



ARERA 25°
Autorità di Regolazione
per Energia Reti e Ambiente



**ANNUAL REPORT
ON THE STATE OF SERVICES
AND REGULATORY ACTIVITY**

2021

SUMMARY

"With thanks to
Andrea Stegher, *Vice President International Gas Union - IGU*
Laura Cozzi, *Chief Energy Modeller, International Energy Agency*
Head of the IEA World Energy Outlook
Tom Mollenkopf, *President of the International Water Association (IWA)*
for the external contributions sent in and included in Volume 1 (State of Services) of the Annual Report"



For ease of reference, the tables in this summary show the numbering and references of the full versions of the 2021 Annual Report which can be downloaded from www.arera.it The figures in the Annual Report are up-to-date as of 31 December 2020



Contents

◆ Introduction

◆ National and international context

◆ Electricity

◆ Natural gas

◆ District heating

◆ Integrated water service

◆ Waste cycle

◆ Consumer protection


◆ Supervision and litigation

◆ Implementation of regulation,
communication, organisation and
resources

Note to the 2021 edition

The data contained in the two volumes of the ARERA Annual Report on the State of Services and Regulatory Activity cover the 12 months of the calendar year 2020. The current edition was distributed on the occasion of the Annual Report to the Parliament on **24/09/2021**.

The complete volumes are available on the ARERA website
https://www.arera.it/it/relaz_ann/21/21.htm



INTRODUCTION

The Italian Regulatory Authority for Energy, Networks and Environment (ARERA), established with Law No.481 of 1995 and fully operational since 1997, carries out regulatory and monitoring activities in the sectors of electricity, natural gas, water services, district heating and the waste cycle. The Authority operates in full autonomy and with independent judgement within the framework of the general policy guidelines formulated by the Government and Parliament and European Union regulations. It is a collegial body, composed of five members chosen from among persons of recognised professional standing and competence. In order to safeguard independence, the procedure for appointing the Board requires a broad institutional consensus: the members are appointed by decree of the President of the Republic, at the resolution of the Council of Ministers, following a proposal by the Minister for Economic Development and the Minister for Ecological Transition, and with a binding opinion expressed by a qualified majority of the competent committees of the Chamber of Deputies and the Senate. The members of the Board are appointed for seven years and may not be reappointed.



The Presidential decree of 9 August 2018 appointed (from left) Gianni Castelli, Clara Poletti, Stefano Besseghini (Chairman), Stefano Saglia and Andrea Guerrini as members.

At an **international level**, ARERA is involved in the work of the Agency for the Coordination of Energy Regulators (ACER), and is a founding member of the Council of European Energy Regulators (CEER). It is the main promoter of the Association of Mediterranean Energy Regulators (MEDREG), of which it holds the permanent vice-presidency, and plays a leading role in the Energy Community Regulatory Board (ECRB). It also provides support to the International Confederation of Energy Regulators (ICER) and has promoted the launch of the European Water Regulators (WAREG), a network for cooperation between water regulators which it currently chairs. As the owner of the ADR Conciliation Service, the Authority is a member of NEON (National Energy Ombudsmen Network), a European non-profit association network.

As part of the activities relating to the Western Balkans area, the Authority is taking part in the Know Exchange Program (KEP) project 'Central European Initiative (CEI) - Support for strengthening energy regulatory authorities in the Western Balkans'.

FOCUS ON REGULATORY ACTIVITY IN 2020

Initiatives adopted in the context of the Covid-19 emergency¹

Since March 2020, the Authority has intervened promptly in order to guarantee the full application of government measures and to support consumers and operators, through numerous measures, including those of an urgent nature². Three internal working groups were established (one institutional, one for the environment sector and one for the energy sector), which continued their activity until July 2020, allowing the Authority to adopt numerous extraordinary and urgent measures to deal with the difficulties deriving from the measures to contain the spread of the virus, as well as to provide suggestions and reports to Parliament and the Government in an attempt to provide prompt and adequate answers to the problems encountered in the sectors subject to its regulation.

Within the **energy sectors**, the primary aim of the extraordinary measures adopted taken was to support consumers and operators and to ensure the supply of electricity and gas to all customers. During the emergency phase, to ensure the financial sustainability of the planned interventions and those that may be adopted in the future, in support of end customers of the electricity and gas sectors and end-users in the water sector, the Authority has set up a special management account at the Cassa per i Servizi Energetici e Ambientali (CSEA), based on available stocks, for a total value of €1.5 billion. In the **environmental sectors** too, the measures adopted were aimed both at strengthening the protection for end-users, in order to mitigate the potential critical issues indirectly related to the measures adopted by the Government to contain the spread of the contagion on the national territory, and at safeguarding the work and the economic and financial viability of the operators, partly by requesting information from all parties useful for outlining the appropriate elements of flexibility to complement and supplement the regulatory framework for the sector.

In particular, for customers residing in the 11 Municipalities of the primary "red zone" in Lombardy and Veneto, the Authority has introduced the suspension - from 17 March to 30 April 2020 - of the terms of payment of electricity, gas and water supply bills, with the consequent automatic payment in instalments without interest. A similar suspension was also planned for the waste sector, also featuring a suspension of payment terms and payment in instalment without the application of interest to users.

In addition, the deadlines for applying for social bonuses (or renewing those expiring in the period 1 March - 31 May) have been postponed due to logistical difficulties caused by lockdown restrictions. Among the initial provisions adopted by ARERA to combat the critical problems relating to the epidemic, there is also the moratorium on all procedures for suspending the supply of electricity, gas and water due to arrears with specific procedures for payment instalments, with the simultaneous launch of a special survey - for the energy sectors - on the trend in the rates of defaults on payments. Finally, thanks to the contribution allocated by the Government, it was possible to implement a reduction in the electricity bills of the fixed portions of transport, distribution and metering tariffs and of the general charges for non-domestic customers connected to low voltage for a total value of 600 million euros.

¹ Many of the measures were already highlighted in the President's presentation to the Chamber of Deputies at the ceremony on 17 September 2020. The document is available at https://www.arera.it/allegati/relaz_ann/20/ra20_presatorie.pdf

² For the complete list of the extraordinary measures adopted by the Authority due to the health emergency, see Chapter 2 of Vol. 2 (pp. 67-71) or the special section "Coronavirus Emergency" on the Authority's website

Finally, in the waste sector, protective measures were adopted to alleviate the critical situation deriving from the limitations introduced at national or local level to counter the spread of the virus, along with its effects on various categories of users. These included, in particular, the introduction of some correction factors for some types of non-domestic users and specific forms of protection for economically disadvantaged domestic users.

In order to take into account the effects of the actions adopted to protect consumers on the supply chain, the Authority has provided for specific measures addressed to operators such as, for example, the suspension of non-fulfilment procedures for natural gas transportation and distribution invoices where the invoices are at least 70% paid for the portion corresponding to low voltage customers, for the electricity sector, and to natural gas customers with annual consumption of less than 200,000 Smc, for the gas sector. The Authority regulated the procedures for settling unpaid balances from transport and distribution users, with the possibility of payment in three instalments from September to November. It also defined the first provisions for implementing a mechanism for reintegrating uncollected network tariffs for electricity distribution companies.

In the light of the critical situation caused by the government's measures to tackle the health crisis, the Authority made provisions for a series of exceptions to compliance with the required service quality standards, giving operators the option to classify them as "force majeure" and suspending the economic sanctions normally imposed in these circumstances.

In addition, the deadlines for the preliminary investigation and decision-making stages of proceedings already initiated have been postponed until 31 May 2020, and the deadlines for carrying out two inspection campaigns have been extended.

In terms of transparency, in order to ensure an orderly process of transposition of the relevant regulation in the presence of the stringent measures to combat and contain the epidemic, in both the waste and district heating sectors, the deadlines for the entry into force of certain provisions have been postponed.

For more information, a section dedicated to the Covid-19 emergency is available on the Authority's institutional website³.

³ www.arera.it/it/news/coronavirus.htm

NATIONAL AND INTERNATIONAL CONTEXT

2020 was the year of the Covid-19 pandemic: in the face of such a dramatic event, the -3.3% contraction of the world economy was ultimately relatively moderate, thanks to the compensatory policies promptly adopted by national governments and supra-nationals.

The Euro Area (-6.6%), Latin America (-7%) and India (-8%) suffered, while China, the country from which the pandemic originated, recorded an increase of 2.3%. In **Italy**, the growth rate fell to -8.9% while in Germany the figure stopped at -5%.

International energy markets

International oil market

The severe global economic conditions had a strongly bearish impact on oil prices. In 2020, the average price fell to \$41.7/b, the lowest since 2016 (\$43.7/b). The price in Euro, after rising from 39.5 €/b in 2016 to 60 €/b in 2018 and 57 €/b in 2019, ended 2020 with an average of 36 €/b (-37%). Global demand also contracted in 2020 to 91 million b/d (-8.7% compared to 2019).

International gas market

Global gas demand in 2020 contracted by an unprecedented -2.5%, in contrast with the 2019 figure (+ 3.6%). In Europe, the drop was 3.1%, in the USA 2.3%, while in China there was an increase of 5% due to the new process of building natural gas distribution infrastructure in towns and cities and major applications in thermoelectric power and heavy industry.

In particular, the use of gas in electricity generation fell by 2%, in line with electricity consumption, against a general reduction in coal, due in part to a fall in the relative gas/coal price in the middle part of the year and, in Europe, high prices for CO₂ emission permits.

International gas prices fell sharply in 2020 as a result of the combined effect of falling global demand, significantly lower oil prices and increased competition between LNG suppliers and between LNG and pipeline suppliers.

The price at the VTP has narrowed the gaps significantly compared to the other hubs: compared to the TTF⁴, the average differential was 1.24 c€/m³ and 1.11 c€/m³ compared to NCG (2.87 c€/m³ and 2.38 c€/m³ respectively in 2019). Also in 2020, the Italian border price was higher than the European average of 1.66 c€/m³, with a differential in line with 2019 (1.59 c€/m³).

⁴ VTP or Virtual Trading Point is the system for gas exchanges/transfers organised and managed by Snam Rete Gas. TTF or Title Transfer Facility is the Dutch equivalent platform, considered as the reference market for Europe

The **European border price** (expressed in cubic meters to facilitate comparisons with the data reported for other phases of the supply chain) in 2020 was equal to 10.82 c€/m³, compared to 17.51 c€/m³ in 2019 (-38%). **The Italian border price is higher than the European average.**

International LNG market

For the seventh consecutive year, the LNG trade recorded a growth, albeit modest (+ 0.4% compared to 2019), reaching a new record volume of 356.1 Mt. In Europe, imports declined by 5% due to reduced levels of economic activity from the pandemic and full stores that led to cargo cancellations in the second half of the year.

LNG prices around the world hit new lows in 2020 (\$4.4/MBtu⁵ in Asia, \$3.2/MBtu in South Western Europe), a combination of reduced demand due to the pandemic and oversupply due to new production and export infrastructure coming into operation, as well as the drag exerted by low oil prices.

Finally, 2020 was characterised by strong price volatility: with a variability of \$31.5/kWh for Asian prices and \$15.2/kWh for those in South-West Europe.

International coal market

Overall, the drop in consumption was moderate, taking into account the effects of the pandemic: -5% compared to 2019, at 7.2 billion tonnes. Limiting the decline was above all the substantial resilience of demand in China (-0.5%) and South-East Asia (+1%). Europe, on the other hand, is continuing to phase out solid fuel in view of its ambitious decarbonisation targets.

The year 2020 also saw average annual depreciation across the board, with prices falling by 16-17% in Europe and China and 19% in the US.

Europe EU ETS: the European Emissions Trading Scheme⁶

Total greenhouse gas emissions from ETS operators fell by 13.3% in 2020 compared to 2019, with a 64.1% drop in the aviation sector, which was severely affected by the Covid-19 pandemic, and a 14.9% drop in the thermoelectric sector, due to a combination of reduced pandemic electricity demand, coal-to-gas switching and fossil substitution by renewables.

The average price of CO₂ did not change much compared to the previous year, remaining at around €25 per tonne, but with very different dynamics that led, in May 2021, to quotations exceeding €50 per tonne. The Market Stability Reserve (MSR, which came into operation in 2019), which took around 24% of outstanding ETS allowances off the market between September 2020 and August 2021, and the month-and-a-half-long absence of auctions from mid-December 2020 onwards, pushed up prices.

⁵ MBtu = million British thermal units. The Btu is a unit of energy measurement

⁶ The EU ETS is the European Union's Emission Trading System established in 2005

Electricity and natural gas prices in the EU

2020 was the first year in which, due to Brexit, Eurostat statistics no longer included data from the UK, which, due to the size and importance of its electricity and gas market, has up until now been one of the countries against which price comparisons have traditionally been made.

Electricity prices for domestic customers

In 2020, average electricity prices for Italian domestic consumers showed a marked improvement in position compared to other Euro Area countries, both in terms of prices before charges and taxes and in terms of net prices.

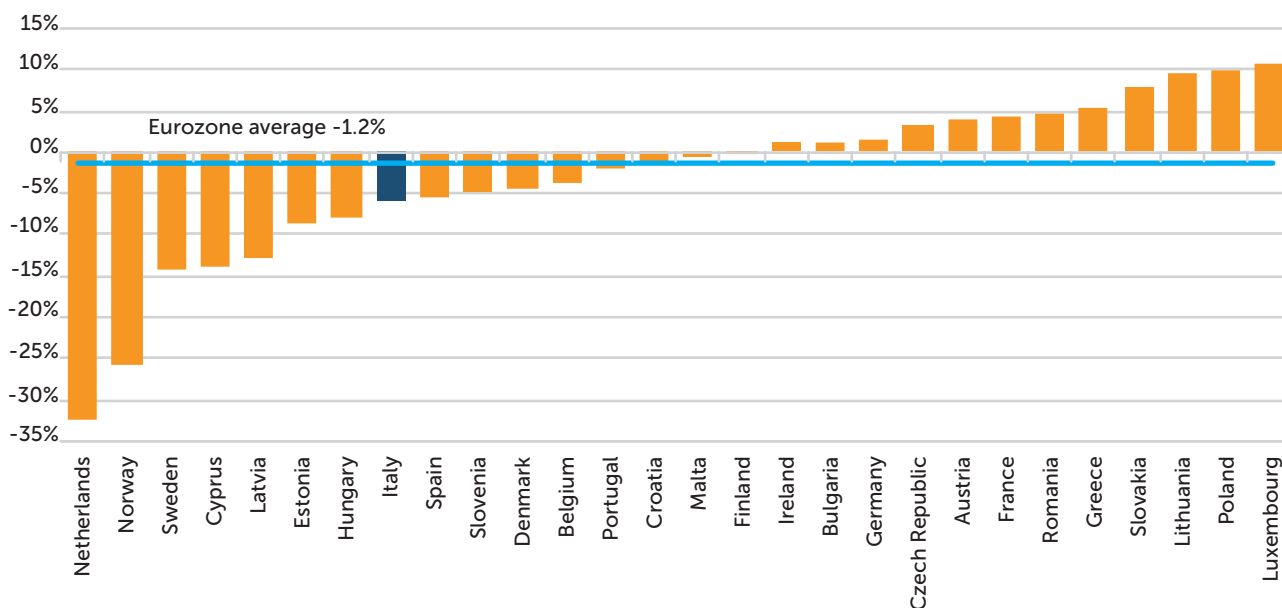
In fact, for the first time year, gross prices were lower than the European average for all classes of household consumption, with the exception of the first class (consumption of less than 1,000 kWh/year).

The two most representative consumption classes (annual consumption between 1,000 kWh/year and 2,500 kWh/year and between 2,500 kWh/year and 5,000 kWh/year, covering, respectively, 40% and 41% of the total electricity billed in the domestic sector in 2020) showed a negative differential in gross prices of -4% and -3% respectively, against -5% and + 1% in 2019. The most significant improvements were seen in the last two consumption classes (5,000 kWh/year - 150,000 kWh/year and >150,000 kWh/year, representing 11% and 1% of total volumes respectively): here the differentials in gross terms went from +9% in 2019 to -1% in 2020 and from +13% to -6% respectively.

Although the non-degressive structure of the tax component remained, unlike in the rest of Europe, in 2020 Italy was no longer the country with the highest values together with Germany. The incidence of the charges component was between 32% for consumption between 1,000 and 2,500 kWh and just under 47% for the last class, with values not too dissimilar from the average of the Euro Area.

