies received more than 350,000 connection requests for power generation plants, corresponding to a total capacity of 26.7 GW, in relation to which they made available just over 310,000 quotations during the year, for a total capacity of about 13.6 GW. In relation to the requests received in 2022, more than 150,000 connections were made in the year, corresponding to 1.3 GW, with average connection times, net of permitted interruptions, of: 26 working days, in the case of simple works, and 65 working days, in the case of complex works, while the average time for connection activation, net of permitted outages, was 9 working days. As far as the connections of passive users are concerned, the data collected show that 256,143 connections were made to the distribution networks in 2022, almost all of them in low voltage. For 70% of them, the supply was activated during the year. The average time to connect customers was 11.3 working days.

On the subject of **grid resilience**, in January 2022, ARERA positively verified the "Methodology for calculating the increase in the resilience of the national transmission grid" proposed by the Electricity Transmission Grid Operator, supplementing the Electricity Transmission Grid Operator's network code; updated the "Minimum requirements for the preparation of the ten-year national transmission grid development plan", eliminating the benefit (monetised) relating to the increase in system resilience in the face of extreme event impacts, retaining only the impact indicator (quantified but not monetised) due to the uncertainties inherent in resilience analyses, which are significantly greater than those of the other benefits.

In the first three-year period of application of the incentive regulation (2019-2021), 872 interventions to increase the resilience of distribution networks were implemented, for a total investment of approximately € 505 million. In June 2022, the deadline for distribution companies to send lists of new interventions to increase the resilience of electricity distribution networks to ARERA was set as

30 September 2022, in order to avoid overlapping activities between the admission to the resilience incentive mechanism and the possible admission of interventions (aimed at improving the resilience of the electricity distribution network to extreme weather events) to funding with public contributions under the National Recovery and Resilience Plan (PNRR).

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, ARERA outlined its **guidelines** on the aspects within its competence that pertain to the **new system of forward procurement of electricity storage resources**. Meeting storage capacity needs will require the construction and appropriate combination of one or more standard products, capable of reflecting the characteristics of different available storage resources and meeting the Electricity Transmission Grid Operator's performance requirements, and the subsequent conclusion of standard storage capacity supply time contracts with counterparties selected in dedicated competitive procedures.

The strongly bullish trend in wholesale energy commodity prices, both internationally and domestically, with particular reference to electricity and gas, which had started in 2021, continued throughout 2022. This trend in wholesale prices had an extraordinary impact on the updating of the economic conditions of the standard offer service for electricity and natural gas, as well as significant effects on electricity and natural gas prices in the free market. This led the government to adopt, quarter after quarter, manoeuvres to support both electricity and gas sector users. As far as the electricity sector is concerned, in relation to general system charges, the  $A_{SOS}$  and  $A_{RIM}$  tariff components have been cancelled for all electricity users for the whole of 2022.

The charges placed on the  $A_{SOS}$  account pertaining to the year 2022, in relation to the **incentivisation of assimilated and renewable sources**, were affected by the upward trend of the PUN recorded for the entire year, and were drastically lower than those of 2021 (which, moreover, had already recorded a significant decrease, compared to previous years, due to the increase in the PUN in the second half of the year). In fact, the reduction in the PUN has a positive effect on the charges in the  $A_{SOS}$  account pertaining to the same year, both because the revenues from the sale of subsidised energy increase and because certain types of subsidies decrease as the PUN increases. This has a positive impact, in perspective, also for the following year, especially in connection with the incentive update mechanism that replaced green certificates. For the whole of 2022, the charges of the  $A_{SOS}$  account were financed by the resources allocated by the Government within the framework of the aforementioned manoeuvres. In total, € 6,126 million is allocated to the  $A_{SOS}$  account for 2022, against needs of € 6,644 million. The allocated resources therefore did not cover all the economic needs of the  $A_{SOS}$  account in 2022. However, due to the discrepancy between the economic requirement and its financial manifestation, which was particularly significant for this year, the liquidity of the  $A_{SOS}$  account was more than good at the end of 2022.

In August 2021, the **regulatory framework for the nuclear energy** was defined in **relation to decommissioning**, i.e. those activities the costs of which fall within the perimeter of nuclear charges (with the exclusion of activities related to the National Depot-Technological Park, DN-PT) with the approval of the Nuclear Decommissioning Integrated Text (TIDECN). During the year 2022, the regulatory framework for nuclear charges for the third regulatory period (2021-2026) was completed. In March, the accounting unbundling criteria for the company Sogin (which is the decommissioning entity in Italy), previously defined in 2008, were updated, both in relation to changes in ARERA's regulations on accounting unbundling in general, and in relation to changes in regulations concerning activities falling within the scope of nuclear charges, with particular reference to the



provisions of Legislative Decree no. 31/2010 of 15 February 2010, which entrusted Sogin with the construction of the **National Repository - Technology Park (DN-PT)**, in which both the waste connected to the decommissioning of nuclear power plants and plants and other radioactive waste, unrelated to these plants and nuclear power plants, will be stored.

The costs of the DN-PT, for the portion attributable to radioactive waste related to decommissioning, fall within the perimeter of nuclear charges, and as such are subject to the provisions requiring ARERA to determine nuclear charges "taking into account criteria of economic efficiency in carrying out the planned activities". The activities for the realisation of the DN-PT, although the related costs fall partly within the scope of nuclear charges, have very different peculiarities from those of the nuclear decommissioning activities. When defining TIDECN, ARERA therefore ruled that these activities would be the subject of a separate specific ruling. In this framework, in October 2022, together with the conclusion of the preliminary investigation for the *ex-post* recognition of the costs incurred by Sogin for the National Depot - Technology Park in the 2010-2020 period, ARERA also defined the **criteria for the recognition of the costs for the location and authorisation activities of the DN-PT**. These criteria were not commented on by the relevant ministries.

In this regard, it should be noted that the 2023 Budget Law stipulates that, **as of 2023, nuclear charges will no longer be borne by electricity consumers, but directly by the state budget**, leaving ARERA's powers in terms of determining nuclear charges on the basis of economic efficiency criteria unchanged.

By the end of 2022, the **implementation of the Forward capacity allocation (FCA GL), Demand connection network code (DC NC) and High voltage direct current network code (HVDC NC) regulations** had been completed; a number of the Capacity allocation and congestion management guideline (CACM GL), System operation guideline (SO GL) and Electricity balancing guideline (EB GL) methodologies have yet to be completed, and the methodology with the cost-benefit analysis criteria for retrofitting existing generation plants under the RfG NC (Requirements for generators network) code, as well as the methodology for carrying out tests with reference to the Emergency and restoration network code (for which the Electricity Transmission Grid Operator is expected to update the provisions of the Network Code), still need to be defined at the national level. During 2022, therefore, the implementation of the market codes focused on maintaining and improving the methodologies adopted in previous years.

With regard to the FCA GL regulation in 2022, changes to the methodology for the Single Allocation Platform and the allocation of congestion rents became necessary. 2022 also saw the start of a discussion on the possibility of a joint allocation of long-term transmission rights with a similar approach as for daily capacity, instead of the current separate explicit auctions for each border. Discussions on updating the existing methodologies are also continuing at European level for the CACM GL regulation. During 2022, however, no such changes were approved. For the Balancing EB GL regulation, work continued in 2022 on the development and future approval of the missing methodologies (the pan-European methodology for the harmonisation of cross-border capacity allocation methods for balancing capacity trading or reserve sharing and the two regional methodologies, Italy North and Greece-Italy, for capacity calculation over the balancing horizon). Specifically, the methodology for pricing balancing energy was amended in 2022. As far as the SO GL regulation is concerned, the implementation process still involves the approval of two methodologies at the level of the continental European synchronous area: the quantification of the minimum inertia value to be ensured in the system and the definition of the minimum delivery time of the primary reserve under alert conditions for limited energy resources (methodology discussed by the regulators during 2022 with a request for amendments agreed in December and ratified by

ARERA in December 2022).

Pursuant to Article 59(1)(e) of Regulation (EU) 943/2019, the Commission initiated a process aimed at adopting a new network code to regulate the demand response sector in greater detail. In an initial investigation phase, which ended at the beginning of 2022, ACER defined the contents of the future network code and the drafting of non-binding framework guidelines, which set out the principles to be followed in the development of the network code for the definition of harmonised rules for demand response. The guidelines were adopted by ACER in December 2022, after almost a year of joint work with regulators and experts. The result is a document of principles and recommendations ranging from the regulation of roles and responsibilities, aggregation models, principles for resource qualification, mechanisms for coordination between wholesale and local markets, including coordination between TSOs and DSOs, and principles for the provision and procurement of services from dispersed resources. ARERA actively participated in the ACER working groups that coordinated the issue and in the working group in charge of drafting the actual guidelines.

### **Wholesale and retail markets**

According to provisional data released by the Electricity Transmission Grid Operator, **electricity demand** in 2022 (297.9 TWh) decreased by 1%; the decrease was recorded in all sectors except for the tertiary sector. Energy available for consumption was met just over 86% by net domestic production (minus energy for pumping) and the remaining 13.6% by the balance from abroad. Net domestic production decreased by 1% year-on-year, while imports increased by 1.8% and energy for exports by 16.4%. Peak demand was reached on 25 July 2022, when power demand at peak came to 57.4 GW (up 2.3% from the previous year's peak). Although 2022 was a very hot year, the summer peak did not reach the absolute record for the Italian electricity system, taken in summer 2015 (equal to 60.5 GW).

**Gross domestic production** fell to 286.1 TWh, a decrease of 1% compared to 2021. In particular, thermoelectric production increased by 7.9%, but energy production from renewable sources decreased by 13.9%. In thermoelectric generation, very significant increases were recorded in production from solids (+84.9%), petroleum products (+91.5%) and other energy sources (+38.6%), while generation from natural gas decreased by 3.7%. In the area of renewables, which account for around 35% of the national electricity generation mix, there were declines in production from all sources except photovoltaics, which grew by 12.3%. In particular, hydropower generation decreased by 37.8% in view of the water emergency in 2022, while generation from bioenergy dropped by 8.5%, wind power by 1.8%, and geothermal decreased by 1.7% year-on-year. The share of gross generation of the top three corporate groups (Enel, Eni and A2A) increased to 34.3% (from 33.4% in 2021). There are four groups with a net installed capacity share of more than 5%: Enel (22.3%), A2A (8.2%), Edison (5.5%) and Eni (5.0%).

The **amount of incentivised electricity** was approximately 57 TWh in 2022 (preliminary figure). For 2022, all in all the costs of incentivising renewable energy sources amounted to approximately € 6.4 billion, which is significantly lower than in previous years, due to high electricity market prices.

Taking into account the overall demand for electricity, which has not increased, the **foreign balance** also recorded only limited change: net imports in fact rose to 43 TWh from 42.8 TWh in the previous year (+0.5%). As a result, the share of domestic needs covered by the external balance increased slightly from 13.4% in 2021 to 13.6% in 2022. Reliance on imports increased slightly due to the need to meet demand against a lower coverage of domestic production, which declined slightly more than demand.

In 2022, the amount of **electricity traded on the PGM in the Italian system** amounted to 289.2 TWh, a value that decreased very slightly compared to 2021 (-0.4%). Exchange-traded volumes decreased (210.9 TWh; -4.7%), in favour of more bilateral trading on the ECP (78.3 TWh; +13.2%), almost entirely on domestic areas. Trade with foreign countries increased, driven by an increase in imports totalling 48.4 TWh (+3.2%), or 23% of total stock exchange sales (the share rose by two percentage points compared to 2021), as did exports, which rose by 5.5 TWh (+30.2%) or 3% of total stock exchange purchases (one point higher than last year). In addition, the share of volumes traded (for sale and purchase) by institutional operators alone, i.e. Acquirente Unico (Single Buyer) (27.8 TWh; -30.1%) and the GSE (29 TWh; -8.0%), which together account for 10% of the volumes traded (two percentage points less than last year), decreased.

In 2022, the **average energy purchase price (PUN)** was at its highest value ever, at € 303.95/MWh, an increase of 142.0% over the previous year; this increase was more pronounced in off-peak hours (+148.0%) than in peak hours (+139.1%) on working days and on public holidays (+141.0%). The total volumes traded in 2022 on the **Intraday Market** (26.0 TWh) were stable compared to the previous year; the average prices recorded on this market are strongly correlated to the corresponding values of the PGM, increasing their absolute differential and volatility as real time approaches. Over the course of the year, average monthly prices (MI1) showed progressive increases up to a high of € 526/MWh in August, reflecting the peak recorded on the PGM, and then gradually declined to a low of € 210/MWh in October. On the electricity **forward market**, with regard to standardised products with physical delivery, in 2022, there were only 6 pairings for a total of 10 GWh, which is a sharp decrease compared to 2021 (-55%).

Against a global backdrop of persistently rising fuel prices, **electricity prices on the power exchanges of other European countries** reached unprecedented levels in 2022, reaching on average eight times the pre-crisis levels of 2020. The high points were reached in the summer months and, in particular, in August, when quotations rose to € 450-550/MWh. Due to a largely gas-fuelled generation park, the average Italian price rose by 142% in 2022 to over € 300/MWh for the first time, compared to the already high price in 2021. Similarly high increases were also seen in other European countries (with the exception of Spain) where, however, prices were at lower levels, so the gap with prices in the rest of Europe widened.

In 2022, ARERA concluded 56 **sanction proceedings** concerning non-diligent scheduling strategies within the electricity dispatching service, 12 of which resulted in the imposition of administrative fines totalling € 1,600,000. In addition, during the year, the first two sanction proceedings for violations of wholesale market integrity and transparency were concluded with the imposition of sanctions totalling € 47,000, which can be traced back to the market manipulation offence described in Article 2, point 2, letter a), point i) of the REMIT regulation.

After the significant rebound in 2021, when the post-Covid economic recovery brought consumption back up, the results of the Annual Survey (provisional) show that just over 252 TWh **were sold to the retail market** in 2022 to 37 million customers. Compared to 2021, total electricity consumption therefore decreased by 0.3%, while withdrawal points increased slightly. The modest contraction in consumption is entirely due to the domestic sector, which purchased about 2.4 TWh less than in 2021, while non-domestic consumption increased by 1.6 TWh. In a year of strong economic recovery (+3.7% change in GDP as estimated by ISTAT), purchases by the manufacturing sector did not fall despite the fact that the extremely high price levels reached during the year contributed to curbing their increase. In greater detail, Italian households purchased a total of 58.3 TWh compared to 60.7 TWh in 2021, thus registering a decrease of 4%, while energy purchased by the non-household sector rose from 192.3 to 193.9 TWh, thereby marking an increase of 0.9%, still insufficient to fully



recover pre-Covid levels (198 TWh in 2019).

In 2022, the number of **domestic withdrawal points** was 30.1 million, of which 10.6 million were served in the standard offer service and 19.5 million in the free market. Domestic points served in the free market have now risen to 64.8%. If we then look at the volumes, the free market is even wider: in 2022, in fact, energy purchased by the household sector in this market rose to 68.5% from 61% of the previous year. The average unit consumption of households in the market with a reference price is slightly lower than that of households purchasing energy in the free market: 1,733 kWh/year versus 2,046 kWh/year. In 2022, the gap widened slightly by 126 kWh compared to 2021.

For the electricity supply of small enterprises<sup>11</sup> and micro-enterprises with a committed capacity of more than 15 kW<sup>12</sup>, price protection ended on 1 January 2021. The other micro-enterprises (those with a committed capacity of less than 15 kW) and all non-households (including some condo households) can no longer be supplied permanently in the standard offer service from 1 April 2023. Therefore, the total volumes sold under protection in 2022 still include those purchased by micro-enterprises with a committed power of less than 15 kW. If the consumption of the household sector is added to the consumption of the latter, the share of electricity sold in the **standard offer service** is, however, very small, amounting to only 8.7% of the volumes of the entire Italian electricity market (corresponding to 32.7% of the total withdrawal points).

As of January 2021, small and micro-companies forced to leave the standard offer market (with committed power in excess of 15 KW), which have not opted for a supply in the free market, will be supplied under the **gradual safeguards** by a supplier selected by public tender. In 2022, the service served 136,000 withdrawal points, or 0.4% of all customers in the electricity market, to which it supplied 2.3 TWh, or 0.9% of the energy sold in the total market. As was to be expected, the gradual standard offer "market" virtually emptied in 2022, given that it is an assigned service, in which only those who do not make a choice towards the free market remain.

With 223 TWh sold, the share of electricity intermediated by the **free market** rose to 88.5% (66.7% of withdrawal points) in 2022, despite the fact that the portion of electricity purchased in the **safeguard service** rose slightly to 1.9% (0.2% of withdrawal points) from the 1.3% recorded in 2021.

In 2022, the switching of households grew again, whether measured in terms of withdrawal points or in terms of volumes. 17.9% of households - about 5.3 million withdrawal points - changed supplier at least once during the year. The volumes corresponding to this portion of customers amounted to 23% of the total energy purchased by the household sector, while the volumes corresponding to the 15.7% of households who changed supplier in 2021 corresponded to 17.9% of the energy withdrawn. The legal exclusion of small and micro-businesses from the standard offer service from January 2021 has certainly had an impact on the switching activity of non-domestic low-voltage customers. Even in 2022, however, the pace of change of these customers was maintained - and indeed slightly strengthened - as the rate of movement of these customers rose to 20.3% in 2022 (approximately one and a half percentage points higher than in 2021). Moreover, other non-household customers also showed a significant (and rising) rate of switching with respect to last year: 22.2% of customers connected to medium voltage (for a total of 24.1%) and 33.8% of customers connected to high or very high voltage, for a volume of approximately 16%, changed supplier. Overall, just under 1.4 million industry withdrawal points changed supplier in 2022. In terms of underlying volumes, about

---

<sup>11</sup> Companies with between 10 and 50 employees and/or an annual turnover of between € 2 and 10 million, owners of "low voltage" withdrawal points.

<sup>12</sup> Companies with less than 10 employees and an annual turnover not exceeding € 2 million owning at least one withdrawal point with a commitment to contracted power exceeding 15 kW.

48 TWh, corresponding to 25.5% of the volumes purchased by non-households.

On the supply side, once again in 2022, the **number of retail market operators rose**, albeit to a lesser extent than in recent years: according to the responses from the Annual Survey of Regulated Sectors, 23 new active companies entered the market (+4.3%). Since the market has since expanded to a lesser extent (2.9%), the average unit sales volume of companies operating in this market has decreased slightly.

The **average number of commercial offers** that each sales company is able to propose to its potential household customers was 22.5 for households and 31.6 for non-households. Out of the 22.5 offers made available on average to the household, 11.7 are **only available on-line** (5.8 in 2021), i.e. only through the Internet. The success of on-line offers among households remains limited, but it is growing: in 2022, 9.9% of households (corresponding to 10.7% of electricity purchased in the free market) signed a contract offered through this modality. Looking at non-household customers, on the other hand, of the 31.6 offers on average offered to customers, 24.3 are subscribed through the network and only 3.2% of customers have subscribed to an offer online. With regard to the preferred **type of price**, it was found that 76.7% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 23.3% chose a variable-price contract, i.e. with the price changing at a time and in a manner determined by the contract itself. The preference for variable price is low, but tends to grow over time, albeit at a moderate rate; last year, the variable-price contract was chosen by 18.6% of households. Variable-price contracts are more popular among non-households: 53.1% of them chose the variable price, while the fixed-price contract was chosen by 46.9% of the non-household points. The data collected in the Survey, however, showed that fixed-price contracts valid in 2022 still partially protected customers from significant price increases due to the international price crisis, since the price paid for the procurement component in fixed-price contracts was at least 80% cheaper than that paid in variable-price contracts.

In variable-price contracts, **indexation** to the trend of the average PUN is by far the most frequent modality in both contracts to households (80.8%) and those to non-households (50.2%). The second most popular price indexation method chosen by households is that of a discount on one of the components set by the Authority for the standard offer service, which concerns 16.7% of customers. Households that signed a dynamic price contract (with indexation to the hourly PUN) accounted for 2.3% of households with a variable price, while contracts with limited indexation gathered only 0.03% of households, i.e. a sharp decrease compared to 2021, as could be expected in a period of extraordinary price increases. Dynamic price contracts, on the other hand, represent the second most important mode of indexation among non-households, who chose them in 4.5% of the cases; a small share (1.7%) of non-households chose a contract indexed to some external, controllable variable (which sometimes also refers to gas prices at TTF). About 28% 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 16.3%.

Regarding the presence of **additional services** in electricity purchase contracts in force in 2022, a clear propensity emerged, as in the past, for fixed-price households to purchase energy with a contract that includes an additional service (the portion of customers not subscribing to such has, in fact, halved compared with 2021 and is 7.3%); among the additional services, the greatest preference is for contracts with a guarantee to purchase electricity produced from renewable sources (48.1%) and for participation in a points collection programme (33.2%). With regard to households who have signed a variable price contract, on the other hand, in 2022 the share of those who have chosen one without additional services has further decreased to 44.3% (it was 50.9% in 2021); even among these

customers, the greatest interest is in the guarantee of purchasing electricity produced from renewable sources (31.4% of cases) and second preference goes to the possibility of obtaining, along with electricity, additional energy services (10.7%). The results for non-households show a significant lack of interest in additional services among those who have chosen a fixed-price contract: almost three quarters of these customers have signed a contract without them; the remaining part of these customers show appreciation for the guarantee of energy from renewable energy resources (21.1%).

Using the concentration measures calculated on the energy sold, it can be seen that in 2022, the level of **concentration in the retail market** increased slightly. C3, i.e. the share of the top three operators (corporate groups), rose to 48.7% of total sales, whilst it had been 46% in 2021. The HHI index rose to 1,510 from 1,375 recorded in 2021, thereby reaching the first attention threshold of 1,500. An HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 identifies a highly concentrated market (the maximum value of the index is 10,000). The number of corporate groups with a share of over 5% remained unchanged at 4. 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. Using the indicators calculated on the withdrawal points, the concentration values are higher than those indicated by the volumes of energy sold, except for those relating to non-households served at high and extra-high voltage.

The first (provisional) results of the analysis of the data submitted by the operators show that in 2022 the average value of the after-tax **electricity price** for households was 336 €/MWh (281 €/MWh the average value of the component covering procurement costs and marketing services). The usual high variability is, however, still seen, in the unitary expenses incurred by our customers: the average prices charged to households by annual consumption class in fact show values ranging from € 273/MWh, found for the medium-large customers (consumption of between 5,000 and 15,000 kWh/year), to € 590/MWh, for the smallest class (0-1000 kWh). For the first time since the advent of the liberalisation of electricity supplies to households, the free market presents significantly lower price values than the standard offer service, as a result of the predominance of fixed-price contracts in this market, which limited or delayed, at least in the immediate future, the effects on final customers of the huge price rises in the wholesale markets highlighted above.

Overall, in 2022, there were 27,399 cases of non-compliance with **sales service commercial quality** standards that resulted in the right to compensation in the electricity sector, 96.9% of which related to failure to meet response times to written complaints. Of this, 72.5% was accrued by households and non-households in the free market, 18.1% by customers in the reference price market and the remaining 9.4% by other customers. A similar situation to that concerning accrued indemnities can be seen for the indemnities actually paid out, which are more concentrated in the free market: in 2022, in fact, 73.8% of the total indemnities paid out, equal to approximately € 1.1 million, were to free market customers.

As part of the **measures on final sale prices**, ARERA, in implementation of Law No. 234 of 30 December 2021 (Budget Law 2022), has defined the modalities for the payment in instalments of the amounts relating to invoices issued in the period between 1 January 2022 and 30 April 2022 that all suppliers (both of standard services and of the free market) are required to offer to domestic electricity and natural gas customers who are in default of payment of the invoices issued in that period. In May 2022, these provisions were extended until 30 June 2022. In 2022, two **sanction proceedings** were also initiated for violation of the ban on suspending supply to final customers who were not in default of bill payments.

## Developments in the gas market

### *Main changes in regulation*

In July 2022, ARERA initiated proceedings to define the criteria for **tariff regulation of the LNG regasification service for the sixth regulatory period (6PR LNG)**, which will start on 1 January 2024. In April 2022, ARERA adopted urgent measures aimed at increasing the availability of gas in the system by making regasification capacity allocation procedures more flexible, allowing, in particular, the extension to the thermal year 2023-2024 of the potential benefits associated with import projects, as well as the possibility for regasification terminal operators to carry out capacity allocation procedures for annual products, also bringing forward the normal deadline set for July.

Over 70% of the storage capacity, 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 ARERA in February 2019. 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. Auctions for the thermal year 1 April 2022 - 31 March 2023 were held between March and September 2022. Compared to the previous year, there was a huge drop in allocated capacity on the auction basis, which more than halved (-58%) and a collapse in charges (average allocation prices), which fell from 0.93 €/MWh in 2021 to 0.15 €/MWh in 2022 (-84%). These changes indicate a sharp drop in operators' interest in the service in 2022, driven by the surge in prices in the gas wholesale markets following the outbreak of the Russia-Ukraine conflict, prices that had already been high previously due to the sharp increase in demand for gas as economic activity resumed after the pandemic. In this regard, the provisions adopted by the Government and ARERA in March and April 2022 to encourage operators to participate in the auctions, also through the introduction of new types of contracts ('two-way difference contracts') aimed at hedging the risk that the price of gas purchased during the auction would be higher than the price of gas sold during the winter period, did not prove sufficient. To remedy this situation, with the further increase in price volatility and the prospect of the continuation of the war conflict, with the consequent risk of not completing the filling of storages with which to meet the needs of the winter of 2022-2023, the Minister of the Environment and Ecological Transition adopted new provisions on the security of the national gas system. In particular, Snam Rete Gas and the Energy Services Manager were given the task of accelerating the filling of national storages through the so-called "**storage filling service of last resort**" (or "STUI"). The implementation of this initiative, in accordance with the modalities defined by ARERA, compensated for the quantities of gas not previously acquired by the companies in the auction phase and thus **made it possible to reach an overall filling level of the storage fields of over 95% at the end of October**.

In May 2022, ARERA put out for consultation the main lines of action for the **reform of gas transportation tariff regulation for the sixth regulatory period (6PRT, 2024-2027)**, illustrating the guidelines on the determination of recognised revenues, in particular for the first year of the period (2024), with a view to the transition to the ROSS approach (Regulation by Expense and Service Objectives), as well as the determination of reference prices for the natural gas transportation service. In October 2022, ARERA then outlined the final guidelines on the **determination of revenue and reference prices of the transmission and metering service** for the sixth period (6PRT).

At the same time, between December 2021 and July 2022, ARERA illustrated the guidelines on the **criteria for incentives and efficiency in the operation and development of the natural gas transmission network** for the 6PRT, in particular with regard to incentives for keeping fully depreciated networks in operation, efficiency criteria for the development of the transmission

network in newly methanised areas, and incentives for the operation of dual fuel compression stations. In December 2022, noting that the “**asset health methodology**” had been developed by Snam Rete Gas, ARERA defined **the incentive mechanism for maintaining in operation the fully depreciated natural gas transportation networks** that, according to the results of this methodology, can still be safely operated; the application of this mechanism begins in 2023.

In November 2021, ARERA had set out some guidelines on the application aspects of the **city gate capacity allocation regulation** introduced in April 2019. Further in-depth studies on the subject were put out for consultation by ARERA in April 2022, in particular on the procedures for transferring the costs of transportation capacity within the economic conditions of supply of the standard service, proposing the adoption of a single commodity-based charge, at a national level, to cover transportation costs for redelivery points with lower consumption; on the extension to redelivery points with daily consumption recording of the management modalities of such that the conventional transportation capacity is allocated on the basis of the maximum daily consumption recorded in the previous twelve months instead of on the basis of the annual consumption and the allocated withdrawal profile; as well as on specific management modalities for withdrawals that occur outside the November-March peak period. As part of the consultation, it was also suggested that the entry into force of the reform should be postponed by one year, in the light of both reports received to this effect and the necessary IT implementations. The consultation revealed a general consensus for postponement, also in view of the current market environment; therefore, in May 2022 ARERA further postponed the start of the reform to 1 October 2023.

In April 2022, ARERA **updated the directives currently in force for the connection of biomethane plants to natural gas networks**, introducing better specifications to ensure the correct quantification of incentivised biomethane.

In 2022, ARERA carried out the infra-period **update** of the regulation of **tariffs for gas distribution and metering services for the three-year period 2023-2025**. In particular, in August, ARERA started this update on the following aspects the assessment of the possible effects of environmental policies on the evolution of the number of consumption points (redelivery points) and the way in which risk is allocated between final customers and companies in the recognition of operating costs; the adoption of measures provided for by national legislation for distribution networks located in the territory of Sardinia; the assessment of the possible target of efficiency recoveries in the three-year period 2023-2025 in the metering service; the assessment of the appropriateness of the standard costs for the installation of gas smart meters, also considering the introduction of forms of differentiation of this cost in relation to any additional functionalities of the meters, compared to the minimum functional requirements already provided by the directives for the commissioning of gas metering groups; the definition of the level of the standard cost recognised for switch readings; the definition of the methods of recognition, according to parametric logic, of the costs related to remote reading/remote management systems and concentrators; the definition of the methods of recognition of the residual value of smart meters decommissioned early in the first phase of the roll out of installation plans provided by the gas smart meter directives.

In September 2022, ARERA also decided to review the way in which the additional components to the distribution tariffs (GS, RE, RS, UG<sub>1</sub>, UG<sub>2</sub> and UG<sub>3</sub>) are collected.

In December 2022, the new version of the Gas Distribution and Metering Services Tariff Regulation, which introduced innovations on the matters just specified (RTDG), was therefore approved.

Starting 2021, the strongly bullish trend in wholesale energy commodity prices, both internationally and domestically, intensified in 2022. It had an extraordinary impact on the updating of the economic



conditions of the standard service for electricity and natural gas, as well as significant effects on electricity and natural gas prices in the free market. This led the government to adopt, quarter after quarter, manoeuvres to support both electricity and gas sector users. **As a result, ARERA adopted the resolutions transposing and implementing the aforementioned manoeuvres**, to the extent of its competence, ordering, for the gas sector, the cancellation of the additional tariff components RE, RET, GS, GST, UG3 and UG3T for the whole of 2022. In addition, for the gas sector, ARERA has ordered, as of 1 April 2022, to change an element (UG2c) of the distribution tariff, applying a **component with a negative sign** (thus representing a price discount), to consumption brackets up to 5,000 sm<sup>3</sup>/year. For the second quarter of 2022, this provision was adopted independently by ARERA. For the following quarters, the measure was then provided for and reinforced by the provisions of the decree-laws adopted by the Government for the third and fourth quarters of 2022. The revenue shortfall of the RE, RET, GS, GST, UG3, UG3T components and the negative UG2c component (for the last two quarters) was covered by the resources made available by the Government provisions mentioned above.

Regarding **gas infrastructure**, in Italy there are nine companies operating the National (10,490 km) and Regional (24,936 km) Gas **Transmission** Network. The largest gas transport company is Snam Rete Gas. The Snam group owns 92.8% of the networks. The Italian gas transportation network is connected with several international gas pipelines: in Piedmont it connects with the TENP pipeline for the import of gas from Northern Europe; in Friuli-Venezia Giulia it connects with the TAG for the import of Russian gas; in Sicily it connects with the Transmed (Trans-Mediterranean Pipeline) for the import of Algerian gas and with the Greenstream for the import of Libyan gas; in Apulia it connects with the TAP for the import of Azeri gas. There are also **facilities dedicated to liquefied natural gas**, which is injected into the Italian national transport network through the interconnection with the three terminals in operation in Liguria, Veneto and Tuscany. The total maximum regasification capacity of the three terminals is just under 55 million standard cubic metres/day.

Natural gas **storage** is carried out on the basis of 15 concessions held by five companies: Stogit, Edison Stoccaggio, Italgas Storage, Geogastock, Blugas Infrastrutture. All active storage sites are built at depleted gas fields. Stogit, which belongs to the Snam group, is the main storage company owning 10 of the 15 concessions. The Italian gas storage system is of significant size: in the 2022-2023 thermal year, which ended on 31 March 2023, the system offered an overall availability for allocation in terms of total space for active reserve (so-called working gas) amounting to 17.75 G(m<sup>3</sup>), of which 4.6 G(m<sup>3</sup>) is for strategic storage. The space offered at tender was 95%. The nominal peak delivery achieved during the year was 259.1 million standard cubic metres/day.

Natural gas **distribution** in Italy takes place through 269,249 km of network, 57% in low pressure, 42% in medium pressure and 0.7% in high pressure. There were 186 companies active in gas distribution in 2022, of which 6 were very large (with more than 500,000 customers), 42 with between 50,000 and 500,000 customers and 138 with less than 50,000 customers. The number of companies with more than 100,000 redelivery points has fallen in recent years (28 units, down from 33 in 2013). However, their share in terms of gas distributed has always remained stable at around 82% and, indeed, has risen to 85% in the last three years. Overall, the 186 operators active in 2022 distributed 28.3 G(m<sup>3</sup>), 5 G(m<sup>3</sup>) fewer than the previous year, to approximately 22 million users. The service was operated through 6,512 concessions in 7,314 municipalities.

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. For 2022, there is a slight increase in the inspected high and medium pressure

networks compared to 2021 and still a stable share of the inspected network at around 75%. The inspection of the network generally aims at intercepting the phenomenon of leakage and thus enhancing the safety of citizens. With regard to emergency response obligations, the time series of the arrival time at the place of (telephone) call, updated to 2022, shows a national average value of approximately 37 minutes, slightly increased compared to 2021. With regard to the number of dispersions localised in the networks as a result of third-party reports per thousand customers (for distribution plants subject to the bonus-penalty regulation), there is a slight decrease both for dispersions localised on underground networks, which are usually the most dangerous, and for those on overhead networks.

Data on connections are distinguished according to whether they are connections to transmission pipelines or to distribution networks. In 2022, 83 **connections to transport networks** were made, of which 72 were high-pressure pipelines and 11 medium-pressure pipelines. On average, a wait of 135.5 working days was recorded for high-pressure pipelines and 78.3 days for medium-pressure pipelines. Compared to the previous year, a clear deterioration can be observed for both types of connection. Of the total connections made, 44% activated supply during the year. In the case of **local distribution networks**, a **decrease in the number of realised connections** was observed: 72,396 in 2022 compared to 104,960 in 2021. As always, most of the connections involved low-pressure pipelines (94.6%) and the remainder medium-pressure pipelines. There was a reduction in waiting times both for connections to medium-pressure networks (from 8 to 7.7 working days), and for connections to low-pressure networks (from 26.1 to 23.3 working days).

In the course of 2022, further amendments were adopted to the **settlement rules** approved in 2018 and which came into force on 1 January 2020; these included: changes and additions on the subject of timing in relation to the calculation of annual consumption and balancing and adjustment sessions; a new inconsistency criterion was introduced for the identification of anomalous withdrawals, as well as the obligation of its subsequent sterilisation for a better efficiency of the aggregation and goodness of fit phases of the final transport balances the incentive mechanism for distribution companies was confirmed (aimed at encouraging maximum timeliness in correcting inconsistent withdrawal data during balancing or adjustment), which will come into force from 2024.

In May 2022, ARERA confirmed until 31 December 2023 the incentive parameters for the Balancing Operator already in place.

On the subject of **access and development of the transmission system**, it should be noted that in March 2022 ARERA, together with the regulatory authorities of Greece and Albania, approved an amendment to TAP AG's Network Code aimed at optimising certain processes following the experience gained during the first year of operation of the pipeline. In particular, changes were made to streamline the formalities required to acquire and maintain the status of 'registered user', which is necessary to request the allocation of transportation capacity; the introduction of a transportation service in the direction of Melendugno of volumes of gas injected upstream (in Greece) with the definition of a new virtual entry point. Finally, in November 2022, ARERA, jointly with the regulators of Greece and Albania, approved the "Project Proposal" regulating the binding phase of the Market Test, essentially describing the capacity levels offered, the general rules for the conduct of the procedure, the indications for future contracts, the guarantees to be provided by the parties and the economic parameters.

In March 2022, ARERA launched the public consultation on the **Natural Gas Transmission Network Development Plans for 2022**. At the end of the year, ARERA therefore issued its assessments on the Ten-Year Plans for the 2022 Development of Natural Gas Transmission Networks, together with its assessments on the Ten-Year Plans for the 2021 Development of Natural Gas Transmission

## Networks.

The regulation of access and provision of natural gas transportation, storage and regasification services requires that the companies providing these services define their own service codes in accordance with the criteria established by ARERA, which approves them once it has verified their consistency with these criteria. In the course of 2022, **several codes for transport, storage and regasification services were approved and/or updated**, in order to incorporate new regulatory measures, provisions of ARERA or management methods aimed at improving service provision.

## Wholesale and retail markets

According to provisional data released by the Ministry of the Environment and Energy Security (MASE), it decreased by 7.7 G(m<sup>3</sup>) in 2022, a drop of 10.1%. The drop occurred despite strong GDP growth (3.7%), mainly due to the exceptional increases in international raw material prices that reduced industrial demand and the weather trend that favoured a drop in gas demand for heating purposes. In view of the difficulties in importing Russian gas as a result of the Ukrainian conflict, during the year the government developed measures aimed, among other things, at containing gas consumption, as well as diversifying import sources and maximising the filling of storages for energy security reasons. The government measures, more precisely, acted on the supply side with the objectives of encouraging the filling of storages, rapidly diversifying the origin of imported gas to replace Russian gas, and increasing the security of supply by maximising the use of facilities. On the demand side, on the other hand, a National Consumption Containment Plan has been implemented, in line with the European Commission's indications.

The decline in **domestic production** was smaller (-2.5%), although a new all-time low was reached in 2022 (3.1 G(m<sup>3</sup>)). Net imports decreased by 4.9 % to almost 68 G(m<sup>3</sup>), almost 3.5 G(m<sup>3</sup>) less than in 2021. Net imports decreased not so much because of the reduction in **gross imports**, which fell by approximately 400 M(m<sup>3</sup>), but because of the significant increase in **exports**, which rose from 1.5 to 4.6 G(m<sup>3</sup>). Thanks to government measures taken to ensure a high level of stockpile filling, the volumes stored at the end of the year were about 2.6 G(m<sup>3</sup>) higher than at the start of the year. The **level of foreign dependence**, measured as the ratio of net imports to the gross value of household consumption, has risen again; 99% of the gas available in Italy comes from abroad. Taking system consumption and network leakage into account, **net gas consumption** in 2022 can be estimated at 68.2 G(m<sup>3</sup>), 10.3 percentage points below that of 2021.

In the preliminary data released by the MASE, therefore, Italy imported 0.4 G(m<sup>3</sup>) less natural gas in 2022 than in 2021 (-0.6%). The main change in 2022 is the **halving of imports from Russia** due to the sanctions imposed by the EU on Russian exports in response to the war with Ukraine. The implementation of European sanctions, taking into account the important role played by Russian gas in covering national natural gas requirements (around 40% in 2021, with 29 out of the 73 G(m<sup>3</sup>) of gas imported last year), has placed the Italian government in a position to take urgent measures to guarantee the security of national supplies; measures that have affected both the gas supply and demand sides. With regard to the objective of diversifying natural gas supply sources, an agreement was signed to gradually increase supplies from Algeria as early as 2022. In the short term, imports from Azerbaijan were also increased; the government, in liaising with Eni and Snam, also moved to negotiate LNG supplies from new routes (Congo, Angola, Nigeria, Mozambique, Indonesia). According to the National Plan for the Containment of Natural Gas Consumption, published by the



Ministry of Ecological Transition<sup>13</sup> on 6 September 2022, the set of initiatives put in place on the import front will make it possible to **replace by 2025 the approximately 30 G(m<sup>3</sup>) of Russian gas with approximately 25 G(m<sup>3</sup>) of gas from different sources**, thereby closing the gap with renewable sources and energy efficiency policies. The shares of gas provenance in 2022 have changed significantly compared to those in 2021: Russia's weight among the countries exporting to Italy has dropped to 19.5% (it was 40%), while Algeria's share has risen from 30.8% to 35.8%. In third place is Azerbaijan with a share of 14.2% (it was previously at 9.9%). Qatar accounted for 10% of the total gas imported to Italy (9.9% in 2021) and Norway's share rose to 8.6% from 2.7% in 2021. With 4%, the United States almost matched Libya's share (4.3%), which instead is unchanged in respect of 2021.

Five corporate groups each own more than 5% of the total gas supplied (i.e. produced or imported): Eni, Edison, Azerbaijan Gas Supply Company, Royal Dutch Shell and Enel (the same as in 2021): together they account for 69.9% of all gas supplied. The five groups are also the only ones that have a share of more than 5% of the available gas (which in addition to imports and production also includes gas in storage), with an overall share (70.8%) slightly lower than the share of gas supplied. The analysis of import contracts (annual and multi-year) active in 2022 in terms of **residual life** shows that 31.4% of the contracts will expire within the next five years (the same share was 24.5% in 2021) and 52.2% will expire within the next ten years. Of the contracts in force today, 15% have a residual life of more than 15 years. This share has fallen sharply: it was 39.3% in 2021 and concerns a total quantity of about 13 G(m<sup>3</sup>).

In 2022, **total demand in the gas sector**, understood as the sum of gas volumes sold in the wholesale market (including resales) and in the retail market plus self-consumption, decreased again (-22%), having dropped to 281.3 from the 361.6 G(m<sup>3</sup>) recorded in 2021. Overall, marketed gas in the total sales market (wholesale and end market) fell to 267.2 G(m<sup>3</sup>), a decrease of 22% compared to the same figure in 2021. The **wholesale market** handled 216.3 G(m<sup>3</sup>), a decrease of 24.3% compared to 2021, the retail market handled 50.9 G(m<sup>3</sup>), a decrease of 11.4% compared to 2021, and self-consumption amounted to 14.1 G(m<sup>3</sup>), also a sharp decrease (-23.6%). The industrial groups serving a share of total demand of more than 5% in 2022 are 5 as in 2021. More precisely, the industrial groups and their respective shares, in brackets, are: Eni (16.8%), Engie (13.3%), Edison (8.9%), Enel (7.0%) and Royal Dutch Shell (5.8%). The first three groups together cover 39.1% of the total demand, a share identical to last year, but with a different composition of the groups. In 2022, the number of companies that operated in the wholesale market grew by 64 (256 compared to 192 in 2021, but it is important to note that the count of operators - which is based on companies that respond to the Annual Survey - is the phenomenon that is most affected by the different rate of response to the Survey from one year to the next) while the volume of gas they sold in the wholesale market decreased by 69.5 G(m<sup>3</sup>), resulting in the average unit sales volume dropping by 43%, from 1,488 to 845 M(m<sup>3</sup>). This is the second decrease since 2012, following the already significant one recorded in 2021. The level of concentration in this market decreased further: the share of the top three companies (Eni, Engie Global Markets and Shell Energy Europe) was 25.3%, below the already low 27.9% calculated in 2021.

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 2022, the number of PSV subscribers increased to 347.

---

<sup>13</sup> Later the Ministry of the Environment and Energy Security.

The number of traders, among subscribers, who transacted increased significantly from 199 in 2021 to 251 (+26%), while the number of pure traders (i.e. subscribers who are not users of the transmission system) decreased from 49 to 39. Over-the-counter volumes traded at the PSV increased by 3.6%, from 107 to just under 111 G(m<sup>3</sup>). By contrast, trading volumes in the markets recorded a much higher increase of 35% as usual. The volumes traded on the stock exchange reached 35.4 G(m<sup>3</sup>) from 26.3 the previous year, thanks to a high increase in volumes handled in the centralised markets (+35%), which was accompanied by a marked growth in energy traded as clearing house (+31%). The average number of daily transactions also increased by 5%. The churn rate rose to 3.4 (it was 3.2 in 2021).

In the **markets organised and managed by the GME**, total volumes of 177.2 TWh were traded in 2022, up by +35% compared to 2021. Liquidity increased significantly on the **Day-Ahead Market** (75.6 TWh; +67%) and, in particular, in the session on the day before delivery. The monthly trend also shows higher levels in the last month of the year. In its third year of operation, **MGP's AGS segment** traded a total of 51.1 TWh (+51% compared to 2021). On the other hand, there was a decline in volumes traded on the **Intra-day market** (40.5 TWh; -8%), mainly due to the lower handling of the Balance Responsible Entity (Snam Rete Gas) (10.2 TWh; -22%), while volumes traded by other operators remained essentially stable (30.3 TWh; -2%), accounting for 75% of the total traded in the sector. In its third year of operation, **MI's AGS segment** traded a total of 2.6 TWh (+62%). Negotiations on the **Market for Gas in Storage** (MGS) came to 5.1 TWh, for Stogit alone, attributable both to Snam Rete Gas handling for all purposes (3.1 TWh) and to third party operators (2.0 TWh). In 2022, Snam Rete Gas did not activate any sessions in the **locational product market**. Similarly, no transactions were recorded for **forward products** (MT-GAS). On the other hand, a recovery of trading is observed in the **P-GAS "royalties" segment** with 2.2 TWh of volumes delivered in 2022 and previously traded.

The **prices recorded on the various platforms** can all be traced back to an annual average of around € 124/MWh, in line with the annual average price of the PSV (€ 124/MWh; +165%). In particular, the average prices of the two M-GAS segments, respectively € 123.5/MWh for MGP-GAS and € 122.2/MWh for MI-GAS, showed an interim trend that mirrors that of the PSV.

The provisional results of the Annual Survey showed that **just under 51 G(m<sup>3</sup>) were sold in the retail market** in 2022, to which must be added 675 M(m<sup>3</sup>) supplied through last resort and default services. Overall, therefore, the value of final sales was 51.6 G(m<sup>3</sup>), a decrease of 6.1 G(m<sup>3</sup>) over 2021. However, in order to have a figure comparable with that of the final gas consumption published by the MASE, and commented on in the previous pages, it is necessary to take into account the volumes relating to self-consumption, 14 G(m<sup>3</sup>), which brings the value of total consumption resulting from the Annual Survey to 65.7 G(m<sup>3</sup>), i.e. a value comparable to the 67.3 G(m<sup>3</sup>) from the ministerial source. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. In the Annual Survey data, the **level of total consumption in 2022 is thus 13.7% lower** than in 2021.

In 2022, the number of active suppliers in the retail market rose once again by 23, coming in at 512. As the gas sold decreased by 11.4%, and the number of suppliers increased to a lesser extent (4.7%), the average unit sales volume decreased by 15.3%, from 117 to 99 M(m<sup>3</sup>). Of the companies active in the end market, 5.9%, i.e. 30 out of 512, sold more than 300 M(m<sup>3</sup>) in 2022; together, these companies cover 85.3% of all the gas purchased on the retail market.

Analysing the sales performance of corporate groups, instead of individual companies, however, allows a more accurate assessment of market shares and the **level of concentration in the retail market**. No change emerged in the top four positions of the ranking of the 20 groups with the

highest sales, in which Eni (15.9%), Edison (15.4%), Enel (13%) and Hera (6.1%) remain firm. The gap between Eni and Edison has narrowed considerably, in fact it has almost disappeared: in 2021 it was still 3.2%, while in 2022 it is only half a percentage point. By contrast, the gap between Edison and Enel, now 2.4%, widened slightly compared to 2021, when it stood at 1.5%.

Average concentration in the final sales market has risen slightly. However, trends differentiated between consumption sectors. In general, in any case, the level of concentration in the Italian natural gas market remains low: with a few exceptions, C3 does not exceed 55%, but above all, the HHI index values are, in almost all sectors, below the first attention threshold of 1,500. Using metering calculated on the volumes sold, it can be seen that the number of groups with a share of the total market of more than 5% remained unchanged at 4. Moreover, in 2022, the top three groups control 44.3%, while in 2021 the share was 43.1%. The Herfindahl-Hirschman Index (HHI) calculated on the sales market was 807, slightly higher, therefore, than the 2021 index, which was 773. The highest concentration is found in sales to electricity generation, industry and households; the lowest is observed in sales to apartment blocks and trade customers.

As mentioned, net of last resort and default supplies, approximately 65 G(m<sup>3</sup>) - of which 14 were for fuel gas and 51 for sale - were sold to 22 million redelivery points in 2022. Overall, gas sales decreased by 14.3% compared to 2021, but the decline is less intense if fuel gas is excluded, which showed a larger reduction. The latter, which mostly belong to the industrial and electricity generation sectors, recorded a decrease of 23.6%; the quantities of gas sold in the free market, at 46.4 G(m<sup>3</sup>), showed a decrease of 10%, while sales in the market with a reference price, at 4.5 G(m<sup>3</sup>), fell by 23.5%. Due to a rather warm year, consumption containment programmes initiated and the presence of particularly high prices, consumption in the household sector decreased by 14% and that of apartment buildings by 16.4%. The consumption of the production sectors (industry and thermoelectric generation) decreased from 50.2 to 42.2 G(m<sup>3</sup>), thus recording an decrease of 16%. Tertiary sector consumption (trade and services, together with public service activities) dropped by 3.8%, from 7.8 to 7.5 G(m<sup>3</sup>).

Considering sales in the strict sense and thus excluding fuel gas, 91.2% of gas is purchased on the free market and the remaining 8.8% in the standard service. In terms of customers, however, 31.3% purchase on the market with a reference price, while 68.7% on the free market.

Considering only the **household sector**, it can be seen that the share of volumes purchased on the free market in 2022 reached 68.1% for households and 86.6% for central heating (both shares are calculated net of fuel gas). In 2021, the values were 64.1% and 85.6%, respectively. In terms of withdrawal points, in 2022, the share of households that acquired gas in the standard service dropped to 33.2%; in 2021, it was 36.6%.

The breakdown of sales to the end market (net of fuel gas) by consumption sector and customer size shows that 98.7% of the volumes sold to the domestic sector are purchased by households with an annual consumption of no more than 5,000 m<sup>3</sup>. On the basis of data provided by transmission operators and data from the IIS, the **switching** percentage, i.e. the number of redelivery points that changed supplier in the calendar year 2022, was 13.7% overall, or 12.5% when assessed on the basis of the consumption of customers who switched. The percentages are increasing for all customers, with the exception of other uses. Switching by household consumers in 2022 increased by more than two percentage points: almost 3 million customers, equivalent to a share of 13.2% (and corresponding to a volume share of 15.4%), had made at least one switch. Far greater, at 24.1%, was the fraction of condo households that turned to a new supplier, for volumes corresponding to 14.9% of the relevant consumer sector. Non-household users (excluding public service activities) who changed their supplier in 2022 accounted for 19.9% of the total in terms of redelivery points, and 11.4% in terms of volumes, showing less liveliness than in previous years.

Also in the gas sector, as already mentioned for electricity, the Annual Survey asked suppliers a number of questions aimed at assessing the quantity, types and modalities of offers that companies make available to customers who have chosen to supply in the free market. The **average of the commercial offers** that each gas seller is able to propose to its potential customers is 15.1 for households, 6.6 for central heating with domestic use and 13.7 for non-households. Of the 15.1 offers made available to the household customer on average, **4 can only be purchased online**; the interest of households in such offers in 2022 grew, as it turned out that 10.1% of customers signed a contract offered via this mode (in 2021, this share was 7.2%).

Considering central heating, instead, of the 6.6 offers on average proposed to these customers, 1.5 are subscribed through the network. However, only 1.8% of the redelivery points of central heating actually subscribed online. Finally, in the case of non-households (other uses), of the 13.7 offers made available to them on average, 5.1 are subscribed to online; among these customers, however, the success of online offers is more significant, since 15.1% of customers are reported to have subscribed to an offer via the Internet.

With regard to the preferred **type of price**, it was found that 67.3% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 32.7% chose a variable-price contract, i.e. with the price changing at a time and in a manner determined by the contract itself. The percentages are reversed in the case of central heating, among which variable-price contracts are by far the most popular ones, while just under a fifth of customers chose fixed-price contracts. Non-households, on the other hand, are divided between those who prefer variable-price contracts, which are slightly more numerous (62.8%), and those who, on the other hand, have signed a fixed-price contract (37.2%). Looking at the supply cost component of the price of these contracts, it can be seen that variable-price contracts are less convenient for all types of customers. However, the differential with a fixed-price contract is larger for households and central heating, while it is smaller for non-households. These results indicate that there were still many fixed-price contracts in the market in 2022 that were signed at times when the raw material price was low, contracts that were less affected by the significant price increases during the year.

For all types of customers, the most frequent price **indexation modality** in variable-price contracts is that linked to one of the components established by ARERA for the economic conditions of supply of the standard service, chosen by 44.9% of households by 59.5% of the redelivery points of condo households and by 42.4% of the redelivery points for other uses; the other most commonly used indexation methods are linked to the gas price trend at the TTF (chosen by 25.9% of households, by 13.7% of central heating and by 26.1% of non-households) or at the PSV (chosen by 20.4% of households, by 23.6% of central heating and by 24.2% of non-households). The first modality proved to be cheaper than the other two in the case of households, while for central heating and non-households the link with the components set by ARERA produces an intermediate price between the other two forms of indexation.

Of households served in the deregulated market, 3.5% have signed a contract with a **minimum contractual duration clause**, meaning that the customer is not required to change supplier for a minimum amount of time specified in the contract in order for the price to be applied; much lower percentages are recorded among other types of customers. Of households, 35.7% have signed a contract with a **rebate or discount**; lower percentages are found for other customers (14% of both central heating and non-households).

Among households, the **presence of additional services** in natural gas sales contracts is more prevalent among those with fixed prices (65%) than among those with variable prices (40%). In fixed-

price contracts that provide an additional service, there is a clear preference (38.3%) for those that allow participation in a points programme. With regard to the cost of additional services (measured by the component of the price that covers supply and sales costs), it can be observed that the contract for households with a fixed price and no additional services is cheaper than the contract including participation in a points collection programme, which is almost as successful among customers. For households with a variable price, on the other hand, the most popular option is the 100% green offer guarantee (11.9%); even for these customers the contract without additional services shows a cheaper price than the one just mentioned. Central heating households show, understandably, a high lack of interest in additional services, especially in fixed-price contracts: the portion of redelivery points of central heating with a fixed-price contract and no additional services is 84% and drops to 73% among those who have opted for the variable price. The contract without additional services is less expensive for variable-price customers, while it is among the most expensive ones for fixed-price customers. Finally, with regard to non-households, the choice of contracts without additional services is by far the most widespread. On average, around 82% of such customers, whether fixed-price or variable-price, choose a contract without other options. The price of such a contract tends to be affordable, however not in comparison with all the additional services available.

An analysis of the data collected in the *Annual Survey* shows that last year, the **average gas price** (weighted by quantities sold), net of taxes, charged by sales companies to final customers was 111.2 c€/m<sup>3</sup>, an unprecedented level. This price more than doubled (+112%) compared to the previous year (52.3 c€/m<sup>3</sup>). The increase involves all consumption classes and to a greater extent the larger ones, where the incidence of the same raw material and the speed of updating to wholesale prices is higher.

The price trend since 2012 for households (families and central heating), broken down according to the main contractual conditions under which supply can take place, i.e. the standard service and the free market, shows for the first time that the reference price market is less economical for smaller customers (up to 5,000 m<sup>3</sup>/year, mainly single families): in 2022, in fact, the free market has a price (95.3 c€/m<sup>3</sup>) that is significantly lower than the standard service (115.7 c€/m<sup>3</sup>). This is due to the widespread diffusion in the free market of fixed-price contractual formulas that have contained or delayed, at least in the immediate future, the transfer to final customers of the strong growth in raw material gas prices that occurred in the wholesale markets. Thus, in the last year, the price in the standard service increased by 85.6%, compared to 40.4% in the free market. The lower price growth in the free market over the past year is also seen in the higher size classes (over 5,000 m<sup>3</sup>/year), but does not go so far as to shift the convenience between the two markets.

From the analysis based on the data communicated by the 370 suppliers for the gas sector, the **actual average times for replies to complaints and bill adjustments** were 20.38 and 21.04 calendar days respectively, below the minimum standards set by ARERA (30 and 60 days respectively). The **actual average response time to enquiries** was also well below the general standard, i.e. a total of 9.45 calendar days. As far as **double billing corrections** are concerned, the actual average correction time is 19.08 calendar days, very close to the standard of 20 days set by ARERA.

In 2022, sales companies serving the reference price and free market of natural gas received a total of 156,407 written complaints, 133,063 enquiries, 11,400 bill adjustments and 607 double-bill adjustments. There were 16,271 (-9% compared to 2021) cases of non-compliance with the standards set for services relating to the commercial quality of sales in the gas sector, which resulted in customers being entitled to compensation; 95.4% of these cases were due to failure to meet response times to customer complaints. During the year, compensation for gas customers totalling more than



€ 698,000 was paid out (-11% vs 2021).

In 2022, **customers with dual fuel contracts** sent 35,362 written complaints, up 27.6% year-on-year, and 51,315 written requests for information, also up 86.5%. Bill and double-bill adjustments amounted to 2,548 (+52.8% vs 2021) and 28 (-59.4% vs 2021) respectively. Overall, there were 2,172 cases of non-compliance with standards that resulted in the right to automatic compensation in the bill for services related to the commercial quality of sales. Overall, compensation amounting to Euro 82,475 was paid to the dual fuel customer segment.

### 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 activities relating to the **Energy and Environment Consumer Help Desk** (Help Desk) and the **Conciliation Service** are outsourced by ARERA and therefore managed by Acquirente Unico (Single Buyer). 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 2022, the Help Desk and Service recorded a marked increase in incoming volumes: calls received at the Help Desk call centre during service hours doubled (+99%), reaching the considerable number of 1,254,318; of these, 1,014,308 (+80%) were handled while 240,101 were abandoned by customers without waiting for the operator to answer. Average talk time is essentially unchanged from 2021 (238 seconds versus 241). Almost all the calls handled by the call centre concerned the electricity and gas sectors (1,203,877, or 96% of the total). By far the most discussed topic in the phone calls received by the Help Desk is the social bonus (65%), due to its centrality in the context of the energy price crisis and in the wake of the gradual consolidation of the automatic recognition mechanism.

In terms of **written requests for information**, it received 55,422 requests for the energy sectors, almost triple (+194%) the previous year. The absolute majority of enquiries also concerned the social bonus (58%); followed, far behind, by matters relating to: 'billing' (11%), 'market' (10%), 'contracts' (10%) and 'non-payment of bills and suspension' (5%).

**Special information procedures** make it possible to provide information without the need for assistance of the Help Desk staff. They have been operational since 1 January 2017 only for some specific topics in the energy sectors. Compared to the previous year, in 2022, requests for the activation of special information procedures decreased slightly (-4%), totalling 41,958 cases, broken down as follows: 64% for the electricity sector, 23% for the gas sector and 13% for both sectors. Finally, the Help Desk also received 2,234 **second-level complaints** (i.e. those for which the dispute was not resolved by the first complaint), for which the Help Desk informs the customer of the conciliation procedures that can be used to resolve the dispute, which can be activated by resorting to ARERA's Conciliation Service or other conciliation bodies. This type also concerns mainly (2,278 cases, 89% of the total) customers in the energy 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. In contrast to information procedures, special resolution procedures allow the outcome of the dispute to be determined and imply assistance of the Help Desk staff, in case further information is needed to consult databases, or to verify the correct fulfilment of the regulation following the resolution of the dispute. In 2022, 22,583 requests for the activation of settlement procedures were received at the Help Desk, exactly double those of 2021 (+100%). Even more than in the previous year, the preponderant share concerns the special 'bonus' procedure (94%). The sector most affected by the special termination procedures was electricity, with more than half of the requests (53%), followed by gas with 25%, while the remaining share (22%) concerned requests for dual fuel supplies. 98% of the special settlement procedures involved households, while 90% of the requests were submitted by final customers without the help of proxies. The most frequently used modality of access is the e-mail channel (63.5% of cases), followed by the "Portale Unico dello Sportello" (29%).

