SUMMARY OF THE 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 REGULATORY AUTHORITY FOR ENERGY NETWORKS AND ENVIRONMENT

31 July 2023

1 MAIN DEVELOPMENTS IN THE ELECTRICITY AND NATURAL GAS MARKETS

1.1.1 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,[1] **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[2] 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_2 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[3] 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

[1] Converted by Law no. 15 of 25 February 2022.

[2] Converted by Law no. 25 of 28 March 2022.

[3] 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[4] 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

[4] 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[5] **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[6] 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[7], 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.

[5] Converted into Law no. 51 of 20 May 2022.

[6] 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).

[7] 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[8], 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 **cancels, 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.

[8] 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[9] lays down **support measures to cope**

[9] 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[10] **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

[10] 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 Ireti (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 an 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[11] and micro-enterprises with a committed capacity of more than 15 kW[12], 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

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

[12] 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 no 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_1, UG_2 and UG_3) 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^3/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, Ital Gas Storage, Geogastock, Blugas Infrastrutture. All active storage sites are built at depleted gas fields. Stogit, which belongs to the Snam group, is the main storage company owning 10 of the 15 concessions. The 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^3), of which 4.6 G(m^3) 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^3), 5 G(m^3) 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^3) 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^3). Net imports decreased by 4.9 % to almost 68 G(m^3), almost 3.5 G(m^3) less than in 2021. Net imports decreased not so much because of the reduction in **gross imports**, which fell by approximately 400 M(m^3), but because of the significant increase in **exports**, which rose from 1.5 to 4.6 G(m^3). 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^3) higher than at the start of the year. The **level of foreign dependence**, measured as the ratio of net imports to the gross value of household consumption, has 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^3), 10.3 percentage points below that of 2021.

In the preliminary data released by the MASE, therefore, Italy imported 0.4 G(m^3) 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^3) 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[13] 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^3) of Russian gas with approximately 25 G(m^3) 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^3).

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^3) recorded in 2021. Overall, marketed gas in the total sales market (wholesale and end market) fell to 267.2 G(m^3), a decrease of 22% compared to the same figure in 2021. The **wholesale market** handled 216.3 G(m^3), a decrease of 24.3% compared to 2021, the retail market handled 50.9 G(m^3), a decrease of 11.4% compared to 2021, and self-consumption amounted to 14.1 G(m^3), 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^3), resulting in the average unit sales volume dropping by 43%, from 1,488 to 845 M(m^3). 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.

[13] 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^3). 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^3) 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^3) were sold in the retail market** in 2022, to which must be added 675 M(m^3) supplied through last resort and default services. Overall, therefore, the value of final sales was 51.6 G(m^3), a decrease of 6.1 G(m^3) 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^3), which brings the value of total consumption resulting from the Annual Survey to 65.7 G(m^3), i.e. a value comparable to the 67.3 G(m^3) from the ministerial source. As usual, there are differences between the two sources, which classify the volumes of gas handled during the year differently. In the Annual Survey data, the **level of total consumption in 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^3). Of the companies active in the end market, 5.9%, i.e. 30 out of 512, sold more than 300 M(m^3) 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^3) - 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^3), showed a decrease of 10%, while sales in the market with a reference price, at 4.5 G(m^3), 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^3), 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^3).

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 condominiums (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^3. 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 condominiums 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 condominiums 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 condominiums 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. Condominium households show, understandably, a high lack of interest in additional services, especially in fixed-price contracts: the portion of redelivery points of condominiums with a fixed-price contract and no additional services is 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^3, an unprecedented level. This price more than doubled (+112%) compared to the previous year (52.3 c€/m^3). 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^3/year, mainly single families): in 2022, in fact, the free market has a price (95.3 c€/m^3) that is significantly lower than the standard service (115.7 c€/m^3). 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^3/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[14] 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

[14] 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[15] 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[16] 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[17].

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.

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[15] 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).

[16] 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.

[17] 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 condominium 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.

1.1.2 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.