At a European level, Germany confirmed itself as the country with the highest prices for domestic consumers, compared to which Italian consumers continued to pay decidedly lower final prices with negative price differentials of around 26% for consumption between 1,000 and 2,500 kWh/year, 28% for consumption up to 5,000 kWh/year and 27% for consumption above 15,000 kWh/year.

FIG. 1.13 Variation in pre-tax electricity prices in 2020 for households consuming between 2,500 and 5,000 kWh/year



Source: ARERA, processing of Eurostat data.

Electricity prices for industrial customers

In 2020, there was also an improvement in all consumption classes for industrial customers.

For the first time, prices for industrial customers in the penultimate class (20 to 70 MWh of annual consumption) also showed a negative differential compared to Euro Area prices (-3% compared to +15% in 2019), while the last class (70 to 150 MWh) returned to the minus sign consistently (-16%) after +6% in 2019.

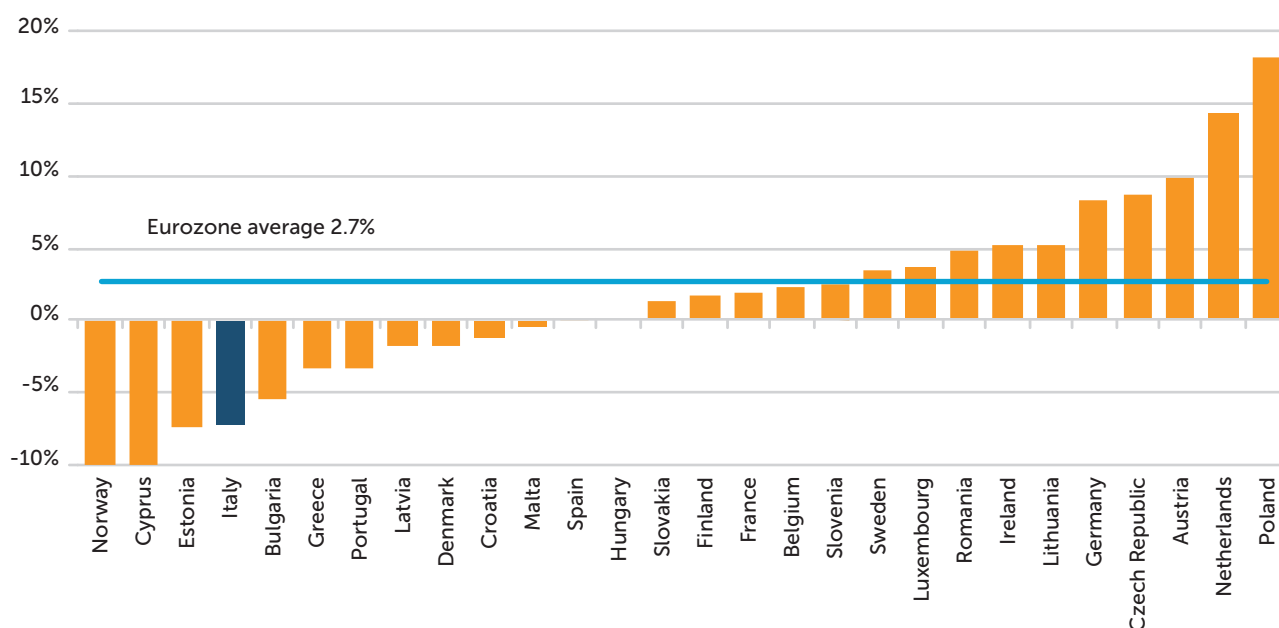
In contrast, Italian prices for the first category (consumption below 20 MWh/year) remained 27% more expensive, albeit an improvement on the remarkable +41% in 2019. For the other three categories, the differential remained positive, although it showed a sustained reduction (from +17% to +5%, from +20% to +8% from +15% to +3%).

The positive differential with the Euro Area regarding the charges and taxes component for the first three categories fell even more sharply, by between 40% and 15% (it was between 60% and 30% in 2019); for the other three categories, where the differential remained negative, there was a marked widening of the relative advantage (-30% for the consumption class between 20,000-70,000 MWh/year and -61% for that up to 150,000 MWh/year, compared with -3% and -36% in 2019).

In comparison with the main European countries, average Italian prices before charges and taxes have for years now continued to be among the highest among the main European countries.

Industrial electricity consumers in our country continue to pay cheaper prices than their German counterparts, with negative differentials widening significantly compared to 2019, to -33% and -43% for the last two consumption categories (they were -8% and -20% in 2019).

FIG. 1.15 Variation in 2020 of electricity prices before tax for industrial customers with consumption between 500 and 2,000 MWh/year



Source: ARERA, processing of Eurostat data.

Natural gas prices for domestic customers

Natural gas prices for Italian domestic consumers in 2020, including charges and taxes, were also higher than the average Euro Area price for all consumption categories.

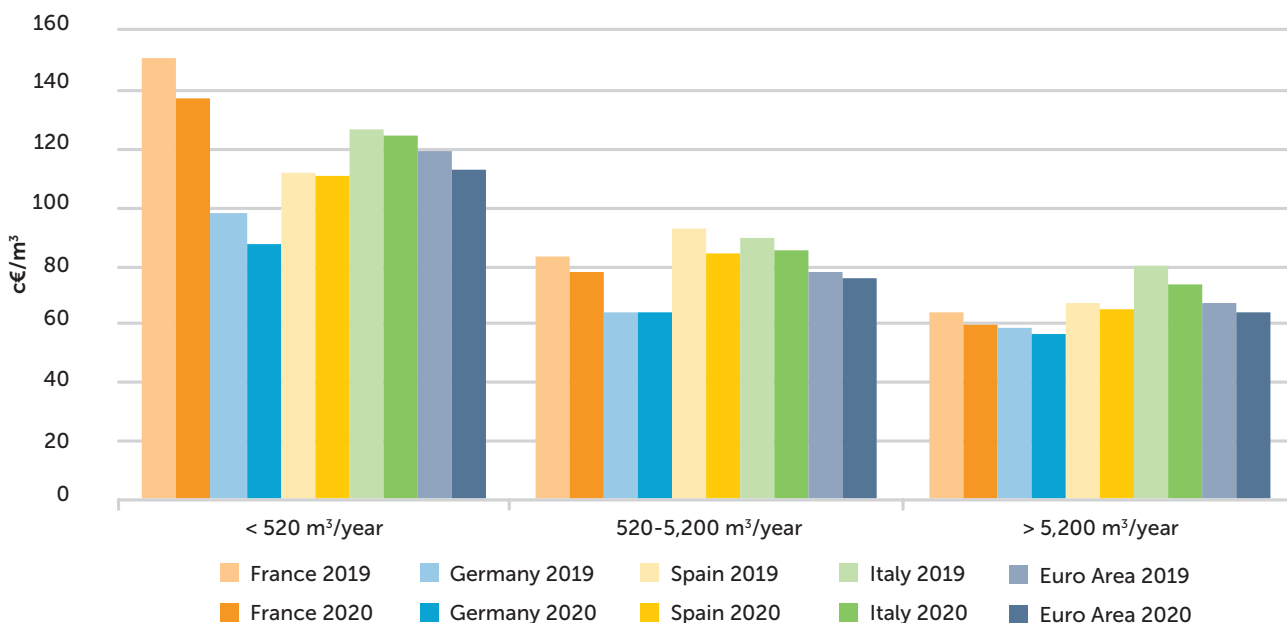
Although slightly down, the first consumption category (525.36m^3, mostly cooking and hot water uses) continued to show a positive price differential of 7% (+10% in 2019). Further positive differences for higher consumer categories: +13% for the 520 to $5,200\text{m}^3/\text{y}$ segment, which accounts for 72% of total household consumption (+15% in 2019) and +15% for the over $5,200\text{m}^3/\text{y}$ segment, mostly central heating (+19% in 2019).

Compared to other Euro Area countries, the tax and fee component was the highest for the highest consumption classes, although it saw a slight decrease in the positive differential compared to 2019, while it was the lowest compared to the main countries (except Germany) but with a contraction of the negative differential recorded the previous year.

Moving on to a comparison with the main European countries, the Italian price for the lowest consumption category, including taxes, is the highest, only lower - as in the past - than the French price.

In the second and third consumption categories, Italy maintains the highest prices compared with all other countries, $85.93\text{c}\text{€}/\text{m}^3$ and $74.13\text{c}\text{€}/\text{m}^3$ respectively, with differentials improving compared to other countries with the exception of Spain and only in the second category (where the differential went from -3% to +1%).

FIG. 1.17 Domestic natural gas prices before tax in the main European countries

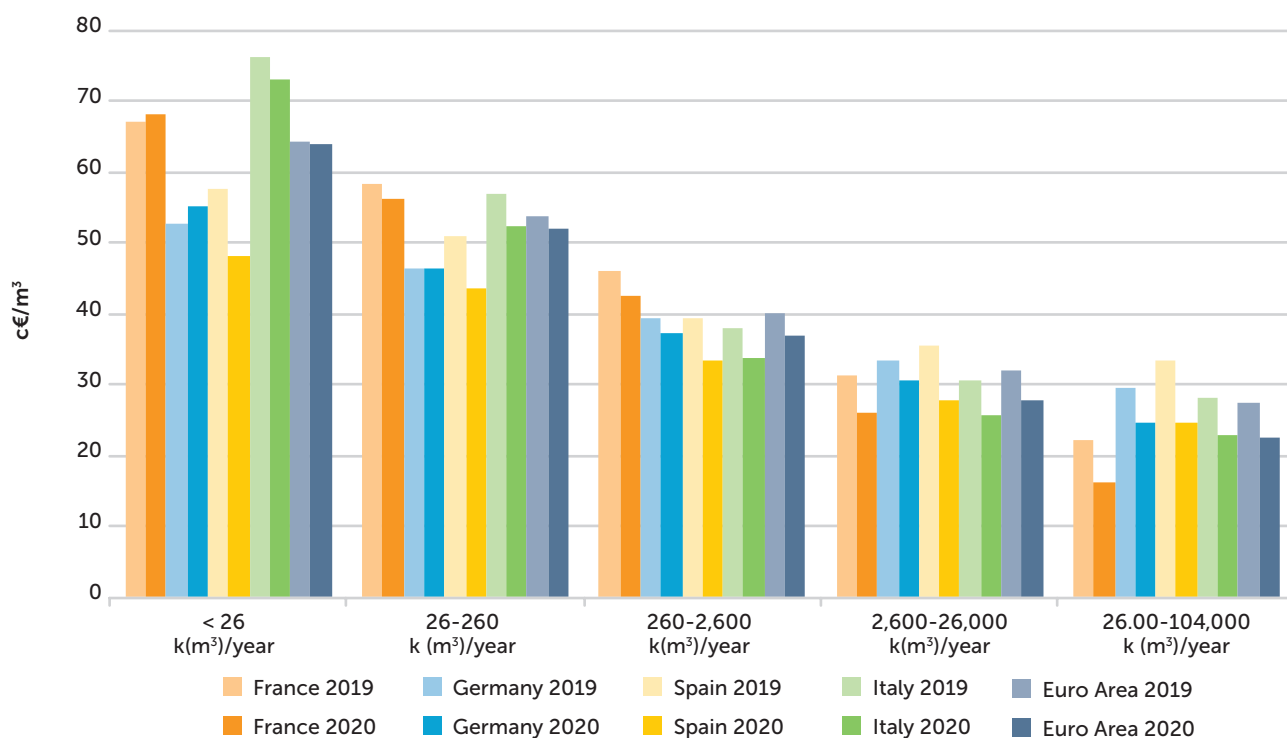


Source: ARERA, processing of Eurostat data.

Natural gas prices for industrial customers

In recent years, industrial companies belonging to the three categories with the highest gas consumption have benefited from gross prices that are more advantageous than the average prices in the Euro Area, with negative differentials that are, however, basically decreasing at least until 2018, while prices for the first categories were higher, with differentials that were substantially stable.

Compared to the relative decline in 2019, the category with the highest consumption (i.e. with annual consumption between 26 and 104 million cubic meters) maintains a positive differential of +2%, while for the previous two categories, the negative differential widens again (from -5% in 2019 to -9% and -8%, respectively). The two lowest consumption categories (up to 260,000 m³/year) also showed an improvement, with the differential narrowing again, from +18% to +14% and from +6% to +1%. It is especially in terms of taxation that the differences with the other Euro Area countries remain particularly marked: in terms of tax incidence, there is a share of 36.1% for the first category, against 14.6% for the last, with corresponding values for the Euro Area of 33.8% and 27.8%, respectively. The structure and level of taxation, therefore, contribute to determining the price differences with the Euro Area highlighted above.

FIG. 1.18 Natural gas prices for industrial uses before tax in the main European countries

Source: ARERA, processing of Eurostat data.

Economic and climate trends in Italy in 2019

After a slowdown in 2019 (GDP at +0.3%, compared to +0.8% in 2018, in real terms still at levels below the 2007 peak), 2020 closed with a fall of 8.9 % in real terms and 7.8% in nominal terms.

Industrial production (excluding construction) decreased by 11% compared to 2019, reporting the worst figure since the 2009 crisis. A look at seasonally adjusted data shows that declines in production affected all sectors.

As regards climate trends, according to ENEA, in 2020 Heating Degree Days (HDD) decreased by more than 3% compared to 2019, thus providing an impetus to reduce heating consumption.

TABLE 1.17 National energy budget in 2020 (in ktoe)

AVAILABILITY AND USES		TOTAL	SOLID FUELS	OIL AND PETROLEUM PRODUCTS	NATURAL GAS	RENEWABLES AND BIO-LIQUIDS	WASTE NON RENEWALS	DERIVED HEAT	ELECTRICAL ENERGY
2020									
+	Production	37,258	0	5,811	3,287	26,985	1,175	0	0
+	Balance imports	130,689	4,636	65,562	54,376	2,694	0	0	3,421
-	Balance exports	25,264	216	23,645	258	492	0	0	652
+	Variation In stocks	869	327	-180	881	-159	0	0	0
=	Gross energy availability	143,552	4,747	47,549	58,286	29,027	1,175	0	2,769
-	International maritime bunkers	2,519	0	2,519	0	0	0	0	0
=	Gross domestic consumption	141,033	4,747	45,030	58,286	29,027	1,175	0	2,769
-	International aviation	1,621	0	1,621	0	0	0	0	0
=	Domestic consumption	139,412	4,747	43,409	58,286	29,027	1,175	0	2,769
Inputs in transformation		123,431	5,751	71,970	24,642	19,934	914	0	220
Outputs from transformation		100,074	1,627	67,419	81	1,270	0	5,474	24,204
Energy sector		7,253	50	2,803	1,489	0	0	1,299	1,612
Distribution losses		1,806	0	0	224	0	0	60	1,522
Available for final consumption		106,996	573	36,055	32,012	10,364	260	4,115	23,618
Nonenergy final consumption		4,959	41	4,264	653	0	0	0	0
Final consumption Of energy		103,604	621	33,268	31,358	10,364	260	4,115	23,618
+	Industry	23,572	621	1,568	8,352	392	260	2,914	9,464
+	Transport	30,223	0	27,099	967	1,263	0	0	893
+	Other sectors	49,809	0	4,601	22,039	8,709	0	1,200	13,261
	+ Services	16,484	0	507	6,228	2,474	0	293	6,981
	+ Residential	30,364	0	1,883	15,680	6,152	0	879	5,770
	+ Agriculture	2,701	0	2,015	130	50	0	14	492
	+ Fishing	207	0	158	0	31	0	0	18
	+ Other sectors	53	0	38	0	0	0	14	0
Statistical differences		-1,566	-89	-1,477	0	0	0	0	0

Source: ARERA, based on data from the Ministry of Economic Development and TERNA.

Energy supply and demand in Italy

In the face of a severe recession in the Italian economy in 2020, gross inland energy consumption fell by more than 9% to 141 million tonnes of oil equivalent in 2020⁷. Energy intensity confirmed its long-term trend with a drop of 0.4%, lower than in the previous two years and above all far from what would be required by 2030 according to the ambitious objectives of making the system more efficient.