**ARERA's Conciliation Service** is a dispute resolution procedure that can be activated by final customers of electricity and natural gas for issues arising with energy operators (suppliers and distributors), in case of missed or unsatisfactory response to a complaint. The procedure takes place entirely on-line and in the presence of a third-party, impartial mediator experienced in mediation. Any final agreement has settlement effect between the parties pursuant to art. 1965 of the Civil Code. Moreover, with the approval of art. 141, par. 6, letter c) of the Consumer Code, the attempt at conciliation has become a condition for proceeding before the courts for disputes arising in the sectors regulated by the Authority (with the exception of tax or fiscal profiles), unless urgent and precautionary judicial decisions are taken. In 2022, customers and end users in the energy sectors submitted 21,102 requests to the Conciliation Service, approximately 4,300 more than the previous year (+26%). The increase is mainly due to the electricity sector (12,831 applications, more than 3 thousand more than the previous year, 61% of the total) and dual fuel customers (2,744 applications, about a thousand more than in 2021, 13% of the total); there is also an increase for prosumers (144 applications, 31 more) but their incidence remains limited (1%), while the gas sector, essentially stable (5,383 applications, only 173 more than in 2021) sees its incidence reduced (26% of the total, more than five points less). Concerning the outcome of the requests received by the Service, 81% of the cases resulted in admission to the procedure, while the procedures concluded with an agreement between the parties accounted for 69%; these percentages are almost identical to the previous year. It took the parties an average of 54 calendar days to reach agreement, 4 less than in 2021, probably due to a further reduction of the impact of pandemic waves.

As an alternative to the Authority's Service, the end 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 December 2022, 29 ADR entities were registered in the Authority's List. The information provided by ADR entities shows a slight decrease in conciliation applications related to the energy sectors, which fell<sup>14</sup> from 1,478 in 2021 to 1,327 in 2022. Almost half of the requests (44%) were submitted by the customer through a consumer association. Even with the ADR channel, the predominant topic of disputes is billing (57%).

Since 2009, a protection mechanism has been in place for households in situations of economic hardship or serious health conditions who receive a **bonus, i.e. a discount on the supply of electricity and/or natural gas**. In order to bridge the gap between the potential beneficiaries and

---

<sup>14</sup> This figure could also be affected by the ongoing investigations of 3 organisations.

the actual bonus recipients, which has always remained at considerable levels, Decree-Law No. 124 of 26 October 2019 innovated the regulatory framework by providing, *inter alia*, that from 1 January 2021, bonuses will be recognised automatically to those entitled to them (which are the persons whose valid ISEE<sup>15</sup> is within the limits provided for by the legislation) and, therefore, without the need for them to submit a special request to the Municipalities and/or tax assistance centres. In February 2021, ARERA approved the methods for requesting the regime for the automatic recognition of electricity, gas and water social bonuses for economic hardship, entirely replacing the regulation of the previous 'on request' system. However, the social electricity bonus for physical hardship does not fall within the scope of the measure, which remains 'on request' and continues to be managed through a separate system. The new regulation takes effect, in terms of the recognition of benefits to those entitled, as of 1 January 2021, consistent with the provisions of Decree-Law 124/19. Taking into account the time required for the development of the related IT systems, the mechanism became operational as of 1 June 2021. Therefore, the modalities were defined for the recognition of any portion of the 2021 bonus accrued before said date.

Against the backdrop of the sharp increases in energy commodity prices manifested as early as 2021, as seen in the preceding pages, **as of 1 October 2021, a series of regulations provided for the reinforcement of the social electricity and gas bonus and its quarterly update**. The reinforcement was financed with funds from the state budget transferred to the Energy and Environmental Services Fund (CSEA). ARERA has implemented these rules by introducing<sup>16</sup> an additional compensatory component (CCI), apart from the 'ordinary' bonus and updated every quarter, on the occasion of the periodic update of the general system charges.

In March 2022, the government then adopted further urgent measures to counter the effects of the Ukrainian crisis, **raising the ISEE threshold for accessing the social electricity and gas bonus to € 12,000** (from the previous € 8,265) for the **period 1 April-31 December 2022**.

In order to ensure the effective and timely application of the rules, ARERA has adopted numerous rulings. Lastly, at the end of November 2022, ARERA put its proposals on **how and how often social bonuses should be calculated from January 2023** out for consultation:

- the change in the frequency of updating of social gas bonuses, in relation to the new gas pricing methods;
- the updating of the standard consumption of the 'profiles' used for the calculation of social bonuses, in relation to the actual average consumption data of the holders of these bonuses;
- the revision of the method of determining the 'basic' bonus<sup>17</sup>.

In **December 2022, the ordinary social bonus mechanism was thus partially adjusted**, with application in the first quarter of 2023. In detail, the standard consumption used to determine the 'pro die' amounts were redetermined, in order to make the best use of the resources made available from the state budget, adopting a gradualness in this redetermination, to take into account the comments of consumer associations.

---

<sup>15</sup> Equivalent Economic Situation Indicator: this is the tool used to measure the economic condition of households in Italy. It is an indicator that takes into account income, assets and the characteristics of a household (in terms of size and type).

<sup>16</sup> Resolutions 30 December 2021, 635/2021/R/com, 30 March 2022, 141/2022/R/com, 30 June 2022, 295/2022/R/com, 29 September 2022, 462/2022/R/com, and 29 December 2022, 735/2022/R/com.

<sup>17</sup> The procedures for defining the basic bonus were laid down in Annex A to Resolution 63/2021/R/com and were subsequently suspended following the reinforcement of the social bonus as of the fourth quarter of 2021.



In 2022, the number of consumers who obtained the **social bonus for electricity supplies** increased by more than 50% compared to the previous year, from 2,529,566 to 3,818,281, of which 3,766,105 (+51.4%) for economic hardship and 52,176 (+24.3%) for physical hardship. The total amount of bonuses disbursed for the electricity sector for economic hardship was approximately € 1,313 million, more than double the previous year. The broadening of the pool of beneficiaries is due in part to the automatic bonus recognition mechanism (in its second year of application), but mainly to government intervention (mentioned above) to raise the income threshold for eligibility. The beneficiaries of the social electricity bonus are located 33.4% in the North, 16.4% in the Centre and 50.2% in the South and Islands. Of the beneficiaries, 42.9% are households with up to 2 members, 44.3% with 3 or 4 members, 12.8% with more than 4 members.

As of 31 December 2022, there were 52,176 households with a bonus for the use of electrical life-sustaining equipment (hardship bonus), an increase of 10,209 over the previous year. The **hardship bonus** is divided into three bands to take into account the type of equipment used, the average hourly consumption of each type of equipment and the average hours of use per day. The three bands are then further differentiated according to the committed power. Depending on these elements, the value of the bonus in 2022 was in the range of Euro 376 to Euro 1,155 per beneficiary.

In 2022, the number of households benefiting from the **social bonus for gas supplies** due to economic hardship also increased considerably, going from 1,537,884 to 2,441,158 (+58.7%). The amount of bonuses disbursed for the gas sector in 2022 was about € 849 million (four times the previous year), also due to the major increases in price levels; this amount does not include the entitlements of households served by central heating supplies, the automatic identification process of which is currently being perfected. With regard to the beneficiary households (holders of direct supplies), their distribution by number of members appears similar to the electricity sector, while the territorial distribution is different, with the North (44%) prevailing, also due to the greater degree of methanization, followed by the South and Islands (36%) and the Centre (20%).

Also in 2022, the actions of ARERA continued, aimed at accompanying end consumers on the **path to overcoming standard prices**. As established by ARERA, therefore, the communications included in the bills continued to inform customers that changing contract or supplier is simple and free of charge and that continuity of service is guaranteed; they also provided the elements that should prompt the customer to make use of the tools aimed at making an informed and aware choice, such as the "Portale Consumi", the "Portale Offerte luce e gas" and the PLACET offers.

There were 4,160 offers in the "Portale Offerte" database as at 31 December 2022, of which 2,074 were free market offers, 1,844 PLACET offers and 242 offers without the calculation of the estimated annual expenditure. For the electricity sector, a total of 2,028 offers are available, for natural gas, 1,876; there are 14 dual fuel offers. 24% of offers for households for the electricity sector are fixed-price offers, while for non-households this percentage is 20%; thus, the offers available for both types of customers are predominantly variable-price offers. For the natural gas sector, the situation was similar: 74% of domestic offers are variable price.

In June 2022, ARERA approved some **amendments to the Code of Business Conduct** with regard to information obligations concerning bill payment terms and conditions and the universal public service obligations of suppliers. In May 2022, ARERA also concluded the first group of interventions to update and revise the regulation of **Bill 2.0**, aimed at supplementing the information content of the summary bill with elements functional to greater awareness and comparability, while working in synergy with the interventions already regulated with a view to overcoming standard prices. In the course of 2022, **certain functions of the "Portale Consumi"** were further developed and **refined** with regard to customer-customisable reporting, the type of customers who can access it, and the

exportability of data.

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

The actions implemented in 2022 closely related to the Clean Energy Package concerned the provision of the 70% minimum level between market zones and the implementation of the 24-hour supplier switching process in the electricity sector.

## 3 THE ELECTRICITY MARKET

### 3.1 Infrastructure regulation

#### 3.1.1 Unbundling

In 2015, ARERA renewed<sup>18</sup> the provisions on functional unbundling obligations for the electricity and gas sectors, approving the Integrated Functional Unbundling Text (TIUF), in accordance with the provisions of Legislative Decree No. 93 of 1 June 2011 and Directives 2009/72/EC and 2009/73/EC. The new aspects introduced by the TIUF, in force as of 1 January 2016, include the introduction of new unbundling obligations in relation to communication and branding policies for the generality of electricity and natural gas distributors, regardless of their size or corporate form, imposing a complete separation, without any risk of confusion, between the activity of supplying and distributing electricity and natural gas.

In November 2022, ARERA ordered<sup>19</sup> a number of companies operating in the electricity and gas sectors to send the mandatory notifications required by the TIUF, in order to verify the correct fulfilment of their obligations regarding functional unbundling.

#### 3.1.2 Network extension and optimisation

In Italy, **power transmission** is carried out by approximately 75,250 km of power lines and circuits and more than 900 switching and conversion stations. The Transmission System Operator (TSO) is the company Terna. Terna's controlling shareholding of 29.85% is held by CDP Reti, a subsidiary of Cassa Depositi e Prestiti<sup>20</sup>. The remaining 70.15% of the capital belongs to the market.

In 2022, the number of companies owning National Transmission Grid (RTN) assets became 7, compared to 8 the previous year, due to the incorporation of the assets of some companies into those of the Terna Group. In addition to Terna - Rete elettrica nazionale and Rete, the Terna group company into which the facilities acquired from the Italian State Railways have been merged, the following are present in power transmission: Seasm of the A2A Group, Eneco Valcanale<sup>21</sup>, the company that built a high-voltage line connecting with the Austrian national grid APG (Austrian Power Grid), the company Terna Crna Gora, a full subsidiary of Terna, as well as the companies Monita Interconnector and the new Piemonte Savoia (Pi.Sa.), set up by Terna to build and manage interconnection facilities. The company Monita Interconnector was established for the construction of the Italy-Montenegro power line, which came into operation in December 2019 and whose maintenance and operation it now manages; the company Piemonte Savoia Pi.Sa. holds the authorisation for the construction and operation of the merchant line of the new HVDC Piosasco-

---

<sup>18</sup> Resolution No. 296/2015/R/com of 22 June 2015, which replaced the previous Resolution No. 11 of 18 January 2007.

<sup>19</sup> Resolution of 22 November 2022, 602/2022/E/com.

<sup>20</sup> The capital of CDP Reti is owned by Cassa Depositi e Prestiti for 59.1%, 35.0% by State Grid Europe Limited, a subsidiary of State Grid Corporation of China, and 5.9% by other Italian institutional investors.

<sup>21</sup> Eneco Valcanale, which owns 6.6 km of the  $\leq 150$  kV lines, is considered among the grid operators despite the fact that it has not yet applied to Terna for the inclusion of the Austria merchant line in the RTN, as provided for in exemption decree No. 290/ML/3/2010 of 16 December 2010.

Grand-Île link, connecting Italy to France, which came into service on 4 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. The companies with transmission assets in 2021 no longer include Nord Energia and Edyna Transmission (of the Alperia Group), whose facilities were acquired by Terna at the end of 2022 (on 28 October and 29 December, respectively).

Considering the assets of all the companies belonging to the corporate group, in 2021 the Terna group owns 75,165 km of cables, i.e. 99.9% of the national power lines, as well as 99.7% of the 910 power stations that are part of the RTN.

As at 31 December 2022, 123 **power distribution** companies (one less compared to 2021) were registered in the Authority Registry of Operators, of which only 10 serve a number of customers exceeding 100,000 and together serve 98.5% of all users. There are four companies with more than 500,000 withdrawal points: e-distribuzione (Enel group), Unareti (A2A group), Areti (Acea group) and Ireti (Iren group): they all changed their names in 2016 to comply with the provisions on functional unbundling, which forced distribution companies belonging to a vertically integrated corporate group, also engaged in marketing activities, to distinguish themselves from the other companies in the group in terms of identity, branding and communication policies.

Overall, power distribution in Italy takes place through 1,281,500 km of networks, most of which (69%) are low voltage. In 2022, the length of the power distribution networks grew by almost 1,700 km, of which about 200 km were low voltage and about 1,500 km were medium voltage, while the high and extra-high voltage networks remained essentially unchanged (-58 km). The company e-distribuzione (Enel group) is the leading operator, with the dominant share of 85.3% of the distributed energy. They are, in the same order as 2021: Unareti (A2A group) with 4.1%, Areti (Acea group) with 3.5%, Ireti (Iren group) with 1.2% and V-Reti (Agsm Aim group) with 1.1%. All other distributors have a share of distributed volumes of less than 1%.

### Provisions on the modernisation of metering systems

For companies with more than 100,000 withdrawal points, the recognition of costs related to the commissioning of 2G smart metering systems continued, which for the period 2020-2022 was settled<sup>22</sup> in July 2019. More specifically, the requests for admission to the incentive scheme and the 2G smart metering commissioning plan (PMS2) submitted by the distribution companies Set Distribuzione, Inrete Distribuzione Energia and AcegasApsAmga, were assessed.

In November 2022, after a specific consultation<sup>23</sup>, ARERA introduced<sup>24</sup> some transitional changes to the provisions for 2G smart metering systems as a consequence of the semiconductor shortage, deactivating the penalties for failure to implement commissioning plans in 2022. In addition,

---

<sup>22</sup> Resolution of 16 July 2019, 306/2019/R/eel.

<sup>23</sup> Consultation document of 28 June 2022, 284/2022/R/eel.

<sup>24</sup> Resolution of 22 November 2022, 601/2022/R/eel.

exemptions were introduced for distribution companies with up to 100,000 withdrawal points with regard to the timing of communications on the start and end of the massive 2G roll-out phase.

In December 2022, ARERA updated<sup>25</sup> the guidelines for recognising the costs of 2G smart metering systems in the three-year period 2023-2025 for distribution companies serving more than 100,000 withdrawal points, with particular reference to the provision of annual reporting on the physical progress of the installations of 2G meters, the extension to four years of the period for monitoring the performance of 2G smart metering systems, and therefore activating the penalties only from 1 January of the fifth year of PMS2, in light of the critical issues that have arisen in relation to the Covid-19 health emergency and the significant limitations on the availability of 2G components. In addition, a mechanism was introduced to reward the acceleration of installations of 2G meters to replace 1G or electromechanical meters, if financed through public contributions.

Finally, in implementation of Art. 9, paragraph 4, of Legislative Decree No. 210/2021, the calendar of interventions for the implementation of 2G smart metering systems of the main distribution companies whose 2G Metering Commissioning Plan was approved by ARERA was published on ARERA's website (in the section dedicated to smart metering for the electricity sector).

### 3.1.3 Investment in new transmission infrastructures

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

In July 2022, ARERA forwarded<sup>26</sup> to the Minister for Ecological Transition the results of ARERA's assessment of the outline of the ten-year plan for the development of the national transmission grid for 2021 (the 2021 Plan), with clearance given for the recommended interventions, with the exception of a few specific projects. In detail:

- favourable opinion on the HVDC Sicily-Continent development, part of the project code 723-P, for which in-depth studies were planned in December 2020<sup>27</sup>;
- opinion against the following interventions, to be placed "under assessment", i.e. without implementation within the ten-year horizon of the Plan, due to their insufficient usefulness for the electricity system in terms of the ratio between expected benefits and costs and/or the availability of more efficient alternative solutions:
  - the development intervention related to the second pole within the Italy-Montenegro interconnection (code 401-P);
  - the HVDC interconnection project between Italy and Slovenia (part of intervention code 200-I);
  - the Giglio Island interconnection project (354-N);
  - the Favignana Island interconnection project (630-N);
- further conditions for certain projects:
  - for the SA.CO.I. intervention. 3 Sardinia-Corsica-Continental Italy (code 301-P) the contribution from the French side, as envisaged by Terna, as well as the possible European

---

<sup>25</sup> Resolution of 27 December 2022, 724/2022/R/eel.

<sup>26</sup> Opinion of 19 July 2022, 335/2022/I/eel.

<sup>27</sup> Opinion of 22 December 2020, 574/2020/I/eel.



contributions that seem desirable in relation to the positive externalities of the intervention in terms of security of supply for the island electricity systems of Corsica and Sardinia and of innovation for the European system, are adequately optimised to reduce the charges for the national electricity system;

- that the development of the Italy-Tunisia interconnection project (code 601-I) is conditional on significant financing from the European Commission or other national systems, to be quantified, as specified by Terna<sup>28</sup>, in at least 50% of the investment costs;
- that the new HVDC Italy-Greece project (GRITA2, code 554-N) be further investigated and assessed in the opinion on the 2023 Development Plan outline.

Furthermore, in July 2022 ARERA expressed<sup>29</sup>:

- the recommendation to Terna, pursuant to Article 43 of Legislative Decree No. 93 of 1 June 2011, to analyse separately, in future Development Plans, the intervention relating to the second pole of the Italy-Montenegro interconnection, in order to comply with the characteristics of project code 28 of TYNDP 2020, and not to include this intervention in the "base networks" for the purposes of cost-benefit analyses;
- the request to Terna, pursuant to Article 36 of Legislative Decree No. 93/2011, to include in future Development Plans an intervention sheet concerning the second Italy-Malta interconnection, should it be included in the next European TYNDP;
- the recommendation that high priority be given to SA.CO.I. development interventions. 3, HVDC Centre-South-Centre-North and HVDC Sicily-Sardinia.

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

In September 2022, ARERA outlined<sup>30</sup> its guidelines regarding the updating of the provisions and minimum requirements already set by ARERA<sup>31</sup> for the consultation and preparation of the Ten-Year National Transmission Grid Development Plan. The guidelines mainly concerned:

- a possible new approach to the assessment of major transmission projects and their treatment for tariff awards, and in particular:
  - an initial assessment by ARERA of the "line of development of the intervention", i.e. a recommendation that identifies the main objective to be pursued, the network area on which the intervention should insist and a rough estimate of costs and benefits;
  - the authorisation, for the transmission system operator, to incur the (efficient) expenses necessary for the definition of the project; by way of example: pre-feasibility studies, project management expenses, pre-authorisation consultation activities, feasibility studies, marine surveys, if applicable, functional activities for the authorisation;

<sup>28</sup> Terna's request for cross-border cost allocation.

<sup>29</sup> Opinion 335/2022/I/eel.

<sup>30</sup> Consultation document of 13 September 2022, 422/2022/R/eel.

<sup>31</sup> Resolution 627/2016/R/eel of 4 November 2016, as amended and supplemented.

- a second evaluation by ARERA, when the authorisation procedure is close to completion or has already been completed, aimed at giving a favourable opinion on the subsequent recognition of the (efficient) costs of carrying out the intervention;
- updating the minimum requirements for development plans and, in particular, the provisions on cost-benefit analysis, and in particular:
  - the evolution of the contents of the Development Plan in order to include, in specific informative annexes, all of Terna's planned investment activities;
  - the introduction of reference formats for the publication of investment programming for Development Plan interventions;
  - the publication, by 28 February of the years in which the Development Plan is not prepared, of a summary progress report;
  - raising the investment threshold for the application of cost-benefit analysis (CBA), in order to better focus cost-benefit analyses on major interventions;
  - confirmation of the treatment of compensatory costs exogenous to the transmission facilities as a cost item in the CBA;
  - confirmation of the discounting of benefits and costs to the year of preparation of the Development Plan;
  - changes to certain benefit categories and their valuation (B1, B7, B8, B18 and B19) and the possible definition of a new benefit category for the reduction of system overgeneration as a result of the Dispatching Services Market (MSD), once it has been clarified that there are no double counting effects.

### Incentives to build new transmission capacity and promote efficiency of investment costs

The "Integrated text of output-based regulation of the electricity transmission service"<sup>32</sup> concerning the 2020-2023 regulatory half-period provides for an incentive mechanism for the realisation of additional transmission capacity up to target transmission capacity values that were determined<sup>33</sup> by ARERA in October 2021 for each section between network zones and for each border. In addition, the regulation provides for an additional bonus in the event that the aforementioned transmission capacity is built at investment costs below the reference costs defined by ARERA.

As of 1 January 2021, Terna has made the following capacity increases available between grid sections:

- North - Centre-North: 400 MW in both directions;
- Centre-North - Centre-South: 400 MW in both directions;
- from South to Centre-South: 250 MW;
- from Calabria to Sicily: 400 MW.

Capacity increases were made available through a series of what are termed "capital light" interventions, based on innovative technological solutions and the optimisation of operating procedures:

- upgrading of the Defence System, achieved through the subordination of a greater number of

<sup>32</sup> Annex A to resolution 567/2019/R/eel of 27 December 2019.

<sup>33</sup> Resolution of 26 October 2021, 446/2021/R/eel.

renewable production units to remote tripping logics, the installation of new peripheral monitoring units and/or the adaptation of existing units and the use of new logics for stability control;

- installation of Dynamic Thermal Rating systems on the 400/220/150 kV network to maximise the utilisation of the main transmission lines, while improving the real-time estimation of the actual maximum current flow rate, while respecting safety constraints;
- targeted resolution of flow rate limits for those network elements that act as 'bottlenecks' in the transit of energy flows or for which there was interference with other lines.

### Promoting the unification of the national transmission grid

With the output-based regulation of transmission, ARERA has introduced an incentive mechanism to promote the unification of the national transmission grid as of 2020. The effects of the incentive mechanism, introduced by ARERA to promote the complete unification of the National Transmission Grid (RTN) provided for by the law, ended on 31 December 2022.

In the 2020-2022 incentive period, the mechanism introduced led to the acquisition of five RTN portions of the six potentially eligible for the bonus (four RTN holders and two merchant lines with no obligation to sell to Terna at the end of the exemption). Table 3.1 provides an overview of acquisitions and their bonuses.

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

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

Source: ARERA

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

#### 3.1.4 Tariffs for connection and network access

##### Tariffs for transmission, distribution and metering services

In December 2019, the Authority approved<sup>34</sup> the regulation of tariffs and quality of power transmission, distribution and metering services, for the years 2020-2023 (NPR2). As before, the NPR2

<sup>34</sup> Resolution of 27 December 2019, 568/2019/R/eel.

continues to provide for the decoupling of the single tariff applied to final customers (the “mandatory tariff”) and the reference tariffs defined to set revenue constraints for each distribution company. In December 2022, the tariffs for transmission, distribution and metering services applied to final customers (“mandatory tariffs”) for 2023 were determined<sup>35</sup>. Table 3.2 shows, for the different contract types, the allocation of grid fee revenues, broken down for transmission, distribution and metering services in 2022.

**Table 3.2 Grid fee revenue in 2022 and fixed/variable allocation**

CUSTOMER TYPES	TRANSMISSION		DISTRIBUTION		METERING		UC <sub>3</sub> +UC <sub>6</sub>		GRID SERVICE					
	M€	%	M€	%	M€	%	M€	%	M€	%	% PER WITH DRAWAL POINT	% PER KW	% PER kWh	TOT.
Household	451	24%	2,076	47%	490	62%	55	29%	3,072	42%	19%	65%	17%	100%
Public lighting (LV and MV)	32	2%	49	1%	43	5%	29	15%	153	2%	0%	0%	100%	100%
Non-household LV (excluding street lighting)	508	27%	1,540	35%	130	16%	62	32%	2,240	31%	7%	66%	27%	100%
Non-household MV (excluding public lighting)	661	35%	737	17%	16	2%	9	5%	1,423	20%	4%	46%	50%	100%
Non-household HV and VHV (including railway traction consumption)	217	12%	23	1%	117	15%	37	19%	394	5%	34%	49%	17%	100%
Total non-household	1,418	76%	2,349	53%	306	38%	136	71%	4,209	58%	8%	55%	37%	100%
TOTAL	1,870	100%	4,425	100%	795	100%	192	100%	7,282	100%	13%	59%	29%	100%

Source: ARERA.

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

The strongly bullish trend in wholesale energy commodity prices, both internationally and domestically, with particular reference to electricity and gas, which had started in 2021, continued throughout 2022.

This trend in wholesale prices had an extraordinary impact on the updating of the economic conditions of the standard offer service for electricity and natural gas, as well as significant effects on electricity and natural gas prices in the free market.

<sup>35</sup> Resolutions of 27 December 2022, 719/2022/R/eel, 720/2022/R/eel and 721/2022/R/eel.

This led the government to adopt, quarter after quarter, manoeuvres to support both electricity and gas sector users.

As a result, ARERA has adopted the resolutions transposing and implementing the aforementioned manoeuvres, to the extent of its competence, for both the electricity and gas sectors (for the latter, see Chapter 4, the paragraph on "Tariffs for connection and access to networks").

As far as the electricity sector is concerned, in relation to general system charges, the  $A_{SOS}$  and  $A_{RIM}$  tariff components have been cancelled<sup>36</sup> for all electricity users for the whole of 2022.

The shortfall in revenue from the tariff components relating to system charges ( $A_{SOS}$  and  $A_{RIM}$ ) was covered by the resources made available by the Government above. In particular:

- for the cancellation of the  $A_{SOS}$  and  $A_{RIM}$  components in the first quarter of 2022, the 2022 Budget Law and the *Sostegni-ter* Decree made available € 1,800 million and € 1,200 million, respectively, for a total of € 3,000 million;
- for the cancellation of the  $A_{SOS}$  and  $A_{RIM}$  components in Q2 2022, Decree-Law No. 17/2022 made available an additional € 3,000 million;
- for the cancellation of the  $A_{SOS}$  and  $A_{RIM}$  components in Q3 2022, Decree-Law No. 80/2022 made available an additional € 1,915 million;
- for the cancellation of the  $A_{SOS}$  and  $A_{RIM}$  components in Q4 2022, Decree-Law No. 115/2022 made available an additional € 1,100 million.

The resources indicated above were allocated to the  $A_{SOS}$  and  $A_{RIM}$  component management accounts according to the economic needs for 2022 of each account.

An exception is the account for the  $A_{uc7RIM}$  element of the  $A_{RIM}$  component, which had already been cancelled by an autonomous decision of ARERA as of Q3 2021, as it was estimated<sup>37</sup> that this account would have a significant cash and accrual surplus by the end of 2021. This surplus was more than sufficient to support the cancellation of the  $A_{uc7RIM}$  element throughout 2022, without the need for state resources.

As can be seen, the resources made available by the state interventions varied significantly during 2022. This stems from the fact that they were defined on the basis of the best available quarter-by-quarter estimates of the 2022 economic needs of the various management accounts. For some accounts, the economic needs are greatly influenced by the development of wholesale electricity

<sup>36</sup> Listed below are the resolutions that ordered this cancellation, quarter by quarter, as well as the Government provisions to which they refer:

- for the first quarter of 2022, Resolution No. 635/2021/R/com of 30 December 2021, later supplemented by Resolution No. 35/2022/R/eel of 31 January 2022, in implementation of the provisions of the 2022 Budget Law (Law No. 234 of 30 December 2021) and the subsequent '*Sostegni-ter* decree' (Decree-Law No. 4 of 27 January 2022);
- for the second quarter of 2022, Resolution No. 141/2022/R/com of 30 March 2022, implementing the provisions of Decree-Law No. 17 of 1 March 2022;
- for the third quarter of 2022, Resolution No. 295/2022/R/com of 30 June 2022, implementing the provisions of Decree-Law No. 80 of 30 June 2022 (the provisions of which were then included in the conversion process of Decree-Law No. 50 of 17 May 2022);
- for the fourth quarter of 2022, Resolution No. 462/2022/R/com of 29 September 2022, implementing the provisions of Decree Law No. 115 of 9 August 2022.

<sup>37</sup> Resolution of 30 June 2021, 278/2021/R/com.



prices, which experienced an exceptional upward trend in 2022. This meant, for example, that the charges in the  $A_{SOS}$  account would progressively and abruptly decrease over the course of 2022 compared to the values at which the same charges had stood in previous years. On the other hand, some accounts fed by the various elements of the  $A_{RIM}$  tariff component, e.g. those relating to social bonuses or RFI's special tariff scheme, whose economic needs are expected to increase considerably in the course of 2022 in relation to the increase in the PUN.

The verification of whether the resources made available by the Government during 2022 correspond to actual needs can only be done in the final balance. In 2022, this review was carried out in connection with 2021, which was also characterised, in part, by the issues of rising energy commodities and various government interventions to support end users.

In relation to the electricity sector, during 2022, the Government's manoeuvres also concerned the reinforcement of the social bonus in order to compensate for the quarterly variations in expenditure of beneficiary households, providing, *inter alia*, for an expansion of the number of beneficiaries. For information on this aspect, refer to Chapter 5.

### **Nuclear system charges: completing the regulatory framework for decommissioning activities**

In August 2021, the new regulatory framework for the nuclear order was defined in relation to decommissioning, i.e. those activities the costs of which fall within the perimeter of nuclear charges (with the exclusion of activities related to the National Repository - Technological Park, DN-PT) with the approval<sup>38</sup> of the Nuclear Decommissioning Integrated Text (TIDECN) and the definition of the quantitative parameters for the application of the TIDECN during the first regulatory semi-period of (2021-2023).

During the year 2022, the regulatory framework for nuclear charges for the third regulatory period (2021-2026) was completed. In March, the accounting unbundling criteria for the company Sogin, previously defined<sup>39</sup> in 2008, were updated<sup>40</sup>, both in relation to changes in ARERA's regulations on accounting unbundling in general (TIUC), and in relation to changes in regulations concerning activities falling within the scope of nuclear charges, with particular reference to the provisions of Legislative Decree No. 31/2010 of 15 February 2010, which entrusted Sogin with the construction of the National Repository - Technology Park (DN-PT).

The lines of action followed by ARERA in connection with this update concerned:

- the definition of Sogin's three main activities (decommissioning, DN-PT and others);
- the definition of the subdivisions of each activity in a manner consistent with the cost classification provided for in the TIDECN and its approval resolution<sup>41</sup>;
- the introduction of compulsory unbundling of accounts by segments also for balance sheet items;
- the obligation to account for the profits of subsidiaries and associates according to the equity method;

<sup>38</sup> Resolution of 3 August 2021, 348/2021/R/eel.

<sup>39</sup> Resolution of 30 July 2008, ARG/elt 103/08.

<sup>40</sup> Resolution of 29 March 2022, 126/2022/R/eel.

<sup>41</sup> Resolution 348/2021/R/eel.

- the reinforcement of the concept that all balance sheet and income statement items that allow for a complete and exclusive attribution to a single activity and segment must be directly attributed to them, without passing through intermediate accounting segments;
- the definition of the correct sequence of cost allocation when using drivers;
- the provision that Sogin's obligation to prepare separate annual accounts on the basis of the values reported in the consolidated financial statements may be discharged through the preparation and submission of separate annual accounts by the subsidiaries;
- the improvement of the calculation of the Net Invested Capital (NIC), to be used for the purposes of paragraph 8.7 of the TIDECN, by providing that this calculation must take into account all assets and liabilities attributed to decommissioning activities.

ARERA also considered that the final determination of nuclear charges for decommissioning activities is made on the basis of cost data of these activities that have already been definitively demarcated as required by the accounting unbundling rules. In February 2022, ARERA therefore amended<sup>42</sup> the TIDECN, stipulating that, every year:

- Sogin submits to ARERA a preliminary report, limited to detailed data on the physical progress of the decommissioning activities of the plants and facilities, activities relating to nuclear safety and radiation protection, and institutional communication activities, by 28 February (in advance, therefore, of the preparation of the statutory financial statements and separate annual accounts);
- Sogin transmits to ARERA the final balance data, for the purpose of cost recognition, together with the submission of the separate annual accounts; on the basis of these final balance data, ARERA determines the nuclear charges for decommissioning activities.

It should be noted that Art. 1, paragraphs 20, 21 and 22 of the 2023 Budget Law rules that, starting 2023, nuclear charges will no longer be borne by electricity consumers, but directly by the state budget, leaving ARERA's powers in terms of determining nuclear charges on the basis of economic efficiency criteria unchanged.

### **Nuclear system charges: National Repository - Technology Park**

Legislative Decree No. 31/2010 established, *inter alia*, that Sogin would also be the entity responsible for the construction and operation of the National Repository and Technology Park (DN-PT), in which both the waste related to the decommissioning of nuclear power plants and facilities and other radioactive waste, unrelated to these nuclear power plants and facilities, would be stored.

The costs of the DN-PT, therefore, for the portion attributable to radioactive waste related to decommissioning, fall within the perimeter of nuclear charges, and as such are subject to the provisions<sup>43</sup> requiring ARERA to determine nuclear charges "*taking into account criteria of economic efficiency in carrying out the planned activities*".

The activities for the realisation of the DN-PT, although the related costs fall partly within the scope of nuclear charges, have very different peculiarities from those of the nuclear decommissioning activities.

---

<sup>42</sup> Resolution of 22 February 2022, 64/2022/R/eel.

<sup>43</sup> Interministerial Decree 26 January 2000.

The resolution<sup>44</sup> that defined the TIDECN therefore ruled that these activities would be the subject of a separate specific ruling.

In this framework, in October 2022, together with the conclusion of the preliminary investigation for the *ex-post* recognition of the costs incurred by Sogin for the National Repository - Technology Park in the 2010-2020 period, ARERA also defined<sup>45</sup> the criteria for the recognition of the costs for the location and authorisation activities of the DN-PT through to approval of the single authorisation envisaged by Legislative Decree No. 31/2010 (Article 27, paragraph 16). These criteria were not commented on by the relevant ministries.

It should be noted that the 2023 Budget Law stipulates that, as of 2023, nuclear charges will no longer be borne by electricity consumers, but directly by the state budget, leaving ARERA's powers in terms of determining nuclear charges on the basis of economic efficiency criteria unchanged.

### **System charges related to the support of renewable energies (A<sub>SOS</sub> account)**

The charges relative to the component A<sub>SOS</sub> account pertaining to 2022 were affected by the upward trend of the PUN recorded for the entire year and were drastically lower than those of 2021 (which, moreover, had already recorded a significant decrease, compared to previous years, due to the increase in the PUN in the second half of the year), as shown in Table 3.3.

In fact, the reduction in the PUN has a positive effect on the charges in the A<sub>SOS</sub> account pertaining to the same year, both because the revenues from the supply of subsidised energy increase and because certain types of breaks decrease as the PUN increases. This has a positive impact, in perspective, also for the following year, especially in connection with the incentive update mechanism that replaced green certificates.

For the whole of 2022, the charges of the A<sub>SOS</sub> account were financed by the resources allocated by the Government within the framework of the aforementioned manoeuvres. In total, € 6,126 million is allocated to the A<sub>SOS</sub> account for 2022.

As can be seen from the data in Table 3.3, these resources did not cover all the economic needs of the A<sub>SOS</sub> account in 2022. However, due to the discrepancy between the economic requirement and its financial manifestation, which was particularly significant for this year, the liquidity of the A<sub>SOS</sub> account was more than good at the end of 2022.

The negative values shown in Table 3.3, detailing the charges per type of incentive, correspond to two-way variable feed-in tariff or feed-in premium incentives, which arose because wholesale electricity market prices were higher than the incentives (these incentive instruments, in fact, provide a constant income for producers, regardless of wholesale electricity market prices).

---

<sup>44</sup> Resolution 348/2021/R/eel.

<sup>45</sup> Annex B to resolution 529/2022/R/eel of 25 October 2022

**Table 3.3 Details of charges to A<sub>SOS</sub> account**

ACCRUAL CHARGES (Millions of euros)	2021		2022	
	VALUE	SHARE	VALUE	SHARE
CIP6 renewable electricity trading	-	-	-	-
Collection of green certificates	4	0.0%	15	0.2%
CV conversion to incentives	3,073	28.8%	1,060	16.0%
Photovoltaic	5,865	54.9%	5,839	87.9%
Dedicated withdrawal	11	0.1%	83	1.3%
All-inclusive feed in tariff	1,225	11.5%	-234	-3.5%
On-the-spot trading	90	0.8%	145	2.2%
RES administered incentives	306	2.9%	-319	-4.8%
Self-consumption and energy communities	1	0.0%	1	0.0%
Other	0	0.0%	0	0.0%
<b>TOTAL RENEWABLES</b>	<b>10,575</b>	<b>99.0%</b>	<b>6,592</b>	<b>99.2%</b>
CIP6 assimilated electricity trading	37	0.3%	-	-
CO <sub>2</sub> assimilated charges	74	0.7%	53	0.8%
Coverage of assimilated green certificates	0	0.0%	-	-
CIP6 resolution	0	0.0%	-	-
<b>TOTAL ASSIMILATED</b>	<b>111</b>	<b>1.0%</b>	<b>53</b>	<b>0.8%</b>
<b>TOTAL CHARGES A<sub>3</sub></b>	<b>10,686</b>	<b>100.0%</b>	<b>6,644</b>	<b>100.0%</b>

Source: ARERA. Processing of GSE data.

### 3.1.5 Regulation of network security and reliability

#### 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 supply of electricity storage resources, to be added to the energy, ancillary services and capacity markets.

The content of this article is summarised in the following points.

- Terna, in liaising with the distribution grid operators, submits for approval by the Minister for Ecological Transition (now the Minister for the Environment and Energy Security), having consulted with ARERA, a recommendation for a time progression of storage capacity requirements, broken down on a geographical basis and in terms of the type of storage in relation to the type of function to which the requirement refers. The purpose of the recommendation should be to optimise the use of electricity produced from renewable sources, to promote its integration into the markets and to ensure greater flexibility of the system, as well as (taking into account the needs already identified in the National Integrated Energy and Climate Plan) the presumable geographical concentration of requests for connection to the electricity grid of production plants fuelled by non-programmable renewable sources, network developments and service requirements.
- ARERA defines the criteria and conditions on the basis of which Terna prepares and submits to the Minister, for approval, a recommendation for regulation of the long-term storage capacity supply system (Regulation), based on competitive, transparent and non-discriminatory auctions (carried out by Terna) and based on the following general principles:
  - minimisation of charges for final customers;
  - supply of newly built storage capacity, according to periodic auctions and capacity quotas;

- acquisition carried out according to technology-neutral criteria in compliance with technical requirements defined by Terna, depending on the security needs of the electricity system;
  - recognition of the right of holders of allocated storage capacity to receive annual remuneration for the entire delivery horizon, against the obligation to make this capacity available to third parties for participation in the energy and related services markets;
  - issuance of appropriate guarantees prior to the award of the auction.
- ARERA, through one or more regulatory acts, identifies:
    - the criteria for allocating storage capacity, taking into account investment costs, the operating costs of different technologies, and a fair return on invested capital;
    - the conditions under which the allocated storage capacity is made available to the market through the centralised platform managed by the GME, as well as the criteria and conditions for the organisation of that platform and the way in which storage capacity is used by market operators, including through aggregators;
    - the terms and conditions for the development of storage capacity directly by Terna, in the event that third parties have not expressed interest in developing all or part of the necessary storage capacity, it being understood that Terna will not be able to manage the capacity created;
    - the forms of coverage of the costs of supplying storage capacity, through tariff mechanisms suitable for minimising the burden on final customers, and the modalities for monitoring the effects of the supply mechanism on the electricity system and markets, also in relation to the objectives of the measure.

In August 2022, ARERA outlined<sup>46</sup> its guidelines on the aspects within its competence that pertain to the new system of forward supply of electricity storage resources. The main topics addressed in the consultation are described below.

### *Criteria and conditions for the forward supply of electricity storage capacity*

Meeting storage capacity requirements will require:

- the construction and appropriate combination of one or more standard products, reflecting the characteristics of different available storage resources and meeting Terna's performance requirements;
- the subsequent conclusion of standard storage capacity forward supply contracts with counterparties selected in dedicated competitive procedures.

In advance of the tender procedures, Terna will define, as an integral part of the Regulation, one or more standard contract outlines, each with distinct characteristics, responding to the different requirements and the different types of storage resources available. These standard contract outlines may differ with respect to one or more parameters (planning horizon, delivery period and location, storage duration and cyclicity, and other minimum technical requirements specified by Terna).

The assignee of each standard contract will be entitled to receive, for the entire delivery period, an annual bonus defined as a result of the auction. In return for the award, the assignees of the standard contracts must make available, at all times during the delivery period:

- to third parties, through Terna, time-shifting products that can be used in the energy markets

---

<sup>46</sup> Consultation document of 2 August 2022, 393/2022/R/eel.



(day-ahead and intraday markets), to allow energy to be shifted from low-priced hours to higher-priced hours;

- to Terna, on the Dispatching Service Market (MSD), the contracted capacity, respecting the minimum technical performances established by the contract and the economic constraints defined by ARERA.

The storage holder - or relevant delegate - will be the dispatching user for the storage unit to which a dedicated dispatching point will be associated (forms of storage aggregation will be excluded). In the Regulation, Terna will describe how the storage unit programmes will be defined and modified. The dispatching user will be responsible for the proper execution of the schedules and imbalance costs will apply, in addition to the fees for failure to comply with orders. Bids on the MSD will be submitted at prices calculated according to a methodology, established by ARERA, aimed at limiting the risk of over-remuneration of contracted capacity, while avoiding distorting the proper functioning of the electricity market. The margins on the MSD will be retained by Terna and allocated to the reduction of the financing fee for the mechanism.

Holders of storage capacity who submit new capacity projects with the necessary authorisations and waive any incentives will be eligible to participate in the competitive procedures.

For each standard contract, Terna will organise a dedicated competition procedure where the demand:

- may be set forth in terms of energy (MWh) or power (MW) and associated with a target level of duration (h);
- may be expressed by Terna by means of a perfectly inelastic application, with a reserve bonus defined by ARERA based on the costs of the reference technologies;
- will present a breakdown of the relevant network areas.

With regard to price formation in auctions, either the pay-as-bid method or the marginal bonus method may be adopted and it is not a priori excluded that different price formation methods may be applied in different auctions.

### ***Criteria and conditions for the use of storage capacity in energy markets***

The time-shifting products will concern virtual units that will reflect the characteristics of the physical storage capacity supplied forward by Terna and will allow those who purchase them, against payment of a fixed bonus, to receive compensation proportional to the price differentials on the energy markets between the periods to which the products refer. Terna will associate to each time-shifting product a share of the power and energy of all physical storage - with the same technical characteristics - contracted in the same area as a result of the forward supply auction. They may be of multi-year, annual, monthly, weekly and daily duration.

Once the different time-shifting products have been constructed and their quantities defined, Terna will notify the GME, which, through special competitive procedures organised within a centralised platform, will make them available to market operators at predefined intervals, consistent with the time horizons of the actual products.

The GME will organise a primary market for the trading of different categories of time-shifting products, which will differ in terms of performance, validity period and reference area. In the aforementioned market, for each product category, the offer will be represented by the volumes indicated by Terna and the demand will be freely expressed by market participants who meet the requirements for participation in the market.

Time-shifting products may be sold through a secondary market managed by the GME, ensuring that the sale complies with the conditions set out in the regulation for the organisation and operation of the platform referred to in Article 18, recommended by the GME and approved by the Minister, after consulting ARERA (Regulation).

The GME will provide for the cascading of time-shifting products in order to preserve their liquidity.

Constraints may be placed on the quantities of time-shifting products that can be allocated to each market participant, in order to avoid the emergence of dominant positions with hoarding phenomena, which could distort the market, penalising above all operators particularly exposed to price volatility.

Time-shifting products will be contracts that, against payment of the bonuses defined as a result of the allocation procedures, will grant the assignees the following rights and obligations:

- through dedicated virtual units and subject to the energy constraint of the product concerned, the right to offer the awarded power on the energy markets and to register bilateral forward contracts on the PCE for the same power;
- the right/duty to settle the equivalent value resulting from acceptances in the energy markets and the equivalent value associated with bilateral programmes registered on the PCE with the GME and the counterparty to the bilateral contract, respectively.

In order to allow the connection between the commercial schedules resulting from the exercise of time-shifting products and the physical schedules that Terna will assign to each holder of storage resources, the GME will establish and manage a platform for recording, in special accounts, the transactions carried out by the virtual units as a result of the exercise of the aforementioned products.

### ***Criteria and conditions for Terna's development of electricity storage capacity***

Terna's construction of storage capacity will be limited to what is strictly necessary, so as to exploit the contribution of competition with respect to the goal of minimising charges to final customers. As far as the use of the storage facilities built directly by Terna is concerned, the latter, once the construction phase is completed, will auction off their management, which will then be carried out by a third party. In general, the provisions described above regarding utilisation on the energy markets and the MSD will apply to Terna's storage facilities.

ARERA will introduce a special fee for the remuneration of storage carried out directly by Terna. Bonuses arising from the supply to market operators of time-shifting products relating to Terna's own storage will be allocated to reduce the net burden of the mechanism.

## **3.1.6 Quality and output standards for distribution and transmission services**

### **Resilience of the electricity transmission system**

In January 2022, ARERA<sup>47</sup>:

- positively verified the "Methodology for calculating the increase in resilience of the national transmission grid" recommended by Terna, following work carried out in cooperation with

---

<sup>47</sup> Resolution of 18 January 2022, 9/2022/R/eel.

- Ricerca sul Sistema Energetico (RSE), integrating Terna's network code<sup>48</sup>;
- updated the "Minimum requirements for the preparation of the ten-year national transmission grid development plan"<sup>49</sup>, eliminating the monetised benefit relating to the increase in system resilience against extreme event impacts (B13), retaining only the impact indicator I13, quantified but not monetised, due to the uncertainties inherent in resilience analyses, which are significantly greater than those of the other benefits;
  - considered binding the commitments expressed by Terna, following the methodology consultation, in relation to the extension of the methodology to hydro-geological instability phenomena, the coordination and sharing of data and results to support resilience analyses and the definition of the respective plans by the distribution companies, and the presentation of the effectiveness of the mitigation action of the anti-rotation devices.

### Regulation of the continuity of the electricity distribution service

In November 2022, the proceedings for the determination of bonuses and penalties for 2021 for output-based regulation of the electricity distribution service reached conclusion<sup>50</sup>. With regard to the regulation of the duration and number of unannounced interruptions, against service continuity results, € 30.8 million in net bonuses were disbursed, divided up as follows:

- net bonuses of € 11.1 million for long unannounced interruptions (lasting more than 3 minutes), as the balance of € 15.8 million in bonuses and € 4.7 million in penalties;
- net bonuses of € 19.7 million for the number of long and short unannounced interruptions (duration between 1 second and 3 minutes), as the balance between € 36.9 million in bonuses and € 17.2 million in penalties.

With the same measure, ARERA also published the tenth ranking of electricity distribution companies concerning the number and duration of interruptions, with reference to the 2021 electricity service continuity data<sup>51</sup>. For the purposes of better comparability between companies, a "synthetic index of duration and number of interruptions" was introduced, which gives equal weight to the duration and number of interruptions and has a value of 10 as the national average: a value below 10 indicates a better performance than the national average, while a value above 10 indicates a worse performance; in addition to this index, the average annual duration of interruptions for long unannounced interruptions and the average number of interruptions for long and short unannounced interruptions were published.

---

<sup>48</sup> New Annex A.76 of Terna's Network Code.

<sup>49</sup> Previously defined by resolution 627/2016/R/eel.

<sup>50</sup> Resolution of 29 November 2022, 622/2022/R/eel.

<sup>51</sup> Available on ARERA's website ([https://www.arera.it/it/dati/inter\\_continuita.htm](https://www.arera.it/it/dati/inter_continuita.htm)).

### Voltage quality on medium voltage networks

At the end of 2022, ARERA published<sup>52</sup>, for the second time, information on voltage quality on medium voltage networks, with particular reference to the number of severe voltage dips originating on the MV networks for whatever cause. A voltage dip is a sudden drop in operating voltage, followed by the rapid restoration of voltage. Voltage dips are characterised by residual voltage (usually expressed as a percentage of the operating voltage) and duration (usually expressed in milliseconds). The data refer to all distribution companies connected to the high-voltage grid and owning at least one MV half-bar in the primary cabin, which are obliged to monitor the voltage quality on their medium-voltage grid according to the classification in CEI EN 50160. The indicator of the voltage quality level is the average number of “severe” voltage dips per MV user, understood as the voltage dips originating on the medium voltage networks that are most significant in terms of impact on users (with a longer duration and lower residual voltage than the limits set by ARERA).

### Resilience of the electricity distribution system

In the course of 2021, nine distribution companies (Areti, Azienda Elettrica Reti, e-distribuzione, Edyna, Ireti, Megareti, Set Distribuzione, Unareti and V-Reti) completed 400 interventions to increase the resilience of distribution networks, with a total investment of approximately € 288 million. In the first three-year period of application of the incentive regulation (2019-2021), a total of 872 interventions were implemented, for a total investment of approximately € 505 million.

In June<sup>53</sup> 2022, the deadline for distribution companies to send lists of new interventions to increase the resilience of electricity distribution networks to ARERA was set as 30 September 2022, in order to avoid overlapping activities between the admission to the resilience incentive mechanism and the possible admission of interventions (aimed at improving the resilience of the electricity distribution network to extreme weather events) to funding with public contributions under the National Recovery and Resilience Plan (PNRR).

### Quality of electricity distribution: duration and number of interruptions

There was a slight worsening in 2022 compared to 2021 both for the average duration of interruptions per user (65 minutes) and for the average number of interruptions per user (4.21).

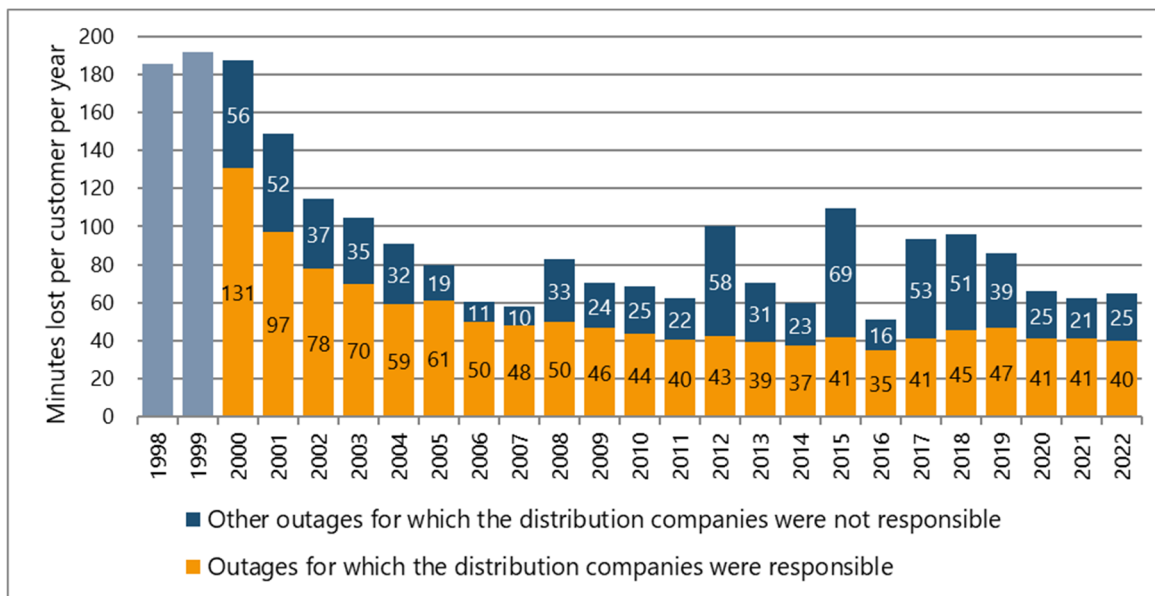
In any case, the data confirms the marked improvement in the duration and number of interruptions is confirmed compared to the three-year period 2017-2019, years in which the impact of exceptional weather events contributed substantially to the increase in the duration and number of interruptions. For the number of interruptions, the 2022 figure is a slight improvement on the average for 2017-2019.

---

<sup>52</sup> Simultaneous to Resolution of 29 November 2022, 622/2022/R/eel.

<sup>53</sup> Resolution of 28 June 2022, 283/2022/R/eel.

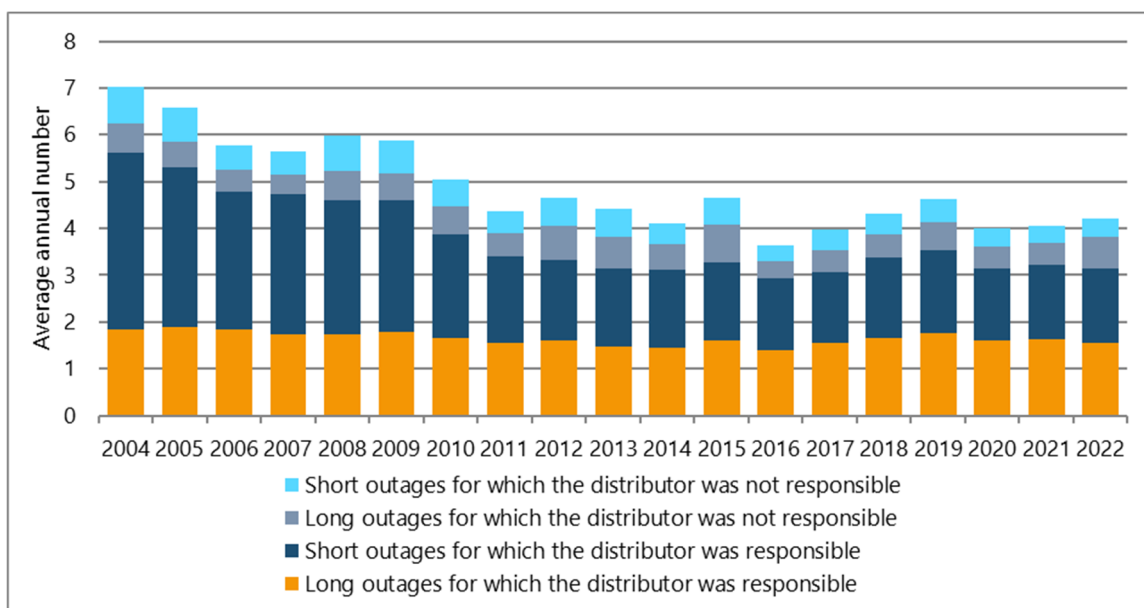
**Figure 3.1 Duration of unannounced outages per low-voltage customer<sup>(A)</sup>**



(A) Referring to e-distribuzione and other distribution companies (excluding major incidents on the RTN, defence system interventions and interruptions due to theft).

Source: ARERA. Processing of declarations of operators.

**Figure 3.2 Number of unannounced outages per low-voltage customer<sup>(A)</sup>**



(A) Referred to e-distribuzione and other distribution companies.

Source: ARERA. Processing of declarations of operators.

Taking a detailed look at the indicators relative to 2022, still being verified by ARERA, the duration of unannounced interruptions for which the distributors are responsible stands at 40 minutes nationwide (Figure 3.1), and the number of long and short unannounced interruptions (which, together, correspond to outages lasting more than a second) for which the distributors are responsible stands at 3.14 interruptions per low-voltage user nationwide (Figure 3.2). In calculating these values, interruptions originating on the RTN and on the high-voltage network, exceptional



interruptions occurring during periods of disturbed conditions and on days with exceptional lightning strikes (identified according to two specific statistical methods), as well as interruptions due to exceptional events, acts of public authority and theft are deducted.

### Network connection times

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

The data on the connection of active users with the transmission network reported on these pages refer to activities that were carried out by Terna, while the data on the connection of active users with distribution networks refer exclusively to activities that were carried out by distribution companies with more than 100,000 customers<sup>54</sup>. The values for the connections of passive users, on the other hand, were collected by Terna and the distribution companies as part of the customary Survey of regulated sectors, carried out annually by the Authority.

With regard to active connections with the transmission network, in 2022 Terna received 2,956 connection requests for electricity production plants, corresponding to a total power output of 253.6 GW, for which it made 1,645 quotations available in the same year, corresponding to a total power output of 111.5 GW. The average time for making the quotation available, net of permitted interruptions, was 83 working days. During the year, 813 quotations were accepted, i.e. approximately half those made available, corresponding to a total power of 42.7 GW. For only four of these quotations, corresponding to a total power of 113 MW, the request for the provision of the Minimum Technical Detail Solution (STMD) was submitted, only one of which was accepted by 31 December 2022, for a power of 34 MW. Despite this, the corresponding connections have not been made and activated within the year.

In 2022, the distribution companies<sup>55</sup> received more than 350,000 connection requests for electricity generation plants to be connected to the low- and medium voltage networks, corresponding to a total power of 26.7 GW, for which, in the same year, they made available just over 310,000 quotations, corresponding to a total power of 13.6 GW, with average times for making the quotation available, net of permitted interruptions, of:

- 19 working days, for required feed-in power up to 100 kW;
- 40 working days, for required feed-in power of more than 100 kW and up to 1,000 kW;
- 53 working days, for required feed-in power of more than 1,000 kW.

More than 280,000 quotations out of the total of those made available were accepted in 2022, for a

---

<sup>54</sup> The calculations made are based on data made available by distribution companies with more than 100,000 customers in compliance with the regulation. In particular, with reference to 2021, the data provided by Areti, Deval, e-distribuzione, Edyna, Inrete, Ireti and V-Reti was used, which transmitted to the Authority, in due time for the preparation of this Annual Report, the information on the connections of electricity production plants; on the other hand, data not communicated in due time was not considered.

<sup>55</sup> With reference to the connection of electricity production plants to the distribution networks, it should be noted that the data reported refer exclusively to activities that were carried out in 2022 by distribution companies with more than 100,000 customers and that transmitted the relevant information to ARERA in time for the preparation of this *Annual Report*.

total power of 6.6 GW. In relation to the requests received in 2022, more than 150,000 connections were made in the year, corresponding to 1.3 GW, with average connection times, net of permitted interruptions, of:

- 26 working days in the case of simple works;
- 65 working days in the case of complex works;

while the average time for connection activation, net of permitted interruptions, is 9 working days.