The analysis of consumption by source shows a further sharp decline in coal consumption (-27%) to 4.7 mtoe, following the drop of around 30% already recorded in 2019. Natural gas, on the other hand, maintained its position, with its decline limited to 4.4% to 58.2 Mtoe, benefiting from the substitution of coal in electricity generation and the substantial stability of the industrial sector (-2.2%) and a drop in the residential sector limited to -2.8%. On the other hand, oil consumption fell sharply to 45 Mtoe (-16.7%), while production from renewable sources remained stable. Thanks to energy policy support and legal priorities, they increased their share of total gross consumption to 19% in 2019 and 20.6% in 2020.

Domestic consumption of electricity also fell (-6%), influenced by the contraction of industrial demand, tertiary activities and essential public services, while domestic consumption increased.

The fall in electricity consumption, which was much smaller than that of GDP, led to a sudden increase in electricity intensity of 4%, which returned to the values of 2013, a reversal of the trend seen in the early 2000s. This is probably a temporary change, due to electricity consumption in homes during the pandemic.

Imports are substantially stable, falling from just over 75% in 2019 to 74% in 2020.

Water systems in Europe

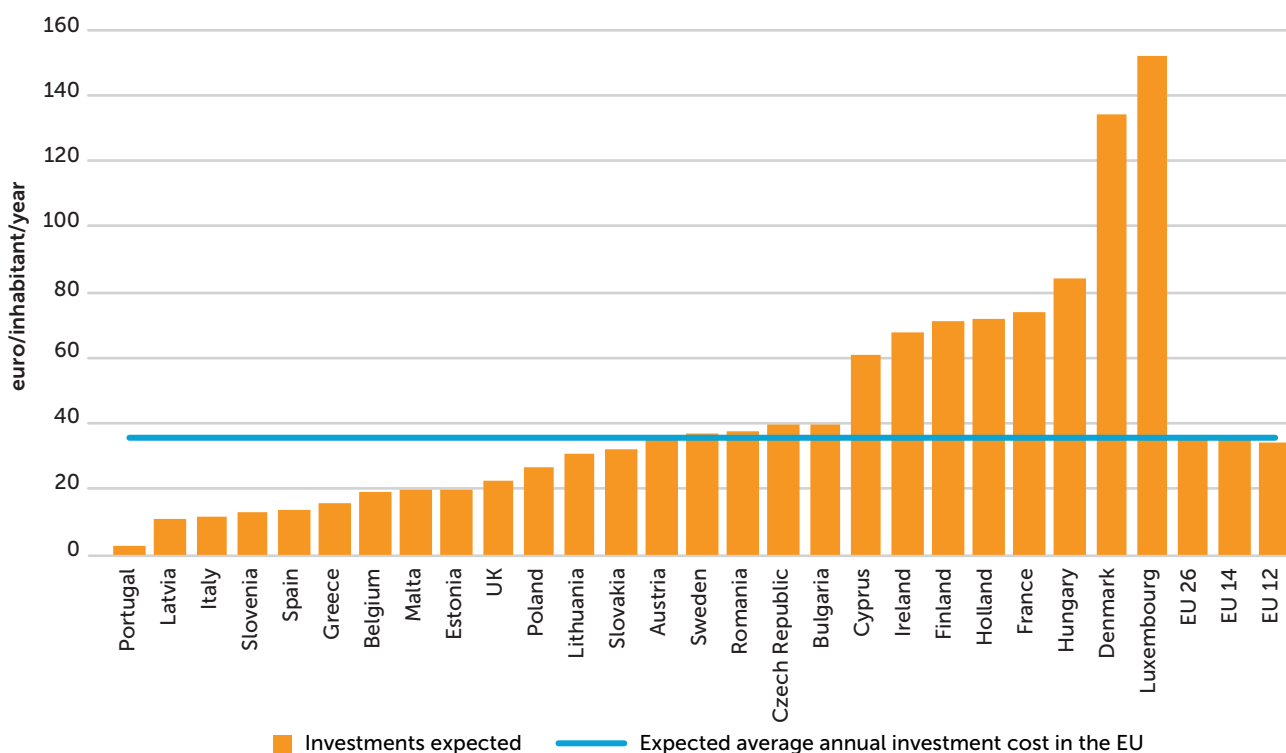
On 5 June 2020, Regulation (EU) 741/2020 of the European Parliament and of the Council of 25 May 2020, on minimum requirements for the re-use of water was published in the Official Journal of the European Union. The regulation, which will apply from 26 June 2023, promotes the sustainable use of water, as already outlined in the Water Framework Directive (Directive 2000/60/EC), by introducing a standardised framework for the management and control of health and environmental risks. Based on the circular economy action plan, the regulation aims to promote the protection of water resources by extending the life cycle of water through the re-use of water already extracted, in order to respond to the growing pressure of climate change and humanisation, identified as some of the main causes of natural phenomena related to water scarcity.

On 10 September 2020, the European Commission published its tenth Implementation Status Report and Implementation Programmes (pursuant to Article 17 of Council Directive 91/271/EEC concerning urban waste water treatment). The Urban Waste Water Treatment Directive is one of the instruments needed to bring the EU closer to the climate neutrality target announced in the 2019 European Green Deal. The wastewater sector

⁷ It should be noted that the absolute values reported in the Energy Budget published in this volume are affected by the adoption by the Ministry of Economic Development of new Eurostat classification criteria and are therefore different from those published in the past

can contribute to the circular economy, through the re-use of sewage sludge and treated wastewater, the production of renewable energy and the recycling of nutrients. To this end, the directive regulates the effective collection and treatment of urban wastewater, with the aim of improving the status of water bodies, increasing the resilience of ecosystems and protecting biodiversity.

FIG. 1.24 *Expected annual per capita investment costs for the installation and renovation of wastewater collection and treatment facilities*



Source: OCSE, 2019.

Finally, on 23 December 2020, Directive 2020/2184/EU of the European Parliament and of the Council of 16 December 2020 on the quality of water intended for human consumption was published in the Official Journal of the European Union. This directive, which came into force on 12 January 2021, will replace Directive 98/83/EC known as the DWD (Drinking Water Directive) and will require the updating of its Italian transposition, Legislative Decree No. 31 of 2 February 2001. Among the new features introduced are the following:

- an updating of drinking water quality standards, both from a chemical and microbiological point of view;
- a risk-based approach to water safety throughout the supply chain, starting from water catchments up to domestic supply and distribution systems;
- a new article, Article 11, on the minimum hygiene requirements to be met by materials used in contact with drinking water;
- a reference to the need for improved understanding of the relevant information and for transparency in order to increase citizens' confidence in the water supplied to them and in water services.

Each member state has two years to revise its national legislation transposing Directive 2020/2184/EU.

Production and management of municipal and assimilated waste in Europe

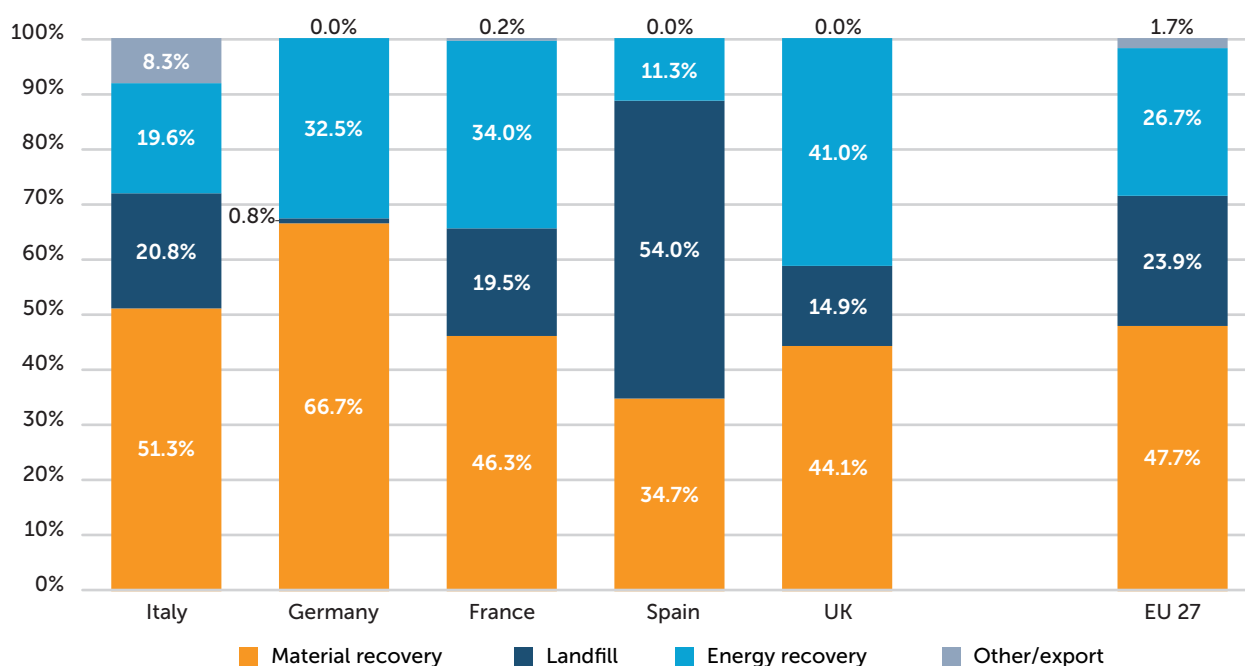
2019, the year which the reclassified data for EU 27 refer to, confirmed the trend towards stabilisation in the profile of municipal waste production (224 million tons compared to 221 in 2018 and 222 in 2010); the per capita figure, 502 kg per inhabitant, was slightly higher than the previous year (495 kg in 2018) and in line with those of 2005 (506) and 2000 (503). In line with the average of the 27, Italian production increased slightly from 492 kg per capita in 2018 to 499 kg per capita in 2019.

In the EU 27 area, recycling covered 30% while composted waste accounted for over 17% of the total waste treated; incineration, on the other hand, stood at 27%. The percentage of municipal waste disposed of in landfills in 2019 was 23.9%.

In terms of the evolution of the circularity index⁸, the European average recorded a value of 11.8% in 2019 (it was 11.1% in 2010) while in Italy the percentage reached 19.5% (+70% since 2010), a sign that the country has established an effective direction - in the sense of the effective use of recycled raw materials - to the overall growth strategy of waste recycling.

At the same time, the major European economies showed a steady but not accelerated increase, in line with the European average, and even a regression in some cases (Spain). The highest index in the EU was calculated to be the Netherlands (30%), which has always been at the top of the special ranking of European economies with a high circularity index; the lowest is in Romania (1.3%).

⁸ The index is calculated by Eurostat since 2010 as the percentage contribution of materials from recycling to the total use of raw materials in the economy

FIG. 1.27 Percentage of municipal waste treated by destination in 2019

Source: ARERA, processing of Eurostat data.

FOCUS ON REGULATORY ACTIVITY IN 2020

The European Green Deal and the energy transition

In December 2019, the European Commission presented the **Green Deal for the Union**⁹: a set of multi-sectoral policy initiatives, to be implemented in the coming years, with the aim of making Europe the first climate-neutral continent by 2050¹⁰. The Green Deal envisages reviewing legislative measures with an impact on climate change and introducing new ones to promote sustainable energy production, the development of a circular economy, the decarbonisation of transport, the energy efficiency of buildings, the protection of biodiversity and the development of sustainable agriculture.

The main novel feature of this European plan lies in its organic nature and its recognition of the complexity and the need for interaction in environmental protection action. It begins with the affirmation that all sectors must contribute to carbon neutrality and that the effectiveness of the overall action depends on the coordination of the contributions of each sector, including water and waste. It also insists on the need for the entire economic system to adopt sustainability criteria in production and investment, assigning a central role to financial institutions and the allocation of economic resources consistent with the targets. With these measures, the EU aims to achieve world leadership in environmental protection, not least to promote an industrial leadership that enhances its competitiveness without regulatory pressure causing the relocation of European production (which is why the EU's objectives must also be progressively shared by countries in other areas of the world).

⁹ Communication COM (2019) 640 final

¹⁰ For a list of the Commission's proposals for legislative measures under the Green Deal, see Vol. 2 Ch. 1

The Union's strategies to accompany the energy transition also include the strategy to **promote the integration of energy systems**¹¹.

The Commission has identified six "pillars" on which to base the integration of energy systems:

1. promote a circular energy system, where energy efficiency is a priority;
2. accelerate electrification and development of renewable energies;
3. promoting renewable and low-carbon fuels;
4. make energy markets fit decarbonisation and distributed resources;
5. develop more integrated energy infrastructures;
6. implement a digitised and innovative energy system.

On the other hand, the Commission has devoted a specific strategy¹² to **the development of hydrogen from renewable or low-carbon sources**, including a series of regulatory actions with a direct impact on European and national regulation: a legislative proposal for a hydrogen and decarbonised gas package that includes, among other things, the revision of the Third Energy Package; the revision of the Renewable Energy Directive to promote the development of biofuels and hydrogen; the revision of the 2014 Guidelines on State Aid in the Energy and Environment Sector; and the development of new network codes including one on cybersecurity and one on demand side flexibility.

¹¹ Communication COM (2020) 299 final, 'Powering a climate-neutral economy: An EU Strategy for Energy System Integration'

¹² Communication COM (2020) 301 final, 'A hydrogen strategy for a climate-neutral Europe'

ELECTRICITY

Consumption, production, infrastructure and markets

In 2020, electricity consumption fell by around 6% (-1% in 2019), with the tertiary and industrial sectors falling in particular, partially offset by an increase in domestic consumption (+2%).

90.2% of the national demand for electricity was met by net domestic production (down 4.2% compared to 2019), while the remainder was met by energy exchanged with foreign countries. Imported energy was still decreasing (-9.5%), while exported energy increased again in 2020 (30.1%), with the balance of energy exchanged with foreign countries decreasing by 15.6% (the lowest value in the last 20 years).

TABLE 2.3 Gross production by source 2016-2020 (in GWh)

SOURCE	2016	2017	2018	2019	2020 ^(A)
Thermoelectric production	179,915	190,106	173,578	176,171	163,541
Solids	35,608	32,627	28,470	18,839	10,399
Natural gas	126,148	140,349	128,538	141,687	137,649
Petroleum products	4,127	4,083	3,289	3,453	3,325
Others	14,032	13,047	13,281	12,192	12,168
Pumped storage hydroelectricity	1,825	1,826	1,716	1,835	1,892
Production from renewable sources	108,028	103,898	114,415	115,847	116,054
Hydroelectric	42,438	36,199	48,786	46,319	46,666
Wind power	17,689	17,742	17,716	20,202	18,702
Photovoltaic	22,104	24,378	22,654	23,689	24,942
Geothermal	6,289	6,201	6,105	6,075	6,029
Biomass and waste	19,509	19,378	19,153	19,563	19,715
TOTAL PRODUCTION	289,768	295,830	289,709	293,853	281,487

(A) Provisional data.

Source: Terna.

The extraordinary pandemic event that occurred in 2020 recorded a contraction in national production of 4.2% compared to the previous year: the decrease affected the thermoelectric sector in particular (-7.2%), while renewables were slightly up overall (+0.2%) despite a 7.4% drop in wind power and a 0.8% drop in geothermal, while solar saw an increase of 5.3% compared to 2019.

Overall, thermoelectric production accounted for 58.1% of total production and renewable energy for 41.2%.

In 2020, Eni was once again the leading operator in thermoelectric generation, having produced more than Enel, despite having less installed capacity; in fact, Eni has 15.9% of total generation compared to 13% for Enel.

The amount of incentivised electricity remains unchanged at 62 TWh, for a system cost that has also remained stable at 11.5 billion euros.

On the other hand, there was an increase in **the share of volumes traded directly on the exchange** (209.8 TWh), accounting for 75% of total trades on the PGM (+2.8% compared with 2019), while the drop in the average national energy purchase price (PUN) continued, reaching an all-time low of €38.92/MWh in 2020, significantly lower than in 2019 (-25.6%) but in line with the prices on the main European electricity exchanges. This decrease mainly reflects the significant reduction in demand and the lower costs of raw gas (€10.55/MWh; -35%).

At the zonal level, prices ranged between €37.8/MWh in the North zone (the lowest price for more than ten years) to €46.2/MWh in the Sicily zone (which, on the contrary, recorded the highest zonal price for the 14th consecutive year). The price differential between Sicily and the North zone decreased (€8.4/MWh compared to €11.5/MWh in 2019), while the price differential between Sardinia and the North zone increased to just over €1/MWh.