In 2022, e-distribuzione was the only distributor that received 567 connection requests for electricity generation plants to be connected to the high voltage networks, corresponding to a total power of about 8.4 GW; in the same year, they made available 177 quotations, corresponding to a total power of about 2.6 GW, with average times for making the quotation available, net of permitted interruptions, of 57 working days.

Of the 177 quotations made available, 77 (corresponding to a total power of 1.2 GW), were accepted during the year; for just one of them, as of 31 December 2022, the request to make available the Minimum Technical Detail Solution (STMD) had been submitted and, therefore, no connections (requested during the year) were made in 2022 for production plants to be connected to the high-voltage networks of the distribution companies.

As far as the connections of passive users (Table 3.4) are concerned, in 2022, 256,143 connections were made to the distribution networks, almost all of them in low voltage. For 70% of them, the supply was activated during the year. The average time to connect customers was 11.3 working days. In particular, the average time for making low-voltage connections was 8.4 working days. The average time taken to obtain a medium voltage connection is slightly longer and amounts to 20 working days.

**Table 3.4 Connections of passive users with distribution networks**

VOLTAGE LEVEL	NUMBER OF CONNECTIONS		AVERAGE TIME (WORKING DAYS) <sup>(A)</sup>	
	2021	2022	2021	2022
Low voltage	225,322	254,841	6.2	8.4
Medium voltage	1,503	1,302	14.3	20.0
<b>TOTAL</b>	<b>226,825</b>	<b>256,143</b>	<b>7.8</b>	<b>11.3</b>

(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

The data shows an increase in the number of requests (+13%) compared to 2021, but also an overall worsening of connection times: from 7.8 to 11.3 days, both in medium voltage, where an average of 14.3 working days were needed to obtain a connection in 2021, while in 2022 it took 20, and in low voltage, where the connection took on average two days longer in 2022 than in 2021. It should always be pointed out, however, that the days indicated do not include the time spent in obtaining any authorisations and the time needed for any formalities to be carried out by the final customer.

In 2022, each distributor made an average of 2,100 connections during the year. If we exclude from the calculation those operators who did not make a single connection (66 subjects out of 122), the average number of connections made by each distributor in the year is 4,574.

Finally, in 2022, Terna made a high- and extra-high-voltage connection for a capacity of 7 MW, without activation of the supply. The request for such a connection dates back to 2013, but has

undergone several requests for changes over time. Considering the last power change request, submitted in 2019, the total time elapsed between the connection request and its activation was 655 working days (388 working days excluding the authorisation time and the time required for customer fulfilment).

### **3.1.7 Monitoring the electricity supply and demand balance**

Monitoring the balance between electricity supply and demand does not fall within the competence of ARERA: according to Art. 1 of Legislative Decree No. 93/11, this competence is attributed to the Ministry for the Environment and Energy Security (MASE).

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

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

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

### **3.1.9 Implementation of Network Codes and guidelines for the integration of European electricity markets**

#### **Network codes and guidelines for the electricity market**

The European electricity market regulations are technical regulatory decisions for the completion of the internal energy market. Informally, regulations can be grouped into three large families: market, connection and network management. The complete list can be found at Table 3.5.

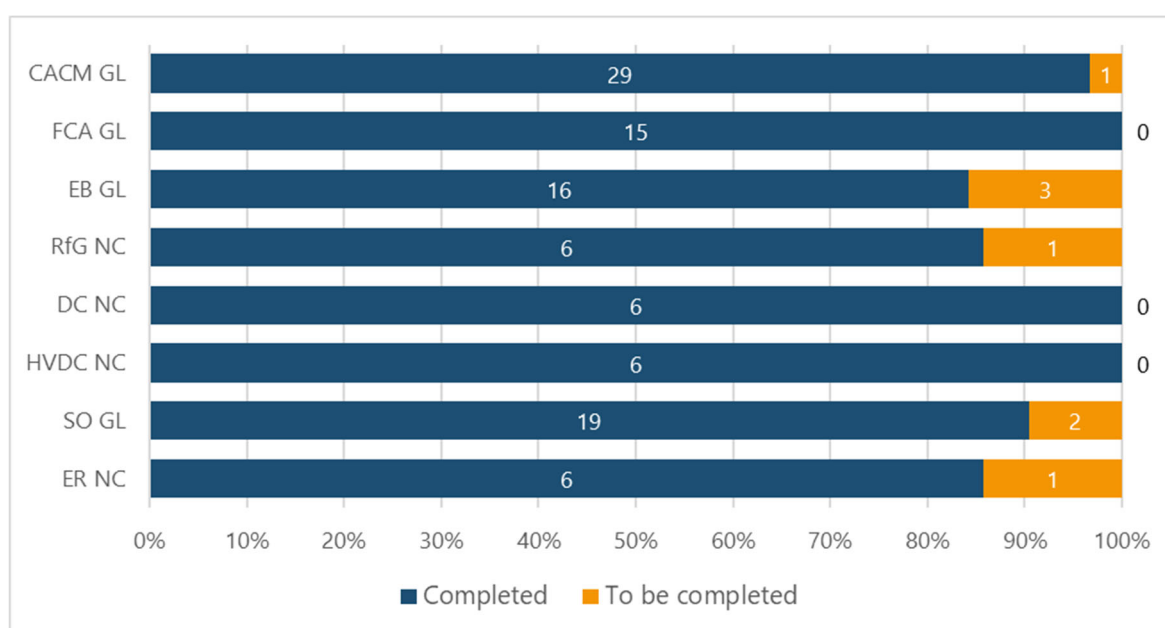
The regulations are divided into Network Codes (NC) and Guidelines or Guidance (GL): the former primarily identify rules that can be directly implemented at national level, while the latter focus on broad indications on the basis of which implementation protocols, called Terms and Conditions or Methodologies, are to be developed. It follows that the publication of regulations does not exhaust the activity of developing and publishing secondary regulations; on the contrary, each regulation in the form of a guideline (or guidance) envisages, within it, the development of specific rules (the methodologies, precisely) by the network operators (Transmission System Operators - TSOs) and/or by the Nominated Electricity Market Operators (NEMOs) that the regulatory authorities of each EU member state are called upon to assess and approve; the development of methodologies is also envisaged within the framework of the network codes, albeit to a lesser extent and limited to detailed aspects or for the specification of certain parameters at national level.

**Table 3.5 Network codes and guidelines under Regulation (EC) 714/2019**

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

Source: ARERA.

The process of developing methodologies started in 2015 with reference to the CACM GL regulation, and it was then extended between 2016 and 2017 to all other guidelines (or guidances) and network codes. Figure 3.3 summarises the status of implementation at the end of 2022. The implementation of the FCA GL, DC NC and HVDC NC regulations is now complete, while some CACM GL, SO GL and EB GL methodologies still have to be completed (see the specific paragraphs below), while the methodology with the cost-benefit analysis criteria for the retrofitting of existing generation plants under the RfG NC code (which will only be developed when ARERA actually intends to assess measures to this end) and the methodology for carrying out tests with reference to the network code under the ER NC regulation (for which Terna is expected to update the network code provisions) still have to be defined at the national level.

**Figure 3.3 Status of implementation of European regulations as at 31 December 2022**

Source: ARERA.

### Integration of electricity wholesale markets: market codes

In 2022, the implementation of the market codes focused on maintaining and improving the methodologies adopted in previous years.

#### *Forward capacity allocation regulation (FCA GL)*

The FCA GL regulation describes the requirements and criteria for the issuance and allocation of long-term transmission rights (with a time horizon of at most one year) between market areas within the European Union. For Italy, this regulation applies on the borders with France, Austria, Slovenia and Greece; similar provisions to those of the FCA GL regulation are also in force on the border with Switzerland, following bilateral agreements. For inland areas, on the other hand, the Authority continues to rely on the coverage products in force to date (CCC), consistent with the decision taken in 2017 under Article 30 of the FCA GL regulation and confirmed during 2021.

The implementation process of the FCA GL regulation has been completed at the national, regional and pan-European levels; however, maintenance and improvement of the related methodologies continue in order to make the texts more adequate to meet any new requirements from the system. In particular, changes to the methodology for the Single Allocation Platform<sup>56</sup> and the allocation of congestion rents<sup>57</sup> were necessary in 2022 to include the Finnish TSO, which will start allocating long-term transmission rights on its borders in line with the requirements of its national regulator.

2022 also saw the start of a prospective discussion on the possibility, explored by the TSOs of the Core CCRs of a joint allocation of long-term transmission rights with a flow-based approach conceptually similar to that envisaged for daily capacity, instead of the current separate explicit auctions for each border. The adoption of a flow-based approach, however, requires certain changes to the methodologies concerning the operation of the Single Allocation Platform, the allocation of congestion rents and the allocation of costs for the remuneration of transmission rights: the TSOs sent these changes to ACER in the second half of 2022.

Finally, in the course of 2022, ACER, in cooperation with national regulators, contributed to the debate on the prospective development of electricity forward markets as part of a broad reflection launched by the European Commission in 2021 with the Toolbox communication<sup>58</sup>, published in the wake of rising energy prices.

With this in mind, in April 2022, ACER published its own assessments of the electricity market design in Europe<sup>59</sup>, highlighting the opportunity to look more closely at the issues arising in the context of forward markets, with a focus on hedging instruments. This analysis was followed by a public consultation (ACER and CEER jointly) in order to deepen the reflection on whether amendments should be made to the FCA GL regulation. The consultation concluded with the publication of a policy paper<sup>60</sup> by ACER in which a number of issues are identified in the electricity forward market, understood as the whole of the allocation of transmission rights (Long Term Transmission Rights -

---

<sup>56</sup> ACER decision no. 9/2022.

<sup>57</sup> ACER decision no. 10/2022.

<sup>58</sup> Tackling rising energy prices: a toolbox for action and support, European Commission, 13 October 2021.

<sup>59</sup> ACER's Final Assessment of the EU Wholesale Electricity Market Design, April 2022.

<sup>60</sup> ACER policy paper on the further development of the EU electricity forward market, February 2023.



LTTR) and energy trading, which currently prevent the realisation of an integrated, effective and efficient market, and in which a number of possible improvements are recommended to promote the development of a forward market offering hedging instruments in the various bidding zones, over different time horizons and at competitive prices, while recognising that some general issues - such as trading platforms for financial products - do not necessarily fall within the scope of intervention of the Agency and/or national regulators.

### **Capacity allocation and congestion management regulation (CACM GL)**

The CACM GL regulation defines the modalities for implementing market coupling at European level on the daily (with capacity allocation through implicit auctions in the so-called Single Day Ahead Coupling - SDAC) and intra-day horizons (with capacity allocation through firm trading in the so-called Single Intra-Day Coupling - SIDC, accompanied by specific capacity assessment mechanisms and implicit auctions at regional level on a voluntary basis).

Italy has been participating in the SDAC since February 2015, as part of a project for the early implementation of market coupling on the borders with France, Austria and Slovenia (in the latter case, voluntary coupling has been active since 2011). Since December 2020, coupling with Greece has also been active, the last step towards the complete integration of the national electricity system into the European day ahead, while the last two missing pieces at European level were completed in 2021, namely the implementation of coupling on the Greece-Bulgaria border (in May 2021) and the coupling between the 4M MC project, including the borders of Romania, Hungary, the Czech Republic and Slovakia and the MRC project, including the other European borders and in which Italy participates (in June 2021).

As of 21 September 2021, Italy joined the SIDC in the so-called third wave with the introduction of continuous intra-day allocation on the borders with France, Austria and Slovenia and between the internal areas within the national territory, supplemented by implicit auctions also active on the border with Greece, while the SIDC has also been operative on the border with Greece since December 2022.

From the point of view of the methodologies provided for in the CACM GL regulation, the implementation process can be said to be complete, except for the methodology for the harmonisation of capacity calculation, initially planned for the end of 2020, but postponed to monitor the implementation of regional methodologies, some of which are not yet fully active.

As already for the CA GL regulation, discussions on updating the existing methodologies are also continuing at European level for the CACM GL regulation. During 2022, however, no such changes were approved. Indeed, 2022 was supposed to see the start of the European Commission's comitology methodology review of the CACM regulation from the recommendation made by ACER late 2021. Due to the energy crisis and the European Commission's review of priorities, work is suspended and postponed until a later date.

At the regional level, on the other hand, 2022 saw the consolidation of the use of capacity calculation methodologies on daily and intra-day time horizons for the CCR Italy North and GRIT, in the version approved for both regions during 2020 and implemented in the second half of 2021.

### **Balancing (BAL GL)**

Regulation (EU) 2195/2017 lays down the modalities for the implementation of the European balancing market, with regard to the trade in balancing capacity and balancing energy, as well as

harmonisation criteria for settlement between TSOs and criteria for the valuation of imbalances.

Starting January 2021, Italy has been an active and successful participant in the European platform for the exchange of balancing energy from Replacement Reserve, developed within the TERRE project, together with all the other European TSOs that make use of this type of reserve, while participation in the Imbalance Netting platform, for the countertrade of imbalances between adjacent systems, has been operational since 2020.

Implementation of the Balancing regulation has almost been completed, as shown in Figure 3.3, but work continued in 2022 on the development and future approval of the missing methodologies (the pan-European methodology for the harmonisation of cross-border capacity allocation methods for balancing capacity trading or reserve sharing and the two regional methodologies, Italy North and Greece-Italy, for capacity calculation over the balancing horizon) and to improve and enhance the methods already approved in previous years. Specifically, the methodology for the pricing of balancing energy<sup>61</sup>, temporarily modifying the technical cap, and the implementation frameworks for the mFRR, aFRR and IN platforms<sup>62</sup>, were amended in 2022 to define the entities responsible for platform operation and to adapt the framework to a multiple entity solution. In 2022, work also continued in the regional group on systems using the Replacement Reserve to amend the implementation framework of the RR platform, to adapt it to algorithmic developments and to foster greater transparency towards stakeholders.

### Network Management Codes

The network operation regulations lay down provisions on the operation of the transmission network both in normal and alert states of operation (SO GL) and in emergency and restoration conditions of the electricity system (ER NC).

As far as the SO GL regulation is concerned, the implementation process still involves the approval of two methodologies at the level of the continental European synchronous area: this is the quantification of the minimum inertia value to be ensured in the system (mandatory methodology only when the assessment of the dynamic performance of the electricity system should reveal problems in this sense) and the definition of the minimum delivery time of the primary reserve under alert conditions for limited energy resources (methodology sent in October 2021, discussed by the regulators during 2022 with a request for amendments agreed in December and ratified<sup>63</sup> by ARERA in December 2022).

The ER NC regulation, as a network code, instead makes limited use of terms, conditions and methodologies submitted to the regulatory authorities. The regulator's intervention is therefore limited to national implementation, carried out in Italy through amendments to Terna's network code, which ARERA approved at the end of 2019 with reference to plans to defend and restart the electricity system and through further implementing decisions on settlement in emergency conditions adopted during 2020. More specifically, the plans for defending and restarting the electricity system impose public service obligations on a number of production plants: in order to

---

<sup>61</sup> ACER decision no. 3/2022.

<sup>62</sup> ACER decisions nos. 14/2022, 15/2022 and 16/2022.

<sup>63</sup> Resolution of 20 December 2022, 707/2022/R/eel.

meet the costs incurred by these plants and with a view to preserving their competitiveness vis-à-vis other plants not included in the aforementioned plans, ARERA has provided for special bonus mechanisms adopted in 2020 with reference to the restarting plan and in 2021 with reference to the defence plan. Both of these mechanisms ceased to take effect in the course of 2022: Terna is currently in the process of verifying the actual completion of the required adjustments, the results of which will be shared with ARERA in the course of 2023.

### Connection codes

The connection codes define the requirements to be fulfilled by the various users connected to the electricity system, from generators (RFG NC), to demand response service suppliers (DCC NC), to operators operating direct current connections (HVDC NC). The implementation of these codes takes place at national level without requiring any form of coordination at European level: for more details on this, please refer to the paragraph on "Charges for connection and access to networks". It should be noted, however, that at the end of 2021 ACER began the process of revising the RFG and DCC codes with the aim of resolving critical issues that had arisen during implementation and to take into account technological (electric mobility, storage) and regulatory (energy communities) developments that had occurred in the meantime: a policy paper was submitted for consultation in 2022 to identify the issues that needed revision, and subsequently specific recommendations for changes were collected from grid operators, associations and device manufacturers.

### Regulation 943/2019

Regulation 943/2019, part of the more comprehensive Clean Energy Package, significantly revised the core principles of the electricity market, providing, in particular:

- a minimum capacity level of 70% between the market areas to be offered in the markets;
- new criteria for the review of market areas with the launch of a pan-European review;
- specific rules for the adequacy of the system with the drafting of specific methodologies by the TSOs;
- the strengthening of cooperation between TSOs with the creation of Regional Coordination Centres (RCCs) instead of Regional Security Coordinators (RSCs) introduced with the SO GL regulation;
- new criteria for the use by TSOs of congestion rents collected on the borders between market areas
- a mandate to the Commission to define new network codes in several areas, including the regulation of demand response, including aggregation, accumulation and demand cutting.

ARERA is directly involved in the implementation of the aspects listed above, both through participation in working groups within ACER, which discuss the various topics, and through the adoption of specific decisions at national level.

### Minimum level of 70%

The provision of the 70% minimum level between market areas is mandatory for all TSOs from 1 January 2020. Exceptions are hourly periods in which no adequate corrective resources are available to guarantee the capacity associated with the 70%: in this case, TSOs are authorised to reduce the

capacity offered.

In this regard, Terna - in cooperation with neighbouring grid operators - has endeavoured to include mechanisms for monitoring the level of capacity offered and automatic adjustment for compliance with the 70% constraint in the capacity calculation between market zones. These mechanisms became operational on 2 August 2021 for the areas inside the national territory (CCR GRIT) and on 29 October 2021 for the northern borders (CCR Italy North), limited to the capacity importing to Italy. On the other hand, further refinements are still in progress for export capacity from Italy, for which the introduction of the coordinated calculation (the "export corner") with monitoring of the 70% level and automatic adjustment is planned for the last quarter of 2023.

In the event that it is impossible to comply with the 70% minimum level due to system operational security requirements, each TSO may apply to the competent national regulatory authority for a derogation from the 70% minimum level obligation. Terna has made use of this option:

- for 2020, for both CCR Italy North and CCR GRIT, at all times of the year;
- for 2021, for CCR Italy North only, on the export side for all hours of the year and on the import side for all hours of the year until the implementation of automatic monitoring of the level of capacity offered on each border and, thereafter, only for the hours of the year when capacity is reduced due to low load and high renewable production (referred to as "low consumption days");
- for 2022, for CCR Italy North only, export side for all hours of the year and import side for low consumption days only;
- for 2023, for CCR Italy North only, on the export side for all hours of the year until the implementation of the coordinated capacity calculation (the "export corner") and on the import side exclusively for low consumption days.

ARERA has always granted the waiver request: in particular for 2023, the decision was taken<sup>64</sup> in December 2022.

In addition to granting derogations, the Authority is also called upon to assess each year whether or not Terna has actually complied with the 70% minimum level obligation. In November 2022, the report for 2021 was published<sup>65</sup> in which the situation on the various borders was highlighted and Terna's performance was assessed: the status of the interconnection with Greece was optimal (100% of the capacity offered at all times when the connection was available), the situation of the inland areas was very good, especially after August 2, following the introduction of the automatic monitoring and adjustment mechanisms, and the situation of the northern border was positive - with the exception of the periods pertaining to the low consumption days -, again with further improvement after the introduction of the automatic monitoring and adjustment mechanisms. The results therefore confirm the good performance of Terna and the effectiveness of the automatic monitoring and adjustment mechanisms introduced for the various boundaries.

### **Review of market areas**

In addition to introducing new principles for the review of market areas that will feed into the revision of the CACM GL, regulation 943/2019 initiated a specific review of areas at European level. The process, which started in the second half of 2019, saw ACER's approval of the criteria for assessing

---

<sup>64</sup> Resolution of 20 December 2022, 706/2022/R/eel.

<sup>65</sup> Resolution of 2 November 2022, 543/2022/R/eel.

the various area configurations in 2020 and in 2022, of the alternative area configurations to be analysed<sup>66</sup>. In particular, the hypothesis of subdividing the Northern zone into two portions, North-Western (coinciding with Valle d'Aosta, Western Piedmont and Liguria, except La Spezia) and North-Eastern (coinciding with Emilia-Romagna, Lombardy, Trentino-Alto Adige, Veneto, Friuli-Venezia Giulia, La Spezia and Eastern Piedmont) is being studied.

### Adequacy

Following the provisions of regulation 943/2019, ENTSO-E developed a methodology for determining the value of non-supplied energy (VoLL), cost of new entrant (CoNE) and adequacy standard (RS) and a methodology for the European adequacy assessment (ERAA), which were approved by ACER during 2020.

The ERAA - through a simulation model based on data provided by the TSOs for demand, generation, storage and the electricity network - makes it possible to assess annually the expected level of adequacy of the European electricity system over a ten-year horizon. Through the ERAA, it is therefore possible to identify potential expected adequacy problems, so as to provide a solid, objective basis on which to allow Member States to decide on any introduction of complementary measures to the energy market (e.g. capacity markets). The analysis can be complemented by national adequacy assessments (NRAA).

The ERAA methodology, which was approved by ACER in 2020, is expected to be fully implemented by ENTSO-E as part of ERAA 2024. Meanwhile, ENTSO-E implemented a simplified version of the methodology in 2021 (ERAA 2021) and 2022 (ERAA 2022). In both cases, ACER, called upon to express an opinion under Regulation (EU) 943/2019, while acknowledging improvements made by ENTSO-E between the first and second analysis, decided not to approve the outcomes of the assessments, on the grounds that the simplifications introduced would potentially compromise their reliability (overestimating, according to the Agency, the risk of inadequacy). ACER also provided recommendations to ENTSO-E for ERAA 2023 to better reflect certain aspects considered important for the reliability of the results.

According to ACER, in the first place ENTSO-E should ensure that the ERAA 2023 reference scenarios reflect the policy objectives set at European (the "fit-for-55" package) and, by extension, national level. Secondly, an area on which ENTSO-E should increase its efforts is the Economic Viability Assessment - EVA module, which defines the alienation and entry of new capacity into the market and, in particular, its consistency with the risk model (Economic Dispatch used to calculate the indicators of Energy Not Supplied, ENS, and Loss Of Load Expectation, LOLE). A third recurring problem in ERAA 2021 and 2022 concerns the inter-zonal capacity values used in the evaluation. ACER expects ENTSO-E to consider in ERAA 2023 any new network developments planned during the period under assessment. Furthermore, in line with ACER's recommendations for ERAA 2022, the Agency expects ERAA 2023 to reflect the impact of the 70% minimum target on inter-zonal capacities and to implement the flow-based approach for capacity calculation in all target years and for the Core and Nordic CCRs. Finally, ACER believes that there is considerable scope for improving the transparency of the evaluation, in terms of methodology, assumptions and interpretation of results. This is supported by the comments received, in which stakeholders highlighted to the Agency how the lack of information and transparency is potentially detrimental to their understanding of ERAA 2022.

---

<sup>66</sup> ACER decision no. 11/2022.

### **Regional Coordination Centres (RCC)**

Regulation 943/2019 introduced the figure of RCCs with the intention of strengthening the cooperation between TSOs already provided for in the third energy package. In particular, the RCCs are called upon, as of 1 July 2022, to replace the RSCs introduced by the SO GL regulation, with an extension of the tasks assigned to them.

The scope of the RCCs' activities coincides with the System Operation Regions (SORs), the configuration of which is recommended by ENTSO-E and submitted to ACER for approval. The process of defining SORs was, however, rather troubled: the first ACER decision on the matter adopted in 2020 was annulled for lack of motivation by the Board of Appeal in response to an appeal filed by ENTSO-E, which contested the inclusion of CCR SWE in the SOR Central Europe and requested, instead, the establishment of a SOR SWE, as they had initially recommended. ACER then adopted a new decision in the course of 2021 that confirmed the inclusion of CCR SWE in the SOR Central Europe; the decision was again challenged for lack of motivation and procedural defect by ENTSO-E and subsequently withdrawn by ACER, which restarted the decision-making process with the adoption of the final configuration in April 2022, with Decision No. 5/2022, which upheld ENTSO-E's claims with the establishment of the SOR SWE separate from the SOR Central Europe. The revision of the SOR also brought about an evolution for Italy: Terna, in fact, was initially included in the SOR Central Europe with the northern borders and the northern zone only, while the border with Greece and the other zones within the national territory would constitute an interface with the EEA region. Terna, therefore, could have delegated the processes related to these boundaries and zones to RCC Selene, but could not have participated in the governance of this RCC. With the revision, ACER recognised the peculiarity of Terna's control area, extended over two different synchronous areas (continental Europe and Sardinia): Terna was therefore able to be included in both the SOR Central Europe and the SOR SEE, with Terna's full participation in the RCCs of both regions.

Once the SORs have been defined, the relevant TSOs must recommend the establishment of the relevant RCCs to the competent national regulatory authorities, which must adopt a joint decision on the matter. As the first version of the recommendation was due by 1 July 2020, the TSOs started to define the set-up of the RCCs in each region based on the first configuration of the SORs. ARERA therefore actively participated in the evaluation of the recommendation for the SOR Central Europe, while it was only consulted as a stakeholder for the SOR SEE. Following the adoption of the final configuration of the SORs, both recommendations for the constitution of the RCCs were significantly revised: for the SOR Central Europe, the TSOs of Spain and Portugal (merged into the SOR SWE) were expunged and special coordination instruments were inserted for Coreso, which is constituted RCC for both the SOR Central Europe and the SOR SWE; for the SOR SEE, on the other hand, Terna's full participation was recognised. The decisions were both approved at coordinated level by the competent regulatory authorities in June 2022, in time to take effect with the establishment of the RCCs on 1 July 2022: ARERA then ratified them<sup>67</sup> in July 2022.

Turning to the tasks assigned to RCCs, Regulation (EU) 943/2019 provides for the adoption of specific methodologies for all tasks not covered by network codes. The decision is up to ACER upon recommendation of ENTSO-E. During 2022, methodologies were approved for the analysis of disturbances occurring in the electricity system<sup>68</sup>, for the training of RCC operators<sup>69</sup> and for the

<sup>67</sup> Resolution of 19 July 2022, 344/2022/R/eel.

<sup>68</sup> ACER decision no. 4/2022.

<sup>69</sup> ACER decision no. 7/2022.



support by the RCCs in the allocation of costs for the activation of redispatching actions<sup>70</sup>.

### Congestion rents

Article 19 of regulation 943/2019 provided that congestion rents are primarily used for the guarantee of the availability of capacity for exchanges between market areas or for maintaining and increasing this capacity (priority targets); only if both of these targets are fulfilled can the use of congestion rents for the reduction of network tariffs be envisaged.

The verification of compliance with the aforementioned targets is the responsibility of the regulatory authorities on the basis of a methodology developed by the TSOs and approved by ACER<sup>71</sup>, which is expected to be fully implemented by 2022 with reference to 2021.

In April 2022, ARERA published<sup>72</sup> data on the balance with monthly details of the income and charges resulting from the procedures for the allocation of transmission capacity on the interconnection network with foreign countries and, for the first time, on the borders between market zones within the Italian territory for the period from January 2021 to December 2021 (a summary can be found at Table 3.6).

The congestion rents arising from the allocation of inter-zonal capacity (Terna's share, i.e. accruing to the Italian system) for the period January-December 2021 amount to approximately € 321 million, € 249 million of which relates to the allocation of capacity at foreign borders and the remaining € 72 million to domestic areas (a value given by the sum of the domestic rents of € 221 million and the CCC balance of € -149 million).

**Table 3.6 Congestion rents at borders for 2021**

BOUNDARY	AMOUNT (euros)	Of which Terna's share
Austria	26,390,536.16	13,195,268.08
France	266,727,960.48	133,363,980.24
Greece	25,660,604.98	12,830,302.49
Montenegro	11,894,394.24	5,947,197.12
Slovenia	35,111,170.77	17,555,585.39
Switzerland	132,428,961.86	66,180,775.15
<b>TOTAL</b>	<b>498,213,628.49</b>	<b>249,073,108.47</b>

Source: Terna.

At the same time, ARERA also confirmed<sup>73</sup> that these proceeds were used by Terna in accordance with the purposes set forth in Art. 19, paragraph 2 of Regulation (EU) 943/2019 and that no proceeds were used for the purpose of reducing network tariffs.

### Demand response

Pursuant to Article 59(1)(e) of Regulation (EU) 943/2019, the Commission initiated a process aimed

<sup>70</sup> ACER decision no. 13/2022.

<sup>71</sup> Decision no. 38-2020.

<sup>72</sup> Resolution of 5 April 2022, 159/2022/l/eel.

<sup>73</sup> Resolution of 5 April 2022, 159/2022/l/eel

at adopting a new network code to regulate the demand response sector in greater detail. This process envisaged an initial investigation phase, which ended at the beginning of 2022, during which ACER defined the contents the future network code should include and the subsequent drafting of non-binding framework guidelines, which set out the principles to be followed in the development of the network code for the definition of harmonised rules for demand response.

The guidelines were adopted by ACER in December 2022, after almost a year of joint work with regulators and experts. The result is a document of principles and recommendations ranging from the regulation of roles and responsibilities, aggregation models, principles for resource qualification, mechanisms for coordination between wholesale and local markets, including coordination between TSOs and DSOs, and principles for the provision and procurement of services from dispersed resources. The principles and recommendations formulated take into account the existing regulatory framework defined by the network codes already in force and aim to further specify rules to promote the development of demand-side flexibility, for market participation and the provision of services to TSOs and DSOs.

ARERA actively participated in the ACER working groups that coordinated the issue and in the working group in charge of drafting the actual guidelines.

### Other relevant aspects

The efficiency of the integrated market cannot be separated from the availability of adequate transmission capacity between the various market areas. In Italy, the most critical situation concerns the interconnection with Greece, which since 2012 has been affected by significant unavailability due to both planned maintenance (also of an extraordinary nature) and failures due to issues intrinsic to the facilities or to external mechanical actions. In this regard, in 2018, in cooperation with the Greek Regulatory Authority, a special fact-finding investigation was launched, which was concluded in 2021 with the publication of the final report, in which the causes of the various disruptions were analysed and a number of recommendations were sent to the TSOs aimed, among other things, at assessing, through cost-benefit analysis, the effectiveness of certain measures that could mitigate the risk of disruption or reduce the time needed to restore the connection. The latter, in particular, were also fairly lengthy due to the need to find suitable equipment on the market for interventions on submarine cables. Terna began evaluating alternative solutions during 2022: the results of the evaluations will be formally shared with ARERA during 2023.

Finally, ARERA plays an active role in the management of exemptions inherent in private initiatives to develop interconnection capacity for the electricity system. In particular, historically, ARERA would verify, in cooperation with the regulatory authorities of the countries involved, the application for exemption and analyse the conditions for granting it, issuing an opinion (the "Joint Opinion") to the competent Ministry that was entitled to issue it, following the favourable decision by the European Commission. More recently, starting from the coming into force<sup>74</sup> of Legislative Decree No. 210 of 8 November 2021, transposing directive (EU) 944/2019 and implementing the provisions of regulation (EU) 943/2019, ARERA became directly responsible for issuing exemptions and decisions regarding exemptions already given.

---

<sup>74</sup> 26 December 2021.

In this context, in February 2022, ARERA approved<sup>75</sup> the extension, requested by the company Piemonte Savoia, of the deadline for the entry into operation of the Piemonte-Savoia interconnector provided for in the exemption set out in the directorial decree 290/ML/6/2016 in accordance with the European Commission's decision of 19 January 2022. In addition, in July 2022, ARERA approved<sup>76</sup> the updated outline of the contract prepared by Terna and Piemonte Savoia for the commercial management of the interconnector made necessary by the originally unplanned deferred entry into operation of the interconnector module (which entered into operation on 7 November 2022) and the RTN module, so as to allow the Italian market to benefit from the new interconnection capacity as soon as it becomes available.

### 3.1.10 International coordination on the topics of electricity and natural gas

#### Coordination between EU Member States and with Switzerland

For years, the Authority has been actively cooperating with other European regulators, both multilaterally, through the European Union 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 2022, 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 Union 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 6 months of receipt. On the other hand, the primary competence of the regulatory authorities remains unchanged with regard to implementing acts of regional competence. ACER is also responsible for adopting a set of methodologies under regulation 943/2019 concerning the adequacy of the system and the tasks of the Regional Coordination Centres.

At the organisational level, ACER has a director, currently Christian Zinglensen from Denmark, and a Board of Regulators (BoR) with representatives from the regulatory authorities of the 27 European countries. In 2021, Clara Poletti, member of ARERA's board, was re-elected chair of the BoR. The Director recommends the decisions that the Agency intends to take to the BoR, which delivers a binding opinion by a qualified two-thirds majority: under regulation 942/2019, the members of the BoR may also formulate amendments to the Director's recommendations which, if approved by a qualified majority, must be taken into account by the director. The Agency also has a Board of Appeal,

---

<sup>75</sup> Resolution of 8 February 2022, 47/2022/R/eel.

<sup>76</sup> By Resolution of 12 July 2022, 326/2022/R/eel.

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

The Authority has been actively cooperating with ACER for some time now, often assuming leading roles in the working groups entrusted with the preparation of the various dossiers under the Agency's responsibility: in particular, in 2021, as regards the electricity sector, ARERA saw its representatives active as leaders of specific task forces (markets, system operation, balancing and facilities), while, with reference to all the sectors under the Agency's responsibility, it actively participates in the discussion in the various working groups by providing suggestions and comments.

### **Council of European Energy Regulators (CEER)**

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

The Authority has always been actively involved in the activities promoted by the CEER. For the three-year period 2022-2025, the CEER's activity is focused on three fundamental aspects: ensuring the functioning of the market with a view to flexibility; putting consumers at the centre of the market, favouring their active participation; and enabling the integration of energy systems, favouring the use of renewable sources and innovation. Furthermore, during 2022, the CEER, in cooperation with ACER, participated in the debate on the Commission's legislative recommendation regarding the reform of the Gas Directive (EC) 2009/73 and the Gas Regulation (EC) 715/2009 (Gas Decarbonisation Package). European regulators contributed to the debate by bringing their experience and expertise on the different topics covered by the reform recommendation, in particular on those related to the regulation of the hydrogen sector and customer protection.

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.

### **Coordination with Switzerland**

Switzerland is, of course, not a member of the European Union; however, due to its geographically central location on the continent, it plays an important role in both market transactions and operational security. For this reason, the Swiss regulator has long been coordinating with the regulatory authorities of the neighbouring countries to define how its electricity system can interact with those of the EU. With regard, in particular, to the relationship with ARERA, studies continued in 2022 aimed at replacing the explicit auctions for the intraday allocation of transmission capacity on the Italy-Switzerland border with a continuous "first come, first served" allocation, consistent with what has already been implemented on the other borders of Switzerland. Explicit auctions, on the other hand, will continue to be the only form of allocation for long-term transmission rights (with rules along the lines of those in use for all other European borders under regulation 1719/2016 - FCA) and for the daily horizon (since a switch to implicit allocation modality under market coupling depends on the European Commission signing of a specific government energy agreement with the Swiss Confederation, which, as yet, still looks to be a long way off).

### Relations and initiatives with non-EU countries

In 2022, ARERA continued its activities at the international non-EU level, consolidating cooperation and technical-institutional collaboration at both bilateral and multilateral levels. In the energy sector, as usual, it promoted the exchange of technical knowledge and best practices, in order to foster market development and integration. ARERA works to develop the regulation of the Balkan and Mediterranean markets, areas that - taking into account the effects of the energy crisis due, in particular, to the geopolitical scenarios determined following the Russian-Ukrainian war conflict - are of significant strategic interest for the national energy system.

### Energy market in south-eastern European countries

With a view to providing effective support to the Euro-Balkan market integration process, in 2022, ARERA continued the activities undertaken in previous years.

More specifically, it took part in the works of the Energy Community Regulatory Board (ERCB) continuing to coordinate and support the implementation of the *acquis communautaire* for the parties of the Energy Community Treaty.

2022 was a crucial year for the evolution process of the energy markets in the Balkan countries; in fact, last 15 December, during the meeting of the Energy Ministerial Council, a new package of measures was approved, known as the "New electricity package", which will enable the full integration of the markets of the contracting parties to the Energy Community Treaty. The measures adopted - to be implemented by the end of 2023 - are based on the principle of reciprocity between Member States and contracting parties and provide for the large-scale inclusion of renewable energies and the phasing out of coal.

The new legal framework provides for the transposition of EU energy measures and, 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 2019/943/EC, "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 1222/2015, on Forward capacity allocation - FCA 1719/2016, on Balancing - BAL 2195/2017, the Regulation on System Operation - SO 2226/2017 and the Regulation on Emergency and Restoration - E&R 2196/2017. To complement the measures described, a specific procedural act on the promotion of regional energy market integration 2022/PA/01/MC - ENC, was also adopted.

During the meeting, the ministers also discussed further coordination measures to secure the energy supply and to cope with the impacts of rising prices in the Balkans due to the current global energy situation.

At the Energy Community Electricity Forum (1-2 June 2022), the contracting parties were encouraged to take the necessary steps to foster the integration of the Euro-Balkan electricity markets, ahead of the Energy Ministers' meeting in December.

During the Energy community's gas forum (4-5 October 2022), participants discussed the security of gas supply and the preparation needed to deal with potential emergency situations during the winter season. The forum also praised the resilience of the contracting parties in coping with the crisis and recalled the need for timely transposition of European measures concerning the security of energy supply.

Finally, Italy plays a key role in the integration between the European market and the countries of the Western Balkans area. As is well known, the submarine cable connection between Italy and Montenegro across the Adriatic Sea has been in operation for several years. For the time being, capacity allocation on the cable is carried out by means of explicit auctions, with approaches similar to those in place on the Swiss border; however, studies are underway aimed at integrating Montenegro (and in general the countries in the area) into the European market coupling. With this in mind, the Energy Community Treaty (which regulates the relations between these countries and the EU) was updated at the end of 2022 to include the European regulatory framework for the regulation of the electricity sector in Directive 944/2019/EU, Regulation (EU) 943/2019 and the Network Codes: the versions of these measures adapted to the Energy Community world will have to be transposed by the various states in the coming years. This will therefore make it possible to finalise Italy's market coupling with Montenegro.

### ***Establishment of the Balkan Energy School - BES***

Following the positive experience of the implementation - from 2018 to 2021 - of the project Know Exchange Programme (KEP) - Central European Initiative (CEI) support for strengthening energy regulatory authorities in the Western Balkans, co-funded by the intergovernmental forum, "Central European Initiative", ARERA has taken the lead in a new initiative in the Balkan area, establishing the Balkan energy school - BES.

Established as a non-profit association under Italian law, based at ARERA in Milan, BES includes among its founding members the regulators of Albania (ERE), Bosnia and Herzegovina (SERC), Montenegro (REGAGEN) and North Macedonia (ERC). Chairman of the association for the two-year period 2022-2024 is ARERA Board Member Stefano Saglia.

The geographical area of reference for the BES activity includes the countries that are signatories of the Energy Community Treaty, those of the European Union to which Title III of the same Treaty applies (i.e. the Member States bordering with the signatory countries), and those that have or may have an interest in such geographical area.

The aim of the Association is to promote debate and the exchange of knowledge in the field of energy with particular reference to market development, regulation and integration, also taking into account the new sustainability parameters.

The association's activities will be implemented through the creation of a training school aiming to foster the acquisition and transfer of knowledge and the development of regulatory capabilities in the energy sector with special reference to the Balkan region and South-Eastern Europe.

The BES seeks to operate in an inclusive, stable and continuous institutional and capacity building action for the benefit of the Balkan region and in support of the Euro-Balkan market development and integration process, including through providing technical, regulatory and institutional support in respect of energy.

### ***Energy market in Mediterranean countries***

Also in 2022, the Authority continued its action within the MEDREG (Mediterranean Energy Regulators) association, of which it is permanent Deputy Chairman, also hosting the Secretariat staff in Milan.

The 33<sup>rd</sup> General Assembly, hosted by the Moroccan regulator (ANRE) in Marrakesh, took place on 22 June. During the meeting, the activities carried out by the various technical working groups



included in the Action Plan were discussed in detail.

Four round tables were held at the MEDREG Chairmen's Workshop in Marrakesh on 23 June:

- Moroccan energy strategy;
- Energy transition in the Mediterranean region;
- Security of supply in the Mediterranean region;
- The reasons of energy soaring and the role of regulators.

The latter, moderated by ARERA, focused on the analysis of the main reasons that have led to the vertiginous increase in energy prices in the Mediterranean area and on the comparison of the measures adopted by the different countries together with recommendations for dealing with possible new future scenarios.

Two workshops were held in October and November, to which ARERA provided input:

- "Market access for demand-response measures", during the training "Infrastructure investments, network remuneration, and tariffs";
- "Role of regional organisations in promoting a coherent regulation to accelerate the energy transition under the security of supply concerns", organised in Cairo, at the Egyptian Regulator (GasReg).

On 1 December, the 34<sup>th</sup> MEDREG General Assembly was held in Cairo hosted by the Gas Regulator (GasReg).

During the meeting, the governance of the association was renewed with the appointment of Abdellatif Bardach, Chairman of the Moroccan Regulator (ANRE), as Chairman, and Prof. Konstantinos Tsimaras, Member of the Board of the Greek Regulator (RAE), and Branislav Prelevic, Chairman of the Montenegrin Regulator (REGAGEN), as Deputy Chairmen, while ARERA was confirmed in the role of permanent Deputy Chairman.

With regard to the activities carried out in the various fields of interest, the following should be noted.

For the electricity sector, the dedicated working group updated the Mediterranean electricity system database "MEMO", enriching it with data and information relevant to the evolution of energy transition (role and weight of renewables) and market integration (interconnections and adequacy criteria).

For renewables and energy efficiency, the working group presented a report on the role and development of 'renewable gases' in the Mediterranean region, with a specific focus on the prospects for hydrogen production, also in relation to European plans for the import and use of this vector, and on the evolution of the contribution of biogas to energy security, also with reference to the fossil gas substitution plans advanced in the "REPowerEU" programme.

A temporary task force, promoted by ARERA and led by the French regulator CRE, reported on the evolution of electricity and gas prices and the impact of the price crisis on economies and energy systems in member countries. A concluding report was presented at the association's General Assembly on 22 June 2022 in Morocco, which was dedicated to the analysis and discussion of regulatory interventions to alleviate or counteract the effects of price increases.

The subsequent General Assembly on 1 December 2022 in Cairo approved the decision to make the price task force permanent.

As part of the institutional activities, the "MEDREG Award" was promoted, an initiative to support

young researchers who engage in research work on relevant topics. The first prize, named after the late Cristina Portugal, former Chair of the Portuguese regulator ERSE, was awarded at the 34<sup>th</sup> General Assembly. The group focused on the report “Model rules against conflicts of interest”, which aims to provide some key insights and to analyse regulatory case studies, which could help to address possible conflict situations. The “Regulatory outlook”, the latest version of which dates back to 2020, has been updated. It focuses on a comparative analysis of the powers and competences of regulators in the Mediterranean and is based on a number of criteria, including the legal status, independence and competences of these institutions.

For the gas sector, the report “Cross-border coordination for interconnection capacity development” was approved, the aim of which is to analyse the role of gas in the energy transition, through its ability to offer flexibility to the electricity market, to examine the strategy of the different MEDREG member countries regarding cross-border interconnections, and to study the challenges for developing the new hydrogen and biogas facilities. Two workshops were organised, the first to explore the solutions recommended in the report mentioned above, the second entitled “Renewable gases: commercial and regulatory aspects and the effects of COP26 decisions”. Support activities were provided to the Egyptian and Algerian regulators on the topic “Optimisation of the natural gas transportation network and determination of natural gas wholesale price”. Finally, cooperation activities with OME - Mediterranean Energy Observatory and CEER - Council of European energy regulators were intensified, and the governing body members took part in the evaluation of the papers received in connection with the GASTECH 2022 international exhibition in Milan.

With regard to consumers, the working group devoted itself to the preparation of a report on the topic of losses in electricity networks, “Benchmarking report on technical and non-technical losses”, as an update of a similar report published in 2019. The report analyses the levels of network losses in different countries, their causes and the measures taken to reduce them, and explores the effects of the pandemic on losses, including in relation to the issue of energy poverty and vulnerable consumers.

### ***The Euro-Mediterranean Gas Forum (EASTMED Gas Forum) and the Regulatory Authority Advisory Committee (RAAC)***

Established in 2019 and becoming an international organisation in 2020, based in Egypt, the Euro-Mediterranean Gas Forum (EMGF) brings together Cyprus, Egypt, France, Jordan, Greece, Israel, Italy and the Palestinian Authority, with the aim of promoting a regional natural gas market and cooperation between the participants in the implementation of facilities. The World Bank, the United States and the European Union are granted observer status. In addition to the decision-making body, the interministerial conference, EMGF, has a permanent secretariat based in Cairo, a rotating executive committee and two advisory committees, consisting of representatives of the companies active in the area (GIAC - Gas Industry Advisory Committee) and the regulatory authorities of the member countries (RAAC - Regulatory Authorities Advisory Committee).

The Italian regulatory authority is an active member of the RAAC. The first kick-off meeting took place in virtual mode, followed by meetings on 4 July in Athens and 6 October in Rome.

A position paper, promoted by ARERA and shared by the other members of the RAAC, identifies the main elements that regulators intend to provide for the EMGF initiative, also in relation to the prospective benefits in terms of greater diversification and security of supply in Europe and the Mediterranean:

- facility pricing as an incentive for investment in certainty, equity and efficiency;
- transparency of facility access conditions as a means of promoting an integrated and competitive regional market;
- cost-benefit analysis as a contribution to the identification of the best alternatives in terms of market organisation and facility adequacy.

Specific actions and initiatives will be elaborated by the RAAC according to the objectives stated in the EMGF Long-term strategy.

### **Bilateral relations with EU and non-EU countries**

On 24 and 25 October 2022, ARERA coordinated a visit to Italy by ANRE, the Moroccan electricity regulator. On the first day, the Italian Authority presented the structure of the regulation of the electricity grid system in Italy, with particular reference to the quality of services and the relationships between the distribution and transmission levels. On the second day, the ANRE delegation visited the distribution and remote control facilities of A2A/Unareti (Milan) and the RSE headquarters, after which an experimental project on voltage drop assessment was illustrated.

## 3.2 Competition and the functioning of markets

### 3.2.1 Wholesale markets

Table 3.7 shows the electricity balance in Italy in 2022 compared to the previous year; the data is from Terna and is provisional for 2022.

**Table 3.7 Terna's balance of electricity in Italy**

AVAILABILITY AND USE (GWh)	2021	2022 <sup>(A)</sup>	VARIATION
Gross production	289,070	286,096	-1.0%
Auxiliary services	9,024	9,601	6.4%
Net production	280,045	276,495	-1.3%
Received from foreign suppliers	46,572	47,391	1.8%
Sold to foreign customers	3,782	4,404	16.4%
Intended for pumping	2,916	2,533	-13.1%
Availability for consumption	319,919	316,949	-0.9%
Network leakage	19,032	19,051	0.1%
Consumption net of leakage	300,887	297,898	-1.0%

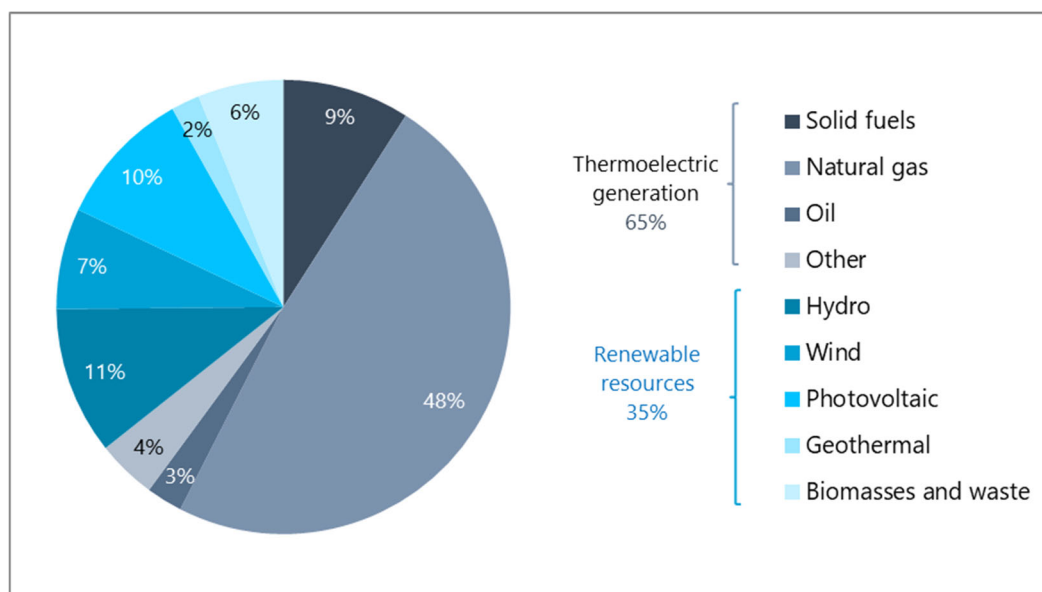
(A) Provisional data.

Source: ARERA processing of Terna data.

Electricity demand decreased by 1% in 2022; the decline affected all sectors except the tertiary sector (see below). Energy available for consumption was met just over 86% by net domestic production (minus energy for pumping) and the remaining 13.6% by the balance from abroad. Domestic production decreased by 1% year-on-year, while imports increased by 1.8% and energy for exports by 16.4%.

Gross domestic electricity production also decreased by 1% to 286.1 TWh from 289.1 TWh in 2021. In particular, thermoelectric production increased by 7.9% while energy production from renewable sources decreased by 13.9%.

**Figure 3.4 Gross production by source in 2022**



Source: Terna, provisional data.

In thermoelectric generation, very significant increases were recorded in production from solids (+84.9%), oil products (+91.5%) and other energy sources (+38.6%), while generation from natural gas decreased by 3.7%. In the area of renewables, which account for around 35% of the national electricity generation mix (Figure 3.4), there were declines in production from all sources except photovoltaics, which grew by 12.3%. In particular, hydropower generation decreased by 37.8% in view of the water emergency in 2022, while generation from bioenergy dropped by 8.5%, wind power by 1.8%, and geothermal decreased by 1.7% year-on-year.

Table 3.8 shows for thermoelectric, renewable and mixed sources the number of producers, the available power and the related production in 2022, using the data collected from the Authority's Annual Survey of Regulated Sectors, which this year covers 93% of the generation indicated by Terna. The table shows that mixed-type operators, with both thermoelectric and renewable generation, account for most of the total power, i.e. 47,699 MW (45% of all power), and represent, as usual, about 3% of the power producers (they are 447 out of 14,905); their percentage contribution to the total generation has slightly decreased compared to the previous year, from 44% to 41%.

**Table 3.8 Producers, plants and electricity generation in 2022**

PRODUCERS, PLANTS AND GENERATION BY SOURCE	THERMOELECTRIC	RENEWABLES	MIXED	TOTAL
Number of producers	481	13,977	447	14,905
Gross power (MW)	21,884	36,772	47,699	106,355
Gross generation (TWh)	81.1	75.5	108.5	265.0

Source: ARERA. Annual survey of regulated sectors.

The share of gross generation of the top three corporate groups (Enel, Eni and A2A) increased to 34.3% (from 33.4% in 2021), because Enel's share has grown (from 17.3% to 17.9%) as has that of A2A (from 6.8% to 7.5%), while that of the Eni group has fallen slightly (from 9.3% to 8.9%). The share of the Edison group (in fourth position) rose from 6.1% to 6.9%, while that of EPH, which is the fifth largest group in Italian electricity generation, fell slightly (from 5.8% to 5.4%). The concentration indices in gross electricity generation all increased: the C5 rose from 45.3% to 46.6%, as did the Herfindahal-Hirschman index (HHI) in 2022 to 576 from the 552 value in 2021.

In 2022, total net power stands at 117.9 GW (Table 3.9; provisional figure), which is split between 51% renewables and 49% thermoelectric. Peak demand was reached on 25 July 2022, when power demand at peak came to 57.4 GW (up 2.3% from the previous year's peak, equal to 56.1 GW recorded on 8 July 2021). Although 2022 was a very hot year, the summer peak did not reach the absolute record for the Italian electricity system, taken in summer 2015 (equal to 60.5 GW).

There are four groups with a net installed capacity share of more than 5%: Enel (22.3%), A2A (8.2%), Edison (5.5%) and Eni (5.0%); in 2021, they were the same four. The share of capacity held by the first three groups is 35.9%, lower than the 36.2% in 2021. The HHI index for net installed capacity also shows a reduction in market concentration; in fact, the value for 2022 is 663, whereas it was 676 in the previous year.

**Table 3.9 Development of the wholesale market**

YEAR	REQUEST <sup>(A)</sup> (TWh)	PEAKING DEMAND (GW)	NET INSTALLED CAPACITY (GW)	CORPORATE GROUPS WITH >5% SHARE IN NET GENERATION	% SHARE OF TOP 3 GROUPS IN NET GENERATION
2001	304.8	52.0	76.2	4	70.7
2002	310.7	52.6	76.6	3	66.7
2003	320.7	53.4	78.2	4	65.9
2004	325.4	53.6	81.5	5	64.4
2005	330.4	55.0	85.5	5	59.4
2006	337.5	55.6	89.8	5	57.1
2007	339.9	56.8	93.6	5	54.7
2008	339.5	55.3	98.6	5	52.0
2009	320.3	51.9	101.4	5	50.6
2010	326.2	56.4	106.9	5	48.2
2011	332.3	56.5	118.4	4	43.6
2012	325.5	54.1	124.2	3	41.2
2013	316.0	53.9	124.7	3	39.1
2014	308.2	51.6	121.8	3	41.2
2015	315.0	60.5	118.3	3	40.1
2016	311.8	56.1	114.2	4	43.9
2017	318.1	56.4	114.2	5	35.6
2018	319.1	57.6	115.2	4	35.4
2019	317.2	58.8	116.4	5	33.3
2020	298.5	55.4	116.4	5	31.7
2021	317.0	56.1	116.6	5	33.6
2022 <sup>(B)</sup>	314.4	57.4	117.9	5	34.3

(A) Net of energy for pumping and gross of network leakage.

(B) Provisional data.

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

In Italy, multiple incentive mechanisms coexist for electricity production plants fuelled by renewable energy resources, ranging from all-inclusive incentive tariffs (feed-in tariff<sup>77</sup>) to feed-in-premium incentive tools<sup>78</sup>. The annual cost for the community of the most recent incentive instruments depends not only on the amount of incentivised electricity, but also on the average market prices of the year in which the support takes place: the high market prices recorded in 2022, in particular, led to a reduction of this cost in 2022 (until it became negative overall).

The incentive instruments have allowed the incentivisation of an amount of electricity that currently stands at around 57 TWh: 37% of this was produced by photovoltaic plants, 27% by wind power plants, 24% by biomass, 10% by hydroelectric plants and, finally, 2% by geothermal sources. Compared to 2021, all sources decreased, except solar, whose incentivised production increased by

<sup>77</sup> 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.

<sup>78</sup> 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.



almost 1 TWh (+3.4%).

For 2022, all in all the costs of incentivising renewable energy sources amounted to approximately € 6.4 billion, which is significantly lower than in previous years, due to high electricity market prices. With the discontinuation of the green certificate mechanism, these costs are in general charged to the Account for new plants fuelled by renewable and assimilated sources, fed by the  $A_{SO5}$  tariff component. Costs related to special commercial regimes (guaranteed minimum prices and on-the-spot trading) are also charged to the Account for new plants fuelled by renewable and assimilated sources. In the period between 1 October 2021 and 31 March 2023, these costs were charged to general taxation.

Taking into account the overall demand for electricity, which has not increased, the foreign balance also recorded only limited change: net imports in fact rose to 43 TWh from 42.8 TWh in the previous year (+0.5%). As a result, the share of domestic needs covered by the external balance increased slightly from 13.4% in 2021 to 13.6% in 2022. Reliance on imports increased slightly due to the need to meet demand against a lower coverage of domestic production, which declined slightly more than demand. Compared to the previous year, in 2022 we imported approximately 800 GWh more from Switzerland, about 750 GWh more from Slovenia and around 250 GWh more from Austria. This was to offset the drop in volumes from France (from which, due to the reduced availability of nuclear production, about 750 GWh less arrived) and those from Greece and Montenegro (from each of which we purchased about 100 GWh less). The import levels were in any case essentially stable: Switzerland remained the country from which most (44.8%) of our foreign balance came in 2022, although the share decreased by 2 percentage points compared to 2021. Another 30.7% of net imported electricity comes from France (32.6% in 2021), 14.4% from Slovenia (12.6% in 2021), 6.6% from Montenegro (7.4% in 2021), 3.5% from Austria (2.9% in 2021) and 1.6% from Greece (3.1% in 2021).

### The structure of the electricity market

The Energy Markets Operator (GME) is in charge of managing the energy markets, which are divided into the Spot Energy Market (MPE) - in turn divided into the Day-Ahead Market, the Intra-Day Market and the Day-Product Market - and the Forward Electricity Market with the obligation of physical delivery of energy. Finally, the GME collects offers on the Dispatching Service Market (MSD) operated by Terna<sup>79</sup>.

During 2022, 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, continued. By the end of 2022, therefore, there were still 26<sup>80</sup> participating states in Single Day-Ahead Coupling (SDAC). With reference to national borders, the explicit allocation of transmission capacity between Italy and Switzerland and between Italy and Montenegro remains.

On 1 June 2022, the European Platform for the Exchange of Balancing Energy from Frequency

---

<sup>79</sup> For a detailed description of the Italian electricity market, refer to the *Annual Report to the Agency for the Cooperation of Energy Regulators (ACER) and the European Commission on the activities and tasks of the Regulatory Authority for Energy Networks and Environment 2022*.

<sup>80</sup> 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.

Restoration Reserves 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 Frequency Restoration Reserves with Manual Activation, better known as MARI (Manually Activated Reserves Initiative), became operational. By 24 July 2023, Terna, the Italian TSO, will also have to use the PICASSO platform, while for access to the MARI platform it has an exemption until 24 July 2024.

To date, 340 operators have been admitted to the electricity market.

### Stock exchange and bilateral contracts

In 2022, the amount of electricity traded on the Italian system's MGP amounted to 289.2 TWh, a value that decreased very slightly compared to 2021 (-0.4%).

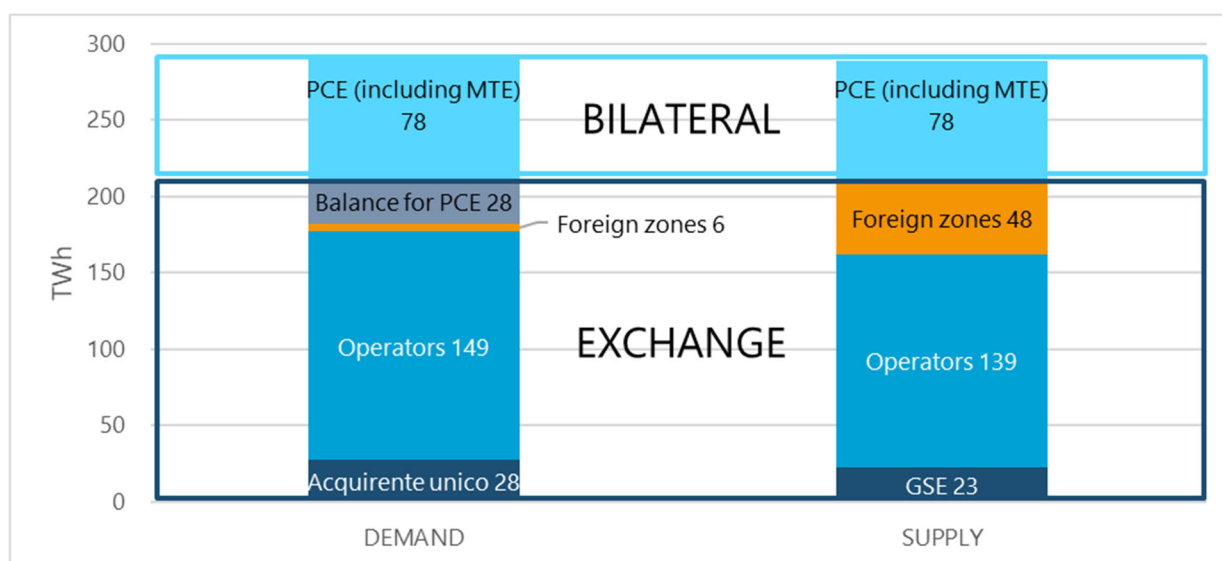
Exchange-traded volumes decreased (210.9 TWh; -4.7%), in favour of more bilateral trading on the PCE (78.3 TWh; +13.2%), almost entirely on domestic areas (Table 3.10).

**Table 3.10 Electricity market**

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

Source: ARERA processing of GME data.

Trade with foreign countries increased, driven by an increase in imports totalling 48.4 TWh (+3.2%), or 23% of total stock exchange sales (the share rose by two percentage points compared to 2021), as did exports, which rose by 5.5 TWh (+30.2%) or 3% of total stock exchange purchases (one point higher than last year). In addition, the share of volumes traded (for supply and purchase) by institutional operators alone, i.e. Acquirente Unico (Single Buyer) (27.8 TWh; -30.1%) and the GSE (29 TWh; -8.0%), which together account for 10% of the volumes traded (two percentage points less than last year), decreased (Figure 3.5).

**Figure 3.5 Breakdown of electricity supply and demand in 2022**

Source: ARERA processing of GME data.

**Table 3.11 Purchased bilateral contracts**

CONTRACTS (GWh)	2017	2018	2019	2020	2021	2022
National	125,750	136,867	129,368	114,745	11,531	106,736
<i>of which Acquirente Unico</i>	3,714	2,459	-	-	0.02	-
<i>of which other operators</i>	122,037	134,408	129,368	114,745	112,531	106,736
Foreign	69	0	-	4	34	19
PCE programme balance	-44,540	-54,233	-46,804	-44,403	-43,445	-24,490
Bilateral contracts	81,279	82,635	82,564	70,346	69,121	78,265

Source: ARERA processing of GME data.

The total volumes sold on domestic areas amounted to 240.8 TWh (-0.8%) and accounted for 83% of sales on the whole system. Compared to 2021, the volumes supplied in the Northern area (116 TWh; -9.7%) and in the Central-Northern area (15 TW; -7.2%) decreased, while they increased in all other areas, particularly in the Sicilian area (16 TWh; +56%).

Sales relating to thermoelectric plants amounted to 156 TWh (+8.3% over 2021), or 65% of sales in the domestic areas (five points higher than 2021), recording increases for all fuel sources: coal (13.5 TWh; +53%) increased particularly in the North (+200%), while natural gas (119 TWh; +1.8%) increased especially in Sicily (+95%), as did fuel oil (9.6 TWh; +150%; +226% in Sicily).

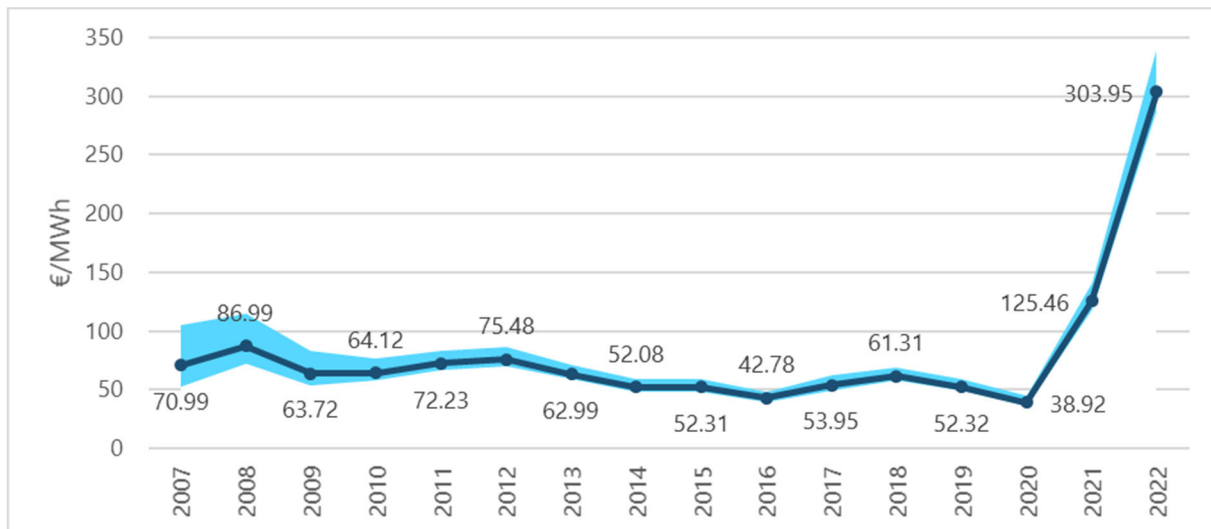
On the other hand, sales of renewable energy plants decreased (83 TWh; -13%), corresponding to 35% of total sales (five percentage points less than last year): in particular, the share of hydroelectric excluding pumped storage (33.6 TWh; -28%) fell by five percentage points, particularly in the North (-35.2%), while sales of wind power (20 TWh; +7.5%) gained one percentage point, increasing particularly in the North (+57%). By contrast, the share of solar energy (2.1 TWh; +23%) remained essentially stable.

**3.2.1.1 Monitoring of wholesale market prices**

**The day-ahead market**

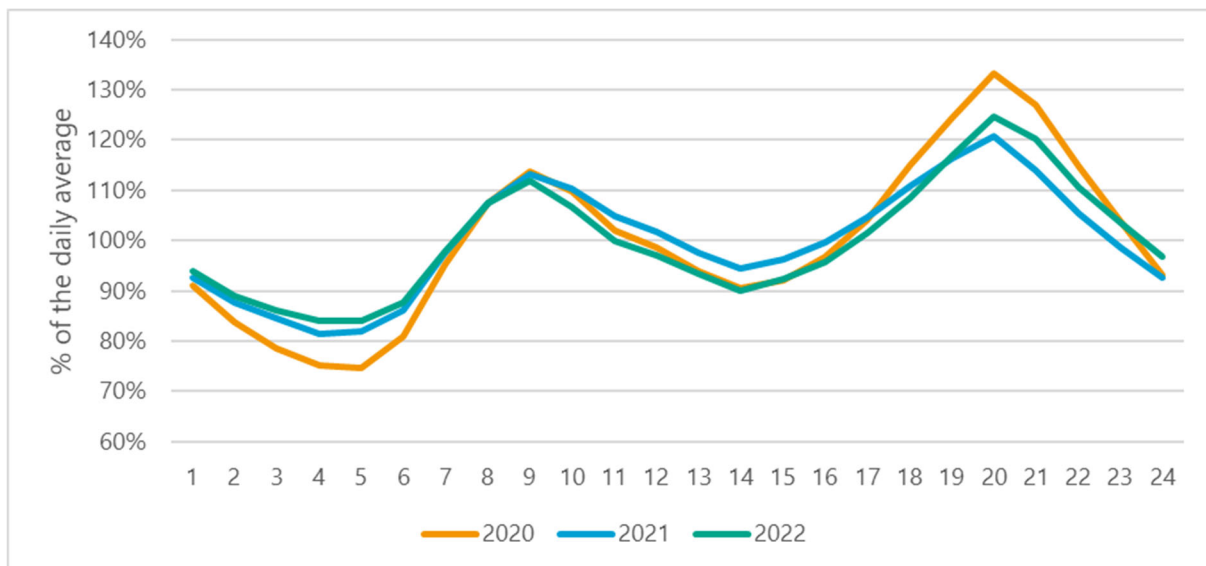
In 2022, the average energy purchase price (PUN) was at its highest value ever, at € 303.95/MWh (Figure 3.6), an increase of 142.0% over the previous year; this increase was more pronounced in off-peak hours (+148.0%) than in peak hours (+139.1%) on working days and on public holidays (+141.0%).

**Figure 3.6 Annual PUN and peak/off-peak differential trends**



Source: GME.

**Figure 3.7 24-hour average hourly PUN trend compared to daily average**



Source: GME.

On the other hand, looking at the 24-hour profile in 2022 compared to 2021 (Figure 3.7), we note an increase in the ratio of the evening hours (20-24), on average 109.8% (+3.8 percentage points) of the daily average, a decrease in the ratio of the peak hours (9-19), equal to 100.0% (-4.3 percentage points) of the daily average, while the ratio of the early morning hours (1-8) remains essentially

constant, equal to 90.2% of the daily average (+0.5 percentage points).

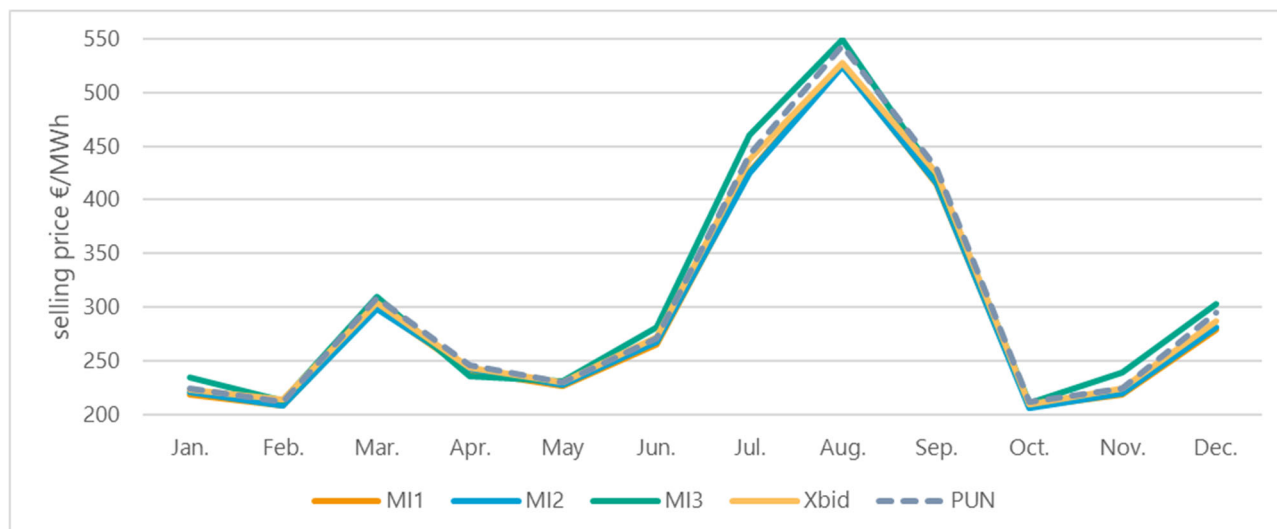
### Intra-day market

The total volumes traded in 2022 on the intraday market (26.0 TWh) were stable compared to the previous year. Most of these volumes (54%) were traded in the first auction session MI1 (13.9 TWh), while the remaining auction sessions recorded lower shares, respectively 21% in MI2 (5.4 TWh) and 10% in MI3 (2.6 TWh). The remaining volumes (16%) were traded in the XBID continuous trading session (4.0 TWh), mainly on foreign areas (68%).

The average prices recorded on the MI (Figure 3.8) are very much correlated with the corresponding MGP values, increasing their absolute differential and volatility as real time approaches; in particular, it is noted that the average prices of the first two sessions (MI1 and MI2) are, in all areas, lower (by no more than 1.3%) than the corresponding MGP prices, while the average prices of the third session (MI3, which, as we recall, refers only to the hours of 13-24) are higher than the corresponding MGP prices in each area, with appreciations ranging from +3.1% in the North to +3.9% in Sardinia.

Over the course of the year, average monthly prices (MI1) showed progressive increases up to a high of € 526/MWh in August, reflecting the peak recorded on the MGP, and then gradually declined to a low of € 210/MWh in October.

**Figure 3.8 Monthly price development in MI in 2022**



Source: GME.

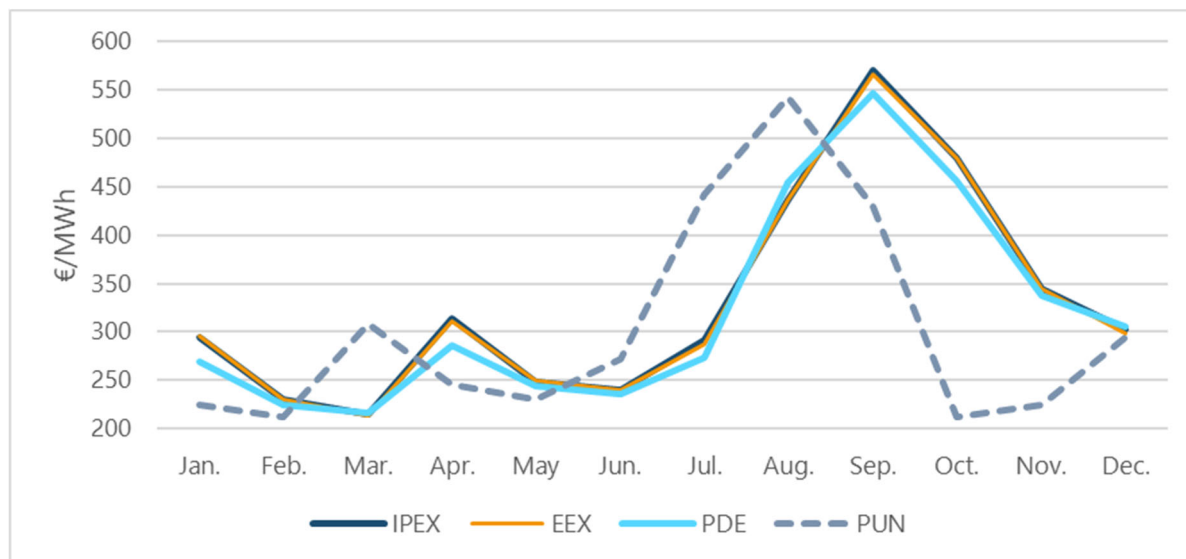
### Forward energy market

On the Forward electricity market, with regard to standardised products with physical delivery, in 2022, there were only 6 pairings for a total of 10 GWh, which is a sharp decrease compared to 2021 (-55%): transactions regard monthly (6 MWh) and quarterly (4 MWh) products, both with a baseload profile. For the eighth consecutive year, there was no bilateral transaction for clearing purposes only.

Looking at the price development of the generally more liquid forward product, i.e. the monthly baseload maturing in the next month (M+1), operators reported prices for 2022 ranging from €

211/MWh (October) to € 570/MWh (September). This trend is in line with that recorded over the year by the underlying PUN, whose greatest gap occurs following the summer peaks, recording a differential of € 244/MWh in October (Figure 3.9).

**Figure 3.9 M+1 product forward quotations in 2022, by month of delivery**



Source: ARERA processing of data from different sources.

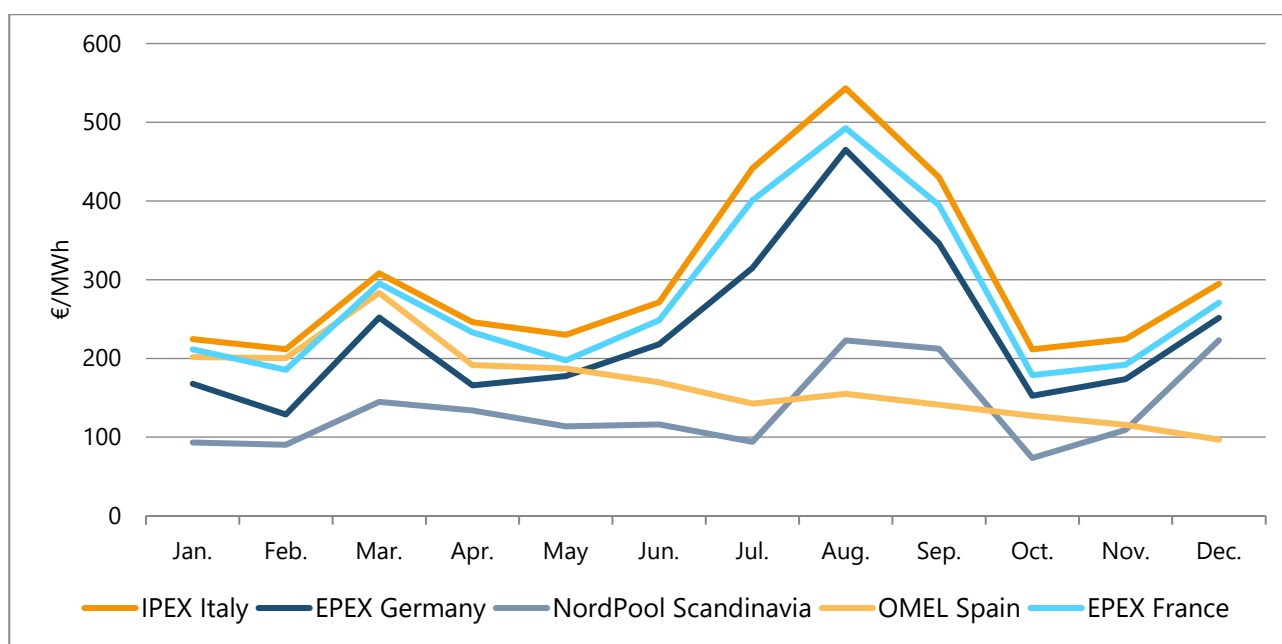
### The Italian market in the European context

Against a global backdrop of persistently rising fuel prices, electricity prices on the power exchanges of other European countries reached unprecedented levels in 2022, reaching on average eight times the pre-crisis levels of 2020. The high points were reached in the summer months and, in particular, in August, when quotations rose to € 450-550/MWh (Figure 3.10).

Due to a largely gas-fuelled generation park, the average Italian price rose by 142% in 2022 to over € 300/MWh for the first time, compared to the already high price in 2021. Similarly high increases were also seen in other European countries (with the exception of Spain) where, however, prices were at lower levels, so the gap with prices in the rest of Europe widened.

Growth rates similar to Italy's were in fact found in French, Swiss and Austrian prices, which rose to around € 261/282/MWh (145-153%), as well as in German prices, which averaged € 235/MWh (143%). Spain's spot price (€ 168/MWh), on the other hand, increased much less than in 2021, by 50%, due to the cap that was imposed on the price offered by gas-fired production units. As always, the Scandinavian area's quotation remained the lowest (€ 136/MWh), although it too showed a very high increase (116%).



**Figure 3.10 Monthly average price trend on major European stock exchanges in 2022**

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

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

#### Monitoring of the wholesale market

At an advanced stage of regulation, the wholesale market monitoring function is the main tool the Authority has for assessing the structure of markets and their proper functioning, as well as the behaviour of operators and the adequacy of the system. In the electricity sector, the Authority has therefore equipped itself<sup>81</sup>, since 2008, with the Integrated Text on the Monitoring of the Wholesale Electricity Market and of the Dispatching Service Market (TIMM), in order to strengthen its monitoring function in the sector.

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

In addition:

- the GME draws up and transmits to ARERA, 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

<sup>81</sup> By Resolution ARG/elt 115/08 of 5 August 2008, as amended.

the utility service. In addition, at ARERA's request, it carries out *ad hoc* analyses in support of the investigative activities conducted by ARERA;

- Terna (the TSO) prepares and submits to ARERA, on a weekly basis, a weekly report on the structure and outcome of the dispatching service market 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.

### Implementation of REMIT

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

Pre-investigation activities were conducted during 2022, resulting from external or *ex officio* recommendations of suspicious orders and/or transactions in the wholesale electricity and natural gas markets, potentially abusive under the REMIT regulation.

ARERA also confirmed its proactive contribution to the working groups in both ACER and CEER, in order to promote a coordinated approach in the implementation of the REMIT regulation, contributing to:

- monitoring issues of European electricity balancing platforms;
- the sharing of tools, methodologies and means for the surveillance of wholesale markets, as well as issues related to the coordination of potential market abuse cases with a cross-border dimension;
- monitoring the development of financial regulations and contributing to the creation of CEER-ACER positions in areas relevant to the proper functioning of energy markets.

### Penalty proceedings in the wholesale market and dispatching services

In 2022, ARERA concluded 56 sanction proceedings concerning non-diligent scheduling strategies within the electricity dispatching service, 46 of which resulted in rulings for archiving and 12 (of which 4 with the revival of sanctioning power) resulted in the imposition of administrative fines totalling € 1,600,000.

In addition, in 2022, the first two sanction proceedings for violations of wholesale market integrity and transparency were concluded with the imposition of sanctions totalling € 47,000, which can be traced back to the market manipulation offence described in Article 2, point 2, letter a), point i) of the REMIT regulation. At the outcome of the investigations conducted by ARERA's Offices, it emerged that the transactions in question were capable of providing the market with a misleading price signal,

both in terms of price level (price not aligned to current prices) and in terms of price volatility (transactions with position reversal and significant price spread), and thus capable of altering supply and demand. In this case, in quantifying the penalties, ARERA took into account a number of specific subjective and objective circumstances that limited the severity of the violation.

### 3.2.2 Retail market

In 2022, according to provisional data published by Terna, total consumption (net of leakage) amounted to approximately 298 TWh, a decrease of 1% compared to 2021. The downturn affected all sectors, except services, which, on the other hand, recorded a 4% increase in consumption (Table 3.12).

**Table 3.12 Breakdown of national electricity consumption by end sector**

PRODUCTION SECTOR (TWh)	2017	2018	2019	2020	2021	2022 <sup>(A)</sup>	2022/21 variation
Household	65.5	65.1	65.6	66.2	67.1	65.2	-2.8%
Agriculture	6.0	5.8	6.1	6.3	6.7	6.6	-1.7%
Industry	125.5	126.4	128.9	125.4	135.7	131.1	-3.4%
Tertiary	104.9	106.0	101.2	85.9	91.4	95.0	4.0%
<b>TOTAL</b>	<b>301.9</b>	<b>303.4</b>	<b>301.8</b>	<b>283.8</b>	<b>300.9</b>	<b>297.9</b>	<b>-1.0%</b>

(A) Provisional data.

Source: Terna.

Within the scope of the Authority Registry of Operators, 109 entities in the standard offer market, 4 in the gradual standard offer service, 3 in the safeguard service and 758 in the free market declared to have carried out electricity sales activities in 2022 (even for a limited period of the year).

560 free market companies responded to the Survey (i.e. 74% of those in the market), 50 of which reported that they had been inactive during the year. Taking into account the fact that 47 entities sell energy in both the free and in the market with a reference price, as well as the fact that the companies in the safeguard and gradual standard offer services also sell in the free and/or in the standard offer market (and are therefore already counted in those segments), the total number of companies active and operating in the end market for electricity sales is 622 (i.e. 672 respondents from which the 50 inactive companies must be subtracted).

Table 3.13 presents the breakdown of final sales of electricity (net of self-consumption and network leakage) together with the total number of customers<sup>82</sup> by type of market, determined on the basis of data from the Authority's Annual Survey provided by electricity operators: producers, operators of the standard offer, gradual standard offer and safeguard services, wholesale suppliers and suppliers on the free market. The sales data collected by ARERA (considered together with self-consumption) reach a coverage of 93%<sup>83</sup> of the final consumption estimated by Terna, the electricity grid operator, but this percentage is indicative, taking into account the preliminary nature of the data used, both

<sup>82</sup> 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).

<sup>83</sup> In order to obtain the percentage indicated, the data collected in the Survey for self-consumption and network leakage must be added to the final consumption shown in Table 3.13.

from Terna's source and from ARERA's annual survey of suppliers.

**Table 3.13 Final electricity sales market (net of self-consumption and leakage)**

	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2021	2022	VARIATION	2021	2022	VARIATION
Standard offer service	28,258	21,858	-22.6%	14,199	12,161	-14.4%
Household	23,860	18,374	-23.0%	12,397	10,602	-14.5%
Non-household	4,398	3,485	-20.8%	1,802	1,559	-13.5%
Gradual standard offer service	4,599	2,303	-49.9%	226	136	-39.8%
Safeguard service	3,293	4,843	47.1%	77	89	15.9%
Free market	216,493	223,239	2.9%	22,431	24,841	10.7%
Household	36,864	39,939	8.3%	17,460	19,522	11.8%
Non-household	180,002	183,300	1.8%	4,970	5,319	7.0%
<b>END MARKET</b>	<b>253,016</b>	<b>252,244</b>	<b>-0.3%</b>	<b>36,932</b>	<b>37,227</b>	<b>0.8%</b>

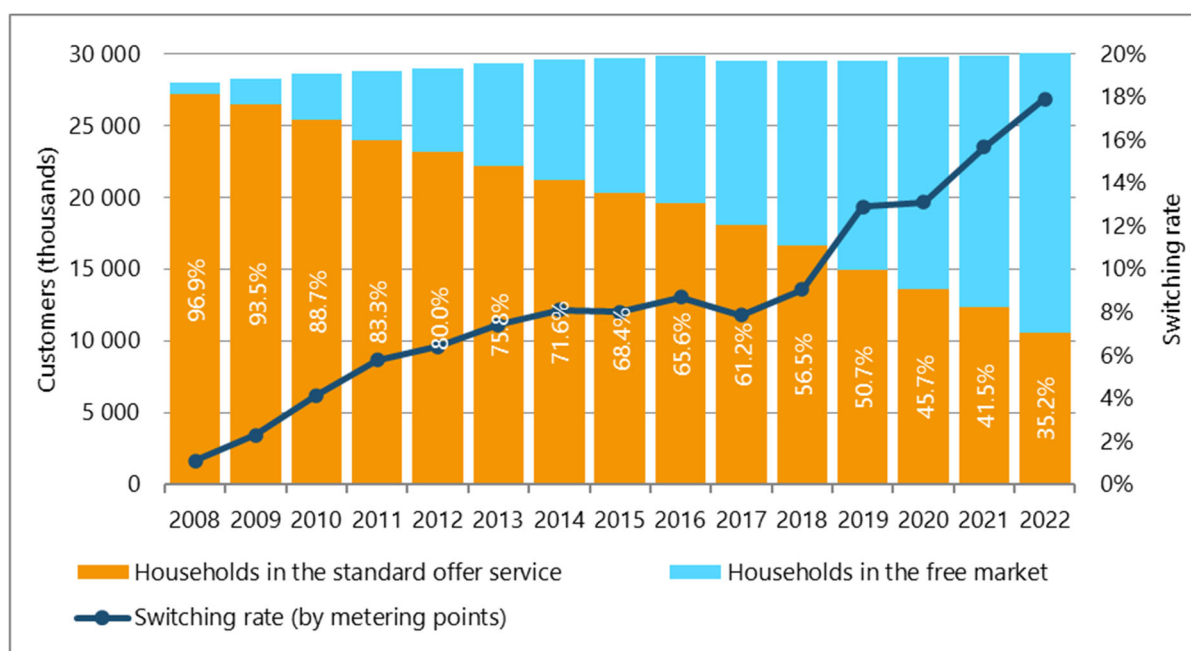
Source: ARERA. Annual survey of regulated sectors.

After the significant rebound in 2021, when the post-Covid economic recovery brought consumption back up, demand for electricity basically levelled off in 2022, returning to a slight decline: according to data collected, just over 252 TWh were sold to the end market last year to 37 million customers. Compared to 2021, total electricity consumption therefore decreased by 0.3%, while withdrawal points increased slightly.

The modest contraction in consumption is entirely due to the household sector, which purchased about 2.4 TWh less than in 2021, while non-household consumption increased by 1.6 TWh. In a year of strong economic recovery (+3.7% change in GDP as estimated by ISTAT), purchases by the manufacturing sector did not fall despite the fact that the extremely high price levels reached during the year contributed to curbing their increase. High price increases, on the other hand, together with the awareness-raising campaign to curb energy consumption adopted by the Government, explain the reduction in purchases in the household sector.

In greater detail, Italian households purchased a total of 58.3 TWh compared to 60.7 TWh in 2021, thus recording a decrease of 4%, while energy purchased by the non-household sector rose from 192.3 to 193.9 TWh, thereby marking an increase of 0.9%, still insufficient to fully recover pre-Covid levels (198 TWh in 2019).

In 2022, the number of domestic withdrawal points was 30.1 million, of which 10.6 million were served in the standard offer service and 19.5 million in the free market. The domestic points served in the free market have now risen to 64.8% (Figure 3.11). If we then look at the volumes, the free market is even wider: in 2022, in fact, energy purchased by the household sector in this market rose to 68.5% from 61% of the previous year. The transition to the free market is, however, a lengthy process: fifteen years after the complete opening of the electricity market on 1 July 2007, the domestic withdrawal points that are supplied in the standard offer service are still just short of a third of the total.

**Figure 3.11 Households in the standard offer service and in the free market since 2008**

Source: ARERA, Annual survey of regulated sectors.

The average unit consumption of households in the market with a reference price is slightly lower than that of households purchasing energy in the free market: 1,733 kWh/year versus 2,046 kWh/year. In 2022, the gap widened slightly by 126 kWh compared to 2021.

For the electricity supply of small enterprises<sup>84</sup> and micro-enterprises with a committed capacity of more than 15 kW<sup>85</sup>, price protection ended on 1 January 2021. The other micro-enterprises (those with a committed capacity of less than 15 kW) and all non-households (including some central heating) can no longer be supplied permanently in the standard offer service from 1 April 2023. Therefore, the total volumes sold under protection in 2021 and 2022 still include those purchased by micro-enterprises with a committed power of less than 15 kW. If the consumption of the household sector is added to the consumption of the latter, the share of electricity sold in the **standard offer service** is, however, very small, amounting to only 8.7% of the volumes of the entire Italian electricity market (corresponding to 32.7% of the total withdrawal points).

As of January 2021, small and micro-companies forced to leave the standard offer market (with committed power in excess of 15 kW), which have not opted for a supply in the free market, will be supplied under the **gradual standard offer service** by a supplier selected by public tender. In 2022, the service served 136,000 withdrawal points, or 0.4% of all customers in the electricity market, to which it supplied 2.3 TWh, or 0.9% of the energy sold in the total market. As was to be expected, the gradual standard offer "market" virtually emptied in 2022, given that it is an assigned service, in which only those who do not make a choice towards the free market remain.

With 223 TWh sold, the share of electricity intermediated by the **free market** rose to 88.5% (66.7% of withdrawal points) in 2022, despite the fact that the portion of electricity purchased in the

<sup>84</sup> Companies with between 10 and 50 employees and/or an annual turnover of between € 2 and 10 million, owners of "low voltage" withdrawal points.

<sup>85</sup> Companies with less than 10 employees and an annual turnover not exceeding € 2 million owning at least one withdrawal point with a commitment to contracted power exceeding 15 kW.

**safeguard service** rose slightly to 1.9% (0.2% of withdrawal points) from the 1.3% recorded in 2021. In an end market that overall dropped by 0.8 TWh compared to 2021, sales volumes in the market with a reference price decreased by 6.4 TWh (-23%), those supplied under the gradual standard offer service halved (-2.3 TWh), the free market gained 6.4 TWh compared to the previous year (+2.9%), while sales under the safeguard service grew by 1.5 TWh (+47%).

The total number of customers increased in 2022 by 294,000, reaching 37.2 million: the standard offer market lost about 2 million points, the customers of the safeguard service increased by about 12,000 units, while in the free market the number of customers increased by 2.4 million compared to 2021.

### Switching

On the basis of data provided by distributors in the Annual Survey and data from the IIS<sup>86</sup>, switching was again very high among customers in 2022, as was to be expected in a period of steeply rising prices, which certainly stimulated electricity customers to move in search of more favourable economic conditions.

The switching of households grew again, whether measured in terms of withdrawal points or in terms of volumes (Table 3.14), approaching the rate of non-households. 17.9% of households - about 5.3 million withdrawal points - changed supplier at least once during the year. The volumes corresponding to this portion of customers amounted to 23% of the total energy purchased by the household sector, while the volumes corresponding to the 15.7% of households who changed supplier in 2021 corresponded to 17.9% of the energy withdrawn.

**Table 3.14 Electricity customer switching rates**

CUSTOMER TYPE	2021		2022	
	VOLUMES	WITHDRAWAL POINTS	VOLUMES	WITHDRAWAL POINTS
Household	17.9%	15.7%	23.0%	17.9%
Non-household	22.4%	18.7%	25.5%	20.3%
<i>of which:</i>			<i>of which:</i>	
- low voltage	29.4%	18.7%	31.7%	20.3%
- medium voltage	20.5%	19.4%	24.1%	22.2%
- high and extra-high voltage	13.8%	26.1%	16.1%	33.8%
<b>TOTAL</b>	<b>21.3%</b>	<b>16.2%</b>	<b>24.9%</b>	<b>18.3%</b>

Source: ARERA. Annual survey of regulated sectors.

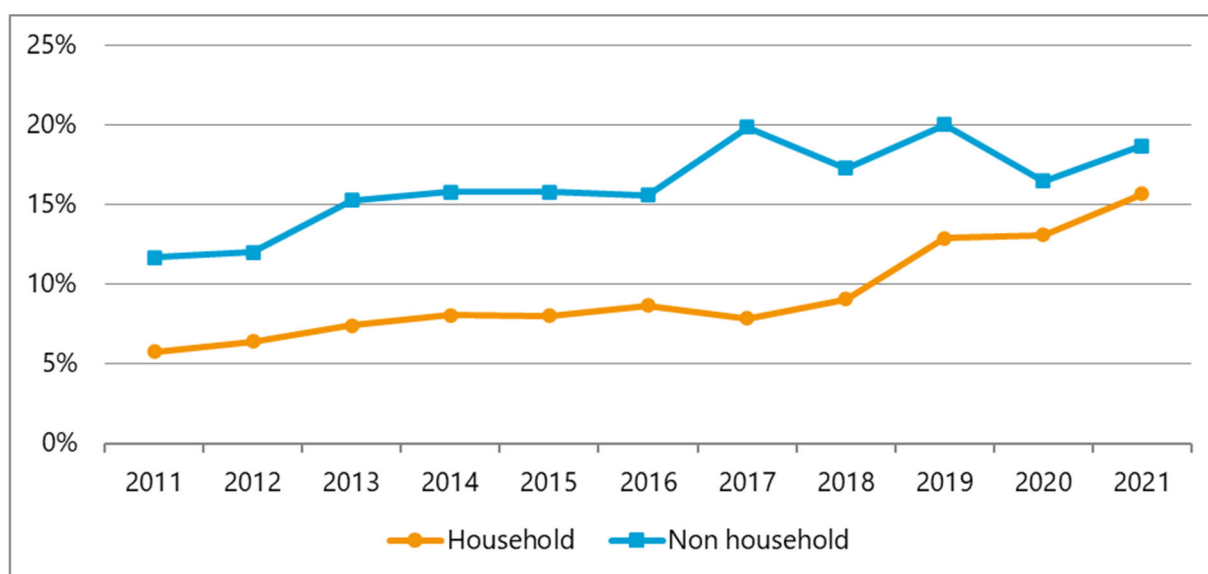
In recent years, household switching has shown a certain acceleration from a more modest trend maintained until 2018 (Figure 3.12). As just noted, the recent context of steeply rising prices is undoubtedly a strong stimulus for supplier switching, but the approaching removal of price

<sup>86</sup> Integrated Information System (IIS): this is an information system, set up at the Acquirente Unico (Single Buyer) by Law No. 129 of 13 August 2010, with the aim of managing information flows between the entities (mainly distributors and suppliers) participating in the electricity and gas markets according to the rules and proceedings defined by the Authority. It is based on a database, called the Official Central Register, which contains the complete list of national withdrawal points and the basic data for the management of the related processes.



protection, expected in January 2024<sup>87</sup>, has also probably created a favourable climate for switches to the free market.

**Figure 3.12 Switching rates (by withdrawal points) in the electricity sector since 2011**



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

The *ex lege* exclusion from the standard offer service, as of 1 January 2021, for small and micro-companies (with a committed power of more than 15 kW) certainly had an impact on the switching activity of non-household low-voltage customers, which showed a rather high pace in 2021. This pace, however, has been maintained - and indeed slightly strengthened - as the rate of movement of these customers rose to 20.3% in 2022 (approximately one and a half percentage points higher than in 2021).

Other non-household customers also showed a significant (and rising) rate of switching with respect to last year: 22.2% of customers connected to medium voltage (for a total of 24.1%) and 33.8% of customers connected to high or extra-high voltage, for a volume of approximately 16%, changed supplier. Overall, just under 1.4 million industry withdrawal points changed supplier in 2022. In terms of underlying volumes, about 48 TWh, corresponding to 25.5% of the volumes purchased by non-households.

### Standard offer service

In 2022, households and micro-companies<sup>88</sup> served at low voltage and with a committed power of less than 15 kW who had not yet concluded a trading contract in the free market were able to use

<sup>87</sup> The law of 29 December 2021 set 10 January 2024 as the date by which the competitive procedure between suppliers must take place to allocate the gradual standard offer service for households. Therefore, as the law itself indicates, "on a transitional basis and pending the conduct of the competitive procedures for the allocation of the gradual standard offer sales service, households continue to be supplied with electricity by the standard offer service".

<sup>88</sup> Pursuant to Decree Law No. 73 of 18 June 2007, converted with amendments into Law No. 125 of 3 August 2007, micro-companies are production entities with less than 10 employees and with an annual turnover not exceeding € 2 million.

the **market at standard conditions** or the **standard offer service**.

National legislation has provided for the gradual transition to the free market, setting the dates from which the standard offer service is no longer available: from 1 January 2021 for small businesses<sup>89</sup> and micro-enterprises with a committed power of more than 15 kW<sup>90</sup>; from 1 January 2023 for micro-enterprises with a power of less than 15 kW; and from 10 January 2024 for households.

Customers who lose their right to the standard offer service without having chosen a free market supplier are assigned to the gradual standard offer service, which guarantees them continuity of electricity supply (see below).

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

In 2022, 21.9 TWh were sold, under the standard offer service, to approximately 12.2 million withdrawal points (calculated on a *pro die* basis). Compared to 2021, consumption fell by 6.4 TWh (-22.6%), while the number of withdrawal points served decreased by 2 million (-14.4%).

During the year, 1.8 million households (-14.5%) and 0.2 million non-households (-13.5%) left the standard offer service. Within households, the decrease in residents (1.5 million, -15.2%) is proportionally above that of non-residents (0.3 million, -11.8%). Even larger were the decreases in quantities sold (-23.7% residents and -17.4% non-residents), indicating a significant drop in unit consumption.

Also as a result of the regulatory provisions mentioned above, non-households show a similar trend to households, with a decrease of 13.5% in the number of points served and 20.8% in quantities sold. The points served by public lighting bucked the trend, but this is now a truly residual category (less than 0.1% in terms of both points and volumes). As a result of the above, the shares of the various categories in the overall consumption have not changed significantly compared to 2021. 84.1% of the volumes (18.4 TWh) were purchased by households (84.4% in 2021), which, in terms of numbers (10.6 million withdrawal points), accounted for 87.2% of the total (Fig. 2.18), a share essentially identical to the previous year. Within households, residents account for 77.5% of the withdrawal points and 88% of consumption.

---

<sup>89</sup> Pursuant to Decree Law No. 73 of 18 June 2007, converted with amendments by Law No. 125 of 3 August 2007, "small companies" 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.

<sup>90</sup> More precisely, for micro-companies with at least one withdrawal point with a contractually committed power of more than 15 kW.

Within **households** (Table 3.15), residents account for 77.5% of the withdrawal points and 88% of consumption. Almost all households (99.3%) are charged the two-tier tariff, i.e. the economic condition for which the price varies according to the hourly band in which consumption takes place; the remaining 0.7% of domestic withdrawal points are still charged the old non time-of-use tariff. In 2022, the average unit consumption of households was 1,733 kWh/year, significantly lower than the 1,925 kWh recorded in 2021 (-10%). With regard to households, residents recorded a unit consumption of 1,968 kWh, a decrease (-10%) compared to 2,187 kWh in the previous year; significantly lower, as usual, was the unit consumption level of non-residents, at 924 kWh and also a decrease, somewhat less marked (-6.3%), compared to the previous year (987 kWh). Three quarters of household customers (74.3%) served at standard conditions, however, consume less than 3,500 kWh per year.

**Table 3.15 Households in the standard terms service by type and consumption class in 2022**

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-1,000 kWh	1,553	7.5%	3,644	28.1%	426
1,000-1,800 kWh	3,782	18.4%	2,698	20.8%	1,402
1,800-2,500 kWh	4,008	19.5%	1,879	14.5%	2,133
2,500-3,500 kWh	4,181	20.3%	1,425	11.0%	2,934
3,500-5,000 kWh	2,744	13.3%	672	5.2%	4,083
5,000-15,000 kWh	1,838	8.9%	274	2.1%	6,708
> 15,000 kWh	267	1.3%	10	0.1%	26,700
<b>TOTAL HOUSEHOLDS</b>	<b>20,582</b>	<b>100.0%</b>	<b>12,991</b>	<b>100.0%</b>	<b>1,584</b>
OF WHICH:					
Resident households	16,166	88.0%	8,213	77.5%	1,968
Non-resident households	2,208	12.0%	2,389	22.5%	924

Source: ARERA. Annual survey of regulated sectors.

Table 3.16 shows the size of withdrawal points (1.6 million) and volumes (3.5 TWh) of **non-household uses** served at standard conditions, by consumption class. In 2022, 42% of energy was sold to customers in the first consumption class (0-5 MWh/year), who make up 89% of all non-households. The second class, that of customers with annual consumption between 5 MWh and 10 MWh, comprises 7% of the withdrawal points and absorbs approximately 22% of the electricity sold. Thus, 95.5% of non-households purchasing electricity in the standard offer service have annual consumption of no more than 10 MWh. As mentioned, withdrawal points with public lighting use represent only 0.2% of non-households and consume 11 GWh, 0.3% of the electricity purchased by non-households under standard conditions. Withdrawal points for other uses make up almost all (99.8%) of the non-households served under standard offer market and have an average consumption that has fallen to 2,235 kWh from the 2,428 kWh recorded in 2021.

Among non-households (other uses), the absolutely most prevalent economic condition is the time-of-use one: it is, in fact, applied to 98.5% of the withdrawal points and to 97.9% of the volumes sold. The alternative is the non time-of-use condition, which affects 1.3% of the withdrawal points and 1.8% of the energy. Even more marginal are the shares of the two-tier tariff, under which 0.2% of customers and purchased energy is billed.

**Table 3.16 Non-households in the standard terms service by type and consumption class in 2022**

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-5 MWh	1,470	42.2%	1,380	88.6%	1,065
5 - 10 MWh	757	21.7%	108	7.0%	6,980
10 - 15 MWh	425	12.2%	35	2.2%	12,202
15 - 20 MWh	281	8.1%	16	1.0%	17,315
20 - 50 MWh	500	14.3%	18	1.2%	27,515
50 - 100 MWh	41	1.2%	1	0.0%	61,266
100 - 500 MWh	7	0.2%	0	0.0%	160,013
500 - 2,000 MWh	4	0.1%	0	0.0%	766,066
2,000 - 20,000 MWh	0	0.0%	0	0.0%	2,146,300
<b>TOTAL NON-HOUSEHOLD</b>	<b>3,485</b>	<b>100.0%</b>	<b>1,559</b>	<b>100.0%</b>	<b>2,235</b>
OF WHICH:					
Public lighting	11	0.3%	3	0.2%	3,514
Other non-household uses	3,473	99.7%	1,556	99.8%	2,233

Source: ARERA. Annual survey of regulated sectors.

The share of the main operator of the standard offer service belongs to the company Servizio Elettrico Nazionale of the Enel group, and is 85.2% (1.4 points lower than in 2021). With a share of 6.1%, the second largest operator is Acea Energia (0.8% higher than in 2021), followed by A2A Energia (2.9%, +0.2% compared to 2021), Iren Mercato (1.3%, +0.2% compared to 2021) and Dolomiti Energia (0.9%, +0.1% compared to 2021). The following operators hold shares of less than 1%, as in 2021.

### Gradual standard offer service

As already anticipated, as of 1 January 2021, micro-companies<sup>91</sup> with at least one withdrawal point with a contractually committed power of more than 15 kW and small companies<sup>92</sup> must obtain their supplies on the free electricity market. In order to guarantee continuity of supply to those among them who have not chosen an offer in the free market and to give these customers time to choose the one best suited to their needs, ARERA has introduced the gradual standard offer service. Until 30 June 2021, the gradual standard offer service was provided by the operator of the standard offer service. From 1 July 2021 and for three years, the service will be provided by suppliers selected through specific competitive procedures for each of the 4 specially defined territorial areas, as set out in Table 3.17.

<sup>91</sup> Entities with less than 10 employees and an annual turnover not exceeding Euro 2 million.

<sup>92</sup> Final customers, supplied at low voltage and other than households, with less than 50 employees and an annual turnover or balance sheet total not exceeding Euro 10 million.

**Table 3.17 Operators selected to provide the gradual standard offer service for the period 1 July 2021-30 June 2024 in each territorial area**

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

Source: ARERA.

The contractual conditions of the service correspond to those of the Free price offers under unitary contractual conditions (PLACET Offers), defined by ARERA<sup>93</sup>. The economic conditions for energy expenditure are based on the actual values of the Single National Price, and include fees to cover other supply and marketing costs. The price paid by final customers also depends on the level of the parameters offered by each gradual standard offer service operator in each territorial area for the service award.

According to the (provisional) results of the Annual Survey, in 2022, 2.3 TWh were sold in the gradual standard offer service to 136,000 withdrawal points (calculated on a *pro die* basis; Table 3.18). Compared to 2021, consumption has halved (-2.3 TWh, -50%), while the number of withdrawal points served decreased by 90,000 units (-40%), switching to the free market.

**Table 3.18 Non-households in the gradual standard offer service by type and consumption class in 2022**

CUSTOMER TYPE AND ANNUAL CONSUMPTION CLASSES	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	CUSTOMER SHARE	AVERAGE CONSUMPTION (kWh)
0-5 MWh	106	4.6%	66	48.2%	1,608
5 - 10 MWh	139	6.1%	18	13.5%	7,570
10 - 15 MWh	144	6.3%	11	8.4%	12,654
15 - 20 MWh	143	6.2%	8	5.9%	17,721
20 - 50 MWh	695	30.2%	22	15.9%	32,038
50 - 100 MWh	530	23.0%	8	5.7%	68,622
100 - 500 MWh	516	22.4%	3	2.3%	162,463
500 - 2,000 MWh	28	1.2%	0	0.0%	644,269
2,000 - 20,000 MWh	2	0.1%	0	0.0%	2,961,484
<b>TOTAL NON-HOUSEHOLD</b>	<b>2,303</b>	<b>100.0%</b>	<b>136</b>	<b>100.0%</b>	<b>16,913</b>
<b>OF WHICH:</b>					
Public lighting	182	5.2%	14	0.9%	12,672
Other non-household uses	2,121	60.9%	122	7.8%	17,414

Source: ARERA. Annual survey of regulated sectors.

Within the service, the most numerous type of customer is that of non-households with consumption other than public lighting (i.e. customers with other uses), who consumed approximately 2.1 TWh

<sup>93</sup> For the PLACET Offers, ARERA sets the billing methods and times, the content of the billing documents, the guarantees to be requested from the customer, the payment times and methods, as well as the instalment terms and the application of interest on non-payment of bills in the event of non-payment by the final customer.

and had 122,000 withdrawal points, for a unit consumption of 17,414 kWh, down 15.7% compared to the previous year (20,665 kWh).

76% of the withdrawal points for other uses fall into the four smallest size classes (up to 20 MWh/year), but together these classes account for only 23% of the category's consumption. Most of the consumption (75.6%) is concentrated in the three medium to large classes (20 to 500 MWh/year), while the subsequent classes have an almost insignificant incidence (Table 3.18).

The national average *per capita* consumption is 16,913 kWh, with a lower value for public lighting (12,672 kWh).

### 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 auction, which obtain the right to operate the service for two consecutive years. The auction for the safeguard service for the two-year period 2021-2022 ended in November 2020 with the award of the service to the same three suppliers who had operated the service in the previous two-year period: A2A Energia, Enel Energia and Hera Comm. The awarding of the tender for the two-year period 2021-2022, however, changed the distribution of the service among the three suppliers, with a downsizing of the territories covered by Hera Comm (which was awarded only 3 regions against the 15 it had in the previous two-year period) and an increase in the territories served both for A2A (one region more than in the previous two-year period), but especially for Enel Energia (14 regions compared with 2 in the previous two-year period).

According to the data received from the three operators, the service expanded again in 2022, after growth in the previous year followed by a long period of decline. More precisely, last year, 88,900 withdrawal points were served under the safeguard service (calculated on a *pro die* basis, i.e. counted for the fractions of the year for which they were served), compared to 76,700 points in 2021. In terms of points served, the safeguard scheme is therefore now 1.3 times larger than in 2020, which with 69,900 customers served represents the minimum size of this market since its inception in 2007.

Overall, 4,843 GWh were withdrawn against 3,293 in 2021. In 2022, essentially, the safeguard market grew by 16% in terms of withdrawal points and by 47% in terms of energy consumed compared to 2021 (Table 3.19).

**Table 3.19 Safeguard service by customer type**

CUSTOMER TYPE	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2021	2022	VARIATION	2021	2022	VARIATION
Public lighting	372	423	13.6%	15.9	19.7	24.0%
Other uses	2,920	4,420	51.4%	60.8	69.2	13.8%
<b>TOTAL SAFEGUARD</b>	<b>3,293</b>	<b>4,843</b>	<b>47.1%</b>	<b>76.7</b>	<b>88.9</b>	<b>15.9%</b>

Source: ARERA. Annual survey of regulated sectors.

Overall, the number of withdrawal points with public lighting use served with the safeguard service increased by 3,826 units, while those for other uses grew by 8,393 units. The consumption of public lighting increased by 51 GWh, while that of other uses increased by about 1.5 TWh.



The weight of public lighting in the safeguard service increased slightly in terms of customers (in 2022 they accounted for 22.2% of all customers served in this market, while in 2021 they accounted for 20.8%), but decreased in terms of purchased energy, from 11.3% to 8.7% of the total. As a result, industrial and commercial uses have reduced, albeit slightly, their importance in terms of customers served (they now account for 77.8% compared to 79.2% in 2021), while they have increased it in terms of volumes: in 2022, they accounted for 91.3% of all energy sold under safeguards compared to 88.7% in the previous year.

Given the territories assigned to the three operators, the national increase in the volumes of electricity sold in the safeguard service, amounting to 47%, was very different among the three companies providing the service: compared to 2021, the volumes sold by A2A Energia and Hera Comm grew by an average of 8%, while those of Enel Energia increased by 51% (from 2 to 3 TWh). As a result of these trends, Enel Energia's share of the safeguard market shifted from 61.7% to 69.2%, that of Hera Comm went from 20.4% to 16.3%, and that of A2A Energia dropped from 18% to 14.6%.

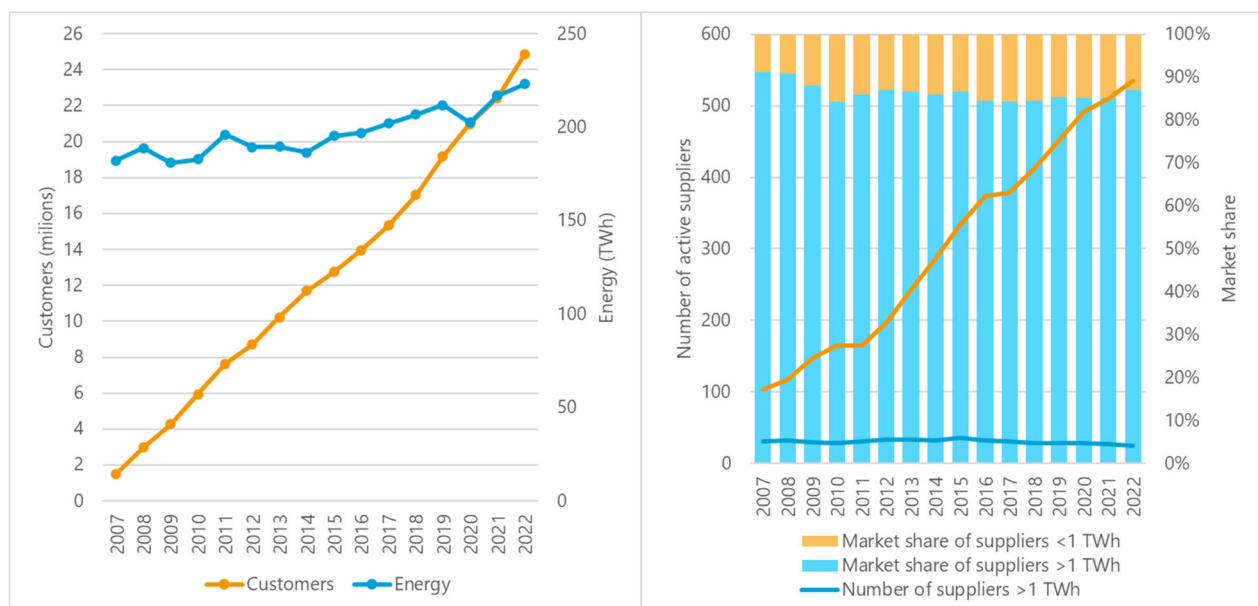
### Free market

As seen in the previous pages, according to the (provisional) data collected in the Annual Survey of Regulated Sectors, 223.2 TWh were sold in the free electricity market in 2022, 6.4 TWh more than in 2021, to almost 25 million customers, up 10.7% from 2021.

Since its opening in 2007, the number of customers on the free market has increased steadily and markedly, just like the energy it has brokered and the number of suppliers operating on it. In terms of energy sold, the free market has grown by 23%, from the initial 182 TWh to the current 223.2 TWh, although this expansion has not always taken place at a sustained pace and has even experienced some setbacks over the fifteen years. 2022 was another year of significant expansion in terms of the number of customers served, but more modest in terms of electricity sales.

Regardless of the trend in quantities sold, however, the number of suppliers active on this market has been growing uninterruptedly since 2007, or rather, every year there is an increase in the number of companies with sales of less than 1 TWh, although their market share is more or less stable at around 14% (Figure 3.13).

In 2022, the number of operators also rose, albeit to a lesser extent than in recent years: according to the responses from the Annual Survey of Regulated Sectors, 23 new active companies entered the market (+4.3%). Since the market has since expanded to a lesser extent (2.9%), the average unit sales volume of companies operating in this market has decreased slightly. In 2022, in fact, the average unit sales volume of companies operating on the free market was 399 GWh, i.e. 1.3% lower than the 404 GWh in 2021. Compared to the value observed in 2007 (1,349 GWh), i.e. in the year of full market opening, the present value is in fact 3.4 times lower.

**Figure 3.13 Development of the free electricity market**

Source: ARERA. Annual survey of regulated sectors.

The corporate composition of the share capital of companies active in sales to free final customers as at 31 December 2022, limited to first-tier direct shareholdings<sup>94</sup>, shows a significant importance of natural persons, who own 35.7% of the capital of sales companies; significant shares also belong to national energy companies (11.3%) and local energy companies (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 2.8% and 0.6%), while the most significant shareholder category is that of miscellaneous companies, which appears to own 41.5% 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 4.6% being held by individuals of foreign origin.

26.7% of the 537 suppliers active in the free market who responded to the Annual Survey sell energy in between 1 and 5 regions; 106 companies, or 37%, sold electricity in almost the entire national territory, i.e. in at least 18 regions; the remaining 106 companies (37%) operated between 6 and 17 regions.

The breakdown of customers by type and voltage (Table 3.20) shows an increase of more than 2.4 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. The number of household points served in the free market increased by 2,062,000 units, or 11.8% compared to 2021; 344,000 new withdrawal points purchased electricity in the free market for other low-voltage uses (+7.4%), while medium voltage points increased by approximately 2,000 units (+1.9%). High/extra-high voltage withdrawal points also showed an increase (1.9%) to approximately 1,100 units. Indeed, the only customers that slightly decreased were those for public lighting in medium voltage (-53 withdrawal points), but those in low voltage grew by 2,000.

<sup>94</sup> Shares are calculated without any weighting.

**Table 3.20 Free market by customer type**

CUSTOMER TYPE	VOLUMES (GWh)			WITHDRAWAL POINTS (thousands)		
	2021	2022	VARIATION	2021	2022	VARIATION
Low voltage	94,930	103,065	8.6%	22,331	24,739	10.8%
Household	36,864	39,939	8.3%	17,460	19,522	11.8%
Public lighting	3,476	3,227	-7.2%	231	233	1.0%
Other uses	54,591	59,899	9.7%	4,639	4,984	7.4%
Medium voltage	94,330	95,632	1.4%	99	101	1.9%
Public lighting	247	229	-7.5%	0.82	0.76	-6.5%
Other uses	94,082	95,403	1.4%	99	100	1.1%
High and extra-high voltage	27,606	24,542	-11.1%	1.07	1.09	1.9%
Other uses	27,606	24,542	-11.1%	1.07	1.09	1.9%
<b>TOTAL</b>	<b>216,866</b>	<b>223,239</b>	<b>2.9%</b>	<b>22,431</b>	<b>24,841</b>	<b>10.7%</b>

Source: ARERA. Annual survey of regulated sectors.

In terms of energy sold, however, not all uses and voltage levels recorded an increase. In fact, sales to low-voltage customers increased by 8.6% compared to 2021, medium voltage customers purchased almost 1.3 TWh more than in the previous year (+1.4%), while sales to high-voltage customers dropped by just over 3 TWh, recording a decline of 11.1%. In the area of low voltage, the purchases of households rose by 8.3% compared to 2021, mostly due to the arrival of customers from the standard offer service. In this segment, the expansion of household consumption was also accompanied by even more significant growth in electricity purchases for other uses (+5 TWh, +9.7%), where commercial enterprises and small businesses are located. On the other hand, a clear contraction in consumption was once again recorded in consumption for public lighting, whose purchases fell by 7.2% in low-voltage and 7.5% in medium-voltage; overall, sales to public lighting points fell by 7.2%, or 267 GWh less than in 2021, despite the fact that the number of withdrawal points increased by 1% overall.