In Italy, **electricity transmission** “uses” approximately 73,600 km of power lines and circuits and about 900 switching stations. During 2020 there were only slight variations in the lines, but among the new achievements is the Capri connection with the mainland, which opened in October 2020.

On the **distribution** side, as of 31 December 2020, 126 operators were registered in the Authority's Registry: of these, the top 10 (in terms of numbers of users) serve 98.1% of total customers and supply 98% of the electricity withdrawn from the distribution networks. e-Distribuzione (Enel group) remains by far the main operator, with a share of 85.3% of the total volumes distributed.

A total of 248.6 TWh was delivered in 2020, 20 less than in 2019. With a decrease in the activity of 7.5%, the level of withdrawals fell to an all-time low since the second half of the 2000s. The overall decrease was driven by a decrease of 21.6 TWh (-10.3%) in non-domestic point withdrawals and an increase of almost 1.5 TWh (+2.5%) in domestic point withdrawals. These trends reflect the closure of production and service activities imposed for many months of the year by the health crisis and a higher consumption of domestic servants due to people staying in their homes for longer.

The number of users served in 2020 was 36.8 million (+0.1% compared to 2019): 29.6 million households (81%) and 7.2 million non-domestic points (19%) which withdrew 24% and 76% of the distributed energy, respectively. 80% of domestic customers were residents and consumed 87.8% of all electricity distributed to households.

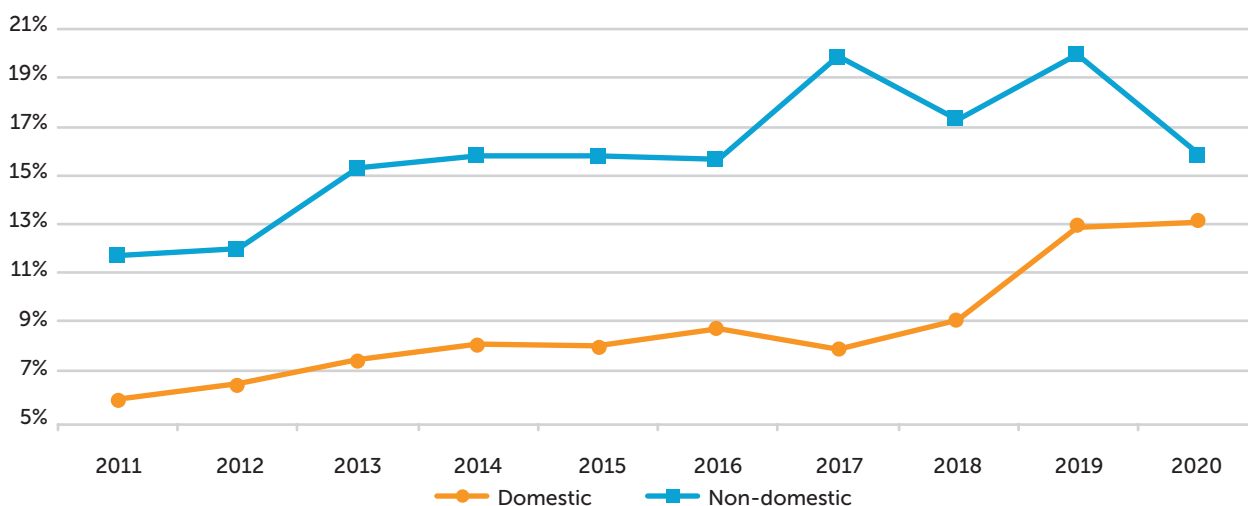
The electricity consumption of Italian households in 2020 was rather low: 52.1% of households did not exceed the threshold of 1,800 kWh per year, withdrawing just under a quarter of all distributed electricity (24.4%), while the remaining 47.9% (<1,800 kWh) withdrew 75.6% of energy. Again last year, the most common value of committed power among domestic customers was between 1.5 and 3 kW.

Analysing end-market **sales** data, the number of domestic customers in 2020 was 29.8 million: of which 13.6 were served in the greater protection market (45.7%) and 16.2 in the free market (54.3%). Compared to 2019, the latter saw a 5% increase in domestic points served. Looking at volumes, the outperformance of the free market is even clearer: in 2020, the energy purchased by the domestic sector in this market rose to 57%, while in 2019 it was just over half, at 51.7%.

In line with the past, albeit at a slower pace, last year also saw an increase in the number of sellers to 739 (+16 units, +88 in 2019). The dominant operator was confirmed as Enel with a market share, albeit slightly down, of 35.6% (36% in 2019) followed at a long distance by Edison with a total share of 5.9% and A2A with 5.5%. Overall, the top five operators hold 80% of the domestic sector (82.5% in 2019), although, compared to 2019, the level of market concentration remains stable, with the share of the top three operators increasing from 46.3% to 46.9% of total sales.

Household **switching** remained lively, whether measured in terms of withdrawal points or volumes: 13.1% of domestic customers switched the supplier at least once during the year (12.9% in 2019); the volumes corresponding to this portion of customers account for around 14.2% (15.2% in 2019) of the total energy purchased by the domestic sector. Non-domestic switching activity, on the other hand, slowed down but remained at considerable levels: 15.9% in terms of withdrawal points and 17.1% in terms of volumes (20% and almost 30% in 2019 respectively).

FIG. 2.16 Switching rates in the electricity sector since 2011



Source: ARERA, Annual Survey on Regulated Sectors and SII.

In 2020, just over one million households signed up to a dual fuel contract¹³: the relative share of the total customers served in the free market fell to 6.5% (13.4% in 2019), after having maintained a fairly constant trend over time.

In contrast to the greater protection service, customers in the free market confirmed their preference for the single-rate price (chosen by 62.1% of all customers, equivalent to 60.7% of volumes).

The average of commercial offers per sales company - around 17.6 for domestic customers (16.3 in 2019) and 25.8 for non-domestic customers (23.4) - was also in line with the 2019 values, while the share of sellers offering a relatively low number of offers (just one or up to 3) rose from 49% in 2019 to 56%.

Of the 17.6 offers made available on average to domestic customers, 4.5 can only be purchased online (they were 5.1 in 2019), however the share of sellers who have at least one offer online has grown from 20.8% to 22.4%, as

¹³ Dual fuel customers are the ones who receive one bill for both electricity and natural gas supplies; customers who have a contract with the same supplier for electricity and natural gas services, but receive two bills for the supplies, are excluded from this

has the number of customers who have signed a contract offered through this method which were around 7.4% (4.4% in 2019) corresponding to 7.8% of electricity purchased in the free market.

The preference for locked-price contracts was once again confirmed (84%), as was the proportion of households that have signed up to an offer with a rebate or discount of one or more free periods or a fixed sum in cash or volume, either one-off or permanent and possibly provided on the occurrence of a certain condition.

Among the additional services chosen by customers with a fixed-price contract, the clear preference of customers with a fixed-price contract for the guarantee to purchase electricity produced from renewable sources (39.4%) and for participation in a points collection programme (31.1%) continued in 2020. The provision of ancillary energy services was also successful (3.3%), as was the assurance of buying electricity produced in Italy (2.3%).

In 2020, for the third consecutive year, the safeguard service was further reduced by 8% in terms of withdrawal points and almost 16% in terms of energy consumed compared to 2019.

Prices and tariffs

As usual at the end of 2020, the Authority updated the tariffs for the provision of electricity transmission, distribution and measurement services for domestic and non-domestic customers to be applied in 2021. The national average tariff covering transmission, distribution and metering costs for the year 2021 is 2.864 c€/kWh (2.757 c€/kWh for 2020).

In terms of average final price (net of taxes), the standard offer market has lower price values than the free market, with a difference of -23.6%.

Compared to the previous year, there was a generalized increase in the differentials between the two markets: the standard offer service, in fact, has suffered an average decrease of 20% as a result of the sharp drop in prices in the wholesale markets due to the spread of the pandemic. Since the free market is characterised by the predominance of contracts with fixed prices for a predetermined period, these reductions have been passed on to customers to a very limited extent, thus remaining at the values recorded in 2019.

TABLE 2.63 General system charges accrued in 2020^(A) (in millions of Euros)

ITEM	DESCRIPTION	ANNUAL REVENUE
A _{SOS}	Charges relating to support for energy from renewable sources and CIP6 cogeneration	10,127.00
A ₃ * SOS ^(B)	Support for renewable sources and CIP6 cogeneration	8,729.75
TO _{ESOS}	Charges from subsidies for companies with high electricity consumption	1,661.65
A _{91/14SOS} ^(C)	Discounts provided for by Decree Law no. 91/2014	-264.40
A _{RIM}	Remaining general charges	2,283.96
A _{2RIM}	Charges for the financing of residual nuclear activities	442.94
A _{3RIM}	Charges relating to production from non-biodegradable waste	-
A _{4RIM}	Special tariff schemes for railways	443.53

(cont'd)

ITEM	DESCRIPTION	ANNUAL REVENUE
A _{SRIM}	Research funding	50.38
A _{SRIM}	Social bonus	255.51
A _{uc4RIM}	Minor electricity companies	74.83
A _{uc7RIM}	Energy efficiency in end uses	920.28
A _{SVRIM}	Technological development	49.45
A _{mctRIM}	Territorial compensation measures	47.03
TOTAL		14,981.71

(A) The table does not take into account the reduction in rates envisaged in the period 1 May-31 July 2020 by the resolution of 26 May 2020, 190/2020/R/eel, on electricity tariffs, pursuant to Article 30 of Decree Law No. 34 of 19 May 2020 (as converted by Law No. 77 of 17 July 2020), since the shortfall in revenue resulting from the application of such reductions is offset by an equivalent contribution from the of the State Budget, as provided for in the same decree law.

(B) Including discounts to high-consumption businesses.

(C) Element A_{91/14505} is negative as it concerns discounts granted to low and medium voltage users not included among high-consumption businesses.

Source: ARERA, elaboration on CSEA (Fund for energy and environmental services) data.

Quality of service

After a worsening three-year period, in 2020 the continuity of the transmission service recorded a significant reduction compared to 2019 (which saw the lowest level in the last 10 years). The average number of long (lasting more than 3 minutes) and short (lasting between one second and three minutes) outages per user due to all causes, including those not under Terna's responsibility, including major accidents, is the same as in 2019 and remains high compared with the values recorded in previous years, which already showed an upward trend.

On the other hand, the quality and continuity of the **electricity distribution service have** clearly improved both in terms of duration (down to 41 minutes, 47 in 2019) and in the number of outages (from 3.53 to 3.14) per low-voltage user on a national basis. For the various detailed indicators, the gap between the Centre-North and the South of the country (the latter with lower performance levels) stayed the same.

Compared to the previous year, the compensation paid by distribution companies to low- and medium-voltage users for interruptions occurring in 2020 due to exceeding the standards on the maximum duration of outages, regardless of the causes: around €30 million for 470,000 low-voltage users (on average €65 per user, compared with €74 in 2019) and around €4 million for almost 4,800 medium-voltage users (on average just under €760 per user, €1,000 in 2019).

Commercial quality

In 2020, there was a decrease in the number of cases of non-compliance with the minimum and mandatory standards of distribution and metering services subject to automatic reimbursement, while the amount of compensation paid increased to EUR 4.41 million (EUR 4.27 million in 2019).

With regard to the commercial quality of the sales service, the average response times for complaints, requests for information and billing adjustments recorded in 2020 are below the standard set by the Authority (30 calendar days), with the exception of double-billing adjustments. Specifically, with regard to complaints, 64.63% came from domestic customers, 27.35% from non-domestic customers, 6.9% from multi-site customers and 1.1% from

MV customers; 64.35% from free market customers, 28.76% from standard offer market customers, marking a significant shift in complaints from customers on the free market (in 2019 these figures were 55.6% and 50.13% respectively).

Confirming what we already saw in 2019, last year the top three topics of complaint were: billing and everything related to billed consumption and fees, self-reading, billing frequency, including the closing bill, making payments and refunds (45%); contract events, such as termination, change of header, turning over and taking over (15.51%); the procedures for concluding new contracts, the timing of switching and the economic conditions proposed by the seller at the time of the offer compared to those provided for in the contract and actually applied (10.09%).

In 2020, automatic compensation payments in the electricity sector amounted to more than EUR 1.2 million (EUR 2.2 million in 2019), 58.36% of which went to customers in the free market.

FOCUS ON REGULATORY ACTIVITY IN 2020

Replacing the standard offer service: the gradual standard offer service

The deadline envisaged by Law no. 124/2017 for overcoming the enhanced protection service has been subject to successive postponements over time: initially, the law provided for the removal of the service for all users on 1 July 2020, assigning the Authority the task of regulating a safeguard service, to be assigned through competitive procedures and to be provided under conditions that would encourage all customers to switch to the free market. Subsequent amendments led to a change in the deadlines, differentiated by type of consumer, setting the deadline at 1 January 2021 for small businesses and 1 January 2023 for micro-businesses¹⁴ and household customers.

Implementing the provisions of Law No. 124/2017, the Authority regulated the gradual standard offer service¹⁵, aimed at small companies and micro-companies owning at least one withdrawal point with contractually committed power greater than 15 kW and which, as of 1 January 2021, do not hold a contract under free-market conditions¹⁶.

In accordance with the legislative framework in force, the Authority has established that the gradual standard offer service is to be provided by operators through special tendering procedures but, in view of the time required to organise them, has provided for a provisional period (1 January 2021-30 June 2021) during which the supply is provided by operators with enhanced protection at economic conditions defined by the Authority which provide, among other things, for the application of an electricity price equal to the actual wholesale market prices.

The duration of the service assignment period is three years (1 July 2021 to 30 June 2024)¹⁷.



¹⁴ According to Article 2 of Directive 2019/944/UE this category includes companies with a maximum of 10 employees and an annual turnover or balance sheet total of no more than EUR 2 million

¹⁵ Resolution 24 November 2020, 491/2020/R/eel

¹⁶ The regulation of the service for the remaining micro-businesses and domestic customers will be the subject of subsequent regulatory intervention

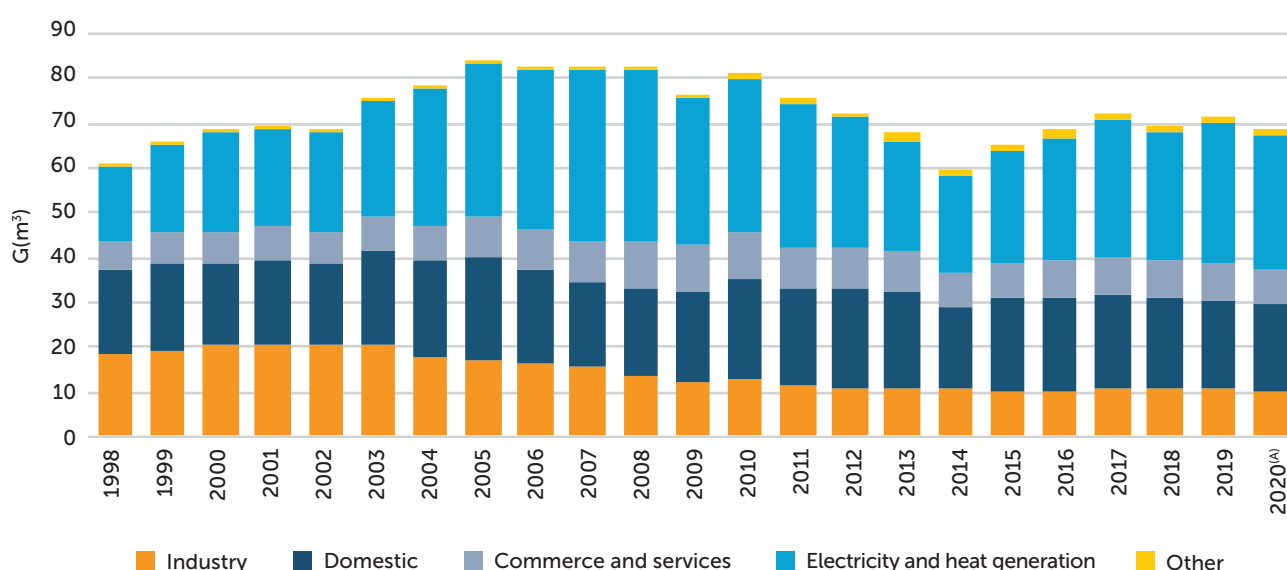
¹⁷ The entry into force of the graduated protection service was accompanied by a two-phase communication initiative (December 2020 and June 2021) which involved trade associations and Chambers of Commerce. For more information see the section on Communication

NATURAL GAS

Consumption, production, infrastructure and markets

In 2020, domestic natural gas consumption decreased by 4.2% to 60.5 billion cubic meters (71.9 billion cubic meters in 2018). This is a generalised decline that hit the sectors affected by the Covid-19 containment measures the most, such as trade and services (-12.1% compared to 2019) and transport (15.7%) while it remained more contained in the industrial sector (-2.2%), thermoelectric generation (-3.1%) and domestic consumption (-2.8%).

FIG. 3.1 Natural gas consumption by sector



(A) Provisional data.

Source: Ministry of Economic Development, National Energy Budget, various years.

National production also fell sharply, dropping 16.1% compared to 2019 (the largest negative of the decade), reaching 4.4 billion cubic meters, with production at sea dropping 17.5% while onshore extraction fell 3%. Eni's control of production decreased from 75.2% in 2019 to 71.6%.

The degree of foreign dependency decreased to 93.2% (95.4% in 2019). Imports fell from 70.9 to 66.4 billion cubic metres (-6.6%), with a general decline in volumes from all countries except Algeria and Norway (both around +13%). Russia's weight among the countries exporting to Italy decreased to 42.9% (it was 46% in 2019), while Algeria's share rose to 22.8% from 18.8%. The third most important country is Qatar, which accounts for 10.5% of Italy's total gas imports (9.2% in 2019), followed by Norway with 10.4% and Libya with 6.7%. The share of imports from Northern Europe (i.e. Norway and the Netherlands combined) rose from 11.1% to 11.8%. 8.8% of the total gas procured abroad, i.e. approximately 5.5 billion cubic meters (+20% compared to 2019), is purchased on European Exchanges.

As regards the structure of import contracts, the preponderance of long-term contracts with a duration of more than 20 years was once again confirmed in 2020, although the share fell to 64.9% (72.1% in 2019). On the other hand, the incidence of contracts with a duration of less than five years increased, reaching 22.3% (20.4% in 2019),

while medium-term contracts (5-10 years) gained 5 percentage points to 12.8% of the total. On the other hand, spot contracts (less than 1 year) reversed their trend, dropping 4 points to 15.1%.

In 2020, the **wholesale market** moved 313.1 billion cubic meters and involved 84 pure traders and 115 mixed operators (i.e. who also sell to the end market).

Volumes traded last year on the VTP increased by 8.8%, from around 100 billion cubic metres to 108.5 billion cubic metres, thanks to the contribution of volumes with forced delivery on the Italian hub.

In the gas markets managed by the GME, total volumes traded in 2020 amounted to 114 TWh, a significant increase compared to the previous year (+36%). This growth is largely attributable to the launch of the AGS segment on MP-GAS, instrumental to the procurement of the resources necessary to operate the gas system by the Balancing Manager.

On an annual basis, spot prices recorded on the various trading platforms can be approximated to an average value of 10.8 €/MWh, in line with the annual average spot price quotation on OTC markets with delivery to the VTP (10.55 €/MWh). In particular, the day-ahead and intra-day markets confirmed prices in line with those of the VTP (around €10.50/MWh), while divergences in the storage market were more limited compared to other markets.

On the side of **transport**, Snam Rete Gas controls 93.8% of the networks. The total volumes transported in 2020, which have returned to approximately the 2016 level, show a 43% share of the production sectors, compared with 35% for distribution plants and 22% for the remaining transport uses. The number of entities requesting and obtaining transport capacity on the National and/or Regional Networks was 401, compared to 389 in 2019.

In the thermal year 2020-2021, which ended on 31 March 2021, the **storage** system offered an overall availability for assignment in terms of total active reserve space (so-called working gas) equal to 17.75 billion cubic metres of which 4.6 billion cubic metres was strategic reserve.

The auctions for the allocation of storage capacity for modulation services saw a 4% increase in allocated capacity (entirely due to Stogit) and an increase of around 30% in fees (average allocation prices).

In 2020, the 194 active distribution operators, three fewer than in 2019, distributed 30 billion cubic metres (1.2 billion cubic metres less than the previous year) to 24 million end customers. The service was managed through 6,568 concessions in 7,249 municipalities. According to data provided by distributors as part of the Authority's Gas Distribution Territory Register, last year 28 new locations were methanised (two of which were in Sardinia for the first time) and the length of the networks increased by 1,885 km compared to 2018. 57.8% of the networks (153,693 km) are located in the North, 22.8% in the Centre (60,630 km) and the remaining make up 19.4% (51,598 km). Although there are significant differences between the various regions, in 2020 distributors owned 80% of the networks managed on average while municipalities owned 18%.

In 2020, more than half of customers (52.4%) used gas for both heating and cooking food and/or the production of domestic hot water, taking 45% of the total gas distributed in Italy with a unit consumption of 1,074 cubic metres/year (-0.9% compared to 2019). On the other hand, 44% of customers used gas only for cooking and/or the

production of hot water: the total gas distributed to this category was 8.1% of the total, for a unit consumption of 231 cubic metres/year (+20% compared to 2019), clearly an effect of the repeated lockdown periods.

In 2020, there were 22.2 million domestic customers in the sector who withdrew 14.7 billion cubic metres or 49.1% of all gas distributed. If the volumes of the domestic sector in the strict sense are added to those of the domestic condominiums, the consumption of the "extended domestic" sector reaches the significant share of 57% of all gas distributed in Italy and 93.3% of total customers.

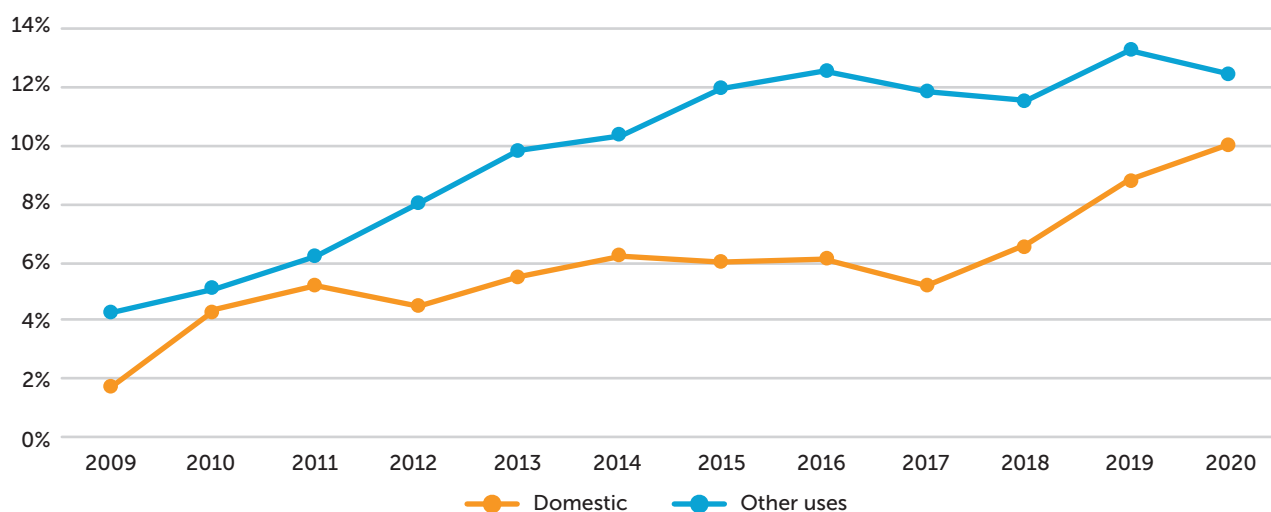
In the **sales** sector, out of a total of 468 active companies (+20 compared to 2019) only 29 (6.2%, down from 6.7% in 2019) sold more than 300 million cubic metres, covering 82% of all gas purchased on the retail market.

In 2020, the level of concentration in the end-sale market decreased compared to 2019: the portion controlled by the top three groups went from 44.3% to 43.7%, that of the first five groups from 54.5% to 53.8%. Indeed, the Eni group's share fell by one percentage point compared to 2019, from 19.4% to 18.4%, with the group's sales dropping by more than one billion cubic metres (-9.5%). The gap between Eni and Edison, and the gap between Edison (second supplier) and Enel (third supplier) narrowed slightly compared to 2019. In particular, the gap between the Eni and Edison groups fell below 5% (6% in 2019).

The **average price charged to end customers by sellers in the retail market was 33.86 c€/cubic metre**, 5.32 c€ lower (-13.6%) compared to 2019. As usual, this value is higher than that offered on the market by wholesalers at 27.45 c€/cubic metre (36.54 c€/m³ in 2019).

The share of volumes sold in the free market is 68.4% (69.4% in 2019), the share sold in the standard offer market is 8.5% (9.4% in 2019), while 23% is self-consumed. Net of self-consumption, 89% of gas is purchased on the free market and the remaining 11% in the standard offer service.

In 2020, the share of households that purchased gas in the standard offer market decreased further compared to the previous year, from 44.1% to 39.6%. Considering only sales to the domestic sector, excluding self-consumption, it can be seen that the share of volumes purchased on the free market in 2020 reached 60.9% for households (56% in 2018) and 84% for apartment buildings (81.3%).

FIG. 3.16 Switching rates of domestic customers and "other uses" since 2009

Source: ARERA, Annual Survey on Regulated Sectors and SII.

The overall **switching** rate¹⁸ was 10.1% (it was 9.1% in 2019), a value of 20.4% (it was 27.1%) in terms of consumption. In the domestic sector, some 2.2 million customers have changed supplier.

Data collected by the Annual Survey of Regulated Sectors shows that in 2020 the **average number of commercial offers proposed** by suppliers was 10.8 for domestic customers, 6.8 for central heating and 15.1 for non-domestic customers with numbers essentially unchanged apart from a slight decrease for non-domestic (in 2019 the value was 18.2). Most vendors (48.1%) made at least four offers available to customers, 36.9% made at least three offers and the remaining 15.1% limited themselves to one contractual mode. The share of suppliers with at least one online offer has increased from 17.5% to 18.4%. Household interest in online offers also grew in 2020, although it remains a fairly niche phenomenon: only 7.9% of customers signed a contract offered through this method (in 2019, this share was 7.3%).

The share of domestic customers who signed a fixed-price contract also increased to 73.9% (it was 69.9%) while 26.1% chose a variable-price contract. Of the latter, 47.3% (47.8% in 2019) have signed a contract that provides a fixed discount on one of the components established by the Authority for the economic conditions for providing the protection service.

More generally, more than 33% of all contracts in force include a rebate or discount of some kind: on average, the discount is applied to 38.4% of customers who chose a fixed-price contract and 17.2% of customers who chose a variable-price one.

¹⁸ Percentage of the number of customers who changed supplier in the calendar year

Prices and tariffs

At the end of the year, the average amount per unit of all **transport charges** applied by the main operator in 2019 was 2.84 c€/S (m³), slightly up from 2.86 c€/S (m³) in 2018. In March 2019, the Authority approved the tariff regulation criteria for the gas transmission and metering service for the period 2020-2023 (Regulation of tariffs for the natural gas transmission and dispatching service - RTTG), in line with the relevant EU provisions. The tariff proposals for natural gas transmission fees submitted by companies for the 2021 calendar year were approved in May 2020.

In November 2019, the Authority defined the tariff regulation criteria for the **LNG regasification service for the period 2020-2023**, essentially confirming the criteria for the recognition of service costs followed previously. Subsequently, the tariff proposals for the regasification service for the year 2021 were approved, which were submitted by the companies GNL Italia for the Panigaglia terminal, Terminale GNL Adriatico for the Rovigo plant and OLT Offshore LNG Toscana for the Livorno terminal¹⁹.

In 2020, the **average price of gas** (weighted by quantities sold), net of taxes, charged by companies **selling** to end customers, was 33.9 c€/m³ (39.2 c€/m³ in 2019). The decrease (-13.5%) reflected the falls in the costs of raw material that occurred in wholesale markets following the pandemic across all consumption classes and for a fairly similar amount, with the price differential between smaller and larger customers fixed at the same level as in 2019 (41 c€/m³).

As of 1 January 2021, the price for an Italian household consuming 1,400 cubic metres of gas and owning an individual heating system is composed of 60.3% of cost-covering components and the remaining 39.7% of taxes on the natural gas sector (excise duty, regional surtax and VAT). Raw material costs (including sales costs) account for 36.3% of the overall gas price, costs for the use of transmission, distribution and metering infrastructure for 19.5%, while system charges (equalisation of retail sales, arrears for last resort services and interventions for energy saving and the development of renewable sources) account for 4.6%.

As for **LPG**, on the same date the price for an Italian household consuming 200 m³ of LPG was 346 c€/m³ (353 c€/m³ in 2019) and is composed of components to cover costs (71%) and taxes (29%). The cost of the raw material accounts for 19.1% of the total price, retail marketing accounts for 5.2%, local distribution accounts for 27.4%, and transport costs upstream of the distribution plant account for 19.3%.

¹⁹ For regasification tariffs for the use of the terminals in 2021, see Volume 1 Chapter 3, TAV. 3.46, p.282

Quality of service

In 2020, in the **distribution** sector, arrival times at the site of emergency calls further decreased; the number of leaks detected through scheduled network inspections increased; an improvement in leaks reported by third parties, which fell across the board (-12%, on a par with the previous year); and the length of network inspected also increased compared to 2019, with a higher proportion than the levels detected before 2014.

Commercial quality

In line with what happened in 2019, last year also saw an improvement due to a tendency to reduce cases of non-compliance with commercial quality standards in the **distribution** sector, with the exception of certain services, in particular deactivation of the supply, verification of the measuring unit and restoration of the compliant value of the pressure. There was also a decrease in automatic compensation: against 15,099 cases of non-compliance with specific standards, 12,363 automatic compensation payments were made to end customers, for a total amount paid of around €0.6 million.

With regard **to sales services**, on the other hand, the data communicated by the 367 sellers active in the gas sector show that in 2020 the actual average times for reasoned replies to written complaints, billing adjustments and the average response times for requests for information fell within the minimum standards set by the Authority, while the times for adjustments to double billing were above the standard. Compared to 2019, there was an increase in information requests of 10.8%, while written complaints decreased by 13%.

Among the topics of complaint, the first three were: problems with billing and everything related to consumption and billed amounts, self-reading, billing frequency, including the closing bill, making payments and refunds (54.4%); events in the contract, such as withdrawal, change of header, transfer and takeover (14.3%); arrears and suspension (7.7%).

Finally, in 2020, compensation paid to gas customers totalled more than €760,000 and was recognised, in 89.09% of cases, for non-compliance with standards relating to written complaints.

FOCUS ON REGULATORY ACTIVITY IN 2020***Strengthening of the Code of Commercial Conduct and updating of Bill 2.0***

During 2020, the Authority approved measures to strengthen the information obligations of sellers for the benefit of end customers in the pre-contractual and contractual phases through the revision of the Code of Commercial Conduct²⁰ for the sale of electricity and natural gas to end customers. This code, in accordance with the provisions of the Consumer Code²¹ and the Community Directives on Energy, defines the rules of conduct that sellers of electricity and/or natural gas (including their agents in any capacity) must observe in commercial relations with end customers (domestic and small non-domestic customers). The changes introduced - which affect both the pre-contractual and contractual phases - aim to improve the comprehensibility of contractual information, including the economic conditions of the offers proposed by sellers, and to increase the comparability of the offers themselves by promoting complementarity between the information tools available to the end customer (such as the Offers Portal and the Consumer Portal).

At the end of the year, on the other hand, the Authority initiated proceedings to amend Bill 2.0²², with the aim of ensuring the pursuit of the objectives of transparency of the information available to the end customer, also in the light of the important and diversified regulatory and technological innovations that have taken place over time. In order to promote greater dissemination of electronic bills, the Authority intends to evaluate the use of additional tools and procedures that also take into account the behaviour and propensities of the end customer, especially when activating the graduated protection scheme for small businesses in the electricity sector. In addition, the intervention aims to standardise the terminology used in Bill 2.0, including the Glossary, in order to make it consistent with the current legislation on electronic invoicing.