Among **households**, the most important classes in terms of withdrawal points are the first two, i.e. those with annual consumption up to 1,000 kWh and between 1,000 and 1,800 kWh, both of which account for just over a quarter of customers. However, the classes immediately above also have a not too dissimilar weight. In fact, 87% of the withdrawal points have a consumption level of no more than 3,500 kWh/year (Table 3.21).

In the various classes, with the exception of the first and the last, the average consumption figures for the free market are almost identical to those of the households served in the standard offer market (Table 3.15). Mainly due to differences in the extreme classes (the first and the last), the overall average consumption of households in the free market (2,046 kWh) is 18% higher than that of standard offer households (1,733 kWh).

In 2022, over 1.2 million households signed a dual fuel contract<sup>95</sup>. The number of customers with this type of contract has remained unchanged compared to 2021; their share of the total number of customers served in the free market thus dropped to 6.4% from 7.2% last year because the total number of customers served on the free market has grown. The total electricity consumption of customers with a joint supply contract for electricity and gas is just under 2.7 TWh, 6.7% of all energy

<sup>95</sup> Customers who receive the same bill for the supply of electricity and gas are considered dual fuel; customers who have a contract with the same supplier for both electricity and natural gas but receive separate bills for the two services are therefore excluded from the count.

sold to households on the free market. The average consumption of dual fuel customers in the various classes is slightly higher (4.4% on average) than that of customers with electricity-only contracts.

**Table 3.21 Household free market in 2022 by consumption class**

CONSUMPTION CLASS	VOLUMES (GWh)	VOLUME SHARE	WITHDRAWAL POINTS (thousands)	SHARE ON WITHDRAWAL POINTS	AVERAGE CONSUMPTION (kWh)
< 1,000 kWh	2,495	6.2%	5,084	26.0%	491
1,000-1,800 kWh	7,032	17.6%	5,010	25.7%	1,404
1,800-2,500 kWh	7,957	19.9%	3,728	19.1%	2,134
2,500-3,500 kWh	9,287	23.3%	3,160	16.2%	2,939
3,500-5,000 kWh	6,969	17.4%	1,703	8.7%	4,093
5,000-15,000 kWh	5,442	13.6%	810	4.2%	6,717
> 15,000 kWh	756	1.9%	26	0.1%	28,787
<b>TOTAL HOUSEHOLDS</b>	<b>39,939</b>	<b>100.0%</b>	<b>19,522</b>	<b>100.0%</b>	<b>2,046</b>
<i>of which with dual fuel contract</i>					
< 1,000 kWh	140	5.2%	234	18.6%	597
1,000-1,800 kWh	510	19.0%	358	28.5%	1,422
1,800-2,500 kWh	606	22.5%	282	22.4%	2,150
2,500-3,500 kWh	687	25.5%	232	18.5%	2,955
3,500-5,000 kWh	454	16.9%	111	8.8%	4,109
5,000-15,000 kWh	270	10.0%	41	3.2%	6,666
> 15,000 kWh	24	0.9%	1	0.1%	24,000
<b>TOTAL WITH DUAL FUEL CONTRACT</b>	<b>2,690</b>	<b>100.0%</b>	<b>1,259</b>	<b>100.0%</b>	<b>2,137</b>

Source: ARERA. Annual survey of regulated sectors.

Differently to the standard offer service, where the two-tier tariff is largely prevalent as it is mandatory from a certain date onwards, the breakdown of customers by tariff applied on the free market shows a substantial preference for the non time-of-use price, which in 2022 was chosen by 67.2% of all customers (equivalent to 67.6% of volumes). 21.8% of customers chose the two-tier modality and only 10.6% the time-of-use mode. 26.3% of customers chose the two-tier modality and only 10.2% the time-of-use mode, the latter slightly up from 8.4% in 2020. The prevalence of the non time-of-use price is constant over time: the elements that make non time-of-use price more attractive are probably related to the simplicity of calculation and cost control in the bill, as well as to the absence of a constraint on the time of consumption.

Again in 2022, dual fuel contracts are still not very popular among **non-households**. Approximately 60,000 out of a total of over 5 million (1.1%) have chosen this contract, and almost all of them are connected to low-voltage networks; the energy acquired accounts for 1.1% of the total. The breakdown of non-household customers by consumption class shows that sales in volume terms are fairly concentrated in consumption classes ranging from 100 to 20,000 MWh/year, which together comprise 57.8% of the total energy purchased by the non-household sector. However, 64.6% 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 2021. The only exception is customers with consumption below 20 MWh connected to high or extra-high voltage, whose average consumption increased by 21%. Overall, the average consumption of all non-households purchasing electricity on the free market was 34,462 kWh in 2022, 4.8% lower than in 2021 (36,462 kWh).

### Available offers and sales contracts in the free electricity market

Also this year, the Annual Survey on the Regulated Sectors asked electricity and natural gas suppliers a number of questions aimed at assessing the quantity of offers that companies make available to customers who choose to supply in the free market and, above all, the distribution of their customers between the different types of contract they have actually chosen<sup>96</sup>. 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.

The **average number of commercial offers** that each sales company is able to propose to its potential households was 22.5 for households and 31.6 for non-households, who obviously enjoy greater choice and for whom the supplier is certainly able to provide more customised services and individualised contracts. The number of offers available for both types of customers increased compared to 2021, when it was 16.9 for households and 25.5 for non-households.

Out of the 22.5 offers made available on average to the household, 11.7 are **only available on-line** (5.8 in 2021), i.e. only through the Internet. The success of on-line offers among households remains limited, but it is growing slowly: in 2022, 9.9% of households (corresponding to 10.7% of electricity purchased in the free market) signed a contract offered through this modality. The result is only slightly higher than in 2021, when 9.7% of households (purchasing 10.5% of the energy sold in the free market) chose to subscribe to an electricity offer via the internet. If we look at non-household customers, on the other hand, of the 31.6 offers on average offered to customers 24.3 are subscribed through the network (this number is increasing significantly); however, the success of online offers among non-households is lower than among households, as only 3.2% of customers are reported to have subscribed to an online offer.

With regard to the preferred **type of price** (Table 3.22), it was found out that 76.7% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 23.3% chose a variable-price contract, i.e. with the price changing at a time and in a way determined by the contract itself. The preference for variable price is low, but tends to grow over time, albeit at a moderate rate; last year, the variable-price contract was chosen by 18.6% of households. Variable-price contracts are more popular among non-households: 53.1% of them chose the variable price, while the fixed-price contract was chosen by 46.9% of the non-household points. The data collected in the Survey, however, showed that fixed-price contracts valid in 2022<sup>97</sup> still partially protected customers from significant price increases due to the international price crisis, since the price paid for the procurement component in fixed-price contracts was at least 80% cheaper than that paid in variable-price contracts.

---

<sup>96</sup> The data commented on in the paragraph on the types of contracts chosen by customers also include PLACET Offers.

<sup>97</sup> All of the information requested from suppliers relates to contracts in force during the year reported on, regardless of when they were signed: in other words, the count of the withdrawal points that 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 3.22 Contracts for the supply of electricity in the free market in 2022 by price type and average price**

CONTRACTS	HOUSEHOLDS		NON-HOUSEHOLDS	
	SHARE <sup>(A)</sup>	PRICE <sup>(B)</sup> €/MWh	SHARE <sup>(A)</sup>	PRICE <sup>(B)</sup> €/MWh
Fixed-price contracts	76.7%	184.07	46.9%	171.27
Variable-price contracts	23.3%	375.77	53.1%	307.99
<b>TOTAL CUSTOMERS</b>	<b>100.0%</b>	<b>227.70</b>	<b>100.0%</b>	<b>241.01</b>

(A) Percentage of customers who signed the indicated contracts.

(B) Supply cost component.

Source: ARERA, Annual survey of regulated sectors.

In addition, 2.5% have signed a contract with a **minimum contractual duration clause**, meaning that the customer does not have to change supplier for a minimum amount of time specified in the contract in order for the price to be applied. The percentage is higher in the case of variable-price contracts, where the minimum contract term applies to 9.7% of customers, while it is 0.3% in the case of fixed-price contracts. As regards non-households, the minimum contractual duration clause was applied to 1.8% of contracts or, more precisely, to 2.7% of those with variable prices and to 0.8% of those with fixed prices. At a time when prices are rising sharply, it does indeed seem to be more logical that retention in variable-price contracts should be encouraged, rather than in fixed-price contracts.

**Indexation** to the trend of the average PUN (in various forms) is the most common mode in both contracts for household (81%) and non-household customers (50%). The second most popular price indexation method chosen by households is that of a discount on one of the components set by the Authority for the standard offer service, which concerns 16.7% of customers. Households that signed a dynamic price contract with indexation to the hourly PUN<sup>98</sup> accounted for 2.3% of customers with a variable price, while contracts with limited indexation<sup>99</sup> gathered only 0.03% of customers, i.e. a truly negligible percentage and one that shows a sharp decrease compared to 2021, as could be expected in a period of major price increases. Dynamic-price contracts, on the other hand, represent the second most important modality of indexation among non-households, who chose them in 4.54% of the cases (in this case too, the percentage is below that of 2021); a small share (1.66%) of non-households chose a contract indexed to some external, controllable variable (which sometimes also refers to gas prices at TTF); only 1.45% of non-households have an indexation contract linked to the prices established by ARERA for protective systems. Looking at the average values of the supply component paid in these contracts, it can be observed that the indexation methodology found to be most convenient is the one based on some external and controllable variable, for both non-household and household customers. For the latter, the most convenient indexation mode would actually be limited indexation contracts, but as we have seen, the share of such contracts is very small.

About 28% of households signed a contract providing for a **rebate or a discount** of one or more free periods or a fixed sum in cash or volume, which may be one-off or permanent and possibly

<sup>98</sup> Established by Article 2, paragraph 15 of Directive (EU) 2019/944 of 5 June 2019.

<sup>99</sup> 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*.



conditional on the occurrence of a certain circumstance (e.g. a discount for contracts signed by friends of the customer, a discount for bank account clearance, etc.). Even among non-households, only 16.3% of the contracts signed include a rebate or discount.

As always, the annual survey also investigated the presence of **additional services** included in contracts and their consistency, asking suppliers who chose the option "A combination of additional services" to specify which additional services the combination consisted of, and the corresponding withdrawal points were then reallocated *pro rata* to the individual additional services indicated. According to suppliers, there is a high presence of contracts with a combination of additional services in the market, at least among customers choosing a fixed-price contract: the share of withdrawal points that suppliers attributed to this option was 756; the combination of additional services is less present, however, in contracts signed by households with a variable-price contract, where it accounts for only 21%.

The results (Table 3.23) revealed a clear propensity, as in the past, for fixed-price households to purchase energy with a contract that includes an additional service (the portion of customers not subscribing to such has, in fact, halved compared with 2021 and is 7.3%); among the additional services, as for last year, the greatest preference is for contracts with a guarantee to purchase electricity produced from renewable sources (48.1%) and for participation in a points collection programme (33.2%). The opportunity to receive auxiliary energy services (3.6%), as well as other products or services together with electricity (2.9%) also attracted a fair amount of interest while the guarantee of purchasing electricity produced in Italy again failed to have success in 2022.

This is followed by benefits on the purchase of other goods or services (2.3%) and receiving a free gift (1.3%). Services other than those indicated gather a residual preference of 1.2%. As regards households who have signed a variable-price contract, on the other hand, in 2022, the share of those who have chosen one without additional services decreased further to 44.3% (50.9% in 2021). Even among customers purchasing variable-price contracts that include additional services, the greatest interest lies in the guarantee of purchasing electricity produced from renewable energy resources (31.4% of cases). The second preference goes to the possibility of obtaining, together with electricity, auxiliary energy services (10.7%). Points collection programmes, the presence of benefits on the purchase of other goods or services, the opportunity to receive other products or services together with electricity, and the obtaining of free gifts/gadgets gather smaller shares of preference (4.1%, 3.3%, 2.8% and 2.2% respectively). The guarantee to purchase energy produced in Italy did not gain favour even among variable-price customers.

The results for non-households<sup>100</sup> show a significant lack of interest in additional services among those who have chosen a fixed-price contract: almost three quarters of these customers have signed a contract without additional services; the remaining part of these customers show appreciation for the guarantee of energy from renewable energy resources (21.1%) and a modest level of interest in the presence of auxiliary energy services or a points collection programme or other products/services offered together with electricity. A substantial indifference towards additional services also emerges for non-households who have signed a variable-price contract, where 63.98% does not have them. Approximately a third of these customers, on the other hand, chose a contract with at least one additional service, and here again the guarantee of energy from renewable energy resources (30.4%

---

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

of withdrawal points) and the presence of auxiliary energy services (2.4%) received the highest approval.

**Table 3.23 Contracts for the supply of electricity in the free market in 2022 by type of additional services and average price**

CONTRACTS	HOUSEHOLDS		NON-HOUSEHOLDS	
	SHARE <sup>(A)</sup>	PRICE <sup>(B)</sup> €/MWh	SHARE <sup>(A)</sup>	PRICE <sup>(B)</sup> €/MWh
<b>Additional services of fixed-price contracts</b>				
No additional service	7.3%	184.08	74.0%	174.10
Guarantee of energy from renewable energy resources	48.1%	189.44	21.3%	161.44
Guarantee of energy produced in Italy	0.04%	133.87	0.005%	92.13
Points collection programme (own or others)	33.2%	186.85	1.7%	151.32
Auxiliary energy services	3.6%	186.08	1.4%	138.06
Free gift or gadget	1.3%	171.71	0.2%	190.00
Advantages over the purchase of other goods or services	2.3%	175.58	0.3%	124.94
Other products or services offered together with electricity	2.9%	167.11	0.8%	177.00
Other	1.2%	157.22	0.2%	301.81
<b>TOTAL FIXED-PRICE CONTRACTS</b>	<b>100.0%</b>	<b>184.07</b>	<b>100.0%</b>	<b>171.27</b>
<b>Additional services of variable-price contracts</b>				
No additional service	44.3%	379.82	63.9%	304.49
Guarantee of energy from renewable energy resources	31.4%	381.54	30.4%	319.56
Guarantee of energy produced in Italy	0.1%	342.64	0.0%	384.24
Points collection programme (own or others)	4.1%	409.71	1.4%	374.07
Auxiliary energy services	10.7%	369.19	2.4%	327.75
Free gift or gadget	2.2%	397.09	0.4%	381.03
Advantages over the purchase of other goods or services	3.3%	295.48	0.7%	299.89
Other products or services offered together with electricity	2.8%	342.95	0.3%	355.10
Other	1.2%	268.94	0.4%	332.15
<b>TOTAL</b>	<b>100.0%</b>	<b>375.77</b>	<b>100.0%</b>	<b>307.99</b>

(A) Percentage of customers who signed the indicated contracts.

(B) Supply cost component.

Source: ARERA, Annual survey of regulated sectors.

Looking at the values of the average supply cost component paid in these contracts, the results show that the contract without additional services is never the most cost-effective compared to contracts that include them. On the contrary, in the case of fixed-price households, the contract without additional services is the one in which the supply component is the highest. This may be the result of a marketing strategy of the suppliers, who by offering an additional service (which may be relatively inexpensive to them) can achieve greater customer loyalty. It should be noted, in this regard, that the contract offering the most advantageous prices (excluding the residual category which contains non-homogeneous data) is the one supplying other products or services together with electricity, whose supply component averaged € 167.11/MWh, in the case of fixed-price customers, and the one offering advantages on the purchase of other goods or services (in which the supply component averaged € 295.48/MWh) in the case of variable-price customers.

The additional services most appreciated by fixed-price households, i.e. the guarantee to purchase green energy and participation in a points collection programme, turn out to be the most expensive, after the contract without additional services. The green energy guarantee also appears to be the most expensive additional service in the case of variable-price households, although the points programme contract is the most expensive additional service, followed by the one offering a free gift or gadget.

Even for non-households with a fixed-price contract, who, as mentioned, account for about 47% of all non-households, the contract without additional services is the third most expensive, after the offer of a free gift or advantages on the purchase of other goods or services; the contract with a renewable energy guarantee, on the other hand, is among the relatively least expensive. Among variable-price non-households, signing a contract without any additional services leads to significant savings compared to purchasing energy with a renewable guarantee, which is the other most popular additional service.

### Concentration in the electricity retail market

The ranking (provisional, due to the preliminary nature of the data collected) of the top twenty groups by total sales to the end market in 2022 (Table 3.24) does not show any major changes compared with 2021.

**Table 3.24 Top twenty groups by end-market sales in 2022**

GROUP	SALES (GWh)				TOTAL	SHARE	POSITION IN 2021
	HOUSEHOLDS	NON-HOUSEHOLDS					
		LV	MV	HV/VHV			
Enel	34,427	24,013	25,358	7,553	91,351	36.2%	1st
A2A	2,110	5,076	8,906	1,858	17,950	7.1%	2nd
Edison	1,364	2,790	6,424	2,863	13,440	5.3%	3rd
Axpo Group	302	2,465	6,003	3,918	12,688	5.0%	4th
Hera	2,003	3,902	5,864	172	11,941	4.7%	5th
Eni	4,915	1,449	4,382	820	11,565	4.6%	6th
Acea	1,818	2,029	3,178	176	7,201	2.9%	7th
Engie	586	209	2,270	3,514	6,578	2.6%	8th
Alperia	412	1,130	4,087	523	6,151	2.4%	10th
Iren	1,780	1,786	1,295	223	5,084	2.0%	13th
E.On	666	1,338	2,824	5	4,833	1.9%	11th
Agsm Aim	521	1,997	2,101	95	4,715	1.9%	16th
Duferco	128	1,145	1,406	1,625	4,304	1.7%	9th
Repower	0	2,014	2,017	51	4,082	1.6%	14th
Egea	211	1,112	2,578	139	4,039	1.6%	12th
Dolomiti Energia	705	1,576	1,556	6	3,843	1.5%	15th
Nova Coop	38	925	2,361	29	3,352	1.3%	17th
Iberdrola	250	1,140	1,232	4	2,625	1.0%	19th
Sorgenia	442	1,195	904	55	2,595	1.0%	21st
Alpiq	0	47	2,196	305	2,548	1.0%	18th
Other operators	5,637	13,074	11,246	1,402	31,359	12.4%	-
<b>TOTAL OPERATORS</b>	<b>58,313</b>	<b>70,410</b>	<b>98,188</b>	<b>25,333</b>	<b>252,244</b>	<b>100%</b>	<b>-</b>

Source: ARERA. Annual survey of regulated sectors.

The Enel group remains, as always, the dominant operator in the entire Italian electricity market, this year with a share increasing to 36.2% from 34.4% in 2021 (after several years of slight decline), thanks to a discreetly positive increase in total group supplies of 4.8%. This variation is, in turn, the result of differentiated trends in the various market segments, where against very consistent growth in sales to medium voltage customers (19%) and high voltage customers (31.5%), there were reductions in sales to households (-6.3%) and far more modest growth amongst low voltage non-households (+3%). These variations have further eroded the dominance of the Enel group in the mass market, consisting of the household sector and of non-households connected to low voltage, which

nevertheless remained high: 45.4% of this market is in fact served by Enel (46.6% in 2021 but also 49.6% in 2020). Therefore, the Enel group remains the leader in all market segments (household and non-household at all voltages), in each of which its share is also far ahead of the trailing group.

With a share of 7.1%, the A2A group confirmed its second position in the overall ranking in 2021, overtaking the Edison group, which has always been the incumbent's top chaser. In 2022, A2A Group sales grew by a total of more than 2 TWh (+12.6%), in all segments and especially in the segments of non-households at high or extra-high voltage (+68%) and at low voltage (+14%). The group also significantly increased its sales to households (+3.8%), so that in the mass market segment it also retained its second position (with a 5.6% share), which it achieved in 2021 by overtaking the Eni and Hera groups.

The Edison group therefore remained in third place with an overall market share of 5.3% of the total market (same value in 2021), despite an overall increase in sales of 1%. The higher quantities of energy sold to household and non-household low- or medium-voltage customers, 783 GWh more than in 2021, were partly offset by the lower quantities sold to non-household high-voltage customers (-650 GWh).

The Axpo group (with a share of 5%) and Hera, with a share of 4.7%, also remained firmly in fourth and fifth place. Axpo Group is particularly relevant in sales to non-households in the high and extra-high voltage range, where it is second only to the Enel Group with a share of around half of the incumbent. The Hera group, on the other hand, is especially important in sales to non-household low-voltage customers, where with a 5.5% share it is in third position, after Enel and A2A.

Table 3.25 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 the concentration measures calculated on the energy sold, it can be seen that in 2022, the level of concentration in the total market increased slightly. C3, i.e. the share of the top three operators (corporate groups), rose to 48.7% of total sales, whilst it had been 46% in 2021. The HHI index rose to 1,510 from 1,375 recorded in 2021, thereby reaching the first attention threshold of 1,500. An HHI value between 1,500 and 2,500 indicates a moderately concentrated market, while a value above 2,500 identifies a highly concentrated market (the maximum value of the index is 10,000). The number of corporate groups with a share of over 5% remained unchanged at 4. 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.

Using the indicators calculated on the withdrawal points, the concentration values are higher than those indicated by the volumes of energy sold, except - clearly - for those relating to non-households served at high and extra-high voltage. However, in comparison with 2021, the data show a reduction in concentration in almost all market segments, with the exception of non-households connected to medium and high voltage.

**Table 3.25 Concentration measures in the electricity retail market (calculated on corporate groups)**

VOLTAGE LEVEL	2021			2022		
	GROUPS >5%	C3	HHI	GROUPS >5%	C3	HHI
<b>MEASURES CALCULATED ON THE BASIS OF ENERGY SOLD BY CORPORATE GROUPS</b>						
Households	2	71.4%	3,773	2	71.1%	3,614
Non-households	4	39.8%	933	5	43.9%	1,111
Low voltage	3	45.9%	1,325	3	46.9%	966
Medium voltage	5	37.1%	791	5	41.4%	796
High and extra-high voltage	5	51.0%	1,283	6	59.2%	1,568
<b>TOTAL MARKET</b>	<b>4</b>	<b>46.0%</b>	<b>1,375</b>	<b>4</b>	<b>48.7%</b>	<b>1,510</b>
<b>MEASURES CALCULATED ON THE BASIS OF CUSTOMERS SERVED BY CORPORATE GROUPS</b>						
Households	2	72.9%	3,982	2	72.9%	3,970
Non-households	1	58.8%	2,652	1	58.8%	2,436
Low voltage	1	59.0%	2,680	1	59.0%	2,458
Medium voltage	3	45.6%	1,196	3	45.7%	1,299
High and extra-high voltage	6	35.9%	682	6	35.9%	821
<b>TOTAL MARKET</b>	<b>2</b>	<b>69.8%</b>	<b>3,699</b>	<b>2</b>	<b>69.8%</b>	<b>3,500</b>

Source: ARERA. Annual survey of regulated sectors.

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

#### Monitoring of the retail market price level

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

- that of the *Average prices charged in the electricity and natural gas market* carried out pursuant to resolution 168/2018/R/com of 29 March 2018, in which, on a half-yearly basis, quarterly data is collected on the prices billed<sup>101</sup> 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)*<sup>102</sup>, 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

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

<sup>102</sup> Approved by resolution of 3 November 2011, ARG/com 151/11.

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 on European statistics on natural gas and electricity prices and repealing Directive 2008/92/EC*<sup>103</sup>.

Given the importance of this data, at the end of 2022, there was also the first application<sup>104</sup> of penalties against 16 electricity and gas end-suppliers who did not transmit to ARERA the average prices charged in the first half of 2022. This is precisely the first application of a provision of ARERA<sup>105</sup> which introduced a procedure at the end of which, in the event of non-compliance with the semi-annual reporting obligations of average electricity and gas prices by suppliers obliged to do so by Resolution 168/2018/R/com, penalties commensurate with the size of the company in terms of customers served are applied. This is due to the fact that such non-communication generates administrative burdens and information distortions which, in addition to hindering the exercise of ARERA's functions or leading to the publication of incorrect data by ARERA itself (albeit under the responsibility of the undertakings), are detrimental to transparency in the two sectors, adversely affect consumers and other operators and therefore undermine the smooth functioning of the system. Furthermore, knowledge of price dynamics has taken on particular relevance in recent years, given the period characterised, on the one hand, by the transition of significant categories and shares of final customers from protection regimes to the free market and, on the other hand, by the occurrence of an exceptional crisis in international commodity prices that inevitably reflected on final customers.

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

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

The first (provisional) results of the analysis of the data submitted by the operators, both for the supply cost component alone and for the final prices net of taxes, show the usual high variability in the unit expenditure incurred by customers. As can be seen in Table 3.26, which shows the average prices charged to households by annual consumption class, the values range from € 273/MWh, found for the medium-large customers (consumption between 5,000 and 15,000 kWh/year), to € 590/MWh, for the smallest class (0-1,000 kWh).

The price falls steadily as the size of customers increases, except for the last, highest class (consumption over 15,000 kWh/year). This trend can be traced back to that of the supply cost which, as always, decreases continuously as *per capita* consumption rises, going from € 401/MWh in the smallest class to € 261/MWh in the class between 5 and 15 thousand kWh/year, and then rising to € 281/MWh in the largest class; this inversion appears to be linked to the greater frequency and rapidity with which prices applied to the largest customers are updated to the dynamics of the domestic and foreign wholesale markets, which in 2022 were subject to very high and increasingly intense increases for almost the entire year. This is reflected in the comparison with the previous

---

<sup>103</sup> Italy obtained an extension for the application of Regulation 2016/1952 until 2018.

<sup>104</sup> By Resolution of 6 December 2022, 652/2022/E/com.

<sup>105</sup> Resolution of 21 December 2021, 592/2021/R/com.



year, from which very strong increases emerge, particularly in the supply component, the greater the size of customers: from +73% for the smallest customers (up to 1,000 kWh/year) to +121% for the largest customers (over 15,000 kWh/year), the value of which is thus more than doubled compared to 2021.

**Table 3.26 Average prices to households in 2022**

CONSUMPTION CLASS (kWh/year)	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
< 1,000 kWh	4,048	8,728	590.0	400.5
1,000-1,800 kWh	10,814	7,709	372.4	302.9
1,800-2,500 kWh	11,966	5,606	332.2	282.6
2,500-3,500 kWh	13,469	4,585	307.8	267.9
3,500-5,000 kWh	9,714	2,375	287.9	254.2
5,000-15,000 kWh	7,280	1,084	272.6	243.4
> 15,000 kWh	1,023	36	282.4	260.8
<b>TOTAL HOUSEHOLDS</b>	<b>58,313</b>	<b>30,124</b>	<b>336.2</b>	<b>281.1</b>

Source: ARERA. Annual survey of regulated sectors.

Clearly, in the total price, which also includes the other components (except taxes), there are smaller increases ranging from 10% for the smallest customers (up to 1,000 kWh/year) to 72% for the largest ones (over 15,000 kWh/year); this differentiation depends not only on what has been seen for the main component (supply), but also on the measures taken by the Government and ARERA to contain increases in final prices, which have benefited customers with smaller consumption in particular. At the comprehensive level, i.e. for all households, there is an increase of 46% in the final price and 99% in the supply component.

A breakdown of prices between the free market and the standard offer service is shown in Table 3.27. For the first time since the advent of the liberalisation of electricity supplies to households, the free market presents significantly lower price values than the standard offer service, as a result of the predominance of locked-price contracts in the free market, which limited or delayed, at least in the immediate future, the effects on final customers of the huge price rises in the wholesale markets highlighted above. Thus, in the area of the supply cost component, while the standard offer service shows an average increase of 161% compared to the previous year (2021), in the free market the increase is limited to 62%; consequently, the free market in 2022 shows a value of the supply component that is on average 39% lower than the standard offer service, with differentiations between consumption classes ranging from -29% for smaller customers (consumption up to 1,000 kWh/year) and -46% of the medium-large classes (between 3,500 and 15,000 kWh/year).

Similar results emerge from the comparison between the two markets in terms of the final price (net of taxes), which is 30% lower overall in the free market, with the same differentiations between classes as before: the differential is limited to 21% for smaller customers (consumption up to 1,000 kWh/year), while it reaches 42% for the medium-large classes (between 3,500 and 15,000 kWh/year).

**Table 3.27 Average prices to households in 2022 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	677.1	535.8	-20.9%	487.6	346.3	-29.0%
1,000-1,800 kWh	472.9	318.3	-32.7%	405.1	247.9	-38.8%
1,800-2,500 kWh	440.9	277.4	-37.1%	393.2	226.9	-42.3%
2,500-3,500 kWh	424.3	255.3	-39.8%	385.8	214.8	-44.3%
3,500-5,000 kWh	411.4	239.2	-41.9%	379.0	205.1	-45.9%
5,000-15,000 kWh	399.8	229.6	-42.6%	372.0	200.0	-46.2%
> 15,000 kWh	386.0	245.9	-36.3%	365.5	223.9	-38.7%
<b>TOTAL HOUSEHOLDS</b>	<b>402.5</b>	<b>281.8</b>	<b>-30.0%</b>	<b>372.4</b>	<b>227.7</b>	<b>-38.9%</b>

Source: ARERA. Annual survey of regulated sectors.

As far as non-households are concerned, Table 3.28 contains data on their average supply quantities and costs, broken down by voltage level. Compared to the previous year, there was a slight increase in the quantity of energy sold (+0.9%) and strong increases in supply costs, which were all the greater the higher the voltage level: from +108% for customers served at low voltage to +148% for those served at high and extra-high voltage, while the overall average variation was 130%.

**Table 3.28 Average prices for non-households in 2022**

VOLTAGE LEVEL	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Low voltage	70,410	6,995.6	289.3	328.6
Medium voltage	98,188	0.7	266.8	290.6
High and extra-high voltage	25,333	1.1	274.5	282.0
<b>TOTAL NON-HOUSEHOLDS</b>	<b>193,931</b>	<b>6,997.4</b>	<b>276.0</b>	<b>303.3</b>

Source: ARERA. Annual survey of regulated sectors.

Finally, Table 3.29 shows the breakdown of non-household low-voltage customers by market type.

The free market has the lowest supply component, which is lower than both the standard offer (-34%) and, to a lesser extent (-24%), the gradual standard offer service, which benefits from the competitive effects of the insolvency proceedings carried out for the award of this service. The convenience with respect to the standard offer depends on the higher adjustment of the latter to the strong increases in wholesale prices: in fact, it has a supply cost that has increased by 149% since 2021, while in the free market the increase is limited to 104%, thanks to the presence in the latter of contractual formulations with a fixed price.

Table 3.30 shows the value of supply costs by subdividing electricity customers by type of hourly tariff and excluding the safeguard market, while the next table shows the supply costs paid by free market customers who have signed a dual fuel contract.

For households in the free market, electricity prices resulting from dual fuel contracts are cheaper than purchasing electricity with a specific contract.

**Table 3.29 Average prices for non-household low voltage customers in 2022, by market type**

TYPE OF MARKET	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Standard offer	3,485	1,558.9	419.4	495.6
Gradual standard offer	2,303	136.2	362.9	399.3
Safeguard	1,497	83.4	367.2	394.2
Free market	63,126	5,217.1	277.6	315.3
<b>NON-HOUSEHOLDS IN LV</b>	<b>70,410</b>	<b>6,995.6</b>	<b>289.3</b>	<b>328.6</b>

Source: ARERA. Annual survey of regulated sectors.

**Table 3.30 Average prices in 2022 by type of hourly pricing**

HOURLY PRICING	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
Non time-of-use	26,980	13,277	265.9	214.2
Two-tier	27,061	14,779	393.3	338.7
Time-of-use	4,271	2,068	419.1	344.1
<b>Households</b>	<b>58,313</b>	<b>30,124</b>	<b>336.2</b>	<b>339.4</b>
Non time-of-use	28,405	1,673	318.1	285.6
Two-tier	47,538	1,010	263.2	238.2
Time-of-use	113,145	4,331	369.2	283.9
<b>Non-households<sup>(A)</sup></b>	<b>189,088</b>	<b>7,014</b>	<b>334.9</b>	<b>277.7</b>

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

Source: ARERA. Annual survey of regulated sectors.

**Table 3.31 Prices in the free market for customers with dual fuel contracts in 2022**

CONSUMPTION CLASS (kWh/year)	QUANTITY OF ENERGY (GWh)	WITHDRAWAL POINTS (thousands)	AVERAGE PRICE NET OF TAXES (€/MWh)	OF WHICH: SUPPLY COSTS (€/MWh)
<b>Households</b>				
< 1,000 kWh	140	234	476.1	331.9
1,000-1,800 kWh	510	358	309.5	248.8
1,800-2,500 kWh	606	282	265.3	221.2
2,500-3,500 kWh	687	232	240.0	204.0
3,500-5,000 kWh	454	111	225.3	194.5
5,000-15,000 kWh	270	41	219.7	191.6
> 15,000 kWh	24	1	233.5	209.6
<b>TOTAL HOUSEHOLDS</b>	<b>2,690</b>	<b>1,259</b>	<b>266.6</b>	<b>220.2</b>
<b>Low voltage</b>	<b>961</b>	<b>59</b>	<b>255.4</b>	<b>226.9</b>
<b>Medium voltage</b>	<b>984</b>	<b>0.9</b>	<b>115.9</b>	<b>107.8</b>
<b>High and extra-high voltage</b>	<b>13</b>	<b>0.01</b>	<b>174.0</b>	<b>156.4</b>
<b>TOTAL NON-HOUSEHOLDS</b>	<b>1,958</b>	<b>60</b>	<b>184.8</b>	<b>166.6</b>

Source: ARERA. Annual survey of regulated sectors.

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

Legislative Decree No. 93 of 1 June 2011, implementing directives 2009/72/EC and 2009/73/EC, gave the Authority the task of monitoring retail markets, with reference to both the electricity and natural gas sectors. This activity started in 2011 for both sectors with the *Integrated Electricity and Natural Gas Retail Market Monitoring* Regulation (TIMR)<sup>106</sup>, which arranged the publication of an annual monitoring report. Since, as just mentioned, the analysis is joint between the electricity and gas sectors, the **monitoring results for both sectors** are reported below.

**Retail Monitoring:** The **Report for 2021**<sup>107</sup> presents the main outcomes of the monitoring activity, describing, where possible, the development of relevant phenomena since 2012, the first year in which the monitoring was carried out. Consistent with previous Reports, the 2021 Report analyses data collected on:

- competitive dynamics;
- offers and prices;
- quality of sales service;
- billing quality;
- non-payment of bills.

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

The results of the retail monitoring activity for 2021, first of all, confirm for customers for other uses in medium voltage of the electrical sector, the absence of specific critical issues. The concentration is reduced from the already not high values previously recorded. Customer dynamism is sustained. Therefore, for that year, the operation of the market, for MV customers for other uses, does not require any specific regulatory intervention.

For customers for other uses in low voltage, evidence on the competitive dynamics and structure of the sales market shows some encouraging signs of liveliness but other aspects that require attention. These signs are worthy of verification in the monitoring activity to come, also in order to be able to confirm them with further feedback, especially regarding the evolution of concentration and the dynamism of final customers.

For households in the electricity sector and households and central heating in the gas sector, despite the improvements that have emerged, the critical issues that have historically characterised these segments remain in 2021. These suggest more attention in the accompanying process, including regulatory, to the full liberalisation of the market. Close attention should be paid, first of all, to the high levels of concentration and to the continuing competitive advantage of the operators of standard offer services and an as yet insufficient level of capacity of the "average" customer to act conveniently in the market.

For both sectors, the aforementioned elements, relating to the configuration of the markets and to the difficulty for final customers to find their way around the offers present in the free market, must be taken into due consideration in the path of complete liberalisation envisaged by Law No.

---

<sup>106</sup> Adopted by Resolution of 7 November 2011, ARG/com 151/11.

<sup>107</sup> Report of 11 October 2022, 490/2022/I/com (2021 Report).

124/2017, which provides for the removal of the standard offer services. This is to avoid that in the forthcoming context of full liberalisation customers fail to take full advantage of all the opportunities offered by the free market.

In addition to the annual Retail Monitoring Report, ARERA is forced by law<sup>108</sup> to transmit to the Minister for the Environment and Energy Security or MASE (formerly the Minister for Ecological Transition or Minister of Economic Development) and to the competent parliamentary committees a **Monitoring report on the electricity and gas retail markets** (MASE Report), with particular regard to the following aspects:

- switching actions at national and regional level;
- evolution of final customer behaviour, setting out the results of the new demoscopic survey carried out between February and April 2022, addressed to households and non-households at national level and aimed at detecting and measuring the behaviour, perceptions and choices of these final customers in the liberalised electricity and gas market;
- trends in the prices offered to final customers, analysing the offers available on the Portale Offerte, the annual expenditure that certain typical customers would obtain by consulting the Portale Offerte each month of the year, as well as the investigations carried out on a sample of customers who left the standard offer service between July 2020 and December 2022;
- transparency and publicity of the tenders and related services, with regard to the specific controls on the tenders published on the Portale Offerte that ARERA carries out, also through the IIS Manager;
- assessment of the introduction of regulatory measures to strengthen the effectiveness of tools for comparability of offers.

This report must be drawn up and forwarded to the Minister for Ecological Transition and to the relevant parliamentary committees every six months starting on 1 July 2021 and ending on 31 December 2022. On 27 July 2021, 1 February 2022 and 31 January 2023, ARERA sent the first three reports<sup>109</sup> whose analyses focused on customers entitled to standard offer in the electricity sector (households and other uses connected to low voltage) and standard offer in the natural gas sector (households and condo households with consumption of up to 200,000 S(m<sup>3</sup>)/year).

### 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)<sup>110</sup>, in fact established a set of rules to protect final customers and

---

<sup>108</sup> 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".

<sup>109</sup> Report 327/2021/I/com, Report 37/2022/I/com and Report 30/2023/I/com.

<sup>110</sup> Annex A to resolution 413/2016/R/com of 21 July 2016.

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 **overall** quality standards does not result in compensation to the customer, but in the event of a serious breach of these standards, ARERA may open proceedings to impose administrative sanctions on the offending supplier. When the supplier fails to meet **specific** commercial quality standards, on the other hand, the customer automatically receives compensation in the first useful billing. The basic automatic compensation (equal to Euro 25) doubles if the performance of the indemnified service takes place beyond a time twice the standard and triples if the performance takes place beyond a time three times the standard or more. Regardless of the escalation envisaged, compensation must in any case be paid to the customer within 6 months by the supplier who received the written complaint or the request for bill adjustments or double billing.

Compensation is not due if compensation has already been paid to the customer in the calendar year for failure to meet the same quality standard and in the case of complaints for which the 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.

**Table 3.32 Standards for electricity sales service and actual average times in 2022**

PERFORMANCE	SPECIFIC STANDARDS (calendar days)	OVERALL STANDARDS (%)	EFFECTIVE AVERAGE TIMES (calendar days)
Maximum time for a reasoned response to written complaints	30	-	18.84
Maximum time for bill adjustments	60 or 90 <sup>(A)</sup>	-	19.22
Maximum time for double bill adjustments	20	-	22.26
Replies to written requests for information sent within a maximum of 30 calendar days	-	95%	8.4

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

Source: ARERA, processing of data declared by operators.

For 2022, 539 companies reported data on the commercial quality of sales services in the electricity sector, which stated that they serve a total of 32.8 million electricity customers. The average lead times for commercial services (response to complaints, response to requests for information, execution of bill adjustments), declared by suppliers for 2022, are below the respective standards set, whilst for double-bill adjustments, in any case limited to a few hundred cases, the effective time frames are slightly longer than the standards (Table 3.32).

Overall, companies serving customers in the electricity sector received a total of 337,863 written complaints, an increase compared to the previous year (16.9%) (Table 3.33); 69.6% of the complaints



came from households, 22% from non-households, 7.3% from multi-site customers and 1.1% from medium voltage customers; 69.94% of the complaints came from customers in the free market, 22.8% from customers in the market with a reference price.

Requests for information received from companies amounted to 313,144, an increase of 37.2% compared to the previous year. The majority of requests (75.6%) came from households and 16.5% from non-household customers. 77.6% of the requests for information came from customers in the free market and, in particular, from households (62%), while customers in the market with a reference price accounted for 15.1%. Multi-site customers contribute 7.3% to the total number of requests for information.

Bill adjustments totalled 10,567, an increase of 34.4% compared to the previous year. The corrections, which followed written complaints on already paid invoices whose content was contested, mainly concerned households on the free market (59%), followed by non-households on the free market (25%). A share of 11.9% of the adjustments concerned multi-site customers and 2.1% the segment of households under protection. Finally, 1.6% of the adjustments affected medium voltage customers and only 0.4% non-households under protection.

Double bill adjustments caused by errors in the switching procedures (for the same consumption period, the final customer receives a bill from both the outgoing and from the incoming supplier) amounted to 713, a year-on-year decrease of 17%. In 71.8% of the cases, adjustments affected households and non-households in the free market (54% and 17.8% respectively); multi-site customers accounted for 17.1%. Finally, the share of bill adjustments of households under protection was 8.7%, while that of non-households under protection was 1.5%.

**Table 3.33 Complaints, information requests and bill adjustments received from electricity suppliers**

	2018	2019	2020	2021	2022
Number of complaints	284,507	304,118	297,341	289,035	337,863
Number of requests for information	147,167	207,399	193,960	228,171	313,144
Number of bill adjustments	9,245	9,973	8,053	7,862	10,567
Number of double bill adjustments	2,191	2,058	967	859	713

Source: ARERA processing of data declared by operators.

The analysis of the reasons for non-compliance with the standard shows that in 97.2% of the cases, non-compliance is attributable to causes for which the company is responsible, in 2.6% of the cases to third-party causes (customer, other companies) and in 0.2% of the cases to *force majeure*. Considering, on the other hand, the number of automatic compensations accrued for non-compliance with specific standards by electricity suppliers (27,399), it can be seen that 96.9% are related to non-compliance with response times to written complaints, 2.5% to bill adjustments and only 0.7% to double bill adjustments. Of this, 72.5% regarded households and non-households in the free market, 18.1% by customers in the market with a reference price, 7.9% by multi-site customers and 1.4% by medium voltage customers.

A similar situation can be seen for the compensation actually paid out in terms of amounts, which is also more concentrated in the free market: in 2022, automatic compensations of approximately € 1.1 million were paid out to electricity customers in their bills. Customers on the free market were the recipients of 73.8% of the total compensation paid, customers in the market with a reference price received 16.7% of the compensation, while multi-site and medium voltage customers received 8.1% and 1.4% of the compensation, respectively.

The topics of complaints of direct responsibility of the suppliers that customers submitted to companies concerned in 36.6% of cases billing and everything related to consumption and the charges billed, self-reading, billing frequency, including the closing invoice, and the making of payments and refunds; in 17.8% of cases, topics relating to the market, such as the modalities for concluding new contracts, the timing of switching and the economic conditions recommended by the supplier in the offer compared to those provided for in the contract and effectively applied; in 16.1% of cases, the events of the completion of the contract, such as withdrawal, change of header, transfer and taking over.

The topics of the written requests for information that customers forwarded to the companies were, for 42.4% of the cases, billing and everything related to consumption and invoiced fees; for 18.5%, contract matters; for 10.4%, market-related topics. 5.4% of the requests for information dealt with issues related to connections, works and technical quality, 4.3% with the social bonus, 4% with non-payment of bills and suspension, 1.6% with commercial quality, 1.1% with metering, and 11.7% with other residual topics not falling into the previous categories. 0.6% of requests for information concerned requests that were not within the supplier's area of responsibility.

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

#### **Extraordinary measures for rising commodity prices**

At the end of 2021, in implementation of Law No. 234 of 30 December 2021 (2022 Budget Law), ARERA defined<sup>111</sup> the modalities for the payment in instalments of the amounts relating to the invoices issued in the period between 1 January 2022 and 30 April 2022 that all suppliers (both of standard offer service and of the free market) are required to offer to household electricity and natural gas customers who are in default of payment of the invoices issued in that period.

In May 2022, these provisions were extended<sup>112</sup>. The extension extended until 30 June 2022 the obligation for suppliers to offer the defaulting final customer, before executing the procedures for suspending the supply of electricity and natural gas, an instalment plan without interest, which included:

- a periodicity of instalments equal to that of the billing period ordinarily applied to the final customer, with a number of instalments of no more than 10 and each of a value of not less than € 50;
- a first instalment of 50% of the amount covered by the instalment plan and subsequent instalments of a constant amount.

In addition, the supplier may negotiate a different agreement, in order to better meet the customer's needs, within the limits of the 2022 Budget Law.

In addition, the extended resolution also defined the modalities for the disbursement by the Energy and Environmental Services Fund (CSEA) to suppliers of the advance of the amounts to be paid in instalments, as well as the modalities and timing for the repayment, by suppliers, of the amounts received (the 2022 Budget Law set the payment of at least 70% of the amounts advanced by 31

---

<sup>111</sup> By Resolution of 30 December 2021, 636/2021/R/com.

<sup>112</sup> By Resolution of 31 May 2022, 241/2022/R/com.

December 2022 and the remaining part by 31 December 2023). As a result of the extension, these provisions were extended until 30 June 2022.

### Investigations and inspections

The enforcement of the provisions of ARERA is implemented by monitoring the conduct of operators, identified from time to time on the basis of policy documents prepared annually or following recommendations or evidence in the possession of the Offices. To this end, the Authority makes use of investigations, on-site inspections and document controls concerning plants, processes and services in the sectors of interest to the Authority.

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

In 2022, control activities were carried out through:

- documentary controls, in particular concerning the costs to be recognised in the tariff, the compliance with regulation by electricity and gas retail companies, the verification of provisions relating to the fuel mix disclosure procedures (this latter together with the GSE), as well as the correct contribution by regulated companies to ARERA's operating charges;
- on-site inspections, covering priority issues such as continuity and security of service, customer protection, the proper functioning of markets and the control of the incentives provided and the cost items recognised or to be recognised in the tariff.

In 2022, the controls were completed as established<sup>113</sup> in the **programme of documentary controls in respect of 30 suppliers of electricity and/or gas in the free market**, on compliance with the main regulatory requirements related to the performance of these activities. The controls covered, among other things, the obligations to publish PLACET offers on the Portale Offerte, the transparency of billing documents, the handling of complaints, the publication of data on the average composition of the energy sources used to produce the electricity sold (fuel mix disclosure), and the tariff concessions granted to energy-intensive subjects.

As a result of these audits, significant critical issues in the application of the regulation were recorded in several areas, including in particular that of billing documents and that of the determination of the fuel mix. In March 2022, a formal communication was sent to the companies by the Offices and as a result of this communication and after further reminders, the companies overcame the critical issues by providing feedback documents. One company that was found not to be fully compliant was ordered to undergo an inspection, which took place in December 2022 and whose results are currently being evaluated.

---

<sup>113</sup> By Resolution of 22 June 2021, 258/2021/E/com.

During 2022, the **controls**<sup>114</sup> were completed **on the data declared by energy-intensive companies to the Energy and Environmental Services Fund**, in order to obtain, for the years 2019 and 2020, the breaks provided for by the Decree of the Ministry of Economic Development of 21 December 2017; the aforementioned breaks consist of a significant financial transaction (€ 1.9 billion for 2019 and € 1.7 billion for 2020), the burden of which falls on all other customers, including household ones. It turned out that none of the 500 subsidiaries benefiting from a discount of the  $A_{SOS}$  component in the bill made significant errors in their data declaration, while of the 250 subsidiaries benefiting from a zero  $A_{SOS}$  component in the bill, about 9% (22 companies) unduly enjoyed benefits for the years 2019 and/or 2020, which are being recovered through the rectification of the data by CSEA.

In July 2022, an on-site inspection<sup>115</sup> was carried out on a supply company regarding switching following the termination of the dispatching contract by the transmission operator. The need for the audit originated in a report that reached ARERA, which revealed potential irregularities in the switching performed by a sales company. In particular, numerous so-called fast switching requests were made following Terna's termination of the dispatching contract with the dispatching user with whom the sales company had a contract; the switching requests were anomalous in that they bore a contract signature date prior to termination.

In cases of termination of dispatching and transport contracts due to non-performance by the user (of dispatching and transport), the provisions of the Integrated Text on the Non-Payment of Electricity Bills (TIMOE) apply, which, in order to protect the continuity of supply, provides that the supply contract is automatically terminated and the customer, duly informed, is simultaneously switched to the services of last resort. Moreover, by way of derogation from the ordinary regime, switching to a new supplier in the free market may take effect from any day of the month, in order to allow the final customer to be able to leave the service of last resort quickly.

As a result of the on-site inspection carried out at the supplier's premises, it was found that the numerous switching requests, submitted after the contractual termination, which, moreover, bore a single date of conclusion of the supply contracts with the final customers, were not supported by the necessary documentation (e.g. evidence of the aforementioned contracts concluded on the declared date). Therefore, in December 2022, a sanctioning proceeding was initiated against the sales company on switching following the termination of dispatching and transport contracts, in order to ascertain the violation of the TIMOE and of Resolutions 487/2015/R/eel of 14 October 2015 (reform of electricity switching) and 37/2020/R/eel of 11 February 2020 (provisions functional to the modification of the process of termination of dispatching and transport contracts and activation of services of last resort in the electricity sector).

### **Sanction proceedings concerning conduct in retail markets and protecting final customers**

In 2022, 2 sanction proceedings were initiated for violation of the ban on suspending supply to final customers who were not in default of bill payments. More specifically, two dispatching users, faced with the non-performance of their commercial counterparts, asked distributors to disconnect the supply of final customers who had made proper payment of their bills so as to induce the commercial

---

<sup>114</sup> Approved by Resolution 216/2020/E/eel of 16 June 2020.

<sup>115</sup> In accordance with the resolution of 24 May 2022, 222/2022/E/eel.

counterparty to fulfil its obligations; this was in violation of the express prohibition laid down by the regulation in order to limit the disconnection of supply only to cases where the final customer had not paid bills, thus shielding the latter from the disputes that may arise between the commercial counterparty and the dispatching user. In one of these proceedings, a violation of the provisions on the final customer's default notice was also alleged. One of the two proceedings was closed during 2022 with the imposition of a fine of € 163,000. A case initiated in 2021 for a similar violation was also closed with the imposition of a fine of € 1,470,000.

Finally, proceedings were initiated for breach of the obligation to participate in ARERA's conciliation procedures, which were closed with the imposition of a fine of € 8,400.

### 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.

For the consistency of these instruments, see chapter 5, par. 5.1.5.

### Change of supplier in 24 hours in the electricity sector

The Clean Energy Package has placed the energy consumer at the centre of the market by, among other things, strengthening his right to exercise his free choice of supplier, with a decisive shortening of switching times in order to enable him/her to seize the opportunities of more advantageous commercial offers on the market. Ensuring the efficient functioning of the market is a primary objective of ARERA, and in this context, the **first guidelines** outlined for promoting the efficient and participative functioning of retail markets by **reducing switching times** were put out for consultation<sup>116</sup>. In particular, in the document put out for consultation, after a brief examination of the relevant features of the current methods of managing the supplier switching process and the pre-check service aimed at it, ARERA's first guidelines are illustrated in relation to the aspects of innovation that it intends to bring to the switching process, with the aim of adapting it to the evolved context of the energy retail market and in order to ensure the achievement of the objective of carrying out the supplier switching process in "24 hours", at the latest as of 1 January 2026, as provided for by Legislative Decree No. 210/2021.

---

<sup>116</sup> Consultation document 705/2022/R/eel.

## 4 THE NATURAL GAS MARKET

### 4.1 Infrastructure regulation

#### 4.1.1 Tariffs for connection and access to LNG networks and infrastructures

##### Tariffs and access to LNG regasification plants

In November 2019, the Authority approved<sup>117</sup> the tariff regulation criteria for the liquefied natural gas regasification service (RTRG) for the regulatory period 2020-2023 (5PR LNG).

In June 2022, ARERA, as a result of its review of the tariff recommendations submitted by the regasification companies pursuant to the RTRG 5PR LNG, approved<sup>118</sup> the reference revenues and determined the tariff fees for the LNG regasification service for 2023, the last of the 5PR LNG, also ordering the clearance of the disbursement of the revenue coverage factor entitlements relating to 2021. In July 2022, ARERA therefore initiated<sup>119</sup> proceedings to define the criteria for tariff regulation of the LNG regasification service for the sixth regulatory period (6PR LNG), which starts on 1 January 2024.

On the subject of access, the current regulations, contained in the Integrated Regasification Text (TIRG), were defined<sup>120</sup> in September 2017, with the introduction of market criteria, based on auction procedures, for the allocation of regasification capacity, both long-term and short-term. The TIRG also provides that, for the purpose of managing capacity allocation procedures, regasification companies can access the services offered by the Energy Markets Operator (GME).

In March 2022, ARERA ordered<sup>121</sup> that the provisions<sup>122</sup> of December 2021, by which it was established that the fees for the allocation of transmission capacities applied to regasification companies and by these companies to their users should be set at zero, should be extended to the regasification capacities allocated and actually used, with LNG delivery scheduled by the end of the thermal year 2021-2022.

In April 2022, ARERA adopted<sup>123</sup> urgent measures aimed at increasing the availability of gas in the system by making regasification capacity allocation procedures more flexible, allowing, in particular, the extension to the thermal year 2023-2024 of the potential benefits associated with import projects envisaged by the TIRG, as well as the possibility for regasification terminal operators to carry out capacity allocation procedures for annual products, also bringing forward the deadline set by the TIRG for July.

---

<sup>117</sup> Resolution of 19 November 2019, 474/2019/R/gas.

<sup>118</sup> Resolution of 28 June 2022, 278/2022/R/gas.

<sup>119</sup> Resolution of 27 July 2022, 356/2022/R/gas.

<sup>120</sup> Resolution of 28 September 2017, 660/2017/R/gas.

<sup>121</sup> Resolution of 8 March 2022, 97/2022/R/gas.

<sup>122</sup> Resolution of 28 December 2021, 632/2021/R/gas.

<sup>123</sup> Resolution of 27 April 2022, 190/2022/R/gas.



In May 2022, ARERA updated<sup>124</sup> the calculation parameters for the determination of reserve prices in the annual and multi-annual regasification capacity allocation procedures.

### Tariffs and access to the storage service

In October 2019, the Authority defined<sup>125</sup> the tariff regulation criteria for the natural gas storage service (RTSG) for the fifth regulatory period (5PRS) 2020-2025.

In August 2021, ARERA approved<sup>126</sup> the reference revenues for the natural gas storage service for 2022. Following the definition of the revenues, the companies Stogit and Edison Stoccaggio determined, transmitted and published the value of the tariff fees for the thermal year 2022-2023, as required by the regulation. It should, however, be emphasised that the tariffs now have a residual application, as they only concern the operational balancing services of transmission operators and the gas producer storage of household production companies, which account for less than 2% of the total storage capacity. Strategic storage, which absorbs about a quarter of the capacity and is aimed at coping with possible critical issues in supply or in the operation of the gas system, is remunerated through the variable fee CRV<sup>CS</sup>, applied to the quantities of gas transported<sup>127</sup>.

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 ARERA in February 2019<sup>128</sup>. The service fees related to this capacity are determined by the market as a result of special auctions, which are open to the participation of natural gas market operators. Stogit and Edison Stoccaggio held the auctions for the thermal year 1 April 2022 - 31 March 2023 between March and September 2022. Compared to the previous year, there was a huge drop in allocated capacity on the auction basis, which more than halved (-58%) and a collapse in charges (average allocation prices), which fell from € 0.93/MWh in 2021 to € 0.15/MWh in 2022 (-84%). These changes indicate a sharp drop in operators' interest in the service in 2022, driven by the surge in prices in the gas wholesale markets following the outbreak of the Russia-Ukraine conflict, prices that had already been high previously due to the sharp increase in demand for gas as economic activity resumed after the pandemic. In this regard, the provisions adopted by the Government<sup>129</sup> and ARERA<sup>130</sup> in March and April 2022 to encourage operators to participate in the auctions, also through the introduction of new types of contracts ('two-way contracts for difference') aimed at hedging the risk that the price of gas purchased during the auction would be higher than the price of gas sold during the winter period, did not prove sufficient.

To remedy this situation, with the further increase in price volatility and the prospect of the

---

<sup>124</sup> Resolution of 31 May 2022, 240/2022/R/gas.

<sup>125</sup> Resolution of 23 October 2019, 419/2019/R/gas.

<sup>126</sup> Resolution of 3 August 2021, 346/2021/R/gas.

<sup>127</sup> Resolution of 20 October 2020, 396/2020/R/gas.

<sup>128</sup> Resolution of 26 February 2019, 67/2019/R/gas.

<sup>129</sup> Decrees of 14 March and 1 April 2022 of the Minister for Ecological Transition.

<sup>130</sup> Resolutions 15 March 2022, 110/2022/R/gas, 8 April 2022, 165/2022/R/gas and 27 April 2022, 189/2022/R/gas.

continuation of the war conflict, with the consequent risk of not completing the filling of storages with which to meet the needs of the winter of 2022-2023, the Minister of the Environment and Ecological Transition adopted new provisions on the security of the national gas system. In particular, Snam Rete Gas<sup>131</sup> and the Energy Services Manager<sup>132</sup> were given the task of accelerating the filling of national storages through the so-called "storage filling service of last resort" (or "STUI"). The implementation of this initiative, in accordance with the modalities defined<sup>133</sup> by ARERA, compensated for the quantities of gas not previously acquired by the companies in the auction phase and thus made it possible to reach an overall filling level of the storage fields of over 95% at the end of October.

### Tariffs for the gas transmission service

In March 2019, the Authority defined<sup>134</sup> the tariff regulation criteria for the natural gas transmission and metering service (RTTG) for the period 2020-2023 (fifth regulatory period - 5PRT). The new criteria, which implement Regulation (EU) 460/2017 on the harmonisation of gas transmission tariff structures (the "TAR Code"), have been published as a result of an extensive public consultation process and take into account what ACER reported in the "Analysis of the consultation document on the gas transmission tariff structure for Italy", released on 14 February 2019, consistent with the provisions of the TAR Code, on the final guidelines on reference price methodology and cost allocation criteria, submitted for consultation in October 2018<sup>135</sup>.

The main changes in the tariff regulation criteria for the transmission service for the new period (5PRT), compared to the previous one, concern in particular:

- overcoming the determination of fees according to the so-called matrix methodology, in favour of the capacity-weighted distance methodology (or CWD), identified as the reference methodology within the TAR Code;
- the elimination of the "postage stamp" fee applied to redelivery points on the national territory to cover regional transmission costs, the costs of gas transmission on the regional networks being included in the costs to be recovered through entry and exit tariffs defined through the tariff methodology; this inclusion also entails the elimination of capacity allocations at exit points of the national network to withdrawal areas.

In May 2022, ARERA, as a result of its control of the tariff recommendations submitted by the transmission companies pursuant to the RTTG 5PRT, approved<sup>136</sup> the reference revenues and determined the tariff fees for the natural gas transmission and metering service for 2023.

That same month, ARERA put out for consultation<sup>137</sup> the main lines of action for the reform of gas

---

<sup>131</sup> Ministerial Decree No. 253 of 22 June 2022, referred to as the "SNAM decree".