Finally, the Authority proposes to adjust the information relating to the average unit costs of supply currently provided for among the minimum elements in the Bill 2.0 rules, as well as to assess any additional indicators that pursue the aims of transparency and comprehensibility of the information communicated in the bill and at the same time guarantee the possibility of tracing this information in the contractual documentation and in the Offers Portal.

20 Annex A to Resolution of 28 June 2018, 366/2018/R/com

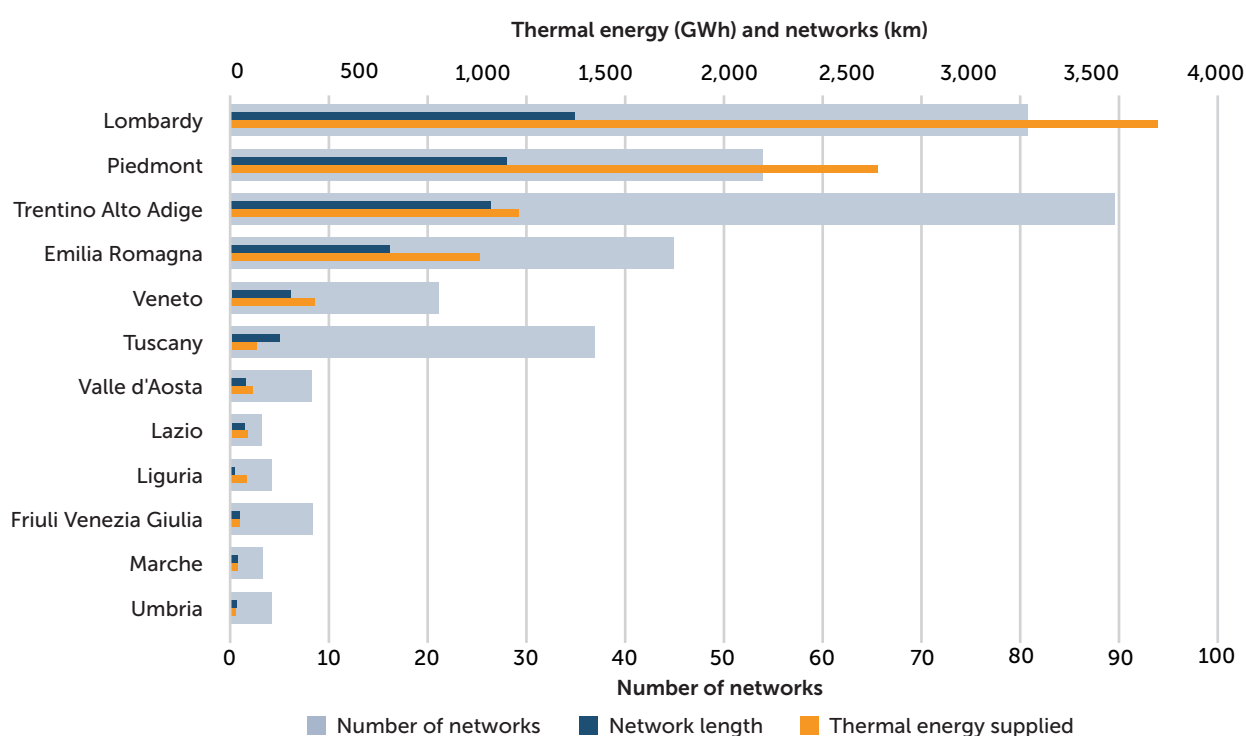
21 Legislative Decree No. 206 of 6 September 2005

22 Resolution 16 October 2014, 501/2014/R/com

DISTRICT HEATING

In Italy, heating systems are not very widespread but there is a historically growing trend, starting from the installation of the first systems in the 1970s: between 2000 and 2019 the volume connected increased at an average annual rate of 6.2%, from 117.3 to 365.8 million cubic metres, and the extension of the networks quadrupled, from about 1,091 to 4,551 km. However, both the increase in connected volumes and the expansion of networks have seen a slowdown compared to the average of previous years.

FIG. 4.2 Geographical distribution of district heating networks in 2019 (number of networks, size in km and thermal energy supplied in GWh)



Source: ARERA, registers and data collections.

The spread of the service remains concentrated mainly in northern and central Italy, where the increased demand for heat for heating buildings and the high population density make it possible to justify the significant infrastructure investments required: **Lombardy, Piedmont, Trentino-Alto Adige, Emilia-Romagna and Veneto alone represent over 95% of the thermal energy supplied.**

In 2019, thermal power plants serving district heating networks produced 11,211 GWh of heat, 6,476 GWh of electricity and 130 GWh of cooling capacity. Compared to 2018, the heat supplied to users fell slightly (-1.0%), while the supply of cooling energy decreased more consistently, by -6.8%. Only electricity produced by plants for the district heating service and fed into the national electricity grid recorded a growth, albeit modest, (2.0%).

Natural gas remained the predominant energy source for the operation of plants (69.4% of total energy consumption), followed by renewable energy sources (25%), municipal residual waste (15.1%) and bioenergy (10%). With regard to generation technologies, there was still **a clear predominance of electricity and heat cogeneration plants**, which produced 67.6% of the thermal energy fed into the grids.

The number of companies operating in the district heating sector registered in the Authority's Registry as of the time of drafting the Annual Report was **259**. Of these, 84% are involved, usually in an integrated manner, in activities closely linked to network operation and the supply of thermal energy to users (distribution or measurement or sale), while the remaining percentage is only involved in the production of thermal energy.

The **energy distributed by the district heating networks is mainly used for indoor heating and cooling** and the production of hot water for sanitation purposes, while its use in industrial processes is marginal. A significant share of the market is in fact made up of residential and tertiary users (respectively 64% and 33.8% of the total), while the demand from the industrial sector remains marginal (2.8%). 69% of users have a contracted power not exceeding 50 kW, while 24% have a power between 50 and 350 kW and 7% have a power above 350 kW (the latter alone, however, account for about 50% of total consumption).

The **supply price of the service** is freely defined by each operator on the basis of the characteristics of its own district heating system, its customers and the area served. The two main pricing methods most are based on **costs incurred** (aimed at ensuring that the operator is economically and financially balanced and provides an adequate return on investment) or on **avoided cost** (aimed at providing the user with a service price that is affordable compared to the cost that would have been incurred by using an alternative heating or cooling technology).

The most common **price structures** used by the operator are monomials on thermal energy (typically expressed in €/MWh or €/kWh) and binomials on contracted power and thermal energy, in which there is also a fixed component, generally dependent on the committed power (expressed in €/kW).

As of 1 January 2020, pursuant to the TITT, operators are required to publish on their website **the supply prices they charge customers** (smaller operators who do not have websites use alternative methods, such as public help desks or disclosure on request). An analysis carried out by the Authority showed that the price applied to residential users ranges between approximately 68 and 106 €/MWh, with an average value of 89 €/MWh; for tertiary users, the range goes from approximately 66 to 105 €/MWh, with an average value of 85 €/MWh; and finally, for industrial users, between approximately 62 and 105 €/MWh, with an average value of 80 €/MWh.

FOCUS ON REGULATORY ACTIVITY IN 2020

Regulatory activity in the district heating sector

In 2020, activities to complete the relevant regulatory framework for the district heating sector focused on defining the regulation of the metering service (including the related quality standards and service obligations) and on carrying out preparatory activities for the regulation of third-party access to district heating networks. In addition, the evaluation of the requests for exclusion from regulation submitted by operators in the sector continued.

WATER SERVICE

Infrastructural aspects of the service, technical quality and investments

Since 1 January 2018, a specific regulation on the technical quality of the integrated water service (RQTI) has been in force, which pursues the achievement of minimum service levels through: the **provision of automatic compensation** to end users who experience a disruption in water supply, measured on the basis of three indicators associated with specific standards; the introduction of a **bonus-penalty mechanism** in the event of failure to achieve the objectives set for some indicators associated with general quality standards, called “**macro-indicators**”.

MACRO-INDICATORS DEFINED BY THE RQTI	
M1	Containment of water losses in aqueduct networks and systems
M2	Maintenance of the continuity of the drinking water service, based on the measurement of the frequency of service interruptions
M3	Adequacy of the quality of the water supplied
M4	Minimisation of the environmental impact of the conveyance of waste water, measured on the basis of the degree of adequacy of the sewage system
M5	Minimisation of the environmental impact associated with the disposal of sludge deriving from the purification of waste water
M6	Minimisation of the environmental impact associated with the disposal of waste water from purification treatments

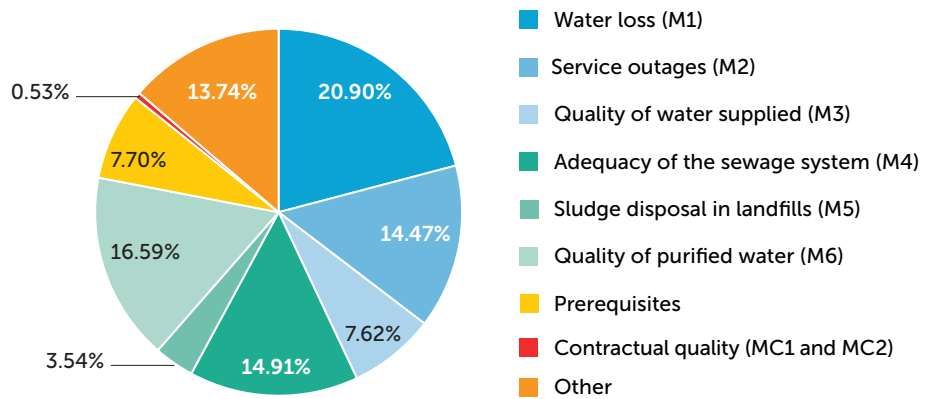
The survey of the state of the water infrastructure on the basis of the latest technical data available (**referring to 2019**) confirms the existence of a water service divide in the country, with technical parameter values that generally tend to represent more critical situations in the South and Islands. According to the data collected, in fact, the average value of **percentage water losses** at national level was 41.2% with average values that were lower in the North and higher in the rest of the country. Similarly, the average of **service interruptions** was strongly affected by certain critical situations at the local level (especially in the South and Islands). However, compared to previous years (2016), this saw a reduction of 26%. The average incidence of non- **potability** ordinances was also improved, at 0.079%, with a rate of non-compliant samples of 3.93% and a rate of non-compliant parameters of 0.28%. All values were improved in general compared to previous surveys. **Flooding and sewerage** spills were down (-55%) but the 25% of flood drains that need to be adapted to current legislation and the 16% that are not controlled show a level of inadequacy is almost double that of the other areas of the country in the South and Islands. As regards the destination of **sewage sludge**, more than 80% is directed for reuse or resource recovery (with agricultural use being the most prevalent option), while energy recovered in plants such as incinerators or cement plants is limited, though increasing. Finally, the rate of **exceedance of the limits in the samples of discharged wastewater** was on average equal to 9.1% (-28% compared to 2016 data).

The analysis of the **investment needs** (gross of contributions) for the period 2020-2023²³, conducted as part of the verification activities of the Investment Program (PDI) prepared for each provider, confirms a concentration

23 The sample is made up of 94 operators

of efforts at national level of managers to contain the level of water losses (M1) to which more than 20% of the programmed resources are destined. This was followed by investments to improve the quality of purified water (M6) and to upgrade the sewerage system (M4), which stand at 16.6% and 15% respectively, while the weight of interventions to reduce water shortages (M2) increases to 14.5% of total requirements.

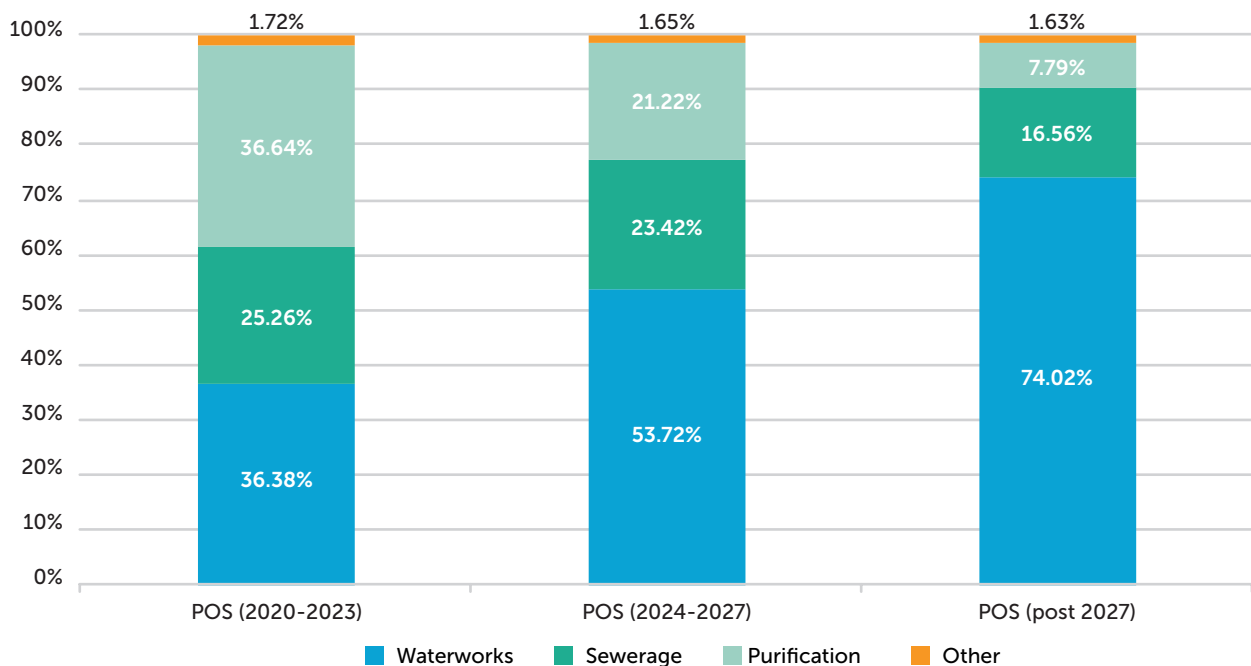
FIG. 5.39 Distribution of investments planned for the years 2020-2023



Source: ARERA, processing of data from the third regulatory period (Resolution 580/2019/R/idr).

In preparing tariffs for the 2020-2023 period, the local governing bodies have qualified as "strategic" (within the relevant Strategic Works Plan - SOP, introduced by the Authority in 2019) in their respective planning acts a series of works mainly aimed at: the securing and/or construction of aqueducts and new water purifiers; the construction of "over-bound" water adduction and distribution sections; the construction of sewage sludge drying and processing plants; the construction of new treatment plants and the replacement of old ones.

FIG. 5.41 Investment requirements as expressed in the Strategic Works Plan by service (in percent)



Source: ARERA, processing of data from the third regulatory period (Resolution 580/2019/R/idr).

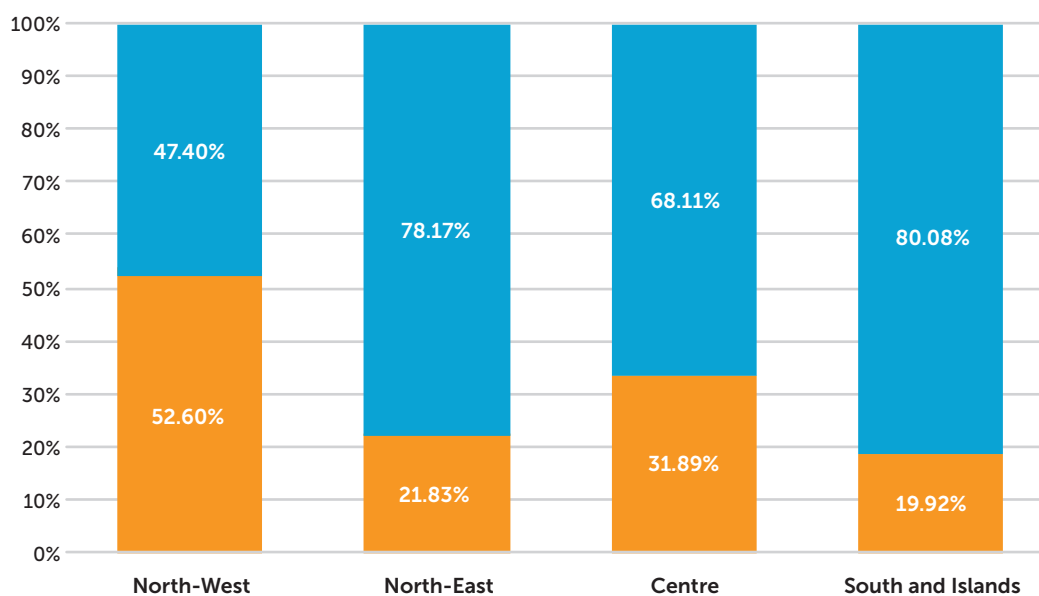
The overall need for strategic works expressed in the analysed Plans amounts to approximately €7.4 billion in the 2020-2027 period (€209.7/inhabitant), of which just over 3 billion (40.5%) are attributed to the first four-year period 2020-2023 and make up almost a third of the total requirement contained in the surveyed IBPs. While in the years of the Plan coinciding with the regulatory period (2020-2023) the needs are more concentrated more on the sewerage and purification service (62% of the total), in the following four-year period (2024-2027) there is instead a greater boost in investments in the aqueduct service (54% of the total), driven above all by interventions of interconnection and upgrading of the aqueduct systems in the supply and adduction phase (which alone account for 43%).

From the analysis of the IBPs submitted to the Authority, almost 40% of the investments planned for the period 2020-2023 were classified as environmental and resource costs: 71.5% were qualified as environmental cost investments (ENV component of ERCs), while the remaining 28.5% were qualified as resource cost investments (RES component).

In terms of **operating costs**, the implementation of technical quality obligations has had a limited impact on tariffs: on average, the additional costs of complying with the technical quality standards set by the Authority amount to €0.8/inhabitant in 2020.

During 2020, the Authority, with the support of the Energy and Environmental Services Fund (CSEA) continued monitoring the progress of the interventions admitted to financing in the first part of the "waterworks" section of the National Plan for Interventions in the Water Sector (adopted with the Prime Ministerial Decree of 1st August 2019). Most of the relevant Bodies involved reported delays in the progress of the works, linked to slowdowns in the authorisation and design activities, mainly due to the restrictive measures imposed because of the COVID-19 emergency. However, most of the subjects declared that they would be able to recover part of the delay in the following phases.

During 2020, the Authority authorised an additional EUR 11,440,000, compared to the amount already outlined in the Annual Report presented last year. The total amount of resources authorised for disbursement came to 25,980,000 Euros (of which 21,550,000 Euros pertains to the year 2019 and 4,430,000 Euros pertains to the year 2020), representing 32.48% of the total funding allocated.

FIG. 5.45 Status of authorisation for disbursement of National Plan resources by geographical area

	North-West	North-East	Centre	South and Islands
Amount to be authorised (Euro)	11,660,000	11,960,000	9,740,000	20,660,000
Amount authorised for disbursement (Euro)	12,940,000	3,340,000	4,560,000	5,140,000

Source: ARERA.

As part of the procedure aimed at identifying the **second list of necessary and urgent interventions** for the water sector for the purpose of updating the "waterworks" section of the National Plan, in August 2020, the Authority sent the Local Governing Bodies and the Regions a specific request for information. As a result of the survey carried out, the Authority received a total of **1,208 requests for projects/works** to be covered by the resources allocated by current legislation²⁴ of a total of **10.07 billion Euros**.

Tariffs and quantification of investments

During 2020, the overall legislative and regulatory framework was deeply affected by the Covid-19 pandemic. In order to ensure the stability of the framework of rules developed over the years, the Authority has decided to calibrate certain instruments to make their use more effective with respect to the critical issues encountered. In this context, the approvals of tariff proposals for the four-year period 2020-2023 concern 84 operators serving 36,817,534 inhabitants. Compared to the previous year, the average change in user charges was 1.97% (with an uneven distribution in the different areas of the country: + 0.92% in the South and Islands, + 2.08% in the Centre, + 1.72% in the North-East and + 2.69% in the North-West). This confirms the substantial stability of user tariffs, despite the ongoing process of improving the quality of the integrated water service. The checks carried out with regard to the costs of fixed assets calculated in the tariff showed general improvements in the ability to carry out planned investments. The implementation rate was 102.3% in 2018 and 97.8% in 2019.

²⁴ The resolution of 21 July 2020, 284/2020/R/idr, defined a single plan based on a multi-year programme for the period 2021-2028, to which all the residual resources provided for by paragraph 155 of Article 1 of Law 145/2018 for the aforementioned section, quantifiable in total at EUR 320 million

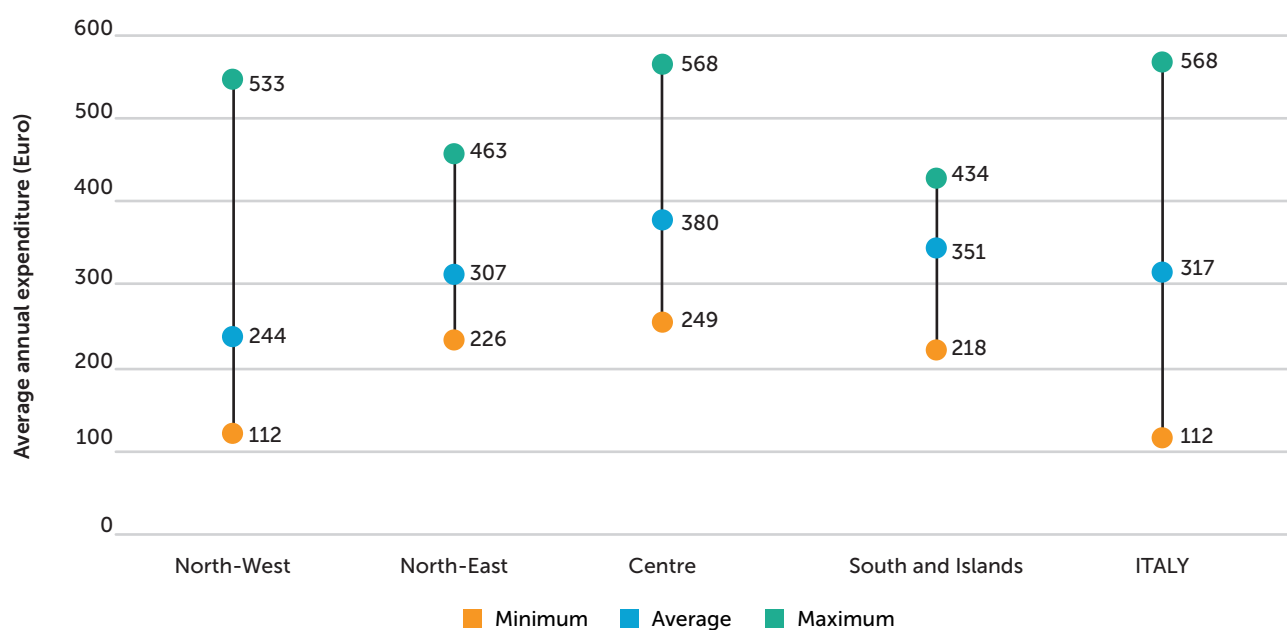
On the basis of the PDI transmitted to the Authority, for the four-year period 2020-2023 the value of per capita investment expenditure (net of public contributions) is 224 Euros/inhabitant at national level (56 Euros/inhabitant/year), with values of 286 Euros/inhabitant in the Centre and 199 Euros/inhabitant in the Northwest. In the South and Islands, on the other hand, the value stops at 159 Euros/inhabitant. Considering also the forecasts regarding the availability of public financing for the construction of water infrastructures, the investments planned for the four-year period 2020-2023 are, in per capita terms, equal to 261 €/inhabitant at a national level, with the highest value, differing from in previous editions, in the Central area (322 €/inhabitant).

In absolute terms (i.e. including the availability of public funds), investment expenditure amounts to a total of EUR 9.6 billion for the four-year period 2020-2023, rising from EUR 2.1 billion in 2020 to EUR 2.5 billion in each of the following three years. Investment requirements over the same period are estimated at EUR 15.5 billion (corresponding to about EUR 3.9 billion in each year of the four-year period).

Annual expenditure for domestic users

With reference to a sample of 85 utility companies (which provide the service to about 35 million inhabitants), it was noted that, **for the year 2020, the average annual expense sustained by a typical resident domestic user (family of 3 persons, with annual consumption equal to 150 cubic metres), amounts to €317/year at a national level**, with a lower value in the Northwest (€244/year) and a higher value in the Centre (€380/year), an area in which the competent bodies have planned, for the period 2020-2023, a higher per capita expenditure for investments to be financed through tariffs. The expenditure is made up of charges for **water** (39.6%), **sewerage** (12.8%) and **purification** (29.6%), the **fixed fee** 9% and **taxes** (VAT, 9.1%).

FIG. 5.60 Variability of the average annual expenditure in 2020 (in Euros for annual consumption of 150m³)



Source: ARERA, based on operators' data.

Contractual quality

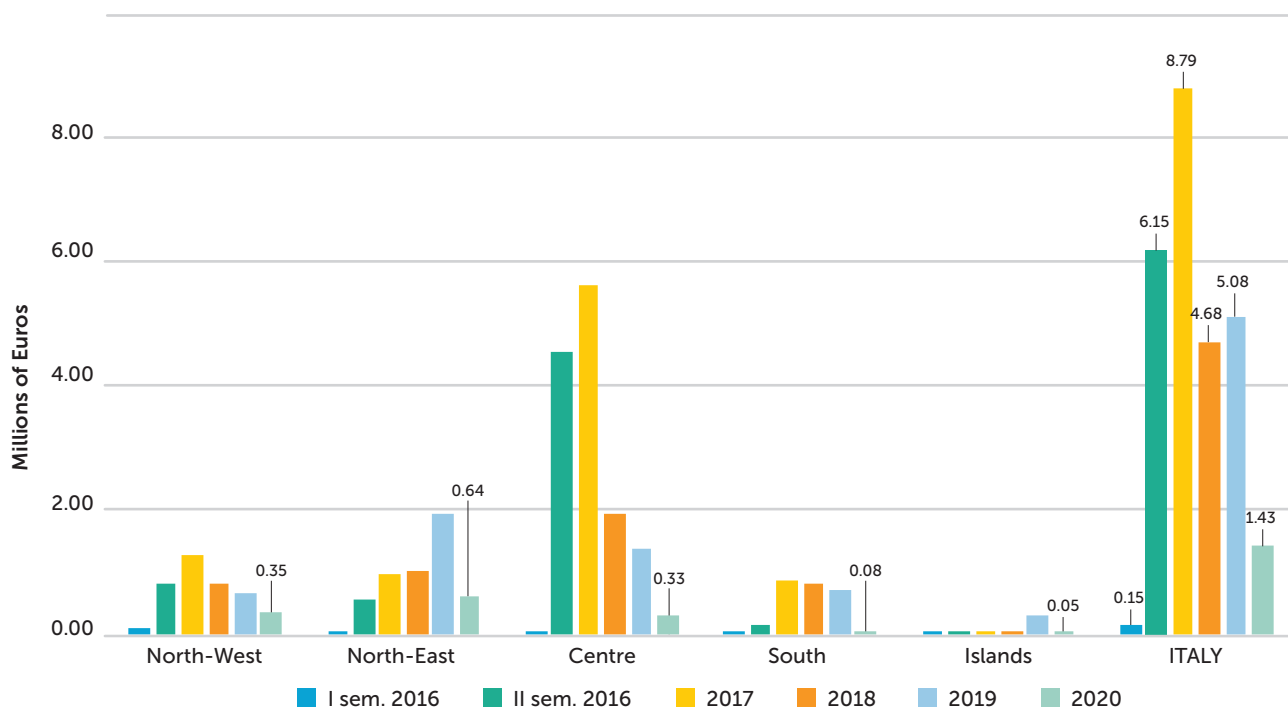
In May 2021, the fifth edition of the "**Contractual quality of the integrated water service**" data collection closed, aimed at allowing the Authority, as part of its regulatory and control functions, to acquire information on the services rendered during 2020.

The analysis of the information submitted (by a panel of **286 managements that provide the service to 50.7 million inhabitants**) confirmed strong inhomogeneity between geographical areas of the country in relation to operators' compliance with the obligations to communicate contractual quality data.

The data show - with respect to 27 specific standards - a high level **of contractual quality**²⁵ offered in 2020, with a non-compliance rate of 4.5% on average, slightly up on the previous year (when it was 3.4%) due to the worsening performance recorded mainly by some operators in the South and the Islands.

The total amount of compensation paid in 2020 was EUR 5.14 million.

FIG. 5.64 Total compensated in the five-year period 2016-2020



Source: ARERA, based on data communicated by operators pursuant to the RQSII and the Resolution of 6 December, 2016, 5/2016 - DSID.

Also in 2020, compliance with the 14 general standards set by the RQSII - or with the locally agreed improvement standards set out in the Service Charter - was lower than for the specific standards. However, **more than half of the analysed indicators show a level of compliance of at least 90%**.

²⁵ For an in-depth and up-to-date analysis, see the web page <https://www.arera.it/dati/RQSII.htm>

The improvement in services attributable to the start-up, management and termination phases of the contractual relationship, however, had a **limited impact on tariffs**: on average, the additional charges connected to compliance with the contractual quality standards set by the Authority are, for the four-year period 2020-2023, slightly less than €0.8/inhabitant/year.

FOCUS ON REGULATORY ACTIVITY IN 2020

Monitoring and governance of local configurations

Since 2015, the Authority has been drawing up specific six-monthly reports to be submitted to Parliament²⁶ with the aim of highlighting both improvements in the reorganisation of the sector's governance, and cases (characterised by the persistence of certain critical issues and non-compliance with existing legislation) in which obstacles are found in the path towards the rationalisation of the sector's assets and, more generally, the exploitation of economies of scale to the benefit of water users.

The latest monitoring presented showed the definitive completion of the process of local authorities joining the relevant Local Government Authorities (EGAs) in all of the country's local areas and a consolidation in the process of streamlining the number of ATOs (local authorities), which has now reached 62. However, there is still a need to perfect the pathways initiated (and continued with some difficulties due to the current epidemiological emergency from Covid-19) towards the full operation of the EGAs, as well as to overcome the widespread presence (albeit gradually decreasing) of management ceased ex lege that continue to provide the service even in the absence of a legal title in accordance with the pro tempore regulations in force.

In particular, with regard to the establishment and effective operation of EGAs, there are still potentially critical situations, albeit with elements of differentiation, which can be found in particular in the south of Italy, where significant inefficiencies persist in terms of achieving service quality objectives.

The Authority pointed out that a significant opportunity for overcoming the water service divide afflicting the country could be in the National Recovery and Resilience Plan - PNRR "Next Generation Italia" being defined. Beyond the provision of economic resources to support the necessary interventions - in which it will be necessary to combine "technological innovation, ecological transition, improvement of environmental quality" and the resilience of water systems to climate change - reform action is considered essential with the aim of entrusting the service to efficient operators in those areas of the country where this has not yet happened.