<sup>132</sup> Ministerial Decree No. 287 of 20 July 2022, referred to as the "GSE decree".

<sup>133</sup> Resolution of 24 June 2022, 274/2022/R/gas.

<sup>134</sup> Resolution of 28 March 2019, 114/2019/R/gas.

<sup>135</sup> Consultation paper of 16 October 2018, 512/2018/R/gas.

<sup>136</sup> Resolution of 31 May 2022, 233/2022/R/gas.

<sup>137</sup> Consultation document of 17 May 2022, 213/2022/R/gas.

transmission tariff regulation for the sixth period (6PRT, 2024-2027), illustrating the guidelines on the determination of recognised revenues, in particular for the first year of the period (2024), with a view to the transition to the ROSS approach (Regulation by Expense and Service Objectives), as well as the determination of reference prices for the natural gas transportation service. In October 2022, ARERA then outlined<sup>138</sup> the final guidelines on the determination of revenue and reference prices of the transmission and metering service for the sixth period (6PRT).

At the same time, between December 2021 and July 2022, ARERA illustrated<sup>139</sup> the guidelines on the criteria for incentives and efficiency in the operation and development of the natural gas transmission network for the 6PRT, in particular with regard to incentives for keeping fully depreciated networks in operation, efficiency criteria for the development of the transmission network in newly methanised areas, and incentives for the operation of dual fuel compression stations.

In May 2022, ARERA also mandated Snam Rete Gas<sup>140</sup>, as the largest transmission operator, to define a methodology for assessing the health of transmission facilities, aimed at supporting decisions to replace or maintain facilities. In December 2022, ARERA, noting the development of what is termed "asset health methodology" by Snam Rete Gas, defined<sup>141</sup> the incentive mechanism for maintaining in operation the fully depreciated natural gas transmission networks that, according to the results of this methodology, can still be safely operated; the application of this mechanism begins in 2023.

In June 2022, ARERA initiated<sup>142</sup> proceedings to define the regulatory framework applicable to the facilities identified<sup>143</sup> as necessary to phase out the use of coal in Sardinia, with particular reference to the so-called virtual pipeline services.

### Access to the gas transmission service

In April 2019, ARERA innovated<sup>144</sup> the well-established rules on access to transmission networks<sup>145</sup>, changing the allocation of capacity at the exit points of the gas transmission network feeding distribution networks (city gates). In detail, the process has been simplified by eliminating the need for a capacity request by the Balancing User (UdB): the allocation is finalised automatically, when the "correspondence relation" is certified in the Central Register of the Integrated Information System (IIS), which defines, for each redelivery point (DRP) present in the distribution contract of a Distribution User (UdD), to which Balancing User (UdB) the gas withdrawals at that redelivery point (DRP) must be traced. The quantities of gas delivered are determined solely on the basis of the characteristics of the DRPs served, i.e. annual consumption, withdrawal profile and metering

---

<sup>138</sup> Consultation document of 18 October 2022, 502/2022/R/gas.

<sup>139</sup> Consultation documents of 23 December 2021, 616/2021/R/gas and of 19 July 2022, 336/2022/R/gas.

<sup>140</sup> Resolution of 3 May 2022, 195/2022/R/gas.

<sup>141</sup> Resolution of 27 December 2022, 723/2022/R/gas.

<sup>142</sup> Resolution of 28 June 2022, 279/2022/R/com.

<sup>143</sup> Prime Ministerial Decree of 29 March 2022 on works and facilities.

<sup>144</sup> Resolution of 16 April 2019, 147/2019/R/gas.

<sup>145</sup> Resolution of 17 July 2002, 137/02.

frequency.

In the course of 2021, ARERA made changes to other parts of the regulation of access to transmission networks, stipulating that:

- deviations at transmission network interconnections in and out with foreign countries are assessed in the same measurement unit used for user nominations (kWh)<sup>146</sup>;
- for the annual capacity allocations at the interconnection points with foreign countries other than Switzerland and the countries of the European Union, i.e. the Mazara del Vallo (connection with Algeria) and Gela (connection with Libya) points, the possibility was introduced (under certain conditions) to submit an annual capacity allocation request even after the thermal year had started according to the first come first served (FCFS) time criterion<sup>147</sup>.

In November 2021, ARERA set out<sup>148</sup> some guidelines on the application aspects of the city gate capacity allocation regulation introduced in April 2019. Further investigations on this subject were presented<sup>149</sup> by ARERA in April 2022, in particular on:

- ways of transferring the costs of transmission capacity within the economic conditions for the supply of the standard offer service, recommending the adoption of a single, nationwide commodity-based charge to cover the costs of transmission for DRPs with lower consumption<sup>150</sup>;
- in the case of daily consumption recording, extension to DRPs with technological and heating use category (T2) of the management modalities of DRPs with technological category (T1), i.e. that the conventional transmission capacity is allocated on the basis of the maximum daily withdrawal recorded in the previous twelve months instead of on the basis of the annual consumption and the allocated withdrawal profile;
- specific ways of handling off-peak withdrawals from the November-March peak period, giving them a reduced weight in the determination of transmission capacity and such that an estimate of capacity cost optimisation is replicated.

As part of the consultation, it was also suggested that the entry into force of the reform should be postponed by one year, both in the light of the reports received to this effect and the degree of progress made on the trials, also in consideration of any additional necessary IT implementations. The consultation revealed a general consensus for postponement, also in view of the current market environment; therefore, in May 2022 ARERA further postponed<sup>151</sup> the start of the reform to 1 October 2023.

---

<sup>146</sup> Resolution of 11 May 2021, 189/2021/R/gas.

<sup>147</sup> Resolution of 27 July 2021, 324/2021/R/gas.

<sup>148</sup> Consultation document of 16 November 2021, 502/2021/R/gas.

<sup>149</sup> Consultation document of 5 April 2022, 157/2022/R/gas.

<sup>150</sup> Points identifiable in the types referred to in paragraph 1.1, letters q) and r) of the TISG and paragraph 4.1, letters a) and b) of the TIVG.

<sup>151</sup> Resolution of 24 May 2022, 225/2022/R/gas.

### Access to gas networks by biomethane production plants

In April 2022, ARERA updated<sup>152</sup> the directives currently in force for the connection of biomethane plants to natural gas networks, introducing better specifications to ensure the correct quantification of incentivised biomethane.

In September 2022, ARERA presented<sup>153</sup> guidelines for the implementation of the provisions of Article 37 of Legislative Decree No. 199 of 8 November 2021 transposing Directive (EU) 2018/2001 on the connection of biomethane plants to gas networks. In particular, the following were illustrated:

- the criteria on the basis of which the main transmission operator shall formulate a procedure for the integration of information and solutions to optimise the connections of biomethane plants on the gas network, including distribution networks (Art. 37, paragraph 1);
- the simplification and updating of the provisions concerning the terms and conditions for the connection of biomethane plants to the gas networks, also including other types of renewable gas, including hydrogen, also in blends (Art. 37, paragraph 2);
- changes to be made to certain provisions already adopted<sup>154</sup> by ARERA in 2019, following the publication of the Decree of the Ministry of Ecological Transition of 3 June 2022, which updated the 'Technical regulation on the chemical-physical characteristics and presence of other components in fuel gas'.

### Tariffs for distribution and metering services

In December 2019, the new version of the Gas Distribution and Metering Services Tariff Regulation for the Regulatory Period (RTDG) was approved<sup>155</sup> for the 2020-2025 regulatory period.

In 2022, ARERA carried out the infra-period update of the regulation of tariffs for gas distribution and metering services for the three-year period 2023-2025. In particular, in August ARERA launched<sup>156</sup> the update of the RTDG on the following aspects:

- in relation to the recognition of operating costs, an assessment of the possible effects of environmental policies on the evolution of the number of consumption points (redelivery points) and the way in which risk is allocated between final customers and companies;
- the adoption of the measures provided for in Article 2, paragraph 8 of the Prime Ministerial Decree of 29 March 2022, concerning distribution tariffs, with respect to the distribution networks located in the territory of Sardinia.
- with reference to the metering service, the assessment of the possible target for efficiency recoveries in the three-year period 2023-2025;
- the assessment of the appropriateness of the standard costs for the installation of gas smart meters, also considering the introduction of forms of differentiation of this cost in relation to any additional functionalities of the meters, compared to the minimum functional requirements of

---

<sup>152</sup> Resolution of 26 April 2022, 179/2022/R/gas.

<sup>153</sup> Consultation document of 13 September 2022, 423/2022/R/gas.

<sup>154</sup> Section I of Annex A to resolution 27/2019/R/gas of 29 January 2019.

<sup>155</sup> Resolution of 27 December 2016, 570/2019/R/gas.

<sup>156</sup> Resolution of 30 August 2022, 406/2022/R/gas.

- the directives for the commissioning of gas metering units (gas smart meter directives<sup>157</sup>);
- definition of the level of the standard cost recognised for switch readings;
  - definition of the values to be recognised on account to cover the operating costs associated with the periodic verifications, provided for by Ministerial Decree No. 93 of 21 April 2017, of metering units of class greater than G6 that comply with the requirements of the smart meter gas directives;
  - definition of the methods for recognising, according to parametric logic, the costs of remote reading/remote management systems and concentrators;
  - definition of the modalities for recognising the residual value of smart meters decommissioned early in the first phase of the roll out of the installation plans foreseen by the gas smart meter directives in line with the indications<sup>158</sup> of June 2022.

In September 2022, ARERA also decided<sup>159</sup> to review the way in which the additional components to the distribution tariffs (GS, RE, RS, UG<sub>1</sub>, UG<sub>2</sub> and UG<sub>3</sub>) are collected.

In November 2022, ARERA's guidelines in relation to these issues were presented<sup>160</sup> and are summarised below.

With reference to the assessment of the effects of environmental policies on the dynamics of redelivery points, ARERA conducted an analysis on the trend of redelivery points reported by companies as of the years 2018 and 2021. The analysis showed that, in general, there was no generalised reduction in the number of redelivery points, although there were significant reductions in the number of points served in some locations. On the basis of these analyses, ARERA has expressed its orientation not to change the methods of allocating costs between companies and final customers and to confirm, for the years 2023-2025, the rates of reduction of operating costs recognised and applied in the years 2020-2022, and to carry out further analyses and in-depth studies in relation to the dynamics of the redelivery points, monitoring their trend over time in order to promptly assess any need for intervention and in any case with a view to the next regulatory period.

With reference to the adoption of the measures contained in paragraph 2.8 of the Prime Ministerial Decree of 29 March 2022 concerning the tariffs relating to the distribution networks located in Sardinia, ARERA recommended to implement the provisions of said Prime Ministerial Decree by confirming the application in that region of the specific negative EC tariff component of the mandatory tariff, expressed in euro/redelivery point, providing that the relevant financial requirements would be covered by the equalisation mechanisms, through the UG<sub>1</sub> component of the mandatory tariff.

With reference to the revision of the timing of the collection of the tariff components to cover the charges of a general nature of the gas system, in analogy with what has been envisaged<sup>161</sup> for the additional components to the transmission tariffs, ARERA has envisaged a reduction of the time interval between the collection of the aforementioned components by the sales companies and the

---

<sup>157</sup> Resolution 631/2013/R/gas as subsequently amended and supplemented.

<sup>158</sup> Indications given in the reasons for the resolution of 21 June 2022, 269/2022/R/gas.

<sup>159</sup> Resolution of 29 September 2022, 462/2022/R/com.

<sup>160</sup> Consultation document of 15 November 2022, 571/2022/R/gas.

<sup>161</sup> Consultation document of 17 May 2022, 213/2022/R/gas.



corresponding payment to CSEA.

In relation to the gas metering service, ARERA envisaged:

- for efficiency recoveries in the three-year period 2023-2025, the confirmation of the recovery targets already set for the previous three-year period (equal to 0%);
- with reference to the standard cost recognised for switch readings, to apply, as from 2023, a unit value of the standard cost recognised for each switch reading of € 0.50;
- for the purpose of defining the down payment to cover the operating costs associated with the periodic audits provided for in Ministerial Decree No. 93/2017, the confirmation of down-payment/adjustment mechanisms, while reducing the amount of the down payment with respect to the 2020-2022 period;
- for the coverage of operating and capital costs related to smart metering/remote management systems and concentrators, to define a single component  $t(\text{telcon})_{t,c}$  applied only to redelivery points equipped with smart meters, determined parametrically, set at € 1.30/pdr<sub>smart</sub>;
- with reference to the value of the standard cost for the installation of smart meters for 2022, to confirm the values envisaged for 2021 and the related application methods, based on the average between the cost actually incurred and the standard cost, with weights of 70% and 30% respectively;
- for smart meters installed from 2023 onwards, to confirm the recognition of new investments as an average between the costs actually incurred and the standard costs, also confirming the weights of 70% and 30% respectively;
- with regard to class meters up to G25, to set standard cost levels lower than those set for 2021, and for class meters above G25, to confirm the standard cost values currently set by the RTDG;
- to provide that, starting from investments made in 2023, in the case of the installation of smart meters equipped with functions useful for improving safety in the event of seismic events, capital costs including installation and commissioning costs shall be recognised on the basis of the actual cost incurred by the company, to an extent higher than the standard cost, but in any case within a limit equal to the standard cost starting from the data year 2023, increased by € 30, also providing that these increases shall be recognised only in the case of installation in locations located in areas with a higher seismic risk;
- to provide that companies, which during the years 2020-2022 have proceeded to install smart meters equipped with functionalities useful for improving safety in the presence of seismic events in areas with a high seismic risk, may submit an application for the recognition of capital costs including installation and commissioning costs, but in any case within a limit set equal to the value of the standard cost envisaged during the same period, increased by € 30;
- with reference to the methods for recognising the residual value of smart meters decommissioned in advance in the first phase of the roll out (envisaged by the gas smart meter directives), to recognise in the tariff the residual value of smart meters of class less than or equal to G6 that have already been decommissioned or that will be decommissioned before the end of their regulatory useful life, limiting this recognition intervention to smart meters that came into operation in the years from 2012 to 2016.

In December 2022, the new version of the RTDG was finally approved<sup>162</sup>, which:

- with reference to the recognition of operating costs, it confirmed that it did not change the way in which costs are allocated between companies and final customers and also confirmed, for the

<sup>162</sup> Resolution of 29 December 2022, 737/2022/R/gas.

- years 2023-2025, the recognised cost reduction rates in force in the previous three-year period;
- in order to mitigate the consequences arising from the reduction of redelivery points at individual locations as a result of consumption electrification policies or the transition to other energy carriers in terms of covering operating costs, has provided for an adjustment mechanism based on trigger logic, starting with revenues accruing in 2023;
  - in relation to the adoption of the measures provided for in paragraph 2.8, of the Prime Ministerial Decree of 29 March 2022, concerning distribution tariffs in Sardinia, confirmed the orientation expressed in the consultation;
  - on the revision of the timing of the collection of revenue relating to the tariff components covering general gas system charges, confirmed the guidelines expressed in the consultation;
  - adjusted the provisions of the RTDG in accordance with those set out in Article 6 of Law No. 118 of 5 August 2022 on the optimisation of the portions of the network in the ownership of the local authority;
  - with reference to efficiency recoveries for the metering service, confirmed what had been outlined in the consultation, maintaining the same recovery targets already set for the previous three-year period, i.e. 0%;
  - in relation to the definition of a new level of standard cost recognised for each switch reading to be applied over the three-year period 2023-2025, taking into account the comments received, it has partially modified the approach hypothesised in the consultation by differentiating the fee for recognising the costs of switch readings according to the type of meter installed; more specifically, it provided for a standard cost of € 0.50 for switch readings relating to redelivery points equipped with a smart meter and confirmed the current level of € 5 for each switch reading in the case of redelivery points equipped with a conventional meter;
  - in relation to the recognition of capital costs for smart meter investments:
    - with reference to the investments made in 2022, confirmed what was outlined in the consultation;
    - with reference to investments made from 2023 onwards, it generally confirmed the recognition of new investments as the average between the costs actually incurred and the standard costs, and also envisaged confirming the weights currently envisaged of 70% and 30% respectively;
  - with reference to the recognition of standard costs relating to the installation of smart meters with additional functionalities, decided to carry out further investigations in relation to the competition profiles commented on in the consultation;
  - with reference to the issue of the recognition of the residual value of smart meters installed during the first roll-out phase of the gas smart meter directives, confirmed the orientation expressed in the consultation, extending the recognition of the residual value to smart meters decommissioned in advance up until 2018, provided that such decommissioning refers to devices manufactured up until 2016.

In December 2022, the mandatory tariffs for natural gas distribution, metering and marketing services for 2023 were approved<sup>163</sup>.

---

<sup>163</sup> Resolution of 29 December 2022, 736/2022/R/gas.

### Transposition and implementation of government manoeuvres to support gas consumers

The strongly bullish trend in wholesale energy commodity prices, both internationally and domestically, with particular reference to electricity and gas, which had started in 2021, strengthened in 2022. This performance had an extraordinary impact on the updating of the economic conditions of the standard offer service for electricity and natural gas, as well as significant effects on electricity and natural gas prices in the free market.

This led the government to adopt, quarter after quarter, manoeuvres to support both electricity and gas sector users. As a result, ARERA adopted the resolutions transposing and implementing the aforementioned manoeuvres, to the extent of its competence, ordering<sup>164</sup>, for the gas sector, the cancellation of the additional tariff components RE, RET, GS, GST, UG3 and UG3T for the whole of 2022.

In addition, for the gas sector, ARERA has ordered<sup>165</sup>, as of 1 April 2022, to change the element UG2c of the additional component of the distribution tariff UG2, applying a component with a negative sign (thus representing a price discount), to consumption brackets up to 5,000 sm<sup>3</sup>/year. For the second quarter of 2022, this provision was adopted independently by ARERA. For the following quarters, this measure was then provided for and reinforced by the provisions of the decree-laws adopted by the Government for the third and fourth quarters of 2022.

The revenue shortfall of the RE, RET, GS, GST, UG3, UG3T components and the negative UG2c component (for the last two quarters) was covered by the resources made available by the Government provisions mentioned above. In particular:

- for the cancellation of the RE, RET, GS, GST and UG3 and UG3T components in Q1 2022, the 2022 Budget Law made available € 480 million;
- for the cancellation of the RE, RET, GS, GST, UG3 and UG3T components in Q2 2022, Decree-Law No. 17/2022 made available an additional € 250 million;
- for the cancellation of the RE, RET, GS, GST, UG3 and UG3T components and for the confirmation of the negative UG2c rate in Q3 2022, Decree-Law No. 80/2022 made available an additional € 292 million, and also provided an additional € 240 million to increase (in absolute value) the negative UG2c component;
- for the cancellation of the RE, RET, GS, GST, UG3 and UG3T components and the confirmation of the value of the negative component UG2c of Q2 in Q3 2022, Decree-Law No. 115/2022 made available an additional € 1,820 million.

The variability of the resources required in the different quarters is mostly attributable to the strong seasonality typical of the natural gas market, whereby the cancellation of the components in the winter quarters obviously has more significant effects - in addition to the change in the rate of the negative UG2c component that occurred in the third quarter of 2022.

<sup>164</sup> In detail:

- for the first quarter of 2022, Resolution 635/2021/R/com, implementing the provisions of the 2022 Budget Law;
- for the second quarter of 2022, Resolution 141/2022/R/com, implementing the provisions of Decree-Law No. 17/2022;
- for the third quarter of 2022, Resolution 295/2022/R/com, implementing the provisions of Decree-Law No. 80/2022;
- for the fourth quarter of 2022, Resolution 462/2022/R/com, implementing the provisions of Decree Law No. 115/2022.

<sup>165</sup> Resolution of 30 March 2022, 148/2022/R/gas.

As required by Article 2-*bis* of Decree-Law No. 17/2022, in May 2022 ARERA submitted<sup>166</sup> the report on the use of the resources made available from the state budget for 2021. The reporting of the resources made available by the Government during 2022, in terms of their actual adequacy to the economic needs of the interventions, can only be carried out once the 2022 final figures are available.

As in the electricity sector, the Government's manoeuvres in 2022 also strengthened the social gas bonus in order to offset the quarterly expenditure variations of the beneficiary households, providing, among other things, for an enlargement of the number of beneficiaries as of 1 April 2022 (raising the ISEE threshold to € 12,000). For information on this aspect, refer to Chapter 5 of this Report.

## Gas infrastructure

In Italy there are nine companies operating the **National** (10,490 km) and **Regional** (24,936 km) **Gas Transmission Network**: one for the national network only, two on the national and regional network and six for the regional network only. The largest gas transmission operator company is Snam Rete Gas; in addition to it, two other companies own and operate small sections of the national network: Società Gasdotti Italia and Infrastrutture Trasporto Gas. The Snam group owns 92.8% of the networks. The second operator is Società Gasdotti Italia, which manages a total of 1,796 km of network (5.1%), of which 736 are on the national network. The company Retragas, of the A2A group, is third with a share of 1.2%, thanks to its 423 km of regional network. The remaining six smaller operators have small regional network sections.

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

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

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

**Liquefied natural gas** is fed into the Italian national transmission network through the interconnection with the terminals in operation in Panigaglia (in Liguria), Cavarzere (in Veneto) and Livorno (in Tuscany). The Panigaglia plant is owned by the company GNL Italia belonging to the Snam group, has a maximum regasification capacity of 13 M(m<sup>3</sup>)/day and the maximum annual quantity of gas it can feed into the transmission network is 3.5 G(m<sup>3</sup>). 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<sup>3</sup>) and approximately 26.4 M(m<sup>3</sup>)/day. Of the maximum regasification capacity, 80%, i.e. 21 M(m<sup>3</sup>)/day, is reserved for the terminal operator, the company Terminale GNL Adriatico, which

<sup>166</sup> Report of 16 May 2022, 212/2022/l/com.

has been exempted from third-party access for 80% of capacity, for 25 years<sup>167</sup>, 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. The Livorno terminal, owned by the company OLT Offshore LNG Toscana, results from the conversion of an LNG carrier - the "Golar Frost" - into a floating regasification terminal anchored about 22 km off the coast between Livorno and Pisa. Its maximum daily regasification capacity is 15 M(m<sup>3</sup>)/day, its annual capacity is 3.75 G(m<sup>3</sup>).

Natural gas **storage** is carried out on the basis of 15 concessions held by five companies: Stogit, Edison Stoccaggio, Italgas Storage, Geogastock, Blugaz Infrastrutture. All active storage sites are built at depleted gas fields. Stogit, which belongs to the Snam group, is the main storage company owning 10 of the 15 concessions. The Italian gas storage system is of significant size: in the 2022-2023 thermal year, which ended on 31 March 2023, the system offered an overall availability for allocation in terms of total space for active reserve (so-called working gas) amounting to 17.75 G(m<sup>3</sup>), of which 4.6 G(m<sup>3</sup>) is for strategic storage. The space offered at auction was 95%. The nominal peak delivery achieved during the year was 259.1 million standard cubic metres/day: 247 M(m<sup>3</sup>)/day in Stogit storage, 9 M(m<sup>3</sup>)/day in Edison storage and 3.1 M(m<sup>3</sup>)/day in Italgas Storage storage.

Natural gas **distribution** in Italy takes place through 269,249 km of network (of which 378 will not be in operation in 2022), 57.2% in low pressure, 42.1% in medium pressure and 0.7% in high pressure. The length of the networks increased by 1,111 km compared to 2021. In addition to the networks, gas distribution takes place via 6,881 reduction stations and 103,413 final reduction units. 57.5% of the networks (154,846 km) are located in the North, 22.8% in the Centre (61,269 km) and the remaining 19.7% (53,134 km) are in the South and Islands. There were 186 companies active in gas distribution in 2022 (the same number as in 2021), of which six were very large (with more than 500,000 customers), 22 with between 100,000 and 500,000 customers, 20 medium (50,000-100,000 customers), 91 small (10,000-50,000) and 47 very small (less than 5,000 customers). The number of companies with more than 100,000 redelivery points has fallen in recent years (28 units, down from 33 in 2013). However, their share in terms of gas distributed has not fallen, remaining stable at around 82% until 2018 and has then gradually risen to 85% in the last three years. Overall, the 186 operators active in 2022 distributed 28.3 G(m<sup>3</sup>), 5 G(m<sup>3</sup>) fewer than the previous year, to approximately 22 million consumers. The service was operated through 6,512 concessions in 7,314 Municipalities.

### Quality of gas distribution system

At the end of 2019,<sup>168</sup> was approved the *Regulation of the quality of gas distribution and metering services for the regulatory period 2020-2025 - Part I of the Consolidated Text of the regulation of the quality and tariffs of gas distribution and metering services for the regulatory period 2020-2025* (RQDG). The RQDG regulates certain activities relevant to the safety of the gas distribution system. These include emergency service, inspection of the distribution network, locating leaks following inspection or recommendation by third parties, and gas odourisation. 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

---

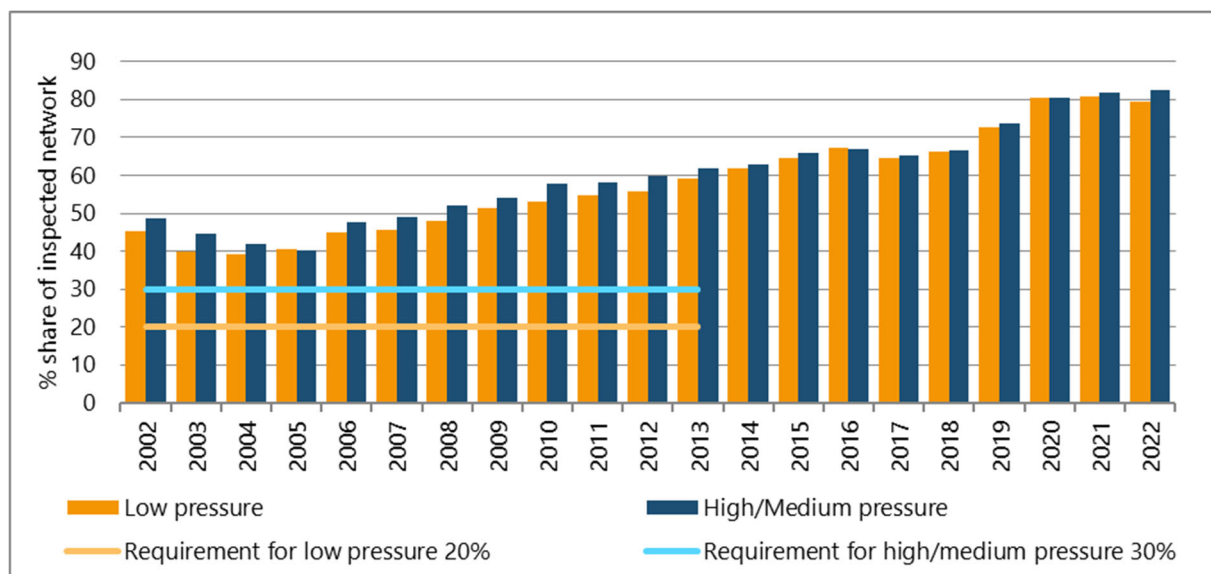
<sup>167</sup> Pursuant to Law 239 of 23 August 2004 and European Directive 2003/55/EC.

<sup>168</sup> By resolution of 27 December 2019, 569/2019/R/gas.

the gas sector in recent years.

Figure 4.1 shows the amount of network inspected annually since 2002. Until 2013, the regulation established a minimum percentage to be inspected each year, while since 2014, an obligation has been introduced for 100% of the network on a multi-year basis: the three-year rolling period, for high and medium pressure (HP/MP) pipelines, and the four-year (rolling) period, for low pressure (LP) pipelines. In 2022, there is a slight increase compared to 2021 in the percentage of inspection of the high-pressure and medium-pressure network and a slight decrease in the inspection of the low-pressure network. The inspection of the network generally aims at intercepting the phenomenon of network leaks and thus enhancing the safety of citizens.

**Figure 4.1 Percentage of network inspected since 2002**



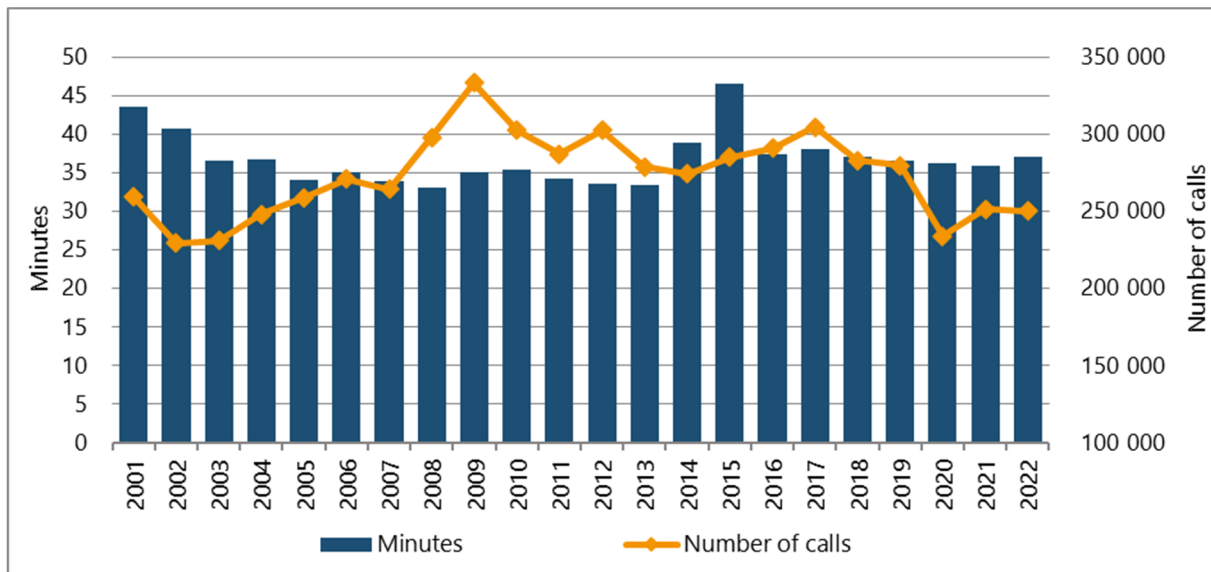
Source: Distributing companies' declarations to ARERA.

With regard to emergency service obligations, Figure 4.2 shows the arrival time at the place of (telephone) call updated to 2022. The national average value is about 37 minutes, which is slightly higher than in 2021. The obligation establishes a minimum annual percentage of calls with arrival time at the place of call for emergency service within the maximum time of 60 minutes equal to 90%. The mandatory voice recording of calls, introduced as of 1 July 2009 and accompanied by control campaigns on the gas emergency service, implemented with the help of the Tax Police, induces companies to record data accurately. 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.

In 2022, the number of leaks localised in the networks as a result of third-party recommendations per thousand customers (relative to distribution plants subject to the incentive regulation), there is a slight decrease (Figure 4.3) both for leaks localised on underground networks ( $10 \cdot DT$ ) and for those on overhead networks ( $DTA$ ). The number of leaks localised as a result of third-party recommendation per thousand final customers ( $DT_{conv}$ ) is also on the decline.

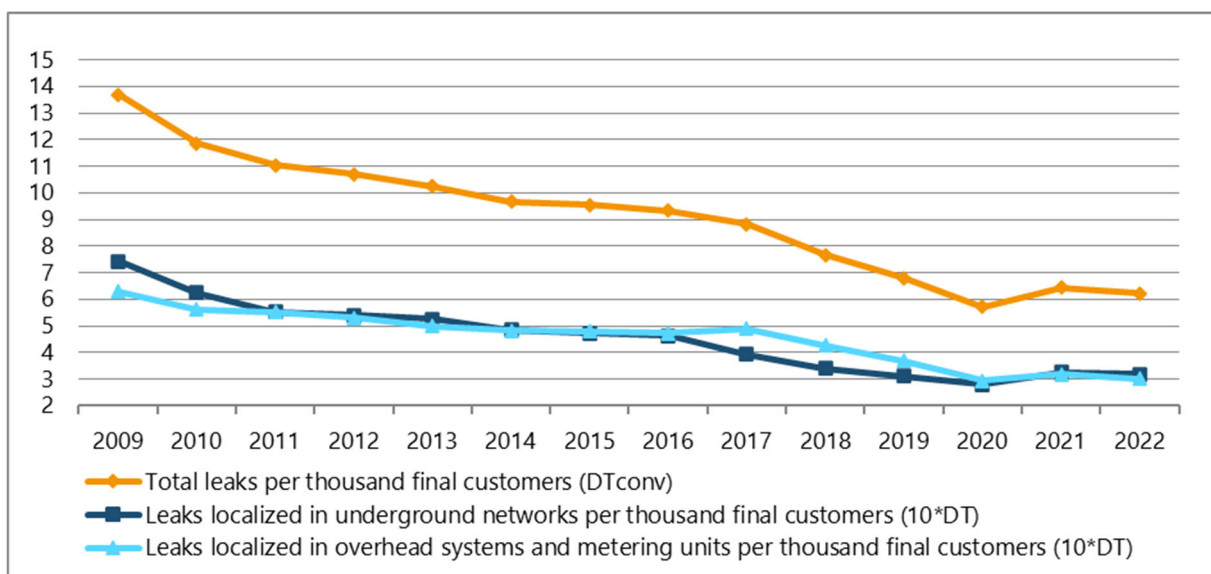


**Figure 4.2 Emergency service on distribution system since 2001**



Source: Distributing companies' declarations to ARERA.

**Figure 4.3 Number of localised leaks as a result of third-party recommendation per 1,000 customers on plants subject to incentive regulation**



Source: Distributing companies' declarations to ARERA.

**Connection times to transmission and distribution networks**

Data on connections are differentiated according to whether they are connections to transmission pipelines or to the distribution network. 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 2022, 83 connections to transmission networks were made, of which 72 were high-pressure pipelines and 11 medium-pressure pipelines (Table 4.1). On average, a wait of 135.5 working days was recorded for high-pressure pipelines and 78.3 days for medium-pressure pipelines. Compared to the previous year, the number of high-pressure connections remained unchanged and the number of medium-pressure pipelines decreased, but above all, the average time for making both types of connection increased significantly: an increase of 52 working days (+62%) for high-pressure networks and 46 working days (+142%) for medium-pressure networks. Just under half of the total 83 connections realised activated supply during the year (more precisely, 28 out of 72 in high pressure and 9 out of 11 realised in medium pressure).

**Table 4.1 Connections to transmission networks and average connection time**

Number and average time in working days

PRESSURE	2021		2022	
	NUMBER	AVERAGE TIME <sup>(A)</sup>	NUMBER	AVERAGE TIME <sup>(A)</sup>
High pressure	72	83.6	72	135.5
Medium pressure	20	32.4	11	78.3
<b>TOTAL</b>	<b>92</b>	<b>72.5</b>	<b>83</b>	<b>127.9</b>

(A) It excludes time spent in obtaining any authorisations.

Source: ARERA. Annual survey of regulated sectors.

**Table 4.2 Connections to distribution networks and average connection time**

Number and average time in working days

PRESSURE	2021		2022	
	NUMBER	AVERAGE TIME <sup>(A)</sup>	NUMBER	AVERAGE TIME <sup>(A)</sup>
High pressure	0	-	0	-
Medium pressure	7,627	8.0	3,906	7.7
Low pressure	97,333	26.1	68,490	23.3
<b>TOTAL</b>	<b>104,960</b>	<b>9.3</b>	<b>72,396</b>	<b>8.6</b>

(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.

In the case of distribution networks, there was a decrease in the number of connections made (Table 4.2): 72,396 in 2022 compared to 104,960 in 2021. As always, most of the connections concerned low-pressure pipelines (94.6%) and the remainder medium-pressure pipelines, as no connections were made by distributors for the high-pressure network, as in recent years. There was a reduction in waiting times both for connections to medium-pressure networks (from 8 to 7.7 working days), and for connections to low-pressure networks (from 26.1 to 23.3 working days).

On average, each distributor made 359 connections to low-pressure networks during the year. If those distributors who did not make a single connection are excluded from the calculation (21 subjects), the average rises to 410 connections per distributor.

### 4.1.2 Balancing

#### Settlement rules

In February 2018, an articulated reform process began of the gas settlement rules, with the approval<sup>169</sup> of the *Integrated text of the provisions for the regulation of the physical and financial transactions of the natural gas balancing service (TISG)*. This reform, which came into force on 1 January 2020, is characterised by the following main provisions:

- entrusting the balance responsible entity (RdB), i.e. the main transmission operator company, with the task of sourcing the difference between the quantities injected into the distribution system by suppliers and those withdrawn by final customers;
- the simplification of the procedures for determining the physical and financial transactions for balancing and adjustment sessions;
- the sterilisation of uncertainty for the balancing user (UdB) with reference to withdrawals destined for redelivery points (DRP) with a reading frequency lower than monthly; in fact, the quantities to be supplied for these points are forecast by the RdB and these lots are not redetermined, thus reducing the risk associated with their adjustment;
- the centralisation in the Integrated Information System (IIS) of certain activities, which previously were the responsibility of distribution companies;
- the implementation by the RdB of a methodology for the assessment of the climatic factor in the determination of daily withdrawals concerning DRPs with less than or equal to monthly reading frequency, as well as the revision of withdrawal profiles.

As a result of the consultation launched in September 2018<sup>170</sup>, a new version of the TISG was approved<sup>171</sup> in April 2019, which incorporated a new regulation on the determination of physical daily batches.

In May 2019, ARERA then approved<sup>172</sup> a series of provisions aimed at defining the regulatory framework relating to the activities that Snam Rete Gas must carry out as of 1 January 2020 for the market supply of the resources needed to operate the system. It was also provided that Snam Rete Gas should distinguish the activities of procuring the gas necessary for the operation of the system from those aimed at balancing the system, also due to the fact that the former do not contribute to the formation of the marginal balancing prices.

In November 2019, after consultation<sup>173</sup>, further provisions were approved<sup>174</sup> concerning the supply by the RdB of the resources necessary for the functioning of the system, providing, in particular, that:

- supply takes place through marginal price auctions within the MP-GAS sector;
- each auction is bilateral;

---

<sup>169</sup> Resolution of 8 February 2018, 72/2018/R/gas.

<sup>170</sup> Consultation document of 20 September 2018, 462/2018/R/gas.

<sup>171</sup> Resolution of 16 April 2019, 148/2019/R/gas.

<sup>172</sup> Resolution of 28 May 2019, 208/2019/R/gas.

<sup>173</sup> Consultation document of 17 September 2019, 378/2019/R/gas.

<sup>174</sup> Resolution of 5 November 2019, 451/2019/R/gas.

- transactions concluded at auctions are excluded from the formation of the System Average Price (SAP);
- the number of auctions for products with day-gas delivery is limited to two.

With regard to the purchase and sale prices of Snam Rete Gas, it was established:

- that the purchase prices are equal to the SAP average for the 7 days preceding the trading day increased by € 30/MWh;
- that sales prices are € 0/MWh.

It was also established that Snam Rete Gas may continue to supply any additional quantities of system gas and, in particular, self-consumption, in accordance with the modalities established in May 2019<sup>175</sup>. In the event of unforeseen and significant variations in market conditions, Snam Rete Gas, if it deems it necessary and urgent in order to procure system gas, may, however, define a purchase price higher than that mentioned above, notifying ARERA and the GME.

In June 2020, amendments to the settlement rules were approved<sup>176</sup> in order to optimise the timing of the activities involved in establishing the final budgets.

In January 2021, the Authority intervened<sup>177</sup> on the application modalities of the regulation of deviation fees due to withdrawals attributed at distribution redelivery points that were found to be abnormal as a result of settlement sessions.

In November 2021, the Authority approved<sup>178</sup> amendments and additions to the TISG for the implementation of the new transmission tariff regulation<sup>179</sup>. In particular, on the determination and settlement of financial transaction adjustments:

- the obligation to balance the components covering network leakage and gas not accounted for as a result of the adjustment sessions was eliminated;
- variable transmission fees were introduced.

In April 2022, ARERA envisaged<sup>180</sup> some interventions to mitigate the effects of anomalous allocations that could occur in some particular cases of unavailability of correct metering data, with consequences on the transmission balances, experienced in these years of application of the new settlement rules. In detail, the following possible actions were presented:

- "sterilisation" of the withdrawal characterised as inconsistent in both the balancing session and the adjustment session, according to a criterion based on the maximum flow rate of the metering unit installed at the distribution network redelivery point (DRP) and, subsequently, on the basis of the annual consumption and withdrawal profile of the DRP;
- inclusion of "excluded" DRPs in the procedures, providing that, in both balancing and adjustment sessions, a profiling always based on the annual consumption and withdrawal profile of the DRP

<sup>175</sup> Point 7 of resolution of 28 May 2019, 208/2019/R/gas.

<sup>176</sup> Resolution of 16 June 2020, 222/2020/R/gas.

<sup>177</sup> Resolution of 14 January 2021, 3/2021/R/gas.

<sup>178</sup> Resolution of 16 November 2021, 496/2021/R/gas.

<sup>179</sup> Resolution of 28 March 2019, 114/2019/R/gas.

<sup>180</sup> Consultation document of 5 April 2022, 157/2022/R/gas.

is adopted instead of exclusion;

- recalculation of the adjustment sessions and of the annual withdrawal calculation procedure according to the schedules presented by the Integrated Information System Operator, shared with Snam Rete Gas, which are considered to be better than those in force as far as they are concerned;
- the introduction of an incentive mechanism for distribution companies aimed at encouraging maximum timeliness in correcting withdrawal data that have not passed the consistency check in the balancing or adjustment session.

In November 2022, ARERA defined<sup>181</sup> the new settlement measures, confirming most of the guidelines set out in the consultation:

- changes and/or additions to the TISG have been planned with regard to the timing of the annual consumption calculation and balancing and adjustment sessions;
- a new inconsistency criterion was introduced for the detection of anomalous withdrawals, as well as the obligation of a subsequent sterilisation by the Integrated Information System, for a better efficiency of the aggregation phases and goodness of the final transport balances;
- the incentive mechanism for distribution companies recommended in the consultation was confirmed and will enter into force as of 2024.

In May 2022, ARERA confirmed<sup>182</sup> until 31 December 2023 the incentive parameters for the balance responsible entity in place during the previous period.

In December 2022, ARERA approved<sup>183</sup> further interventions on the subject of gas settlement and the management of guarantees for the balancing service, envisaging, among other things, until March 2023, an economic compensation in the final balance aimed at taking into account the variations in withdrawals connected to the reduction in consumption as a result of ministerial interventions or due to the different behaviour of final customers, also favoured by the price levels reached. With this resolution, ARERA, having already ascertained the overestimation of the provisional winter withdrawals compared to the actual definitive balance, also instructed the balance responsible entity to take into account an estimate of the reduction of the expected withdrawals at the city gates and their countertrade when defining the guarantees to be submitted.

### **Making distribution companies responsible for the difference between gas injected and withdrawn (Delta<sup>10</sup>)**

In August 2021, ARERA recommended<sup>184</sup> the introduction of a mechanism to make distribution companies responsible for the volumes to cover the difference between the quantities injected at the exit points of the transmission network interconnected with distribution networks (city gates) and those withdrawn from final customers supplied through the same points (the "Delta<sup>10</sup>"). The mechanism envisaged provides for a simplified approach to assessing the performance of

<sup>181</sup> Resolution of 8 November 2022, 555/2022/R/gas.

<sup>182</sup> Resolution of 3 May 2022, 199/2022/R/gas.

<sup>183</sup> Resolution of 13 December 2022, 688/2022/R/gas.

<sup>184</sup> Consultation document of 3 August 2021, 357/2021/R/gas.

distribution companies, aimed at addressing the macroscopic aspects of the phenomenon through the introduction of economic incentives, pending the definition of a more articulated accountability mechanism. For the first step, it was therefore recommended to identify, on the basis of the available information, deviations (values of Delta<sup>10</sup>) representative of a situation of manifest inefficiency of the distribution company, against which it is considered legitimate to charge a partial share of the cost that the value of the Delta<sup>10</sup> causes for the system.

In August 2022, ARERA therefore introduced<sup>185</sup> a simplified liability mechanism for distribution companies based on the penalisation of the difference between the quantities of gas injected at the exit points of the transmission network connected to distribution networks (city gates) and the quantities withdrawn by final customers connected to the distribution network, if this difference is outside ranges considered permissible for the system. The definition of a more comprehensive and stringent system of accountability, which also takes into account additional factors, as well as the need to promote the improvement of the performance of companies in general, has been postponed to subsequent interventions by ARERA. Currently, for each city gate that does not fall within the specified ranges, a penalty is applied to the distribution company, calculated using the same factor adopted for the transmission network under the unaccounted-for gas management accountability mechanism, i.e. € 3.33/MWh. In addition, distribution companies must take the necessary actions to recover the value of gas, which is the subject of fraudulent withdrawal and localised leakage, from the party that has carried out this withdrawal or caused the leak. The gas volumes will be valued in accordance with the rules applicable to the default transport service on the transmission networks and the recovered amounts will be paid to the system.

### 4.1.3 Cross-border issues

#### TAP pipeline

The Trans Adriatic Pipeline (TAP), the pipeline that transports natural gas from the Shah Deniz II field in Azerbaijan to Europe, came into operation at the end of 2020. In 2013, TAP AG obtained an exemption from certain European regulations (third-party access, regulated tariffs and unbundling), under conditions set by the Final Joint Opinion, a document jointly approved by the regulatory authorities of Italy (ARERA)<sup>186</sup>, Greece (RAE) and Albania (ERE). Among the conditions imposed, TAP AG must conduct a Market Test at least every two years to verify the market's interest in booking transmission capacity with long-term contracts between the entry and exit points of the natural gas pipeline. In the event of a positive outcome of the Market Test (as well as the verifications of the technical-economic feasibility of the requests), TAP AG has to build capacity increases from the current 10 G(m<sup>3</sup>) standard per year up to the maximum expansion capacity of 20 G(m<sup>3</sup>) standard per year.

Subsequent to 2013, regulation (EU) 459/2017 of the European Parliament and of the Council of 16 March 2017 (the CAM NC) has been issued which, in addition to the allocation of existing capacity, contains specific provisions regarding the realisation of incremental capacity, also providing for a two-year procedure (generally starting in odd years).

---

<sup>185</sup> Resolution of 2 August 2022, 386/2022/R/gas.

<sup>186</sup> Resolution of 6 June 2013, 249/2013/R/gas.



In light of the changed regulatory environment and at the request of the Authorities, TAP will, as of 2019 (the year in which the first Market Test was launched), coordinate (to the extent possible) the Market Test procedure set out in the Final Joint Opinion with the Incremental Capacity Procedure governed by the CAM NC.

In the framework of the aforementioned context, in May 2021 the Authority, jointly with the regulators of Greece (RAE) and Albania (ERE), approved<sup>187</sup> the capacity increase recommendation submitted by TAP, SRG and DESFA relating to the procedure initiated in July 2019. Furthermore, in June 2021, the Authority, always in agreement with the Regulatory Authorities of Albania (ERE) and Greece (RAE), approved<sup>188</sup> the document "Guidelines for the 2021 Market Test of Trans Adriatic Pipeline" with which a new Market Test for 2021 was initiated.

In March 2022 ARERA, together with the regulatory authorities of Greece and Albania, approved an amendment to TAP AG's Network Code aimed at optimising certain processes following the experience gained during the first year of operation of the pipeline. In particular, changes were introduced for:

- the streamlining of the formalities required to acquire and maintain "registered user" status, which is necessary to request the allocation of transmission capacity;
- the strengthening and streamlining of safeguards to guarantee TAP AG's exposure to users;
- the introduction of a transport service in the direction of Melendugno for gas volumes injected upstream with the definition of a new virtual entry point that includes the physical points of Komotini and Nea Mesimvria (located in Greece).
- Finally, in November 2022, ARERA, jointly with the regulators of Greece (RAE) and Albania (ERE), approved<sup>189</sup> the "Project Proposal" regulating the binding phase of the Market Test, essentially describing the capacity levels offered, the general rules for the conduct of the procedure, the indications for future contracts, the guarantees to be provided by the parties and the economic parameters.

### Assessment of ten-year transmission network development plans

On 29 March 2022, the Authority launched the public consultation on the Natural Gas Transmission Network Development Plans for 2022. As part of this consultation, which ended on 31 May 2022, an on-line public session was organised by the largest transmission operator company, on behalf of ARERA, to present and discuss specific aspects of the Plans and to answer questions submitted by stakeholders, which took place on 4 May 2022.

In December 2022, ARERA therefore issued<sup>190</sup> its assessments on the Ten-Year Plans for the 2022 Development of Natural Gas Transmission Networks, together with its assessments on the Ten-Year Plans for the 2021 Development of Natural Gas Transmission Networks.

---

<sup>187</sup> Resolution of 11 May 2021, 189/2021/R/gas.

<sup>188</sup> Resolution of 28 June 2021, 273/2021/R/gas.

<sup>189</sup> Resolution of 2 November 2022, 548/2022/R/gas.

<sup>190</sup> Resolution of 20 December 2022, 696/2022/R/gas.

#### 4.1.4 Implementation of Network Codes and Guidelines

##### Approval and updating of service codes

The regulation of access and provision of natural gas transmission, storage and regasification services, contained in Italian Legislative Decree No. 164 of 23 May 2000, requires that the companies providing such services define their own codes in accordance with the criteria established by ARERA, which approves them once it has verified their consistency with these criteria.

During 2022, several codes for transmission, storage and regasification services were updated, in order to incorporate new regulatory provisions, provisions of ARERA or management methods aimed at improving service provision. In particular:

- in January 2022, ARERA<sup>191</sup> approved the update of the Snam Rete Gas Network Code and made the necessary changes to the Gas Settlement Integrated Text (TISG) on the variable  $CV_U$  and  $CV_{FC}$  fee adjustments also for customers directly connected to the transmission network, consistently integrating the parts related to balancing sessions;
- in March 2022 ARERA approved<sup>192</sup> the update of the network code of Società Gasdotti Italia concerning: (i) the changes made in accordance with the provisions of the gas transmission tariff regulation in relation to self-consumption, network leakage and unaccounted-for gas; (ii) the updating of the methods for allocating the volumes injected by local production; (iii) the change in the calculation of the deviation at redelivery points feeding distribution networks; (iv) the integration of the procedure for processing the balancing session; (v) the changes to the chapter on balancing;
- in March 2022, ARERA approved<sup>193</sup> a recommendation to update the Storage Code submitted by the company Italgas Storage aimed at expanding the commercial offer of services through the introduction of "Baskets" (defined as a group of one or more alternative storage services offered within the same allocation procedure) and to introduce constraints in the mechanism of natural gas transfer between the different services;
- in July 2022, ARERA approved<sup>194</sup> the recommendations to update the transmission codes of the company Snam Rete Gas and the company Infrastrutture Trasporto Gas, concerning the technical-economic assessment of connection requests;
- in July 2022, ARERA also approved<sup>195</sup> the recommended update of the Regasification Code submitted by GNL Italia, which provides for the integration of the guarantee system in line with the provisions of the Network Code of the major transmission operator company, as well as the proportioning of the transmission capacity charge for the regasification capacity allocated to the user on the basis of the technical volume of the LNG carrier indicated in the delivery schedule;
- in October 2022, ARERA approved<sup>196</sup> the recommendation to update the transmission code transmitted by Società Gasdotti Italia for the expansion of the guarantee instruments to which

---

<sup>191</sup> Resolution of 18 January 2022, 13/2022/R/gas.

<sup>192</sup> Resolution of 1 March 2022, 77/2022/R/gas.

<sup>193</sup> Resolution of 1 March 2022, 78/2022/R/gas.

<sup>194</sup> Resolution of 19 July 2022, 338/2022/R/gas.

<sup>195</sup> Resolution of 19 July 2022, 339/2022/R/gas.

<sup>196</sup> Resolution of 18 October 2022, 504/2022/R/gas.

users can resort and the adjustment of the financial coverage to the actual exposure of the operator;

- in November 2022, ARERA approved<sup>197</sup> a recommendation to update the Stogit Storage Code on the integration of short-term services and guarantee instruments.

---

<sup>197</sup> Resolution of 22 November 2022, 607/2022/R/gas.

## 4.2 Competition and the functioning of markets

### 4.2.1 Wholesale markets

According to provisional data released by the Ministry of the Environment and Energy Security, gross natural gas consumption in 2022 decreased by 7.7 G(m<sup>3</sup>), recording a 10.1% decrease (Table 4.3). The drop occurred despite strong GDP growth (3.7%), mainly due to the exceptional increases in international raw material prices that reduced industrial demand and the weather trend that favoured a drop in gas demand for heating purposes. In view of the difficulties in importing Russian gas as a result of the Ukrainian conflict, during the year the government developed measures aimed, among other things, at containing gas consumption, as well as diversifying import sources and maximising the filling of storages for energy security reasons. The government measures, more precisely, acted on the supply side with the objectives of encouraging the filling of storages, rapidly diversifying the origin of imported gas to replace Russian gas, and increasing the security of supply by maximising the use of facilities. On the demand side, on the other hand, a National Consumption Containment Plan has been implemented, in line with the European Commission's indications.

**Table 4.3 Gross natural gas consumption in Italy**

AVAILABILITY (M(m <sup>3</sup> ))	2021	2022 <sup>(A)</sup>	VARIATION
National production	3,184	3,106	-2.5%
Imports	72,988	72,583	-0.6%
Exports	1,543	4,613	198.9%
Stock variation	-1,591	2,580	-
<b>GROSS DOMESTIC CONSUMPTION</b>	<b>76,219</b>	<b>68,495</b>	<b>-10.1%</b>

(A) Provisional data.

Source: Ministry of the Environment and Energy Security.

The decline in domestic production was smaller (-2.5%), although a new all-time low was reached in 2022 (3.1 G(m<sup>3</sup>)). Net imports decreased by 4.9 % to almost 68 G(m<sup>3</sup>), almost 3.5 G(m<sup>3</sup>) less than in 2021. Net imports decreased not so much because of the reduction in gross imports, which fell by approximately 400 M(m<sup>3</sup>), but because of the significant increase in exports, which rose from 1.5 to 4.6 G(m<sup>3</sup>). The reduced availability of electricity produced by French nuclear power plants, droughts, and the decline in hydroelectric production, particularly in southern Europe, probably contributed to the growth in exported gas volumes. Thanks to government measures taken to ensure a high level of stockpile filling, the volumes stored at the end of the year were about 2.6 G(m<sup>3</sup>) higher than at the start of the year.

The level of foreign dependence, measured as the ratio of net imports to the gross value of household consumption, has risen again; 99% of the gas available in Italy comes from abroad.

Taking system consumption and network leakage into account, net gas consumption in 2022 can be estimated at 68.2 G(m<sup>3</sup>), 10.3 percentage points below that of 2021.

### Production

In the data collected in ARERA's customary Annual Energy Sector Survey, which from this year also includes the production of biomethane, a modest growth in domestic gas production emerges instead, which in 2022 amounted to 3,282 M(m<sup>3</sup>). Since last year's production was 3,248 M(m<sup>3</sup>), the change measured in the survey data in 2022 was 1%.

The share of household production held by the Eni group companies also decreased slightly in 2022, falling to 66.3% from 69.5% in the previous year. In 2022, in fact, Eni group companies extracted about 79 M(m<sup>3</sup>) less than in 2021, thus recording a 3.5% drop in production. However, the group remains the dominant operator in this segment with a decidedly majority share and far behind the second group, Royal Dutch Shell. In contrast to 2021, the latter's production grew by about 21 M(m<sup>3</sup>) (+4.1%), and in fact its share increased slightly to 16.4% (from 16%). The share of the third group, Energean PLC, whose companies extracted about 8 M(m<sup>3</sup>) less gas than in 2021 (-3.3%), remained essentially unchanged (from 7.9% to 7.6%), as did that of the Gas Plus group, this year at 2.8% against 2.7% in 2021, which extracted 1 M(m<sup>3</sup>) more than the previous year. Energean is the group that acquired all the assets held by Edison E&P in upstream activities at the end of 2020.

## Imports

As just mentioned, according to preliminary data released by the Ministry of the Environment and Energy Security, Italy imported 0.4 G(m<sup>3</sup>) less natural gas in 2022 than in 2021 (-0.6%). The main change in 2022 is the halving of imports from Russia due to the sanctions imposed by the EU on Russian exports in response to the war with Ukraine, started on 24 February 2022. The implementation of European sanctions, taking into account the important role played by Russian gas in covering national natural gas requirements (around 40% in 2021, with 29 out of the 73 G(m<sup>3</sup>) of gas imported last year), has placed the Italian government in a position to take urgent measures to guarantee the security of national supplies; measures that have affected both the gas supply and demand sides.

With regard to the objective of diversifying natural gas supply sources, an agreement was signed to gradually increase supplies from Algeria as early as 2022, which reach Italy in Mazara del Vallo. Algeria is a historical supplier to Italy: from the second half of the 1990s until 2012, it was indeed the supplier with the largest share of gas exported to Italy. In the short term, imports from the TAP, the gas pipeline that came into operation late 2020, from which the gas from Azerbaijan comes, were also increased; the government, in liaising with Eni and Snam, also moved to negotiate LNG supplies from new routes (Congo, Angola, Nigeria, Mozambique, Indonesia). According to the National Plan for Containing Natural Gas Consumption, published by the Ministry of Ecological Transition<sup>198</sup> on 6 September 2022, the set of initiatives put in place on the import front will make it possible to replace the approximately 30 G(m<sup>3</sup>) of Russian gas with approximately 25 G(m<sup>3</sup>) of gas from other sources by 2025, closing the gap with renewable sources and energy efficiency policies.

The quantities of gas supplied in the last two years by country of origin of the gas<sup>199</sup> show the first results of the initiatives taken on the import side (Figure 4.4). The drastic drop in imported Russian gas volumes of -15 G(m<sup>3</sup>) was almost entirely offset by the increase in imports from Norway (+4.2 G(m<sup>3</sup>)), Algeria (+3.5 G(m<sup>3</sup>)), Azerbaijan (+3.1 G(m<sup>3</sup>)), the United States (+1.8 G(m<sup>3</sup>)) and other territories (+2 G(m<sup>3</sup>)).

Also according to preliminary data from ministerial sources, in 2022, one fifth of the 72.6 G(m<sup>3</sup>) of gas imported into Italy, namely 14.5 G(m<sup>3</sup>), arrived by ship. 88% of all LNG imported came from Qatar, Algeria and the United States, which together accounted for 94% in 2021. In addition to these now

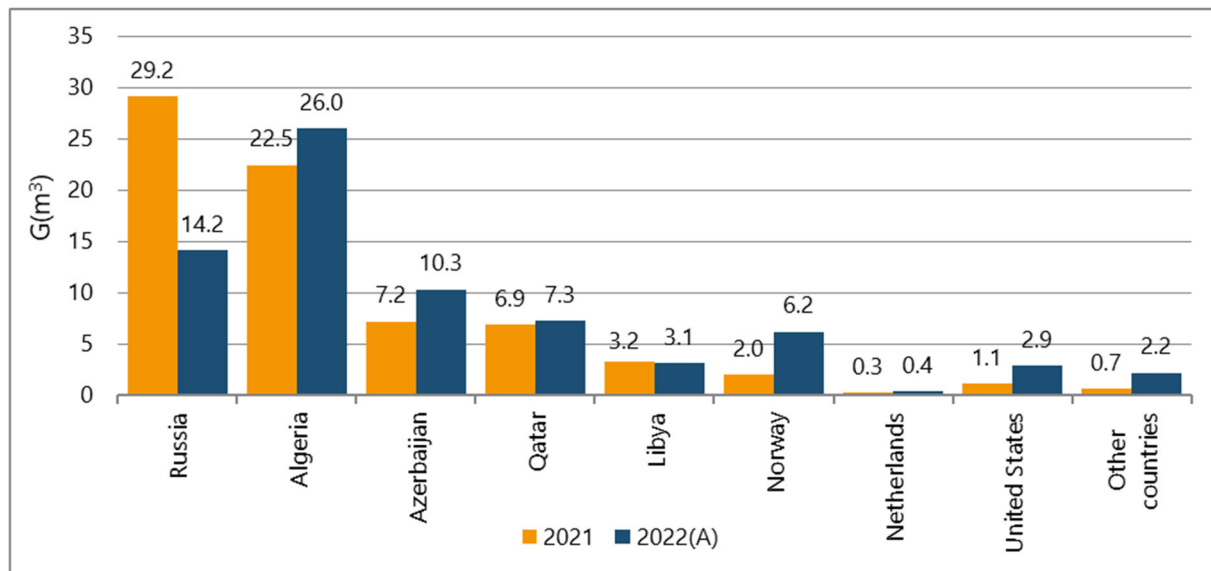
---

<sup>198</sup> Later the Ministry of the Environment and Energy Security.

<sup>199</sup> Imports are broken down by country of physical origin of the gas and non-contractual one.

traditional origins, cargoes from Egypt (5%), Spain (3%) and Nigeria (1%) were also important in the 2022 imports by ship. A comparison of LNG imports in 2022 with those in 2021 shows how initiatives to diversify the source have actually increased the incidence of countries other than the top three, which doubled in 2022 (12%) compared to 2021 (6%).

**Figure 4.4 Gross gas imports according to origin**



(A) Preliminary data.

Source: Ministry of the Environment and Energy Security.

Looking at the total import volumes (by pipeline and by ship), therefore, the shares of gas sources in 2022 have changed a lot compared to those in 2021: Russia's weight among the countries exporting to Italy has dropped to 19.5% (it was 40%), while Algeria's share has risen from 30.8% to 35.8%. In third place is Azerbaijan with a share of 14.2% (it was previously at 9.9%). Qatar accounted for 10% of the total gas imported to Italy (9.9% in 2021) and Norway's share rose to 8.6% from 2.7% in 2021. With 4%, the United States almost matched Libya's share (4.3%), which instead is unchanged in respect of 2021.

According to (provisional) data from ARERA's Annual Energy Sector Survey, approximately 68 G(m<sup>3</sup>) were imported into Italy in 2022, 3 less than in 2021<sup>200</sup>. The decrease is thus 4.3%, which is higher than the data from the Ministry of the Environment and Energy Security<sup>201</sup>. 6.5% of the total gas supplied abroad, i.e. about 4.4 G(m<sup>3</sup>), is purchased on European stock exchanges. This figure has doubled since 2021, when the percentage of imports acquired at foreign exchanges was 2.9 G(m<sup>3</sup>). The list of the top twenty importers shows no change in the top six positions. As always, Eni is the leader of importing companies, with 28.5 G(m<sup>3</sup>) imported in 2022, almost 6 G(m<sup>3</sup>) more than the previous year. The strong decrease in Eni's imports (-17%), far greater than that shown by total household imports, caused the company's market share to decrease sharply, from 48.4% to 41.9%

<sup>200</sup> Data from the Annual Energy Sector Survey.

<sup>201</sup> 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 ARERA's Survey, in view of the customs clearance procedures.



(39.2% if calculated on the value of imports from ministerial sources). On the contrary, the volumes purchased abroad by Edison, second in the ranking, were slightly higher than in 2021: from 11.1 to 11.3 G(m<sup>3</sup>) (+2%); its share of the import market rose by one percentage point to 16.7% and the distance to Eni was significantly shorter than that observed in 2021, which was more than seven percentage points.

**Table 4.4 Development of the wholesale market**

Year	Demand Total <sup>(A)</sup> G(m <sup>3</sup> )	Peaking demand <sup>(B)</sup> M(m <sup>3</sup> )/g	Production G(m <sup>3</sup> )	Import capacity via tube M(m <sup>3</sup> )/g	No. of groups with supply quota >5% <sup>(C)</sup>	No. of groups with available gas quota >5% <sup>(D)</sup>	C3 of major groups on total demand
2001	125.1	n.a.	15.5	n.a.	n.a.	2	68.2%
2002	111.8	n.a.	14.3	216.4	3	3	67.4%
2003	123.6	n.a.	13.9	224.9	3	3	63.8%
2004	127.3	386	12.9	237.9	3	3	62.4%
2005	138.3	421	12.0	260.1	3	3	66.7%
2006	134.3	443	11.0	251.1	3	3	66.5%
2007	136.1	429	9.7	271.1	3	3	63.8%
2008	151.5	410	9.3	276.5	3	3	57.1%
2009	147.2	436	8.0	289.8	3	4	49.2%
2010	173.5	459	8.3	296.2	3	5	42.3%
2011	178.9	401	8.4	296.2	3	3	42.1%
2012	178.3	464	8.6	298.6	3	3	40.5%
2013	180.8	360	7.7	298.6	3	3	42.7%
2014	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%

(A) Volumes of gas sold on the national wholesale and retail market; it includes resales and self-consumption.

(B) The indicated volume includes inputs, releases from storage, leakage and internal network consumption.

(C) Number of companies with a share of gas produced and/or imported of more than 5%.

(D) Number of companies with a share >5% of available gas volumes, including production, net imports and storage.

Source: ARERA processing of Snam Rete Gas data and on operators' declarations.

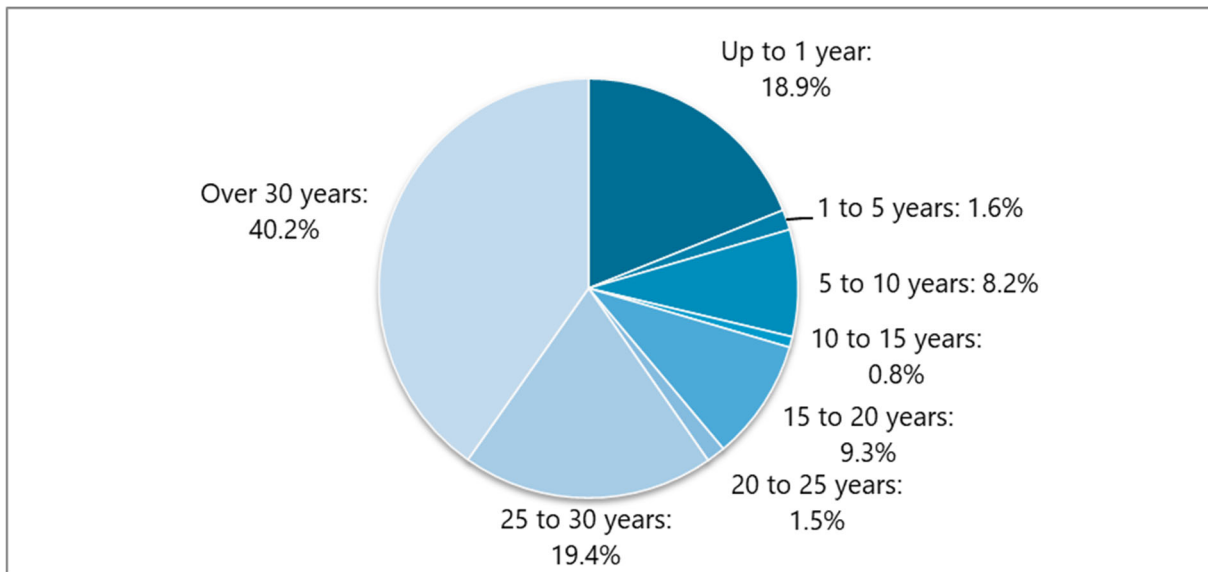
The groups<sup>202</sup> that own more than 5% of the total gas supplied (i.e. produced or imported) are five: Eni, Edison, Azerbaijan Gas Supply Company Limited, Royal Dutch Shell and Enel (the same as in 2021) (Table 4.4). Together they imported 56.1 of the 67.9 G(m<sup>3</sup>) of foreign gas that entered the Italian market. Considering also the quantities produced within national borders, the five groups account for 69.9% of all the gas supplied. The five groups are also the only ones that have a share of more than 5% of the available gas (which in addition to imports and production also includes gas in

<sup>202</sup> 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.

storage), with an overall share for the five (70.8%) slightly higher than the share of gas supplied.

The structure of import contracts (annual and multi-year) active in 2022 according to full term (Figure 4.5) has shortened compared to 2021: the share of long-term contracts, i.e. those with a full term of more than 20 years, was 61.1%, whereas last year it was 66.2%. Moreover, the incidence of short-term imports, i.e. those with a duration of less than five years, rose sharply to 20.5% from the 14.3% recorded in 2021; the incidence of medium-term contracts (5-20 years) reduced by one percentage point (from 19.4% to 18.4%). The annual contract quantities underlying the quotas expressed in the figure, however, increased: in 2021, contracted volumes totalled 83.8 G(m<sup>3</sup>), whereas in 2022 they rose to 85.8 G(m<sup>3</sup>). After two years of decline, the share of spot imports<sup>203</sup>, i.e. those with a duration of less than one year, also rose by seven percentage points to 19%.

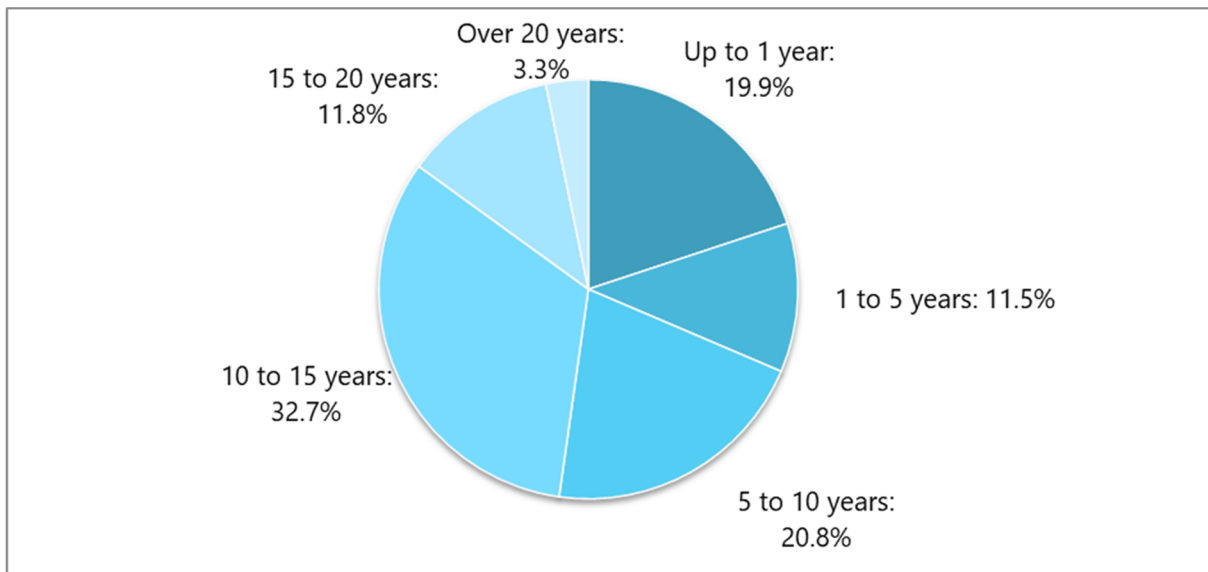
**Figure 4.5 Structure of active import contracts in 2022, according to their full term**



Source: ARERA. Annual survey of regulated sectors.

In terms of residual life, the import contracts in place in 2022 (Figure 4.6) show that 31.4% of the contracts will expire within the next five years (the same share was 24.5% in 2021) and 52.2% will expire within the next ten years. Of the contracts in force today, 15% have a residual life of more than 15 years. This share has fallen sharply: it was 39.3% in 2021, and concerns a total quantity of about 13 G(m<sup>3</sup>).

<sup>203</sup> It is worth remembering that this was assessed, as in past years, excluding the Annual Contract Quantity of spot contracts that did not give rise to imports into Italy, as the gas was resold directly abroad by the operator, active in Italy, who purchased it.

**Figure 4.6 Structure of active import contracts in 2022, according to their remaining duration**

Source: ARERA. Annual survey of regulated sectors.

In 2022, total demand in the gas sector, understood as the sum of gas volumes sold in the wholesale market (including resales) and in the retail market plus self-consumption, decreased again (-22%), having dropped to 281.3 from the 361.6 G(m<sup>3</sup>) recorded in 2021 (Table 4.4). This is due to the significant reduction in both self-consumed gas and gas traded in the total sales market (wholesale and retail market).

The wholesale market in fact handled 216.3 G(m<sup>3</sup>), a decrease of 24.3% compared to 2021, the retail market sold just under 51 G(m<sup>3</sup>), a decrease of 11.4% compared to 2021, and self-consumption amounted to 14.1 G(m<sup>3</sup>), also a sharp decrease (-23.6%).

The industrial groups serving a share of total demand of more than 5% in 2022 are 5 as in 2021. More precisely, the industrial groups and their respective shares, in brackets, are: Eni (16.8%), Engie (13.3%), Edison (8.9%), Enel (7.0%) and Royal Dutch Shell (5.8%). The first three groups together cover 39.1% of the total demand, a share identical to last year, but with a different composition of the groups.

#### 4.2.1.1 Monitoring of wholesale market prices

The data relative to the gas wholesale market come, as usual, from the first and provisional processing of the data collected in the *Annual survey of regulated sectors* that the Authority carries out on the state of the electricity and gas markets, administering the questionnaires to the companies accredited in the Registry of Operators that have declared to carry out in the previous year (even for a limited period of the year) the activity of selling gas at wholesale or to the end market.

The number of companies that reported selling gas was 850. 701 companies (81%) responded to the *Annual Survey*: of these, 71 stated that they were associated to a natural gas distribution company and 13 to a transmission operator company.

Of the 701 companies that participated in the survey, 60 stated that they had remained inactive during the year. Of the remaining 641 active ones, 129 sold gas only to the wholesale market and were classified as **pure wholesale suppliers**, 385 sold gas only to final customers and were classified

as **pure suppliers**. The remaining 127, which operated on both the wholesale and the end market, were classified as **mixed operators**.

**Table 4.5 Sales and prices in the wholesale market in 2022**

Operators	Number	Sales M(m <sup>3</sup> )	Price c€/m <sup>3</sup>
Pure wholesale suppliers	129	123,865	96.51
Mixed operators	127	92,399	101.83
<b>TOTAL WHOLESALE</b>	<b>256</b>	<b>216,264</b>	<b>98.78</b>

Source: ARERA. Annual survey of regulated sectors.

The wholesale market was supplied 57.8% by pure wholesale suppliers and the remaining 42.2% by mixed operators. In 2022, the number of companies that operated in the wholesale market grew by 64 (256 compared to 192 in 2021, but it is important to note that the count of operators - which is based on companies that respond to the Annual Survey - is the phenomenon that is most affected by the different rate of response to the Survey from one year to the next) while the volume of gas they sold in the wholesale market decreased by 69.5 G(m<sup>3</sup>), resulting in the average unit sales volume dropping by 43%, from 1,488 to 845 M(m<sup>3</sup>). This is the second decrease since 2012, following the already significant one recorded in 2021.

In the natural gas wholesale segment, the presence of non-Italian companies concerns just under a quarter of the companies present.

During the year, 58 companies started natural gas wholesaling and 9 companies ceased the activity; 5 companies were extinguished; 4 companies changed corporate groups. There were also 4 merger operations between companies that already belonged to the same corporate group.

In 2022, the level of concentration in this market decreased further: the share of the top three companies (Eni, Engie Global Markets and Shell Energy Europe) was 25.3%, below the already low 27.9% calculated in 2021. The cumulative share of the top five companies (the three already mentioned plus Edison and Enel Global Trading) fell from 41.4% to 37.5%. The HHI index calculated on the wholesale market alone also fell from 501 to 450.

In 2021, the average price in the wholesale market was 98.78 c€/m<sup>3</sup>, a very strong increase from the 32.80 c€/m<sup>3</sup> demanded in 2021, due to the well-known events surrounding international gas prices. This is in line with the trend shown by market prices, which increased by 160% in 2022 compared to the average in 2021. The price charged by mixed operators was 101.83 c€/m<sup>3</sup>, which is over 5 euro cents higher than that charged by pure wholesale suppliers (96.51 c€/m<sup>3</sup>).

### Virtual exchange point

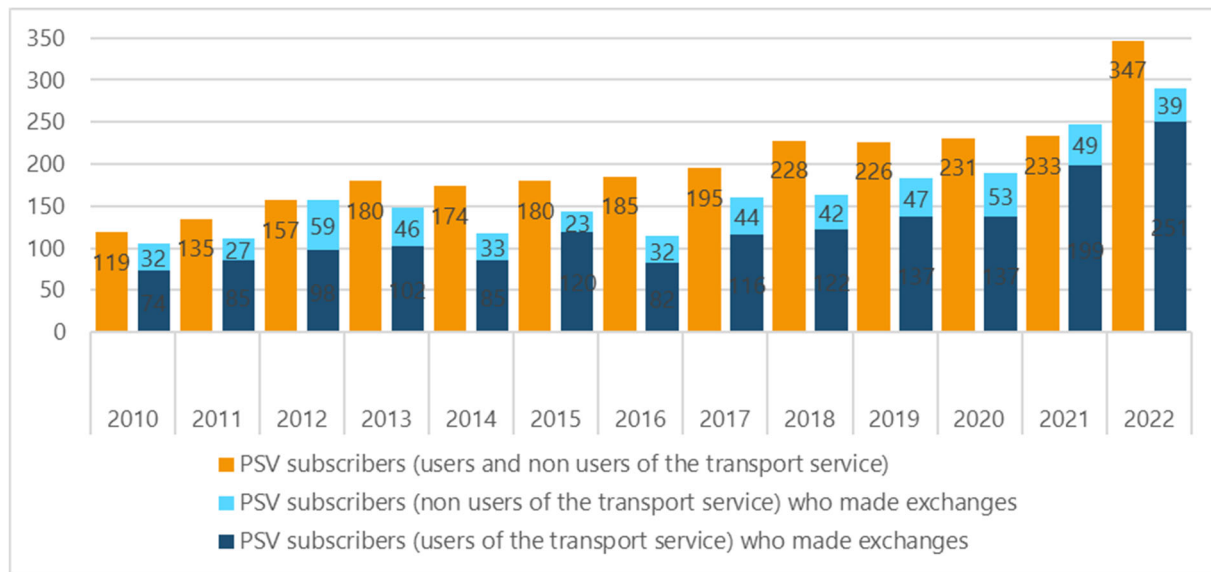
The main trading platform in the wholesale market in Italy is the Virtual Trading Point (PSV), operated by the transmission network operator, Snam Rete Gas. Alienations that can be registered are both those that take place through bilateral contracts and those that take place within the regulated markets managed by the GME. Since September 2015, it has also been possible to register contracts operated by third-party exchanges<sup>204</sup> at the PSV, thus expanding the offer of forward products with

<sup>204</sup> A third-party stock exchange is defined as the operator of a foreign regulated market on which derivative financial

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<sup>205</sup>.

In 2022, 251 entities traded, alienated and acquired gas at the PSV. Only 39 of these were traders, as they were not users of the transmission system. The number of PSV subscribers increased sharply compared to the previous year, standing at 347 compared to 233 in 2021 (+49%). The number of subscribers who traded also increased significantly (+26%), from 199 to 251. In contrast, the number of pure traders fell from 49 registered in 2021 to 39 in 2022 (-20%).

**Figure 4.7 PSV subscribers since 2010**



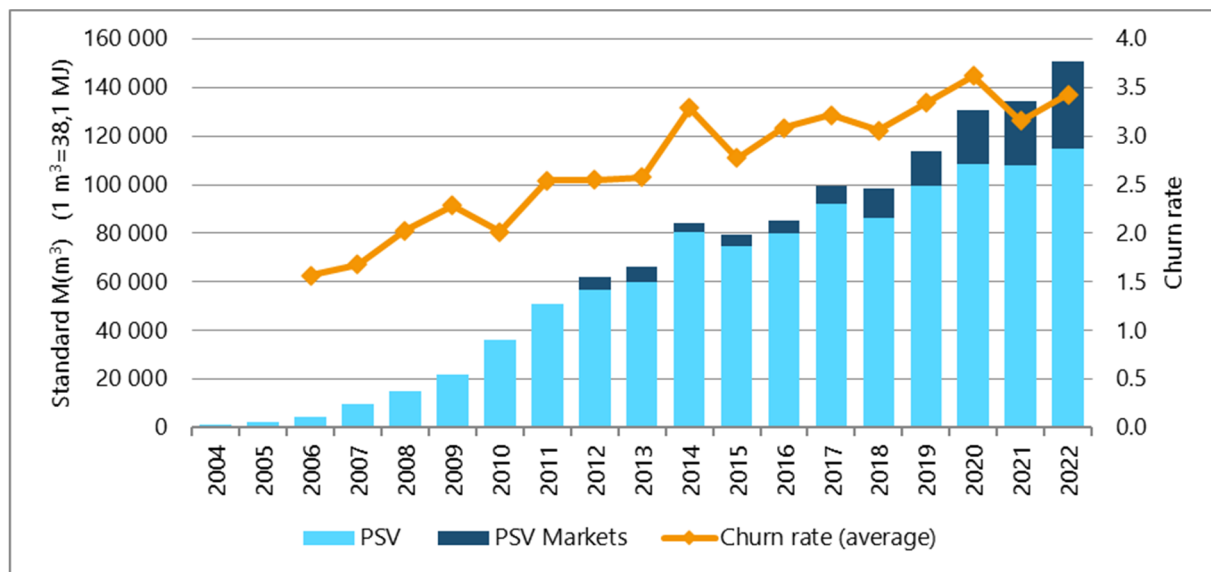
Source: ARERA. Annual survey of regulated sectors.

Figure 4.8 shows the development of trade registered at PSV. Under the heading "PSV", redeliveries resulting from daily OTC, multi-day OTC and forced LNG alienations have been grouped together, while under the heading "PSV-Markets", trades recorded at PSV resulting from trading on centralised markets and those operated as clearing houses have been grouped together.

In 2022, OTC volumes traded at the PSV increased by 3.6%, from 107 to just under 111 G(m<sup>3</sup>). Volumes with forced delivery to the PSV tripled (from 1.2 to 4.1 G(m<sup>3</sup>)). As a result, total deliveries to the PSV increased by 6.4% compared to 2021, from 108.2 to 115 G(m<sup>3</sup>). By contrast, trading volumes in the markets recorded a much higher increase of 35% as usual. The volumes traded on the stock exchange reached 35.4 G(m<sup>3</sup>) from 26.3 the previous year, thanks to a high increase in volumes handled in the centralised markets (+35%), which was accompanied by a marked growth in energy traded as clearing house (+31%). The average number of daily transactions also increased by 5%.

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.

<sup>205</sup> By resolution of 16 March 2017, 147/2017/R/gas.

**Figure 4.8 Transaction volumes at PSV and churn rate**

Source: ARERA processing of Snam Rete Gas data.

The churn rate is a synthetic indicator that measures the average number of times the commodity (gas) is traded between the time of its initial sale and its physical delivery. The indicator can be calculated in different ways. That illustrated in the figure is obtained by relating the total volumes traded at the PSV to the value of records that result in physical delivery. The more liquid the market, the more this value increases. This rate increased greatly between 2006 and 2014, declined sharply in 2015 and then stabilised in the years 2016 to 2018 at around 3.1. In 2019, the increase in activity brought its value to 3.3 and the growth was even more significant in 2020, when it reached 3.6. After falling back in 2021, it returned to a value of 3.4 in 2022 thanks to the increase observed in the number of average daily transactions (+30% for the PSV Markets) as well as in the amount of volumes traded (+12% overall).

### 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 production concessions. With the decree of the Ministry of Economic Development (now Ministry of Enterprises and Made in Italy) 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 auction 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 auction trading methods and solely at the request of Snam Rete Gas. On this market, Snam Rete Gas supplies, from eligible users, the quantities of gas needed to manage physical needs located within the balancing area or any expected deviations between total network injections and withdrawals.

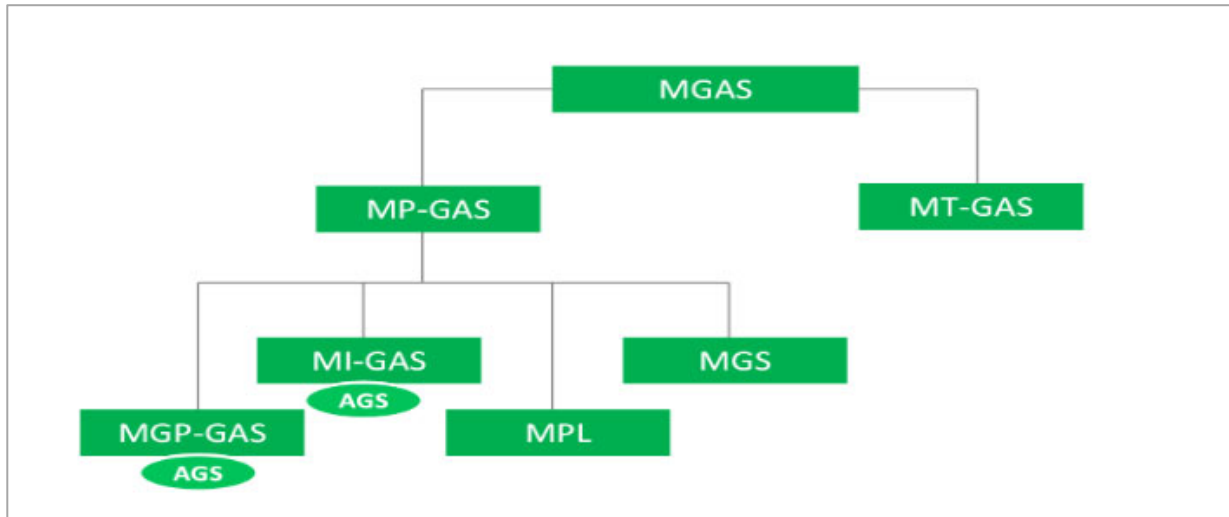
Trading in both segments, organised on a transitional basis within the Balancing Platform (PB-GAS), has been part of the Gas Market Organisation (M-GAS) since April 2017. As of 2015, operators can also extend PSV registration for transactions concluded on stock exchanges operated by entities other than the GME. In particular, the GME was commissioned to register at the PSV the transactions executed on the platforms operated by ICE Endex and Powernext (PEGAS platform of the EEX group), which had already launched futures products with delivery at the PSV in April 2015.

The GME, in line with the guidelines expressed by the Authority and following a consultation of its operators, introduced, between January and February 2018, a number of measures to encourage the development of liquidity in the natural gas markets it manages and, in particular, in the spot market. Of particular importance has been the creation of market making figures, i.e. entities (so-called liquidity providers) who undertake, in return for an economic advantage, to maintain in the market, at the same time, sale and purchase offers contained within a predefined price differential; liquidity providers operate in day-ahead trading. To the liquidity providers that have carried out the market making activity in compliance with the terms, modalities and conditions provided, for a calendar month, the GME recognises a fixed fee equal to € 160 for each useful session and a fee equal to € 0.01/MWh for each MWh traded on the MGP-GAS for the daily product G+1. 2018 also saw the integration of the markets operated by the GME within the Trayport platform, where the main foreign markets were already present, a measure that allows users to optimise their trading activities by operating simultaneously on several markets from a single trading platform.

Also with the aim of promoting the liquidity of the natural gas spot market by expanding the range of products available for trading and the flexibility for market participants, at the end of 2019, the Ministry of ecological transition introduced the weekend product in the MGP-GAS market, which has been able to be traded since 1 January 2020. Finally, as of 1 January 2020, a new section of M-GAS was activated for the supply, by the balance responsible entity (RdB), of the resources necessary for

the operation of the system<sup>206</sup>. This segment, known as AGS, is divided into two auctions 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 auction. Participation in the auctions is open to all operators admitted to operate on M-GAS with offers opposite to those of the RdB.

**Figure 4.9 Gas market**



Source: GME.

### Prices and Volumes

In gas markets managed by the GME, total volumes of 177.2 TWh (Table 4.6) were traded in 2022, up by +35% compared to 2021.

Liquidity increased significantly on the Day-Ahead Market (75.6 TWh; +67%) and, in particular, in the session on the day before delivery. The monthly trend also shows higher levels in the last month of the year. In its third year of operation, MGP's AGS segment traded a total of 51.1 TWh (+51% compared to 2021).

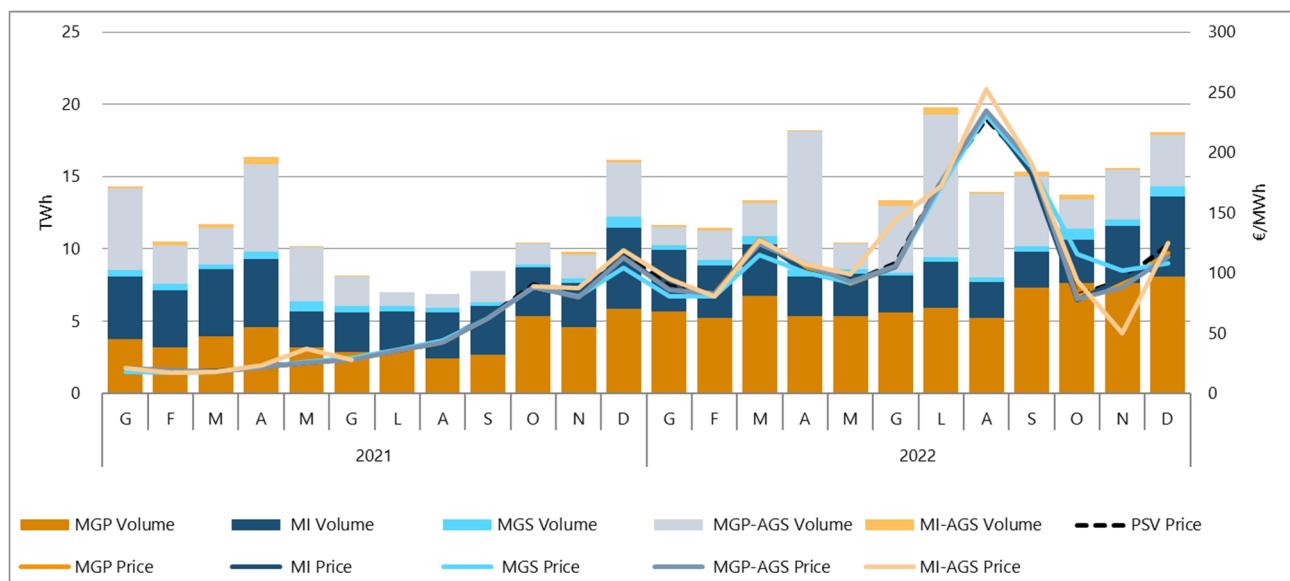
On the other hand, there was a decline in volumes traded on the Intra-Day Market (40.5 TWh; -8%), mainly due to the lower handling of the balance responsible entity (Snam Rete Gas) (10.2 TWh; -22%), while volumes traded by other operators remained essentially stable (30.3 TWh; -2%), accounting for 75% of the total traded in the sector. In its third year of operation, MI's AGS segment traded a total of 2.6 TWh (+62%).

<sup>206</sup> The structure of which was defined in Resolution of 5 November 2019, 451/2019/R/gas.

**Table 4.6 Annual volumes for each of the gas markets managed by the GME**

MARKETS	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>P-GAS</b>												
Import	-	-	-	-	-	-	-	-	-	-	-	-
Royalties	2,870	2,708	1,801	-	-	-	1,057	2,471	1,290	-	1,351	2,204
LD no. 130/10	-	-	-	-	-	-	-	-	-	-	-	-
<b>M-GAS</b>												
MI-GAS	13	36	4	102	1,009	7,090	23,826	27,862	41,053	46,701	44,086	40,528
MGP-GAS	149	136	13	-	-	335	3,280	13,006	24,564	30,079	45,401	75,643
MT-GAS	-	-	-	-	-	-	171	602	3,225	655	33	-
MGS	-	-	-	-	-	3,269	16,633	13,502	13,365	6,450	5,084	5,134
MPL	-	-	-	-	-	-	-	-	-	-	-	-
MGP-AGS	-	-	-	-	-	-	-	-	-	25,716	33,790	51,107
MI-AGS	-	-	-	-	-	-	-	-	-	4,363	1,608	2,559
<b>PB-GAS</b>												
PB-GAS (G+1)	1,712	34,925	40,833	38,584	40,833	30,568	-	-	-	-	-	-
PB-GAS (G-1)	-	-	48	2,940	7,326	6,218	-	-	-	-	-	-
<b>TOTAL (GWh)</b>	<b>4,743</b>	<b>37,805</b>	<b>42,699</b>	<b>41,627</b>	<b>49,199</b>	<b>47,480</b>	<b>44,967</b>	<b>57,443</b>	<b>83,497</b>	<b>113,965</b>	<b>131,352</b>	<b>177,215</b>

Source: GME.

**Figure 4.10 Monthly price and volume trends in gas balancing markets**

Source: GME.

Negotiations on the Market for Gas in Storage (MGS) came to 5.1 TWh, for Stogit alone, attributable both to Snam Rete Gas handling for all purposes (3.1 TWh) and to third party operators (2.0 TWh).

In 2022, Snam Rete Gas did not activate any sessions in the locational product market.

Similarly, no transactions were recorded for forward products (MT-GAS). On the other hand, a recovery of trading is observed in the P-GAS "royalties" segment with 2.2 TWh of volumes delivered in 2022 and previously traded.

The prices recorded on the various platforms (Figure 4.10) can all be traced back to an annual average of around € 124/MWh, in line with the annual average price of the PSV (€ 124/MWh; +165%). In

particular, the average prices of the two M-GAS segments, respectively € 123.5/MWh for MGP-GAS and € 122.2/MWh for MI-GAS, showed an interim trend that mirrors that of the PSV.

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

##### **Monitoring of the wholesale market**

At the end of 2018, the Authority adopted<sup>207</sup> the Integrated Text of Natural Gas Wholesale Market Monitoring (TIMMIG) in order to strengthen its monitoring function in the sector<sup>208</sup>.

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 ARERA the same contracts and the new contracts that will be signed, as well as any amendments thereto, also within the fifteen-day period; and that the information transmitted is processed in compliance with the requirements of confidentiality of commercially sensitive data.

In March 2022, in implementation of the aforementioned decree law, ARERA<sup>209</sup> defined the modalities for the transmission of gas volume supply contracts for the Italian market. In particular, the holders of gas volume supply contracts for the Italian market are obliged to make the full transmission of supply contracts of at least one year's duration and the relevant details (specifically defined by ARERA 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.

#### **4.2.2 Retail market**

The provisional results of the Annual Survey, on which the comments given over these pages are traditionally based, showed that just under 51 G(m<sup>3</sup>) were sold in the retail market in 2022, to which

---

<sup>207</sup> By Resolution of 5 December 2018, 631/2018/R/gas.

<sup>208</sup> For more details on the structure, purpose and provisions of the TIMMIG, please refer to the 2019 Annual Report.

<sup>209</sup> By Resolution of 30 March 2022, 143/2022/R/gas.

must be added 675 M(m<sup>3</sup>) supplied through last resort and default services<sup>210</sup>. Overall, therefore, the value of final sales was 51.6 G(m<sup>3</sup>), a decrease of 6.1 G(m<sup>3</sup>) over 2021 (Table 4.7). 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 self-consumption, 14 G(m<sup>3</sup>), which brings the value of total consumption resulting from the Annual Survey to 65.7 G(m<sup>3</sup>), i.e. a value comparable to the 67.3 G(m<sup>3</sup>) from the ministerial source. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. In the Annual Survey data, the level of total consumption in 2022 is thus 13.7% lower than in 2021.

Of the 50.9 G(m<sup>3</sup>) of gas sold in the retail market, 13.9 G(m<sup>3</sup>) were sold by pure suppliers, while the remaining 37 G(m<sup>3</sup>) were brokered by suppliers also operating in the wholesale market (Table 4.8).

**Table 4.7 Final consumption of natural gas**

	VOLUMES M(m <sup>3</sup> )			WITHDRAWAL POINTS (thousands)		
	2021	2022	VARIATION	2021	2022	VARIATION
Retail sales	57,463	50,920	-11.4%	21,709	22,076	1.7%
Last resort and default supplies	240	675	181.3%	111	170	52.5%
<b>TOTAL MARKET</b>	<b>57,703</b>	<b>51,595</b>	<b>-10.6%</b>	<b>21,821</b>	<b>22,246</b>	<b>1.9%</b>
Self-consumption	18,436	14,079	-23.6%	1.2	1.4	23.3%
<b>END CONSUMPTIONS</b>	<b>76,139</b>	<b>65,674</b>	<b>-13.7%</b>	<b>21,711</b>	<b>22,078</b>	<b>1.7%</b>

Source: ARERA. Annual survey of regulated sectors.

**Table 4.8 Retail sales and prices in 2022**

Operators	Number	Sales M(m <sup>3</sup> )	Price c€/m <sup>3</sup>
Pure suppliers	385	13,878	101.76
Mixed operators	127	37,041	114.75
<b>TOTAL RETAIL</b>	<b>512</b>	<b>50,919</b>	<b>111.21</b>

Source: ARERA. Annual survey of regulated sectors.

The average price charged to customers in the retail market by all sales companies operating in that market was 112.21 c€/m<sup>3</sup>, some 59 c€ (+112.6%) higher than in 2021. Differently to previous years, this price is lower than the price offered to the end market by wholesale suppliers, which was 114.75 c€/m<sup>3</sup>. The reason for the negative differential of 3.5 c€ may be related to pricing formulas directly linked to international price trends for large consumer customers, which is normally the type of customers mainly served by wholesalers.

In 2022, the number of active suppliers in the retail market rose once again by 23, coming in at 512<sup>211</sup>.

<sup>210</sup> The request for last resort and default supply data is present in the Annual Survey in a very simplified way. Therefore, the details (consumption sector, type of connection, etc.) with which final sales are usually analysed are not available for this type of supply. Hence, in the remainder of the section all detailed analyses are carried out net of this market component.

<sup>211</sup> As seen in the section dedicated to the wholesale market, in fact, this year 701 companies responded to the Annual Survey out of the 850 that, in the Authority Registry of Operators, were found to be carrying out the activity of selling gas at wholesale or retail level during 2022 (even if only for a limited period of the year). Apart from the 60 companies that declared to have remained inactive, out of the remaining 641 there are 129 that sold gas exclusively in the wholesale market. This resulted in a total of 512 persons operating in the retail market, 23 more than in 2021.

As the gas sold decreased by 11.4%, and the number of suppliers increased to a lesser extent (4.7%), the average unit sales volume reduced by 15.3%, going from 117 to 99 M(m<sup>3</sup>). However, the increase in the number of suppliers has been eroding this value for many years (suffice it to say that in 2010, the average supply was more than twice as high as it is today, at 237 M(m<sup>3</sup>)). Of the companies active in the end market, 5.9%, i.e. 30 out of 512, sold more than 300 M(m<sup>3</sup>) in 2022; together, these companies cover 85.3% of all the gas purchased on the retail market.

Also in 2022, numerous corporate transactions were reported through the Authority Registry of Operators: 24 companies have started supplying final customers, while 25 went out of business; 3 companies have acquired or disposed of supply activities (even partially); 10 companies have been merged; 14 companies have changed corporate groups.

25.6% (i.e. 131 companies) of the 512 active suppliers who responded to the Annual Survey serve customers in a large part of the national territory, i.e. in at least 17 Italian regions; 54.7% (280 companies) sold electricity in between 6 and 16 regions; the remaining 101 companies (19.7%) operated in between 1 and 5 regions. The portion of companies operating on all or on a large part of the national territory has remained stable on 2021. The corporate composition of gas suppliers, limiting the analysis to direct participations, shows a low foreign presence: only 34 companies (out of the 507 that provided this data) have a non-Italian majority shareholder. Direct foreign participants are mostly companies from the UK, Luxembourg, Switzerland, Spain and Slovenia, but there are also companies of another 18 nationalities.

As mentioned, net of last resort and default supplies, 65 G(m<sup>3</sup>) - of which 14 for self-consumption and 51 for sale - were sold to 22 million customers (redelivery points) in 2022. Overall, gas sales decreased by 14.3% compared to 2021, but the decline is less intense if self-consumption is excluded, which showed a larger reduction. In all, the latter, which mostly belong to the industrial and electricity generation sectors, recorded a decrease of 23.6%; the quantities of gas sold in the free market, at 46.4 G(m<sup>3</sup>), showed a decrease of 10%, while sales in the market with a reference price, at 4.5 G(m<sup>3</sup>), fell by 23.5%. The values of the market with a reference price shown in the table do not include the quantities supplied in the default and last resort services, as they cannot be broken down into different segments. These are greatly increased in 2022, being 675 M(m<sup>3</sup>) against 240 M(m<sup>3</sup>) in 2021. If default and last resort services are also considered, the gas sold in the market with a reference price rises to 5.2 G(m<sup>3</sup>).

Due to a rather warm year, consumption containment programmes initiated and the presence of particularly high prices, consumption in the household sector decreased by 14% and that of central heating by 16.4%. The consumption of the production sectors (industry and thermoelectric generation) decreased from 50.2 to 42.2 G(m<sup>3</sup>), thus recording a decrease of 16%. Tertiary sector consumption (trade and services, together with public service activities) dropped by 3.8%, from 7.8 to 7.5 G(m<sup>3</sup>).



**Table 4.9 End market by customer sector**

CUSTOMER SECTOR	2021				2022			
	STANDARD OFFER SERVICE	FREE MARKET	SELF-CONSUMPTION	TOTAL	STANDARD OFFER SERVICE	FREE MARKET	SELF-CONSUMPTION	TOTAL
<b>VOLUMES (M(m<sup>3</sup>))</b>								
Household	4,215	8,984	0	13,199	4,215	8,984	0	13,199
Condo households	274	1,796	5	2,075	274	1,796	5	2,075
Trade and services	-	6,934	18	6,952	-	6,934	18	6,952
Industry	-	15,669	783	16,451	-	15,669	783	16,451
Power generation	-	12,467	13,273	25,740	-	12,467	13,273	25,740
Public service activities	-	581	0.381	581	-	581	0.381	581
<b>TOTAL VOLUMES</b>	<b>4,489</b>	<b>46,431</b>	<b>14,079</b>	<b>64,999</b>	<b>4,489</b>	<b>46,431</b>	<b>14,079</b>	<b>64,999</b>
<b>REDELIVERY POINTS (thousands)</b>								
Household	7,416	12,865	0.0	20,281	6,861	13,779	0.0	20,639
Condo households	48	136	0.2	185	45	144	0.2	188
Trade and services	-	1,017	0.8	1,017	-	1,031	1.1	1,032
Industry	-	184	0.1	184	-	173	0.1	173
Power generation	-	2	0.1	2	-	3	0.1	3
Public service activities	-	42	0.0	42	-	42	0.0	42
<b>TOTAL REDELIVERY POINTS</b>	<b>7,464</b>	<b>14,245</b>	<b>1.2</b>	<b>21,711</b>	<b>6,905</b>	<b>15,171</b>	<b>1.4</b>	<b>22,078</b>

Source: ARERA. Annual survey of regulated sectors.

More specifically, in 2022 gas sales:

- to the household sector decreased by 23.5% in the standard offer service, and by 8.7% in the free market;
- to central heating decreased by 23.3% in the standard offer service, and by 15.3% in the free market;
- to the industrial sector increased from 19.1 to 15.7 G(m<sup>3</sup>) (-17.8%), but self-consumption also reduced drastically (almost -5 billion m<sup>3</sup> compared to 2021); overall, therefore, industry consumption dropped by 33.8% in 2022;
- to the thermoelectric sector decreased by 2.3% (-292 M(m<sup>3</sup>)), but self-consumption increased by 5.1%: taking both items into account, therefore, the sector's consumption was 1.4% higher than in 2021;
- to the trade and services sector, sales reduced by 2.8% and self-consumption by 23%, for a total decrease of 200 M(m<sup>3</sup>) (-2.8%);
- to public service activities fell by 95 M(m<sup>3</sup>), quantifying the loss at 14%.

The average consumption for households was 640 m<sup>3</sup>, that of condo households was 11,012 m<sup>3</sup>, 6,738 m<sup>3</sup> for trade, 95.3 M(m<sup>3</sup>) for industry, 7.4 M(m<sup>3</sup>) for electricity generation, and, finally, 13,796 m<sup>3</sup> for public service activities. In the free market, the average consumption of households (652 m<sup>3</sup>) remained slightly higher than in the market with a reference price (614 m<sup>3</sup>), while in the case of central heating, the average consumption in the free market, at 12,501 m<sup>3</sup>, was double that in the standard offer market, at 6,152 m<sup>3</sup>.

The portion of volumes purchased on average on the free market is 71.4%, that of the market with a reference price is 6.9%, while 21.7% is self-consumed. Considering sales in the strict sense and thus excluding self-consumption, 91.2% of gas is purchased on the free market and the remaining 8.8% in the standard offer service. In terms of customers, however, 31.3% purchase on the market with a

reference price, while 68.7% on the free market.

Considering only the **household sector**, it can be seen that the share of volumes purchased on the free market in 2022 reached 68.1% for households and 86.8% for central heating (both shares are calculated on total sales in the strict sense, i.e. net of self-consumption). In 2021, the values were 64.1% and 85.6%, respectively. In terms of withdrawal points, in 2022, the share of households that acquired gas in the standard offer service dropped to 33.2%; in 2021, it was 36.6%.

**Table 4.10 End market by customer type and size in 2022**

SECTOR	CUSTOMERS DISTRIBUTED BY ANNUAL CONSUMPTION CLASS (m <sup>3</sup> )						TOTAL M(m <sup>3</sup> )
	<5,000	5,000- 50,000	50,000- 200,000	200,000- 2,000,000	2,000,000- 20,000,000	>20,000,000	
MARKET WITH A REFERENCE PRICE	4,203	266	20	0.0	-	-	4,489
Household	4,160	55	0.3	0.0	-	-	4,215
Condo households	43	211	19	-	-	-	274
FREE MARKET	10,172	4,253	2,220	5,251	9,283	15,251	46,431
Household	8,803	166	9	5	1	-	8,984
Condo households	105	1,247	370	71	3	-	1,796
Trade and services	1,062	2,058	1,023	1,602	918	271	6,934
Industry	161	597	699	3,155	7,387	3,669	15,669
Power generation	2	4	13	284	900	11,263	12,467
Public service activities	39	180	107	133	73	49	581
TOTAL	14,376	4,519	2,240	5,251	9,283	15,251	50,920

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 4.10) shows that, on average, the class with annual consumption up to 5,000 m<sup>3</sup> purchases 28.2% of all the gas sold in the retail market; that with consumption between 5,000 to 50,000 m<sup>3</sup>/year absorbs 8.9%; the third class (50,000-200,000 m<sup>3</sup>/year) 4.4%; the fourth class (200,000-2,000,000 m<sup>3</sup>/year) 10.3%; the penultimate class (2 to 20 million) 18.2%; and the last class (over 20 million) 30%. 98.7% of the volumes sold to the household sector are purchased by households with an annual consumption of no more than 5,000 m<sup>3</sup>: this share is 97.8% for households purchasing in the standard offer sector and 98% for those purchasing in the free sector. On the other hand, the largest share of volumes sold to central heating is concentrated in the annual consumption class between 5,000 and 50,000 m<sup>3</sup>: this class, in fact, absorbs 77.1% of the gas volumes purchased by central heating in the standard offer service and 69.4% of those purchased in the free market. 60% of all the gas purchased by the commercial sector is concentrated in the first three classes. Conversely, the classes with the highest annual consumption are particularly relevant for industrial consumption and thermoelectric generation. The consumption of public service activities is relatively equally distributed among the intermediate classes: 31% is consumed by customers with annual consumption between 5,000 and 50,000 m<sup>3</sup>, 18% by those with consumption between 50,000 and 200,000 m<sup>3</sup>, 23% is consumed by customers with annual consumption between 200,000 and 2,000,000 m<sup>3</sup>, another 13% is sold to customers consuming between 2 and 20 M(m<sup>3</sup>)/year.

## Switching

Also this year, the analysis of switching activity in the natural gas sector includes data collected from

transmission and distribution operators through the Annual Survey of Regulated Sectors and Data from the Integrated Information System (IIS), managed by Acquirente Unico. On the basis of data provided by transmission operators and data from the IIS, the switching percentage, i.e. the number of customers<sup>212</sup> that changed supplier in the calendar year 2022, was 13.7% overall, or 12.5% when assessed on the basis of the consumption of customers who switched (Table 4.11). Compared to 2021, the percentages are increasing for all customers (with the exception of other uses), which was to be expected, considering the exceptional level reached by gas prices during the year, given that the drive to seek more favourable economic conditions is one of the most powerful reasons for changing supplier.

**Table 4.11 Final customer switching rates**

CUSTOMERS BY SECTOR	2021		2022	
	CUSTOMERS	VOLUMES	CUSTOMERS	VOLUMES
Household	11.5%	13.2%	13.2%	15.4%
Condo households	11.0%	13.1%	24.1%	14.9%
Public service activities	23.6%	20.0%	37.0 %	20.3%
Other uses	11.6%	13.9%	19.9%	11.4%
<b>TOTAL</b>	<b>11.6%</b>	<b>13.8%</b>	<b>13.7%</b>	<b>12.5%</b>

Source: ARERA. Annual survey of regulated sectors.

Switching of households in 2022 grew by more than two percentage points, maintaining, indeed increasing the already significant liveliness recorded in 2018, after several years during which it had somewhat attenuated. Last year, almost 3 million customers, equivalent to a share of 13.2% (and corresponding to a volume share of 15.4%), made at least one switch. Far greater, at 24.1%, was the fraction of condo households that turned to a different supplier, for volumes corresponding to 14.9% of the relevant consumer sector. 37% (equivalent to 20.3% 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. Lastly, "other uses" customers that changed their supplier accounted for 19.9% of the total in terms of customers, and 11.4% in terms of volumes (corresponding to approximately 5.6 G(m<sup>3</sup>)), showing less liveliness than in previous years. The comparison of the two rates of change suggests that - unlike in the past - in the non-household sector mainly customers with smaller annual consumption have moved.

### Available offers and sales contracts in the free gas market

As already highlighted in Chapter 3 (see paragraph 3.2.2), also this year the Annual Survey on the Energy Sectors asked the suppliers of electricity and natural gas a number of questions aimed at assessing the quantity of offers that companies make available to customers who have chosen to be supplied in the free market and, above all, the distribution of their customers between the different

<sup>212</sup> For the sake of convenience of writing, customers are referred to generically in the text. It should be noted, however, that we are talking about the number of redelivery points in the case of transmission users and the number of metering units in the case of distribution users.

types of contract actually chosen<sup>213</sup>. Here again, as already mentioned in Chapter 3, it is reiterated that the objective of the questions on the quantity and quality of commercial offers is to classify the numerous offers on the market, albeit not completely exhaustive of reality. The results presented in these pages should be treated with caution.

The **average of the commercial offers** to customers is 15.1 for households, 6.6 for condo households and 13.7 for non-households. The latter, of course, enjoys greater choice, being a generally more important customer in terms of volumes consumed and certainly with more differentiated needs than a household customer. Compared to the 2021 figures, the number of available offers increased slightly for households and central heating, whilst its remained stable for non-household ones (11.8 for households, 5.8 for central heating and 13.8 for non-households). However, 16.6% of suppliers only submit their households one offer, 30.7% make up to three offers available and the remaining 52.7% of suppliers submit their customers a range of four offers or more.

Of the 15.1 offers made available to the household on average, 4 are **only available on-line**, i.e. only through the Internet, a sales channel through which the company can clarify its offer conditions while saving on operating costs (6.1 in 2021). The interest of households in on-line offers in 2022 grew, as it turned out that 10.1% of customers signed a contract offered via this modality (in 2021, this share was 7.2%). Considering central heating, instead, of the 6.6 offers on average recommended to these customers, 1.5 are subscribed through the network and, on the basis of the results collected, only 1.8% of the redelivery points of central heating actually subscribed the contract on-line (these figures have dropped on 2021). Finally, in the case of non-households (other uses), of the 13.7 offers made available to them on average, only 5.1 are subscribed to on-line, which is fairly logical considering that non-households have needs that are often somewhat specific and therefore difficult to standardise in an offer made over the Internet; among these customers, however, the success of on-line offers is more significant, since 15.1% of customers are reported to have subscribed to an offer on-line.

With regard to the preferred **type of price** (Table 4.12), it was found out that 67.3% of households signed a fixed-price contract in the free market (i.e. with the price not changing for at least one year from the time of signing), while 32.7% chose a variable-price contract, i.e. with the price changing at a time and in a way determined by the contract itself<sup>214</sup>. The percentages are reversed in the case of central heating, among which variable-price contracts are by far the most popular ones, while just under a fifth of customers chose fixed-price contracts. Non-households, on the other hand, are divided between those who prefer variable-price contracts, which are a little more numerous (62.8%), and those who, on the other hand, have signed a fixed-price contract (37.2%).

Looking at the supply cost component of the price of these contracts, it can be seen that variable-price contracts are less convenient for all types of customers. However, the differential with a fixed-price contract is very large for households and central heating, while it is smaller for non-households. These results indicate that there were still fixed-price contracts in the market in 2022 that were signed at times when the raw material price was low, contracts that were less affected by the significant price increases during the year.

---

<sup>213</sup> The data commented on in the paragraph on the types of contracts chosen by customers also include PLACET Offers.

<sup>214</sup> All of the information requested from suppliers relates to contracts in force in 2021 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 4.12 Contracts for the supply of natural gas in the free market in 2022 by price type and average price**

CONTRACTS	HOUSEHOLDS		CENTRAL HEATING		NON-HOUSEHOLDS	
	SHARE	PRICE <sup>(A)</sup> c€/m <sup>3</sup>	SHARE	PRICE <sup>(A)</sup> c€/m <sup>3</sup>	SHARE	PRICE <sup>(A)</sup> c€/m <sup>3</sup>
Fixed-price contracts	67.3%	62.34	19.7%	61.54	37.2%	77.23
Variable-price contracts	32.7%	118.47	80.3%	108.90	62.8%	114.55
<b>TOTAL CUSTOMERS</b>	<b>100%</b>	<b>83.05</b>	<b>100%</b>	<b>103.76</b>	<b>100%</b>	<b>106.04</b>

(A) Supply cost component.

Source: ARERA, Annual survey of regulated sectors.

For all types of customers, the most frequent price **indexation modality** in variable-price contracts is that linked to one of the components established by ARERA for the economic conditions of supply of the standard offer service, chosen by 44.9% of households by 59.5% of the redelivery points of condo households and by 42.4% of the redelivery points for other uses; the other most commonly used indexation methods are linked to the gas price trend at the TTF (chosen by 25.9% of households, by 13.7% of central heating and by 26.1% of non-households) or at the PSV (chosen by 20.4% of households, by 23.6% of central heating and by 24.2% of non-households). The first proved to be cheaper than the other two in the case of households, while for central heating and non-households the link with the components set by ARERA produces an intermediate price between the other two forms of indexation.

3.5% of households served on the free market have signed a contract with a **minimum contractual duration clause**, meaning that the customer does not have to change supplier for a minimum amount of time specified in the contract in order for the price to be applied. Much lower percentages are recorded among other types of customers: the clause is applied to 1.4% of contracts to central heating and 1.7% of contracts to non-households.

37.5% of households have signed a contract providing for a **rebate or a discount** of one or more free periods or a fixed sum in money or volume, which may be one-off or permanent, and possibly provided for when a certain condition is met (e.g. discount for contracts signed by friends of the customer, discount for bank account clearance, etc.); on average, the discount is applied to 45% of customers who have chosen a fixed-price contract and to 22% of customers who have chosen a variable-price contract. Lower percentages are to be found for other customers: 14% of central heating have signed a contract with a discount (39% with fixed price and 8% with variable price), while in the case of non-households, those with a contract with a discount in any form are 14% of the total (26% with fixed price and 7% with variable price).

The *Annual Survey* also investigated the presence of **additional services** in contracts and their consistency in the same way as last year<sup>215</sup>. According to suppliers, in contrast to the electricity sector, the frequency of contracts involving not a single additional service but rather a combination of additional services is not very high; in fact, it concerns about 14% of households, 1.9% of central heating and approximately 3.5% of non-households. In any case, also in the gas questionnaire, as in the electricity one, suppliers were asked to specify which combination of additional services was contained in the contracts chosen by their customers. Therefore, customers with contracts including a combination of additional services were reallocated *pro rata* to the additional services indicated by the suppliers (Table 4.13).

<sup>215</sup> See the *Annual Report 2022* for a detailed description of the methodology.

**Table 4.13 Contracts for the supply of natural gas in the free market in 2022 by type of additional services and average price (percentage of customers having signed the indicated contracts)**

CONTRACTS	HOUSEHOLDS		CENTRAL HEATING		NON-HOUSEHOLDS	
	SHARE	PRICE <sup>(A)</sup> c€/m <sup>3</sup>	SHARE	PRICE <sup>(A)</sup> c€/m <sup>3</sup>	SHARE	PRICE <sup>(A)</sup> c€/m <sup>3</sup>
<b>ADDITIONAL SERVICES OF FIXED-PRICE CONTRACTS</b>						
No additional service	35.3%	62.09	84.1%	62.70	83.9%	77.17
100% green energy guarantee	6.2%	64.22	4.5%	54.57	5.2%	69.90
Auxiliary energy services	7.8%	60.21	3.4%	63.97	3.2%	95.05
Advantages over the purchase of other goods or services	3.4%	57.53	2.8%	43.16	0.8%	79.24
Other products or services offered together with gas	6.7%	60.32	1.6%	44.53	1.4%	61.30
Points collection programme	38.3%	64.77	2.0%	44.88	4.3%	54.54
Free gift or gadget	1.0%	44.08	0.6%	32.96	0.1%	32.60
Other not included in the aforementioned items	1.3%	42.38	1.0%	31.08	1.1%	30.35
<b>TOTAL FIXED-PRICE CONTRACTS</b>	<b>100%</b>	<b>62.34</b>	<b>100%</b>	<b>61.54</b>	<b>100%</b>	<b>77.23</b>
<b>ADDITIONAL SERVICES OF VARIABLE-PRICE CONTRACTS</b>						
No additional service	59.6%	115.59	72.6%	106.62	80.5%	113.01
100% green energy guarantee	11.9%	126.28	1.8%	119.93	4.1%	128.33
Auxiliary energy services	19.5%	131.02	25.0%	115.15	12.9%	98.00
Advantages over the purchase of other goods or services	1.8%	110.44	0.0%	110.07	0.2%	85.63
Other products or services offered together with gas	1.3%	130.03	0.0%	110.64	0.2%	114.43
Points collection programme	4.3%	106.02	0.2%	133.44	1.8%	148.15
Free gift or gadget	0.6%	140.07	0.0%	129.92	0.0%	131.36
Other not included in the aforementioned items	1.1%	59.85	0.3%	40.70	0.3%	74.47
<b>TOTAL VARIABLE-PRICE CONTRACTS</b>	<b>100%</b>	<b>118.47</b>	<b>100%</b>	<b>108.90</b>	<b>100%</b>	<b>114.55</b>

(A) Supply cost component.

Source: ARERA. Annual survey of regulated sectors.

The results obtained for households show that in the contracts signed by households, the presence of additional services is more common among fixed-price than among variable-price contracts: 65% of customers who chose a fixed-price offer sign a contract that also includes an additional service, while this percentage drops to 40% in variable-price contracts. In fixed-price contracts that provide an additional service, there is a clear preference (38.3%) for those that allow participation in a points programme and a good preference (7.8%) for those that offer auxiliary energy services. The possibility of obtaining other products or services together with gas also attracts some interest (6.7%). With regard to the cost of additional services (measured by the component of the price that covers supply and sales costs), it can be observed that the contract for households with a fixed price and no additional services is cheaper than the contract including participation in a points collection programme, which, as mentioned above, is almost as successful among customers; however, with the exception of the contract offering gas with a "green" guarantee, which shows a more expensive price after that of the points programme, all other possible additional services show a lower price than the contract without additional services. For households with variable price, on the other hand, the most popular options are the auxiliary energy services (19.5%), the 100% green offer guarantee (11.9%) and immediately afterwards the participation in a points programme (4.3%); for these customers the contract without additional services turns out to cost less than the most popular contracts just mentioned. Condo households show, understandably, a high lack of interest in



additional services, especially in fixed-price contracts: the portion of redelivery points of central heating with a fixed-price contract and no additional services is 84% and drops to 73% among those who have opted for the variable price. The contract without additional services is less expensive for variable-price customers, while it is among the most expensive ones for fixed-price customers. Finally, with regard to non-households, the choice of contracts without additional services is by far the most widespread. On average, around 82% of such customers, whether fixed-price or variable-price, choose a contract without other options. The price of such a contract tends to be affordable, however not in comparison with all the additional services available.

### Concentration in the natural gas retail market

The analysis of the sales performance of corporate groups, instead of those of individual companies, allows a more accurate assessment of market shares and the level of concentration in the end sale market (Table 4.14).

**Table 4.14 Top twenty groups by end-market sales in 2022**

GROUP	VOLUME M(m <sup>3</sup> )	SHARE	POSITION IN 2021
Eni	8,113	15.9%	1st
Edison	7,834	15.4%	2nd
Enel	6,614	13.0%	3rd
Hera	3,128	6.1%	4th
A2A	2,507	4.9%	7th
Iren	2,409	4.7%	5th
EPH - Energeticky a Prumyslovy Holding	2,185	4.3%	6th
Axpo Group	1,770	3.5%	8th
Royal Dutch Shell	1,437	2.8%	9th
Sorgenia	1,371	2.7%	10th
Estra	822	1.6%	11th
E.On	702	1.4%	12th
Engie	666	1.3%	14th
Unoenergy	606	1.2%	13th
Solvay	583	1.1%	15th
Eg Holding	509	1.0%	16th
Dolomiti Energia	490	1.0%	18th
Alperia	453	0.9%	20th
Agsm Aim	430	0.8%	21st
Egea	409	0.8%	19th
Other	7,883	15.5%	-
<b>TOTAL</b>	<b>50,920</b>	<b>100.0%</b>	<b>-</b>

Source: ARERA. Annual survey of regulated sectors.

In 2022, average concentration in the final sales market rose slightly. However, trends differentiated between sectors. Table 4.15 shows the details of the concentration measures also broken down by consumer sector. In the first part of the table, measures are calculated from the volumes sold by the corporate groups in the retail market; in the second part of the table, measures are calculated from the customers (redelivery points) served by the corporate groups themselves.

**Table 4.15 Concentration measures in the natural gas retail market**

Measures calculated on corporate groups

SECTOR	2021			2022		
	GROUPS >5%	C3	HHI	GROUPS >5%	C3	HHI
<b>MEASURES CALCULATED ON THE BASIS OF ENERGY SOLD BY CORPORATE GROUPS</b>						
HOUSEHOLDS	4	43.1%	773	4	47.8%	941
Household	4	51.5%	1,088	4	52.4%	1,116
Condo households	4	37.2%	708	5	35.1%	645
NON-HOUSEHOLDS	5	44.2%	848	4	40.1%	650
Trade and services	6	33.3%	557	6	40.3%	712
Industry	4	59.3%	1,515	5	57.9%	1,446
Power generation	6	57.6%	1,465	5	59.3%	1,465
Public service activities	3	43.5%	848	4	42.8%	871
<b>TOTAL MARKET</b>	<b>4</b>	<b>43.1%</b>	<b>773</b>	<b>4</b>	<b>44.3%</b>	<b>807</b>
<b>MEASURES CALCULATED ON THE BASIS OF CUSTOMERS SERVED BY CORPORATE GROUPS</b>						
HOUSEHOLDS	4	54.0%	1,233	4	55.8%	1,254
Household	4	54.3%	1,242	4	56.0%	1,265
Condo households	5	39.8%	700	5	37.7%	665
NON-HOUSEHOLDS	4	36.5%	569	4	40.1%	651
Trade and services	4	36.1%	567	4	40.9%	681
Industry	5	41.5%	792	5	38.4%	789
Power generation	4	67.6%	2,104	5	54.9%	1,823
Public service activities	3	36.0%	581	6	32.3%	542
<b>TOTAL MARKET</b>	<b>4</b>	<b>53.0%</b>	<b>1,182</b>	<b>4</b>	<b>54.9%</b>	<b>1,209</b>

Source: ARERA. Annual survey of regulated sectors.

Using measures calculated on the volumes sold, it can be seen that the number of groups with a share of the total market of more than 5% remained unchanged at 4. Moreover, in 2022, the top three groups control 44.3%, while in 2021 the share was 43.1%. The Herfindahl-Hirschman Index (HHI) calculated on the sales market was 807, slightly higher, therefore, than the 2021 index, which was 773. However, the level of the index remained well below the 1,000 threshold below which concentration is normally judged to be poor. The highest concentration is found in sales to electricity generation, industry and households, where C3 is above 50%; the lowest is observed in sales to central heating and trade customers. Compared to 2021, slight increases in the level of concentration are observed (via the C3 and HHI indicators) in the household sector, utilities and electricity generation, a more significant increase emerges in the tertiary sector, while a modest decrease is observed in industry. When measured in terms of customers served, concentration tends to rise in almost all sectors: the only exceptions are industry and public service, as well as the non-household sector as a whole.

In general, in any case, the level of concentration in the Italian natural gas market remains low: with a few exceptions, C3 does not exceed 55%, but above all, the HHI index values are, in almost all

sectors, below the first attention threshold of 1,500<sup>216</sup>.

#### 4.2.2.1 Monitoring of the level of retail market prices, the level of transparency and the degree and 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<sup>217</sup> by suppliers to households and non-households, broken down into consumption classes and by type of market;
- that carried out as part of the *Annual Survey of Regulated Sectors*, in which data is collected for the previous year and broken down according to various categories of detail (type of market, sector and consumption classes, type of contract applied).

The data from the *Annual Survey* are used for the statistical analyses carried out by the Authority, especially those presented in the annual reporting to national and European authorities.

An analysis of the data collected in the Survey run by ARERA in 2022 shows that last year, the average gas price net of taxes (weighted by quantities sold), charged by sales companies to final customers was a good 111.2 c€/m<sup>3</sup> (Table 4.16), a level never previously seen. This price more than doubled (+112%) compared to the previous year (52.3 c€/m<sup>3</sup>). The increase, which has been further analysed and investigated, reflects the strong increases in the cost of raw materials in the wholesale markets. It involves all consumption classes and to a greater extent the larger ones, where the incidence of the same raw material and the speed of updating to wholesale prices is higher.

**Table 4.16 Average market retail sales prices (net of taxes)**

ANNUAL CONSUMPTION CLASS	PRICES (c€/m <sup>3</sup> )										
	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	
Less than 5,000 m <sup>3</sup>	61.2	58.8	55.7	51.7	52.1	58.3	63.4	58.1	65.9	103.1	
Between 5,000 and 50,000 m <sup>3</sup>	51.3	46.9	46.0	42.1	43.1	48.4	50.7	43.7	55.0	117.9	
Between 50,000 and 200,000 m <sup>3</sup>	44.4	41.4	41.0	37.0	36.2	43.7	44.7	37.3	48.8	113.6	
Between 200,000 and 2,000,000 m <sup>3</sup>	36.6	35.0	32.5	28.3	26.8	31.4	33.8	27.3	38.5	101.4	
Between 2,000,000 and 20,000,000 m <sup>3</sup>	33.8	34.0	28.0	24.2	23.0	26.5	28.2	21.9	35.1	93.9	
More than 20,000,000 m <sup>3</sup>	32.7	32.2	26.5	21.8	24.3	29.2	22.4	16.9	52.8	130.4	
<b>TOTAL</b>	<b>44.0</b>	<b>42.3</b>	<b>38.9</b>	<b>33.8</b>	<b>34.3</b>	<b>40.0</b>	<b>39.2</b>	<b>33.9</b>	<b>52.3</b>	<b>111.2</b>	

Source: ARERA. Annual survey of regulated sectors.

Table 4.17 shows the cross-section of average prices in 2022 by size and type of customer. Unlike in previous years, there are no large differences between consumption classes and between different types of customers, which tend to converge towards the average much more than in the past.

<sup>216</sup> 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).

<sup>217</sup> More precisely, these are average unit turnovers obtained from the ratio of revenues collected to the quantities of energy billed in the reference quarter.

Deviating from this trend are condo households and thermoelectric generation (particularly the largest class of the latter, relating to annual consumption of more than 20 million m<sup>3</sup>), which show values significantly above the average.

**Table 4.17 Retail market sales prices (net of taxes) by consumption sector and customer size in 2022**

SECTOR	CUSTOMERS DISTRIBUTED BY ANNUAL CONSUMPTION CLASS (m <sup>3</sup> )						TOTAL (c€/m <sup>3</sup> )
	<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	101.6	98.2	123.0	122.0	-	-	101.6
Condo households	119.5	127.1	122.0	117.5	125.8	-	125.3
Public service activities	120.9	118.9	114.3	107.8	105.2	76.3	110.3
Trade and services	116.8	114.9	113.1	101.0	96.8	91.3	108.4
Industry	114.8	112.9	109.3	100.6	92.4	108.4	99.6
Power generation	109.2	101.3	114.6	106.2	102.2	138.7	135.3
<b>TOTAL</b>	<b>103.1</b>	<b>117.9</b>	<b>113.6</b>	<b>101.4</b>	<b>93.9</b>	<b>130.4</b>	<b>111.2</b>

Source: ARERA. Annual survey of regulated sectors.

Table 4.18 shows price trends since 2012 for households (households and central heating) with consumption up to 200,000 m<sup>3</sup>/year, broken down according to the main contractual conditions under which supply can take place, i.e. the standard offer service and the free market, with details by size class.

**Table 4.18 Retail prices (net of taxes) to households by consumption class and market type**

ANNUAL CONSUMPTION CLASS AND MARKET	PRICES (c€/m <sup>3</sup> )										
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Less than 5,000 m<sup>3</sup></b>											
Standard offer service	60.1	60.2	56.8	52.8	47.7	48.2	55.8	60.4	51.0	62.3	115.7
Free market	61.3	63.7	62.4	60.1	56.8	56.1	60.3	65.5	62.0	67.9	95.3
Difference	2.1%	5.8%	10.0%	13.9%	19.2%	16.5%	8.1%	8.3%	21.8%	8.9%	-17.6%
<b>Between 5,000 and 50,000 m<sup>3</sup></b>											
Standard offer service	48.2	52.2	44.1	44.7	37.8	39.2	46.4	48.9	39.6	49.3	115.8
Free market	51.5	50.9	47.6	46.1	42.8	43.5	48.6	50.9	44.1	58.0	124.7
Difference	6.7%	-2.4%	8.0%	3.1%	13.1%	11.1%	4.9%	4.1%	11.1%	17.7%	7.7%
<b>Between 50,000 and 200,000 m<sup>3</sup></b>											
Standard offer service	48.1	50.5	41.9	40.9	36.1	36.1	45.2	44.9	36.7	43.9	117.2
Free market	48.4	43.9	41.4	41.0	37.0	36.3	43.7	44.7	37.3	56.5	122.2
Difference	0.6%	-13.0%	-1.1%	0.2%	2.6%	0.5%	-3.4%	-0.5%	1.6%	28.7%	4.3%

Source: ARERA. Annual survey of regulated sectors.

With regard to smaller customers (up to 5,000 m<sup>3</sup>/year, mostly single households), the free market had higher values than the standard offer service up until 2021. On average, the difference is 13%, with a minimum of 2.6% in the first year and the maximum of 23.1% in 2020. In 2022, the free market instead showed a far lower price than the standard offer service (-17.6%) due to the widespread diffusion of fixed-price contractual formulas that have contained or delayed, at least in the immediate future, the transfer to final customers of the strong growth in raw material gas prices that occurred in the wholesale markets. Thus, in the last year, the price in the standard offer service increased by 85.6%, compared to 40.4% in the free market.

The lower price growth in the free market over the past year is also seen in the higher size classes (over 5,000 m<sup>3</sup>/year), but does not go so far as to shift the convenience between the two markets. Therefore, for these classes, made up almost entirely of central heating, the free market is more expensive than the standard offer service in all years, including 2022, in which there has only been a narrowing of the gap, which has fallen to 7.7% in the intermediate class (between 5,000 and 50,000 m<sup>3</sup>/year) and 4.3% in the largest class (between 50,000 and 200,000 m<sup>3</sup>/year).

Clearly, the price differences found between the two markets may also depend on other factors. In particular, consideration should be given to what is indicated in the section on the free market, regarding the presence of commercial offers characterised by the joint purchase of the energy supply and other goods or services of various kinds (assistance services, maintenance, insurance policies, telephone services, discounts in supermarkets or on fuel, etc.).

### **Monitoring of the level of transparency including compliance with transparency obligations and of the degree and of the efficiency of market opening and competition.**

The retail market monitoring system is common between the electricity and natural gas markets. Therefore, please refer to section 3.2.2.1 in which the Annual Report illustrating the main outcomes of the retail market monitoring activity with reference to 2021<sup>218</sup> is presented, describing, where possible, the evolution of the relevant phenomena in all the years in which it was carried out (2012-2021) and the new half-yearly monitoring reports on the electricity and gas retail markets prepared for the Ministry of Ecological Transition<sup>219</sup>.

### **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 (€ 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 2022, a total of 370 suppliers reported on the commercial quality of sales services in the gas sector, who stated that they serve a total of 19.5 million final customers supplied with low-pressure.

Analysing the data on the actual average time for services requested by customers in 2022, for responses to complaints and bill adjustments the times stood at 20.38 and 21.04 calendar days respectively, below the minimum standards set by the Authority. With regard to average double-bill adjustments, against the standard set at 20 calendar days, the actual average correction time was

---

<sup>218</sup> Report of 11 October 2022, 490/2022/I/com (2021 Report).

<sup>219</sup> Report 327/2021/I/com, Report 37/2022/I/com and Report 30/2023/I/com.

19.08 calendar days. The actual average response time for information requests, with an average of 9.45 calendar days, is also well below the overall standard (Table 4.19).

**Table 4.19 Sales service standards and actual average times in the natural gas sector in 2022**

PERFORMANCE	SPECIFIC STANDARDS (calendar days)	OVERALL STANDARDS %	ACTUAL AVERAGE TIMES
Maximum time for a reasoned response to written complaints	30	–	20.38
Maximum time for bill adjustments	60 or 90 <sup>(A)</sup>	–	21.04
Maximum time for double bill adjustments	20	–	19.08
Minimum percentage of replies to written requests for information sent within the maximum time of 30 calendar days	–	95	9.45

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

Source: ARERA on data declared by operators.

Sales companies serving the free natural gas market and the one with a reference price received a total of 167,675 written complaints, an increase from the previous year (7.2%) (Table 4.20). The majority of written complaints (84.4%) came from households. Written complaints referring to free market customers accounted for 75.6% of the total; 17.5% concerned customers in the market with a reference price, while a residual share of 6.8% was attributable to multi-site gas customers. Overall, gas customer requests for information in 2022 totalled 142,153, an increase of 6.8% compared to the previous year; 81.4% of the requests concerned free market customers. In particular, 73.8% concerned households in the free market; followed, at a wide distance, by households in the market with a reference price with 10.7% and multi-site customers with 7.8%. The number of written bill adjustments amounted to 12,498, an increase compared to the previous year (9.6%); the number of adjustments requested by households (83.6% of the total), both in the free market and in the market with a reference price (equal to 63.9% and 19.6% respectively) was significant. As in previous years, again in 2022, the phenomenon of double bill adjustments involved an extremely low number of cases (406), further decreasing compared to 2021 (-33.1%), especially when considering the total number of invoices per year; significant, during the year, out of the total number of double bill adjustments, were the requests received from households in the free market (67.5%).

**Table 4.20 Complaints, requests for information and bill adjustments**

	2018	2019	2020	2021	2022
Number of complaints	194,074	197,928	172,004	156,407	167,675
Number of requests for information	86,728	107,937	121,054	133,063	142,153
Number of bill adjustments	20,587	19,325	16,487	11,400	12,498
Number of double bill adjustments	3,113	2,256	849	607	406

(A) Partial data referring to 64% of gas customers.

Source: ARERA processing of data from the Energy Consumer Help Desk.

There were 16,271 cases of non-compliance with the standards set for services relating to the commercial quality of sales in the gas sector, which, in 2022, resulted in customers being entitled to compensation, a decrease of 9% compared to the previous year; as in the electricity sector, the highest number of compensation cases in the gas sector was attributable to non-compliance with the standards for responses to customer complaints (95.4%). The market segment with the highest number of compensations overall is that of households in the free market, accounting for 64.51%. During the year, compensation for gas customers totalling more than € 698,000 were made, a



decrease over last year (-11%). Similarly to the electricity sector (see paragraph 3.2.2.1), as to automatic compensations paid directly in the bill in the natural gas market, 95.5% of the compensation was paid for failure to respond to written complaints. Free market customers (households, condo households, public service activities and other uses) are the recipients of 74% of the total compensation.

In the gas sector, the main subjects of complaints of company responsibility were, in 46.7% of cases, billing and everything concerning consumption and charges billed, self-reading, billing periodicity, including the closing bill, payments and refunds; in 16% of cases, the events of the contract, such as withdrawal, change of header, transfer and taking over (completion and related costs); in 14.6% of cases, the market, such as the procedures for concluding new contracts, the timing of switching and the economic conditions recommended by the supplier in the offer compared to those provided for in the contract and applied. In 8.3% of the cases, complaints were related to non-payment of bills and suspension, in 5.9% cases to metering, in 2.9% to connections, works and technical quality, in 1.7% to commercial quality, in 1.3% to the social bonus and in 2.5% of cases they concerned other residual topics not related to the previous categories. Finally, 0.1% of the complaints were related to further topics outside the suppliers' competence. Of the topics of the written requests for information that customers forwarded to companies for gas supplies, the main topic was billing and all that goes with it (47.9% of cases); 19% of requests concerned contract issues; the market in 10.2% of cases; 5.6% of requests concerned connections, works and technical quality issues; and 3.3% of cases dealt with non-payment of bills and suspension issues. In 2.2% of the cases, the requests related to metering, in 1.9% to the social bonus, in 1.6% to commercial quality. 7.9% of the requests for information concerned other residual topics not included in the categories listed above, and 0.4% concerned topics not within the suppliers' competence.

In 2022, **customers with dual fuel contracts** sent 35,362 written complaints, up 27.6% year-on-year, and 51,315 written requests for information, also up 86.5% compared to the previous year. Bill and double-bill adjustments amounted to 2,548 (52.8%) and 28 (-59.4%) respectively. Overall, there were 2,172 cases of non-compliance with standards that resulted in the right to automatic compensation in the bill for services related to the commercial quality of sales. 93.4% 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 (93.5%); to a lesser extent, bill adjustments (5.9%) and double bill adjustments (0.6%). Overall, compensation amounting to € 82,475 was paid to the dual fuel customer segment.

The topics that generated complaints of direct responsibility of the sales companies for dual fuel customers most frequently concerned: in 46.1% of cases, billing and everything related to consumption and the amounts billed, self-reading, billing frequency, including the closing invoice, and the making of payments and refunds; in 16.1% of cases, the modalities for concluding new contracts, the timing of switching and the economic conditions proposed by the supplier in the offer compared to those provided for in the contract and applied; in 16% of cases, the events of the contract, such as withdrawal, change of header, transfer and taking over (completion and costs). Complaints related to non-payment of bills and suspension accounted for 7.2%, while those related to metering accounted for 5.3%. In the rest of the cases, the complaints concerned connections, work and technical quality, commercial quality, social bonus, and other residual topics, which did not fall under the previous categories. The topics covered in the written enquiries from dual fuel customers were: billing and all that goes with it (39.5% of cases); contract issues (19%); market issues (7.8%); commercial quality (4.7%); connections, work and technical quality issues (4.5%); information on non-payment of bills and suspension (2.3%); metering issues (1.1%); and the social bonus (1.6%). 19.5%

of requests for information concerned other topics not included in the categories listed above.

#### **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 the area of analysis and recommendations on final sales prices are common to the electricity and gas sector and have already been described in detail in section 3.2.2.2 (to which reference is made).

##### **Conducting investigations, inspections and imposing measures for the effective promotion of competition**

With reference to the activities in 2022, see also section 3.2.2.2.

### **4.3 Security of supply**

The functions and competences referred to this topic (i.e. monitoring the balance between energy demand and supply, forecasting future demand and available supply, additional capacity and measures to cover peak demand or supply shortfalls) are assigned exclusively to the Ministry of the Environment and Energy Security.

## 5 CUSTOMER PROTECTION AND DISPUTE RESOLUTION

### 5.1.1 The protection system: dealing with final customer complaints (basic level)

The customer standard offer system in the sectors regulated by the Authority consists of two macro-areas: the first concerns information and assistance to customers (basic level); the second concerns the resolution of issues and disputes that may arise between customer and service supplier.

In 2022, the Energy and Environment Consumer Help Desk (the "Help Desk") and the Conciliation Service, managed on behalf of ARERA by Acquirente Unico, recorded a marked increase in input volumes (Table 5.1).

**Table 5.1 Protection system: input volumes at the Help Desk and second level activities<sup>(A)</sup>**

ACTIVITIES	2022	
	ENERGY SECTORS	ALL SECTORS
<b>Basic level</b> (information and assistance)		
Calls to the call centre 800.166.654 (received during working hours)	1,203,877	1,254,318
Written requests for information	55,422	57,710
Requests for activation of special information procedures	41,958	41,958
Second-level complaints redirected with information on conciliation	2,278	2,555
<b>Second level</b> (dispute resolution)		
Requests for the activation of special settlement procedures	22,583	22,583
Requests to the Authority Conciliation Service (mandatory conciliation)	21,102	24,339
Conciliation requests to ADR entities on the Authority's List (mandatory conciliation)	940	1,327

(A) The Help Desk is also active for environmental sectors regulated by the Authority.

Source: Energy and Environment Consumer Help Desk processing.

Indeed, in 2022, 1,254,318 calls were received at the Help Desk call centre during working hours, doubled (+99%) compared to 2021; of these, 1,014,308 (+80%) were handled while 240,101 were dropped by customers without waiting for the operator to answer. Average talk time is essentially unchanged from 2021 (238 seconds versus 241). Almost all the calls handled by the call centre concerned the electricity and gas sectors (1,203,877, or 96% of the total). By far the most discussed topic in the phone calls received by the Help Desk is the social bonus (65%), due to its centrality in the context of the energy price crisis and in the wake of the gradual consolidation of the automatic recognition mechanism; the other topics discussed, with a much lower incidence, are rights and regulation (19%), dispute resolution methods (8%), practices at the Help Desk (6%) and in the residual 2% other aspects (Portale Offerte, Portale Consumi, Purchasing groups, Gradual standard offer service). There were 11,895 contacts, approximately one third of the number of the previous year, in which information was provided on the subject of overcoming price protections in the energy sectors.

In terms of **written requests for information**, the Help Desk received 55,422 requests for the energy sectors, almost triple (+194%) the previous year. The absolute majority of requests for information also concerned the social bonus (58%); followed, far behind, by matters relating to: 'billing' (11%), 'market' (10%), 'contracts' (10%) and 'non-payment of bills and suspension' (5%). With regard to the most frequently discussed topic, the social bonus, the questions mainly concerned the communications necessary to identify indirect customers served by central heating supplies (one

third), the automatic recognition mechanism (another third) and the raising of the income threshold for identifying beneficiaries to € 12,000 (a quarter). Concerning the second topic, i.e. billing, the main subtopics were estimated consumption (38%) and recalculations (27%). Within the 'market' requests, more than half related to changing suppliers (56%); followed, at a distance, by alleged unfair commercial practices (20%). More than half of the requests relating to 'contracts' also concern only one sub-topic, namely 'unilateral changes' (54%), with 'transfer' and 'taking over' (12%) following at a distance. Finally, questions concerning "non-payment of bills and suspension" almost entirely (91%) concern the first of these two items.

**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. By means of codified information in centralised databases (Integrated Information System, Indemnity System) and an "automatically applicable" case regulation, the Help Desk provides final customers or their proxies with the required information elements. Compared to the previous year, in 2022, requests for the activation of special information procedures decreased slightly by -4% to a total of 41,958 cases, broken down as follows: 64% for the electricity sector, 23% for the gas sector and 13% for both sectors; this breakdown shows a reduction in the incidence of the electricity sector (6 fewer points, halved between the other two). More than half of the requests (51%) concerned the date of switching and the name of the supplier itself, one third (34%) concerned the identification of the 'unknown supplier' in the case of a transfer, while the remainder (15%) concerned questions to find out the supplier who applied for the charge for non-payment of bills ( $C^{mor}$ ). Compared to the previous year, the requests that have increased the most (+6,168 more cases, +41%) are those to find out the date of switching and the name of the supplier, while those to find out the 'unknown supplier' have decreased significantly (5,504 fewer cases, -28%), probably due to the implementation of the new regulation of transfer in the electricity sector.

Finally, the Help Desk also received 2,234 **second-level complaints**, namely those for which the first complaint made by the customer to the supplier (or other type of service provider) did not suffice to solve the issue; in these cases, the Help Desk informs the customer of the conciliation procedures that can be used to resolve the dispute, which can be activated by resorting to the Authority Conciliation Service or to other conciliation bodies. This type also concerns mainly (2,278 cases, 89% of the total) customers in the energy sectors.

### 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

Similarly to what happens for special information procedures (relative to the basic level of the protection system), also for settlement procedures, the Help Desk accesses information encoded in centralised databases. In contrast to information procedures, special settlement procedures allow the outcome of the dispute to be determined and imply assistance of the Help Desk staff, in case

further information is needed to consult databases, or to verify the correct fulfilment of the regulation following the resolution of the dispute.

In 2022, 22,583 requests for the activation of settlement procedures were received at the Help Desk, exactly double those of 2021 (+100%). Even more than last year, the preponderant share concerns the special "bonus" procedure (94%); this was followed (5%) by requests on the application of the C<sup>MOR</sup> fee (verification of the prerequisites for its cancellation), while those on "double billing" (0.5%), on the "voluntary restoration procedure"<sup>220</sup> (14 cases) and those for the activation of the special settlement procedure for "failure to provide automatic compensation" due within the regulatory deadline (5 requests) were marginal. With regard to bonus claims, a large proportion (64%) of them concern the non-disbursement of the bonus; the remainder mostly concern issues related to the continuity of the bonus after switching or transfer, or to the amount of the bonus, which was considered incorrect. If the customer's request is considered well-founded, on the basis of the documents sent by the customer and the checks on the Integrated Information System, the Help Desk sends a notice to the operator concerned, requesting that the facilitation be paid in the invoice and informing the final customer. Only once the disbursement has been made within the regulatory time limits is the case submitted to the Help Desk closed. If, on the other hand, the application turns out to be unfounded, the Help Desk sends a communication to the final customer, providing the appropriate clarifications and explaining why the facilitation cannot be paid. The overall handling time in 2022 averaged 29 working days, up from the previous year (23 days).

The sector most affected by the special settlement procedures was electricity, with more than half of the requests (53%), followed by gas with 25%, while the remaining share (22%) concerned requests for dual fuel supplies. 98% of the special settlement procedures involved households, while 90% of the requests were submitted by final customers without the help of proxies. The most frequently used modality of access is the e-mail channel (63.5% of cases), followed by the One-Stop Portal of the Help Desk (29%).

### The Authority's conciliation service

The Authority conciliation service is a dispute resolution tool that can be activated by final customers of electricity and natural gas for issues arising with energy operators (suppliers and distributors), in case of missed or unsatisfactory response to a complaint. The procedure takes place entirely on-line and in the presence of a third-party, impartial mediator experienced in mediation. Any final agreement has settlement effect between the parties pursuant to art. 1965 of the Civil Code. Moreover, with the approval of art. 141, par. 6, letter c) of the Consumer Code<sup>221</sup>, the attempt at conciliation has become a condition for proceeding before the courts for disputes arising in the sectors regulated by the Authority (with the exception of tax or fiscal profiles), unless urgent and precautionary judicial decisions are taken.

The Authority, in implementation of article 141-*sexies* of the Consumer Code, has laid down specific

---

<sup>220</sup> Procedure regulated by the Integrated text on preparatory measures for the confirmation of the electricity and/or natural gas supply contract and voluntary restoration procedure, TIRV, adopted by Resolution no. 228/2017/R/com of 6 April 2017.

<sup>221</sup> Legislative Decree no. 130/15 implemented into Italian law Directive 2013/11/EU of the European Parliament and of the Council of 21 May 2013 on consumer ADR, amending Regulation (EC) 2006/2004 and Directive 2009/22/EC (the Consumer ADR Directive).

information obligations for energy suppliers towards final customers.

In 2022, customers and end users in the energy sectors submitted 21,102 requests to the Conciliation Service, approximately 4,300 more than the previous year (+26%). The increase is mainly due to the electricity sector (12,831 applications, more than 3 thousand more than the previous year, 61% of the total) and dual fuel customers (2,744 applications, about a thousand more than in 2021, 13% of the total); there is also an increase for prosumers (144 applications, 31 more) but their incidence remains limited (1%), while the gas sector, essentially stable (5,383 applications, only 173 more than in 2021) sees its incidence reduced (26% of the total, more than five points less).

The main modality of submission is the use of delegates other than consumer associations (38%) and direct submission by customers (37%), followed by the use of consumer associations registered with the CNCU<sup>222</sup> (25%). 73% of the applications received by the Service concerned a household final customer, as in the previous two years. Regarding disputes, the prevalence of billing (47%) is confirmed; followed, at a distance, by contracts (24%) and compensation of damages (7%). Breaking down the billing data between energy segments, slightly different percentages can be identified: in electricity it accounts for 46%, in gas for 56% and for dual fuel customers it accounts for 44%. With regard to prosumers, the most recurring topic is on-the-spot trading (43%).

Concerning the outcome<sup>223</sup> of the requests received by the Service, 81% of the cases resulted in admission to the procedure, while the procedures concluded with an agreement between the parties accounted for 69%; these percentages are almost identical to the previous year. It took the parties an average of 54 calendar days to reach agreement, 4 less than in 2021, probably due to a further reduction of the impact of pandemic waves.

Out of 7,783 questionnaires completed at the end of the conciliation procedure, 96% of those who completed them were satisfied with the service; in detail, 51% were very satisfied, 15% were satisfied and 30% were fairly satisfied. These percentages are broadly in line with those recorded in 2021.

### 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. 141-decies of the Consumer Code, in December 2015 established<sup>224</sup> the List of Organisations Entrusted to Manage ADR (Alternative Dispute Resolution) Procedures under Title II-bis of Part V of the Code.

At 31 December 2022, 29 ADR entities were registered in the Authority's List. Of these, 7 are sectoral joint conciliation bodies - based on special preliminary agreements concluded between consumer associations and companies, 1 body operates in a single region and limited to the water sector, while the remaining 21 are cross-sectoral bodies, also operating in sectors other than those falling within

---

<sup>222</sup> 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).

<sup>223</sup> The data presented in the remaining part of the section also concerns the water sector.

<sup>224</sup> Resolutions of 17 December 2015, 620/2015/E/com and of 14 July 2020, 267/2020/E/com.



ARERA's competence; among the latter, 20 are mediation bodies and, as such, also part of the Register of Mediation Bodies kept by the Ministry of Justice<sup>225</sup>. Two bodies, including the regional level one, are competent for the water sector only, while all the remaining 27 are competent for the energy sectors.

The information provided by ADR entities shows a slight decrease in conciliation applications related to the energy sectors, which fell<sup>226</sup> from 1,478 in 2021 to 1,327 in 2022.

Almost half of the requests (44%) were submitted by the customer through a consumer association. Even with the ADR channel, the prevailing topic of disputes is billing (57%), followed at a great distance by non-payment of bills and suspension of supply (11%) and contracts (11%). The percentage of successful requests remains high (84%); the relevant procedures were concluded during 2022 in 81% of the cases, mostly (70%) with an agreement. Finally, as regards the average time to conclude procedures, there is a difference depending on the outcome: on average, 59 days in the case of an agreement (as in 2021) and 50 days in the case of no agreement (53 days in 2021).

### 5.1.3 Protecting vulnerable household consumers and measures about energy poverty

#### Initiatives in favour of customers in economic hardship and serious health conditions: social bonuses

Since 2009, a protection mechanism has been in place for the supplies of electricity and natural gas to households in situations of economic hardship or serious health conditions who receive a bonus, i.e. a discount on the supply of electricity and/or natural gas.

In order to bridge the gap between the potential beneficiaries and the actual bonus recipients, which previously had always remained at considerable levels<sup>227</sup>, Decree-Law No. 124 of 26 October 2019<sup>228</sup> envisaged, *inter alia*, that from 1 January 2021, bonuses shall be recognised automatically to those entitled to them, without the need for them to submit a special request to the Municipalities and/or to tax assistance centres.

In January 2020, ARERA initiated<sup>229</sup> the proceedings for the implementation of the provisions of Decree 124/19, and in June 2020, it put its own guidelines on the subject out for consultation<sup>230</sup>. In November 2020, the scheme for implementing the automated system was submitted to the Data

---

<sup>225</sup> Legislative Decree No. 28 of 4 March 2010 and Ministerial Decree No. 180 of 18 October 2010.

<sup>226</sup> This figure could also be affected by the ongoing investigations of 3 organisations.

<sup>227</sup> The recommendation to provide for the transition from an "on-demand" system to a system for the automatic allocation of bonuses to those entitled to them, based on the telematic exchange of the necessary information contained in the databases of the National Social Security Institute and the Manager of the IIS and compliant with the legislation on the protection of personal data, had been put forward by ARERA, most recently, in its Recommendation Paper of 25 June 2019, 280/2019/l/com.

<sup>228</sup> Converted with amendments by Law No. 157 of 19 December 2019.

<sup>229</sup> Resolution of 28 January 2020, 14/2020/R/com.

<sup>230</sup> Consultation document of 9 June 2020, 204/2020/R/com.

Protection Supervisor, who issued his opinion on 17 December 2020.

In February 2021, the methods were therefore approved<sup>231</sup> for requesting the regime for the automatic recognition of electricity, gas and water social bonuses for economic hardship, entirely replacing the previous “on request” regulation. However, the social electricity bonus for physical hardship does not fall within the scope of the new regime, which remains “on request” and continues to be managed through the SGAt system under the scope of the specific Agreement<sup>232</sup>.

In short, the new mechanism provides for the following:

- on a monthly basis, the IIS Manager receives from the National Social Security Institute the personal data of households in a state of economic hardship based on the Consolidated Declarations (DSU) certified by the National Social Security Institute in the previous month. In order to access the automatic bonus recognition proceeding, it is therefore sufficient to submit the DSU each year to obtain the ISEE (Indicatore della Situazione Economica Equivalente - Equivalent Economic Situation Indicator)<sup>233</sup> certificate of one's household;
- the IIS carries out all the controls necessary for the recognition of energy bonuses to those entitled to them (uniqueness of the bonus per household, search for the supply to be facilitated and verification of the relative eligibility requirements) and transmits to the relevant operators all the information necessary for the subsequent disbursement of the bonus, which takes place in the same way as under the previous “on demand” system; the annual amount of the bonus to be paid is defined by ARERA (differentiated according to the size of the household and, for the gas bonus, to the use and climatic area);
- bonuses have a duration of 12 months and a start date that varies depending on the “type” of benefit<sup>234</sup>;
- the recognition of benefits to claimants starts from 1 January 2021; in consideration of the time required to develop the related IT systems, the automatism will come into operation on 1 June 2021, recognising to claimants any arrears accrued before that date.

In 2021, however, sharp increases in energy commodity prices began to appear, which prompted multiple interventions by the government to minimise, for disadvantaged households, increases in energy supply costs by redefining the amount of the bonus and the group of recipients.

In particular, as of 1 October 2021, a set of rules<sup>235</sup> provided for the reinforcement of the social electricity and gas bonus and its quarterly update. The reinforcement was financed with funds from the state budget transferred to the Energy and Environmental Services Fund (CSEA). ARERA has

<sup>231</sup> By Resolution of 23 February 2021, 63/2021/R/com.

<sup>232</sup> Resolution of 28 January 2020, 13/2020/R/com.

<sup>233</sup> 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).

<sup>234</sup> The decision also regulates the way in which bonuses are administered in cases where, during the benefit period, there are significant variations in the eligibility conditions or in the conditions that contribute to determining the value of the subsidy.

<sup>235</sup> For the fourth quarter of 2021: art. 3, paragraph 1 of Decree-Law No. 130 of 27 September 2021; for the first quarter of 2022: art. 1, paragraph 508 of Law No. 234 of 30 December 2021; for the second quarter of 2022: art. 2 of Decree-Law No. 17 of 1 March 2022; for the third quarter of 2022: Article 3 of Decree-Law No. 80 of 30 June 2022 and Article 1 of Decree-Law No. 50 of 17 May 2022; for the fourth quarter of 2022: Article 1 of Decree-Law No. 115 of 9 August 2022.

implemented these rules by introducing<sup>236</sup> an additional compensatory component (CCI), apart from the 'ordinary' bonus and updated every quarter, on the occasion of the periodic update of the general system charges.

In March 2022, the government adopted<sup>237</sup> further urgent measures to counter the effects of the Ukrainian crisis, raising the ISEE threshold for accessing the social electricity and gas bonus to € 12,000 (from the previous € 8,265) for the period 1 April-31 December 2022. In order to ensure the effective and timely provision by INPS to the IIS of the information and data necessary for the automatic recognition of bonuses to new eligible households, ARERA has defined<sup>238</sup> in a preliminary way the technical modalities for the exchange of information between the two entities and has introduced a new class of benefit (class d), corresponding to households with an ISEE between € 8,265 and € 12,000 and not belonging to one of the classes already provided for (large families, with more than three dependent children or recipients of Citizenship Income or Pension).

ARERA then supplemented these provisions in May<sup>239</sup> and August<sup>240</sup> 2022 taking into account the provisions of Decree-Law No. 50 of 17 May 2022. In particular, it was stipulated that, for new beneficiaries, the start date of benefit would be 1 April 2022 (also by means of adjustments) and that the deadline would be 31 December of the same year.

In November 2022, ARERA started<sup>241</sup> a process to revise the modalities for determining the electricity and gas bonus for economic hardship and the urgent, extraordinary change of the additional compensatory component (CCI) of gas bonuses as of 1 December 2022. The revision was prompted, on the one hand, by the change in the way the gas price component covering supply costs ( $C_{MEM}$ ) is calculated<sup>242</sup>; on the other hand, to improve customer consumption profiles, making better use of previously unavailable information.

In particular, on the basis of the final figures, in the gas sector heating consumption was significantly lower than 'standard' consumption. In the electricity sector there were also differences between actual and standard consumption, but with smaller differences; in both sectors, household consumption decreased as a result of energy efficiency promotion measures, while no particular differences emerged between bonus customers and other customers.

---

<sup>236</sup> Resolutions 30 December 2021, 635/2021/R/com, 30 March 2022, 141/2022/R/com, 30 June 2022, 295/2022/R/com, 29 September 2022, 462/2022/R/com, and 29 December 2022, 735/2022/R/com.

<sup>237</sup> Decree Law No. 21 of 21 March 2022, converted into Law No. 51 of 20 May 2022.

<sup>238</sup> Resolution of 26 April 2022, 188/2022/R/com.

<sup>239</sup> Resolution of 31 May 2022, 245/2022/R/com.

<sup>240</sup> Resolution of 2 August 2022, 380/2022/R/com.

<sup>241</sup> Resolution of 29 November 2022, 619/2022/R/com.

<sup>242</sup> With this change (established by Resolution No. 374/2022/R/gas of 29 July 2022), ARERA ruled that, as of 1 October 2022, the  $C_{MEM}$  component is to be defined as equal to the monthly average of the Italian wholesale price (PSV day ahead surveyed by ICIS Heren) and to be published on ARERA's website by the second working day of the month following the reference month; in this way, the method of quantification on the basis of quarterly forward quotations (OTC relating to the t-th quarter of gas, at the TTF hub, surveyed with reference to the second calendar month prior to the quarter being updated) is superseded, moving from a quarterly determination defined before the beginning of each quarter, to a monthly determination defined at the end of each month of a quarter.

At the end of November, ARERA submitted its recommendations<sup>243</sup> on how and how often social bonuses should be calculated from January 2023 out for consultation:

- the change in the frequency of updating of social gas bonuses, in relation to the new gas pricing methods;
- the updating of the standard consumption of the 'profiles' used for the calculation of social bonuses, in relation to the actual average consumption data of the holders of these bonuses;
- the revision of the method of determining the 'basic' bonus<sup>244</sup>.

In December 2022, the ordinary social bonus mechanism was thus partially adjusted<sup>245</sup>, with application in the first quarter of 2023. In detail, the standard consumption used to determine the 'pro die' amounts were redetermined, in order to make the best use of the resources made available from the state budget, adopting a gradualness in this redetermination, to take into account the comments of consumer associations. In particular, the completion of the redetermination of reference consumption and the modification of the method for determining 'basic bonuses' were postponed. Finally, in view of the high volatility of wholesale gas prices, ARERA reserved the right to make changes during the quarter as well.

### Bonuses in figures

In 2022, the number of consumers who obtained the **social bonus for electricity supplies** increased by more than 50% compared to the previous year, from 2,529,566 to 3,818,281, of which 3,766,105 (+51.4%) for economic hardship and 52,176 (+24.3%) for physical hardship. The total amount of bonuses disbursed for the electricity sector for economic hardship was approximately € 1,313 million, more than double the previous year. The broadening of the pool of beneficiaries is due in part to the automatic bonus recognition mechanism (in its second year of application), but mainly to government intervention (mentioned above) to raise the income threshold for eligibility.

The beneficiaries of the social electricity bonus are located 33.4% in the North, 16.4% in the Centre and 50.2% in the South and Islands. Of the beneficiaries, 42.9% are households with up to 2 members, 44.3% with 3 or 4 members, 12.8% with more than 4 members.

As of 31 December 2022, there were 52,176 households with a bonus for the use of electrical life-sustaining equipment (hardship bonus), an increase of 10,209 over the previous year. The **hardship bonus** is divided into three bands to take into account the type of equipment used, the average hourly consumption of each type of equipment and the average hours of use per day. On the basis of these elements, certified by the Azienda Sanitaria Locale (the local health authority), the customer is assigned to one of three countertrade bands. The three bands are then further differentiated according to the committed power<sup>246</sup>. Depending on these elements, the value of the bonus in 2022

---

<sup>243</sup> Consultation document of 29 November 2022, 646/2022/R/com.

<sup>244</sup> The procedures for defining the basic bonus were laid down in Annex A to Resolution 63/2021/R/com and were subsequently suspended following the reinforcement of the social bonus as of the fourth quarter of 2021.

<sup>245</sup> Resolution of 29 December 2022, 735/2022/R/com.

<sup>246</sup> For details on the operation of bonuses, see also the 2013 *Annual Report*.

was in the range of € 376 to € 1,155 per beneficiary.

The charges related to the disbursement of the electricity bonus for economic and physical hardship are placed among the components of the general charges pertaining to the electricity system and are covered by the  $A_{SRIM}$  component, which is included in the bill for final customers in the  $A_{RIM}$  tariff component<sup>247</sup>, which is applied to all customers who do not benefit from the electricity bonus.

In 2022, the number of households benefiting from the **social bonus for gas supplies** due to economic hardship also increased considerably, going from 1,537,884 to 2,441,158 (+58.7%). The amount of bonuses disbursed for the gas sector in 2022 was about € 849 million (four times the previous year), also due to the major increases in price levels; this amount does not include the entitlements of households served by central heating supplies, the automatic identification process of which is currently being perfected. With regard to the beneficiary households (holders of direct supplies), their distribution by number of members appears similar to the electricity sector, while the territorial distribution is different, with the North (44%) prevailing, also due to the greater degree of methanization, followed by the South and Islands (36%) and the Centre (20%).

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 GST components, charged to non-households. In addition to the funds collected from customers, there are also funds from the state budget. As in the electricity sector, the amounts of the bonuses were defined quarterly, at the same time as the tariff update.

#### 5.1.4 Guarantees for the effective protection of gas consumers: compliance with art. 41(1)(o) of Directive 2009/73/EC

Article 41(1)(o) of Directive 2009/73/EC requires the regulator, also in cooperation with other authorities, to ensure that consumer protection measures, including those in Annex 1, are effective and enforced.

In Italy, these measures are now fully and extensively applied.

Over time, a number of bodies of legislation have been consolidated, bringing together in an organic way all the provisions on a number of relevant subject areas, in particular:

- the Code of Business Conduct<sup>248</sup>;
- the Integrated Sales Service Quality Text (TIQV)<sup>249</sup>;

---

<sup>247</sup> Article 1 of resolution 922/2017/R/eel of 27 December 2017 provided that, as of 1 January 2018, the  $A_{SRIM}$  element of the  $A_{RIM}$  component would be applied indiscriminately to all utilities, including those entitled to the electricity bonus. The effects of this application are compensated in favour of the users entitled to the electricity bonus by increasing the same bonus by the value of the  $A_{SRIM}$  element applied to the annual reference consumption for each type of disadvantaged customer under the TIBEG. As of January 2019, this component (former  $A_S$  component) represents 2.61% of the average expenditure of the typical user.

<sup>248</sup> The latest version was approved by Resolution 366/2018/R/com.

<sup>249</sup> The latest version was approved by Resolution 413/2016/R/com.

- the Integrated Billing Text (ITI)<sup>250</sup>;
- the Integrated Electricity and Gas Bonus Text (TIBEG)<sup>251</sup>;
- the Integrated Text on Confirmation of the Electricity and/or Natural Gas Supply Contract and Voluntary Restoration Procedure (TIRV)<sup>252</sup>;
- the Integrated Conciliation Text (TICO)<sup>253</sup>.

### 5.1.5 Tools available to final customers

#### Information initiatives to overcome price protections

Since 2017, ARERA has established<sup>254</sup> that the operators of the standard offer service and the suppliers within the gas standard offer service, as of 1 January 2018 and until the price protections as established by the specific legislation are overcome, had to send their customers, within the bill, a special information, with content defined by ARERA, regarding overcoming of price protections. In 2022 again, therefore, ARERA continued to define and to communicate to suppliers, on a half-yearly basis, the content of the disclosures to be made on their customers' bills. In greater detail, in 2022, the communications included in the bills informed the final customer that changing contract or supplier is simple and free of charge and that the continuity of service is guaranteed; they also provided the elements that should prompt the customer to make use of ARERA tools aimed at making an informed and aware choice, such as the "Portale Offerte luce e gas" and the PLACET offers.

As of 1 January 2023<sup>255</sup>, both free market suppliers and operators of the standard offer service for the supply of electricity and natural gas are required to include the following message on each bill: "To find out if there are other offers better suited to your needs, to find out more about your consumption habits, your historical consumption and to compare your consumption over the same period in previous years, and to receive information or find out about your rights, consult [www.arera.it/consumatori](http://www.arera.it/consumatori)".

In addition, as part of the provisions for the provision of the gradual standard offer service for micro-enterprises in the electricity sector referred to in Law No. 124/2017, ARERA has provided that the outgoing operator of the standard offer service in the period between July 2022 and March 2023 should attach, to at least two bills, a notice with standardised text defined by ARERA and that it should include, in the final customer's closing bill, a message also defined by ARERA, aimed at making him/her aware of the change of supplier.

---

<sup>250</sup> The latest version was approved by Resolution 463/2016/R/com.

<sup>251</sup> The latest version is that resulting from Resolution 165/2019/R/com.

<sup>252</sup> The latest version was approved by Resolution 28/2017/R/com.

<sup>253</sup> The latest version was approved by Resolution 355/2018/R/com.

<sup>254</sup> By resolution 746/2017/R/com of 10 November 2017, as amended by resolution 197/2019/R/com of 21 May 2019.

<sup>255</sup> Pursuant to Resolution 209/2022/R/com of 10 May 2022, amending, *inter alia*, Annex A to Resolution 501/2014/R/com of 16 October 2014.



## Strengthening of the Code of Business Conduct

The Code of Business Conduct for electricity and natural gas sales to final customers defines, in accordance with the provisions of the Consumer Code<sup>256</sup> and the EU energy directives, the rules of conduct to be observed by suppliers of electricity and/or natural gas (including their agents in any capacity) in their business relations with final customers (households and small non-households).

In June 2022, ARERA approved<sup>257</sup> some amendments to the Code of Conduct with regard to information obligations concerning bill payment terms and conditions and the universal public service obligations of suppliers. In addition, ARERA ordered the monthly updating of the estimated annual expenditure of variable price offers and standard offer services in the Comparability sheets for the supply of electricity and natural gas in Annexes 1, 2 and 3 of the Code.

With a view to further strengthening the information and empowerment of final customers, at the end of the year ARERA outlined its guidelines<sup>258</sup> on updating and streamlining the Code of Business Conduct with regard to information obligations:

- on early termination charges for electricity final customers;
- when renewing economic conditions in electricity and natural gas supply contracts.

Furthermore, in view of the complete opening of the retail markets and in order to intercept their technological and commercial dynamism, it carried out an initial examination aimed at identifying, also taking into account international experience on the subject, the need for regulatory intervention with regard to disclosure requirements for contracts with dynamic electricity prices, free market offers with unconventional price structures (offers not included in the categories of fixed-price offer and variable-price offer as defined in the Code of Business Conduct), additional services and products, and offers with renewable energy availability.

## Bill 2.0 update

After the usual consultation phase<sup>259</sup>, in May 2022, ARERA concluded<sup>260</sup> the first group of interventions to update and revise the regulation of Bill 2.0, aimed at supplementing the information content of the summary bill with elements functional to greater awareness, verifiability and comparability, while working in synergy with the interventions already regulated with a view to overcoming price protections. In order to rationalise the bill updating actions into an intervention that is as organic as possible, with the same resolution, ARERA also ordered the implementation of a first subset of billing prescriptions of Legislative Decree No. 210 of 8 November 2021, transposing Directive (EU) 944/2019. In particular, ARERA defined the following innovations concerning the summary bill, which were to be implemented by the first bill issued after 1 January 2023:

- an indication of the Codice Offerta (Offer Code), for all offers in the free market, corresponding

---

<sup>256</sup> Legislative Decree No. 206 of 6 September 2005.

<sup>257</sup> Resolution of 28 June 2022, 289/2022/R/com.

<sup>258</sup> Consultation document of 6 December 2022, 668/2022/R/com.

<sup>259</sup> Consultation document of 14 December 2021, 579/2021/R/com.

<sup>260</sup> Resolution of 10 May 2022, 209/2022/R/com.

to the Codice Offerta currently matched in the Official Central Registry (RCU) to the current supply;

- the inclusion of the annual expenditure incurred, indiscriminately for all customers and contract types (free market and standard offer services), after one year of supply. This item of information corresponds to the sum of the expenditure reported over the last twelve months, including only the amount due for the supply of electricity or natural gas (separating the amounts relating to the "Television subscription fee for private use" and the amounts relating to the "Other items", such as any compensation and/or amounts for additional services or products for consideration provided in the offer), and is updated in each bill;
- the revision of the criterion for determining the annual consumption incurred for all final customers;
- the definition of the obligation for free market suppliers to give separate evidence of the cost items 'system charges' and 'transmission and meter management', by analogy with what has already been provided for the standard offer regimes, also in order to increase transparency and homogeneity in the presentation of the cost items themselves.

At the end of the year, ARERA then ordered<sup>261</sup> a further revision of the Bill 2.0 regulation, aimed at further increasing the transparency of electricity final customers' bills, increasing the availability of the Detailed Elements (ED) document, and defining new measures to rationalise and systematise ARERA's communications.

### 5.1.6 Access to consumption data

A first guarantee of access to consumption data is provided by the billing regulation. In particular, the Bill 2.0 must contain data on annual consumption and its breakdown by hourly bands. Further elements can be found in the detailed bill, available on the website. In addition, by means of complaints and requests, the customer may request the data from the supplier, who 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, ARERA provided<sup>262</sup> that consumption data, understood as historical billing data and historical withdrawal time profile data, should be accessible through the Integrated Information System (IIS), which is already a repository of such information pursuant to Law No. 27 of 24 March 2012. Furthermore, the Authority considered it appropriate that the digital provision of data should take place through a web portal, set up by Acquirente Unico (as manager of the IIS) and accessible to the final customer with authentication through the Public Digital Identity System (SPID).

---

<sup>261</sup> With Resolution 637/2022/R/com of 29 November, which follows the consultation document of 23 September 2022, 441/2022/R/com.

<sup>262</sup> Consultation document of 14 December 2017, 865/2017/R/efr.

Subsequent to the consultation, the provisions of the 2018 Budget Law<sup>263</sup> came into force, which specified deadlines and time-frames within which to complete the process.

In June 2019, the Authority therefore defined<sup>264</sup> the way in which final customers from 1 July 2019 can access their consumption data via the **Portale Consumi** on the Authority's website<sup>265</sup>. Consumers can access, in a simple, secure and free way, data on their historical consumption, reported in summary documents, numerical tables and graphs, as well as the main technical and contractual information.

In the course of 2022, **certain functions of the "Portale Consumi" were further developed and refined** with regard to customer-customisable reporting, the type of customers who can access it, and the exportability of data, as well as in-depth studies on the evolution of the Italian and EU regulatory framework, in order to allow data access to third parties authorised by final customers.

A further important development is the possibility for so-called third parties to access customer consumption data. This aspect, which is essential in order to disseminate the tools for awareness of one's energy footprint, requires further investigation, which is currently underway, in order to define who can be delegated, ensure adequate protection of personal data and manage authorisation by final customers.

### 5.1.7 Availability of price comparison tools

#### "Portale Offerte luce e gas"

In February 2018 ARERA adopted<sup>266</sup> the Regulation for the creation and management, by the Integrated Information System Operator, of a website on which to display offers aimed at finale households and small companies of electricity and natural gas, called the **Portale Offerte**<sup>267</sup>. It contains fixed and variable offers of the free market, PLACET offers, as well as the expenditure of standard offer regimes for both electricity and natural gas. These offers are all aimed at households, low-voltage electricity sector companies, condo households with gas consumption below 200,000 S(m<sup>3</sup>)/year, and gas sector companies with consumption below 200,000 S(m<sup>3</sup>)/year.

The design and implementation of the Portale Offerte is focused on ensuring ease of consultation by the end user. To this end, a usability and user-friendliness consultation analysis of the Portale Offerte is carried out on a quarterly basis, assessing its use both via PC-desktop and mobile devices.

Since its start of operations 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 December 2022, the website had a total of 5,000,744 visits. The total number of pages viewed was 37,124,659.

---

<sup>263</sup> 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".

<sup>264</sup> Resolution of 25 June 2019 270/2019/R/com.

<sup>265</sup> <https://www.consumienergia.it/portaleConsumi/>.

<sup>266</sup> Resolution of 1 February 2018, 51/2018/R/com, as amended by Resolution of 5 March 2019, 85/2019/R/com.

<sup>267</sup> <https://www.ilportaleofferte.it/portaleOfferte/>.

Access monitoring showed that for the period July-December 2022, the website had a total of 979,543 unique visitors (+2% compared to the same period in 2021). The number of users using the Portale Offerte therefore increased both in absolute terms and as a percentage of total visits. On average, more than 163 thousand unique visitors visited the Portale monthly in the second half of 2022, with a peak in October 2022 of more than 227,000 users.

There were 4,160 offers in the "Portale Offerte" database as at 31 December 2022, of which 2,074 were free market offers, 1,844 PLACET offers and 242 offers without the calculation of the estimated annual expenditure.

For the electricity sector, a total of 2,028 offers are available, for natural gas, 1,876; there are 14 dual fuel offers. 24% of offers for households for the electricity sector are fixed-price offers, while for non-households this percentage is 20%; thus, the offers available for both types of customers are predominantly variable-price offers. For the natural gas sector, the situation was similar: 74% of domestic offers are variable price.

In the course of 2022, work continued on the further development of two further functionalities of the Portale Offerte:

- cost calculation associated with the offer that the customer receives from his/her supplier on the occasion of contract renewals, or changes in economic conditions and automatic changes in contractual conditions, so as to be able to compare it with the other offers displayed on the Portale and assess whether it is worthwhile;
- calculation of the final customer's personalised expenditure, which would allow the user of the Portale Offerte to simulate the annual expenditure of the offers displayed therein on the basis of the user's actual consumption profile over the last twelve months.

In order to facilitate website use, the content of the video tutorials was also integrated and enriched.

### PLACET offers

Increasing final customers' understanding of commercial offers is a prerequisite for their active participation in the market. ARERA has, therefore, promoted interventions aimed at increasing final customers' awareness and the transparency of contractual conditions, in order to allow their widest participation in a competitive market. With this in mind, in July 2017, ARERA introduced<sup>268</sup>, the regulation 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 (households, condo households and other uses) owning points with annual consumption of less than 200,000 S(m<sup>3</sup>).

As of 31 December 2022, there were 1,844 PLACET offers in the Portale Offerte (Table 5.2).

---

<sup>268</sup> 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 2022, broken down by type of final customer**

SECTOR	FIXED PRICE	VARIABLE PRICE	TOTAL
Household customer	180	220	400
Non-household customer	180	219	399
<b>TOTAL ELECTRICITY SECTOR</b>	-	-	799
Household customer	174	201	375
Non-household customer	174	194	368
Condo households with consumption of less than 200,000 m <sup>3</sup>	141	161	302
<b>TOTAL GAS SECTOR</b>	-	-	1,045
<b>TOTAL PLACET OFFERS</b>	-	-	1,844

Source: ARERA. Processing of data from Acquirente Unico.