²⁶ During 2020, the reports for 30 June 2020, 250/2020/l/idr and 29 December 2020, 607/2020/l/idr were prepared

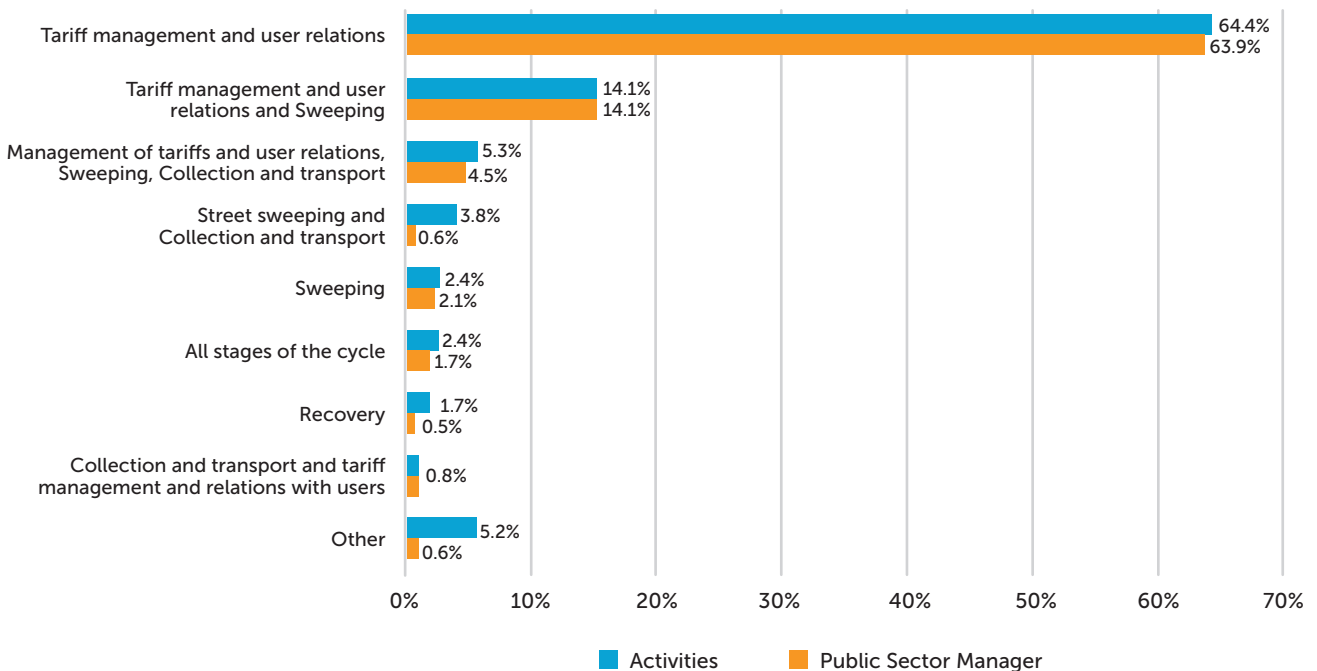
MUNICIPAL AND ASSIMILATED WASTE CYCLE

The municipal waste sector is a complex sector, characterised by high service fragmentation along the supply chain and by the absence of homogeneous infrastructural and organisational conditions between the various areas of the country.

Sector structure

As of May 6, 2021, 7,470 entities were registered in the Authority's Operators Register (+ 14% compared to the previous year), of which 7,253 were registered as operators. In 87.4% of cases, they were Public Entities and in 12.6% operators with different legal status. Confirming the complexity and fragmentary nature of the sector's governance, there is also a small number of government entities (just under 60), compared to a very high number of territorially competent bodies - ETCs (3,523), 98% of which are municipalities. With regard to the number and type of activities carried out, in the majority of cases (70.1%) the operators are accredited for a single activity, followed by those accredited for two or more activities (27.6%). Only a much smaller percentage (2.4%) is accredited for all cycle activities.

FIG. 6.4 Public Sector Managers by activities performed



Source: ARERA, Registry of Operators.

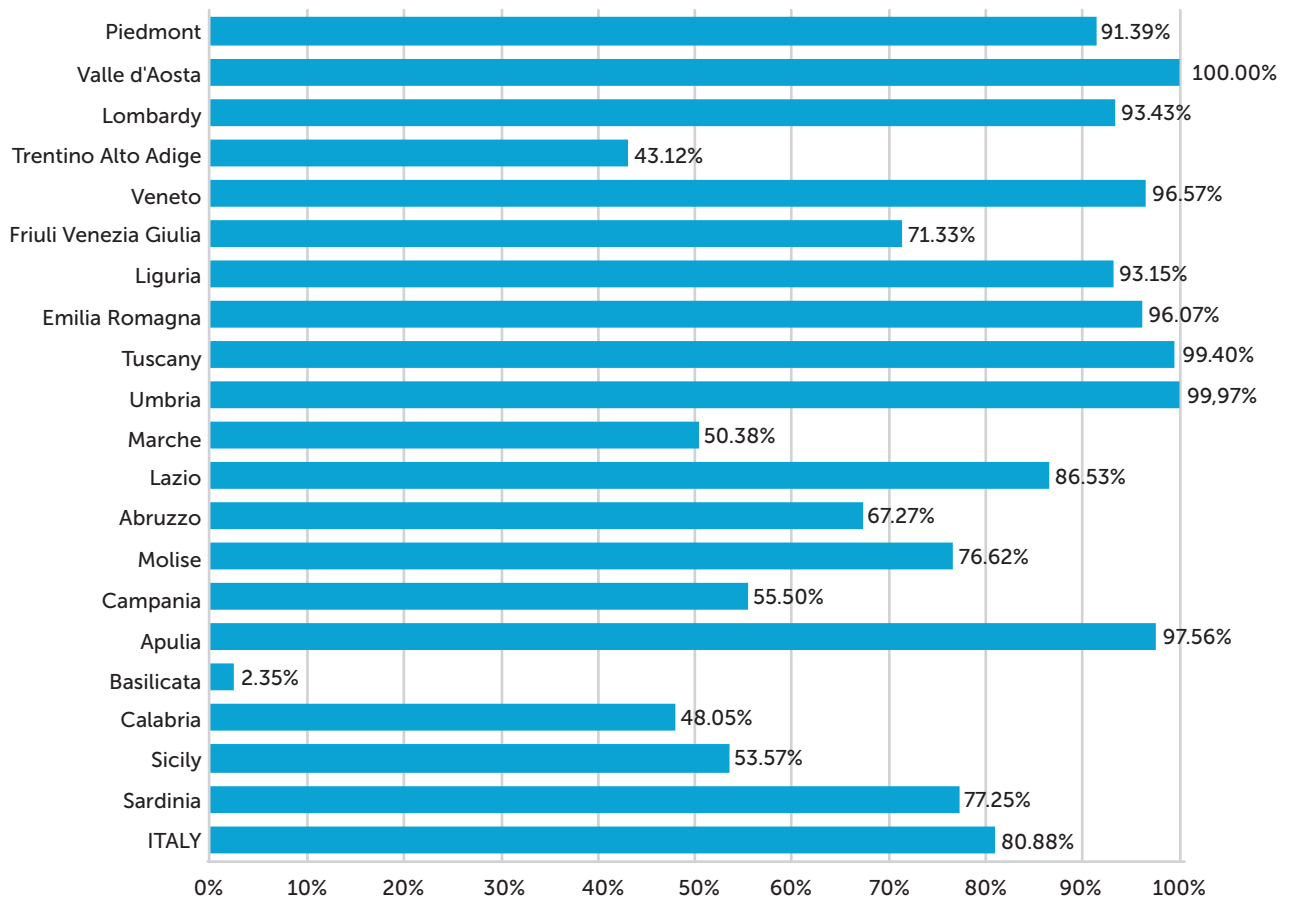
Waste production and collection

In 2019, national municipal waste production amounted to approximately 30.1 million tonnes, a slight decrease of 0.3% compared to 2018. Moreover, in the year under review, waste production was misaligned with the trend in socio-economic indicators (GDP, household expenditure), which increased by 0.3% and 0.6% respectively.

Separate **collection** reached 61.3% of national production (18.5 million tonnes of differentiated waste), a growth of 3.1% compared to 2018 but with strong inequalities at the local level. In particular, in the North-East and North-West regions, the target set by the legislation (65%) has been achieved, with separate collection of 72% and 67.6% of the total amount of municipal waste produced, while the Centre stands at 58.1% and the South and Islands at 52.3% and 47.1% respectively. The percentage of preparation for **re-use and recycling** stood at 53.3% (above the target of 50%), an increase of 2.5 points compared to the previous 12 months.

Status of tariff approvals for the year 2020

The process of approving the tariff arrangements for 2020 was strongly affected by the emergency measures introduced by the legislature, with particular reference to both the successive extensions of the deadlines for approving the TARI 2020 (necessary due to the serious health emergency), and the derogation from the application of the provisions of the Waste Tariff Method (MTR) introduced by Decree-Law no. 18/2020. Despite the difficulties associated with the emergency, the Authority has received around **5,500 tariff preparations** for the year 2020, representing a total population of just over 48 million (around 80% of the national population).

FIG. 6.11 *Tariff arrangements by Region submitted to the Authority, relating to the year 2020 (percentage of population served)*

Source: ARERA, based on the tariff arrangements for the year 2020.

As of 18 May 2021, the tariff arrangements for the year 2020 already approved by the Authority concerned 84 tariff areas, concerning 6,451,922 inhabitants (residing in 175 Municipalities and equal to 11% of resident inhabitants) for which **a very small average increase in tariffs was approved compared to the previous year**, which was very limited and **equal to 0.29%**. 57% of the population in the North-West, 23% in the North-East, 9% in Central Italy, 9% in the South and 2% in the Islands are affected by these measures.

In particular, for 53 areas (corresponding to 5,742,862 inhabitants), the Economic and Financial Plan (PEF) is drawn up according to the method established by the Authority (MTR), while for the remaining 31 (corresponding to 709,060 inhabitants), where the operator did not respond, the ETC prepared the PEF on the basis of the available knowledge.

With regard to the 53 tariff arrangements prepared according to the MTR, only for 7 tariff areas (corresponding to 1,480,402 inhabitants), the competent ETCs have set both specific objectives for changing the management perimeter and targets for improving quality levels compared to what has been achieved in the past, with an average annual rate change of 0.87% for the year 2020. For 16 tariff areas (corresponding to 345,525 inhabitants) the competent ETCs only provided for an improvement in the quality of services, with an average annual tariff variation of 2.6% for the year 2020.

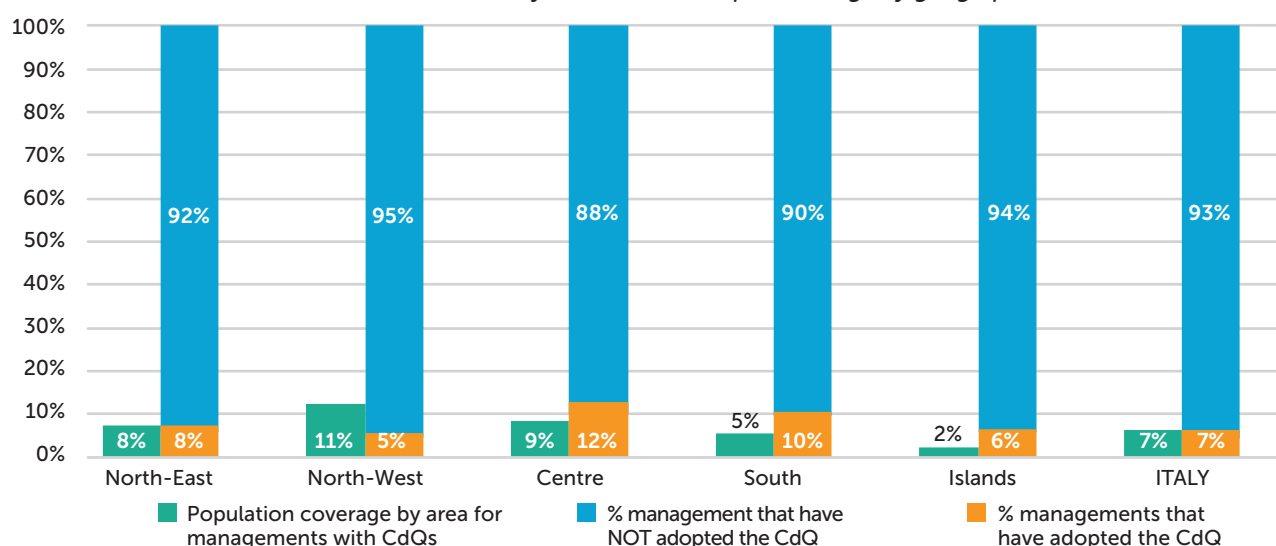
Out of the sample of 84 tariff areas to be approved by the Authority for 2020, the ETC only considered using these forecast cost components to promote service improvement for 18. Furthermore, the tariff components specifically introduced to tackle the pandemic have been made use of in very few cases. Finally, with regard to the guarantee mechanisms inherent in the 2020 tariff approval procedures, the Authority received a total of 328 requests for intervention.

Contractual quality

In April 2020, two data collections were completed which were aimed at acquiring the first data on the quality of the integrated municipal waste management service and, in particular, on the individual collection and transport services and street sweeping and washing, as well as on the quality of tariff management and relations with users, were completed.

The analysis carried out on a panel of more than 4,000 managers and operators, who provided the service of tariff management and relations with users to 57% of the national population (more than 34 million inhabitants) showed a greater participation in data collection by these operators than by managers of collection and transport services and street sweeping (700 operators for about 2,000 managers, equivalent to 61% of the national population). Furthermore, unlike waste collection and transport and street sweeping - for which in-house management is prevalent (38% of the panel's managers), followed by assignment through tender (28% of operations) and by state-run operations (16% of operations) - in almost all cases tariff management and user relations are carried out directly by the Municipality, which is why there is a one-to-one correspondence between management and operation. Managers located in Northern Italy cover almost 30% of the national population, while Southern Italy (including the Islands) accounts for only 15%.

FIG. 6.17 Dissemination of the Service Quality Charter and sample coverage by geographical area



Source: ARERA, based on data submitted pursuant to Resolution 4/2019 - DRIF.

In general, from the data collection it is possible to ascertain:

- the limited diffusion of **the Service Quality Charter** (7% of managers, corresponding to approximately 7% of the national population), with much lower values than those found among the managers of collection and transport and street sweeping (35% of managers);

- the low adoption of **the complaints management** procedure (only 25% of managers, equal to 29% of the national population) compared to what was found for the collection and transport and street sweeping services, where the complaints management procedure was adopted by 62% of the panel's managers;
- the reasonable diffusion of user contact points in line with the findings for the collection and transport and street sweeping services. However, unlike for these services, the prevailing trend among managers of tariff management and user relations is the use of the physical branch;
- the widespread activation **of payment in instalments**, at the request of the user (66% of the Panel's managers, equivalent to 28% of the national population);
- the low diffusion of contractual quality indicators in the management of tariffs and relations with users (with percentages tending to be below 20%), with results also in this case lower than for the other services;
- the very low diffusion of **compensation mechanisms for user protection** (no more than 5% of operations), also due to the prevailing adoption of general standards;
- the fair diffusion of the **website** for tariff management and user relations (57% of managers, or 44% of the national population) but with lower percentages than those for collection, transport and street sweeping (76% of managers).

FOCUS ON REGULATORY ACTIVITY IN 2020

Monitoring and governance of local configurations

As part of the aim of promoting a clear and reliable governance framework and the pursuit of objective OS.14, "Reorganization of the structures of the environmental sector", the Authority established, in 2019, a permanent technical committee on the subject of urban and assimilated waste cycle with regions and local autonomies. This also provided for the possibility of inviting the most representative associations of the local governing bodies depending on the issues involved.

In the course of 2020, the Committee dealt with issues relating to monitoring of: the application of provisions²⁷ for the procedure for approving economic-financial plans and tariff payments, as well as the validation of the data requested by the Authority; the first application of the regulatory provisions on tariffs, also in consideration of the epidemiological emergency arising from Covid-19; the activity of preparing, adopting and updating the Regional Waste Management plans, including consideration of the regulatory provisions for the transposition of the so-called "Package of measures on the circular economy" (Legislative Decree 3 September 2020, no. 116).






















²⁷ referred to in Resolution 443/2019/R/ref of 31 October 2019

CONSUMER PROTECTION

The system of safeguards for handling complaints and the out-of-court settlement of disputes by customers and end-users in the regulated sectors (hereinafter simply the protection system) is applied by means of tools that are widespread at national level and consists of two macro-areas and three levels. The first macro-area relates to information and assistance to customers and end-users who interact with operators and managers in the areas of competence of the Italian Regulatory Authority for Energy, Networks and Environment (basic level); the second macro-area (first and second level) concerns the resolution of problems and disputes that may arise in the supply relationship.

From a regulatory point of view, in 2020 the Authority has provided for the extension of the availability of the contact centre services of the Help Desk to district heating users as well, also providing these users with the possibility, in the event of problems arising with the operator and not resolved through a complaint, to activate the Conciliation Service of the Authority, as a second level instrument. In line with what has already been done in the first phase for the water sector, operators can also voluntarily adhere to the procedures convened before the Conciliation Service (for at least two years) for district heating and the conciliation attempt will temporarily not be compulsory for users for the purposes of access to ordinary justice.

TABLE 9.1 Protection system: volumes entering the Help Desk, the conciliation service and ADR bodies for the electricity, gas, water and waste sectors (2020)

ACTIVITIES AND SECTORS			2020
Basic level	Calls to the call centre 800,166,654 (received during service hours)	 	480,475
			
	Written requests for information	 	14,822 (*)
			
	Requests for activation of special information procedures	 	32,271
	Second level complaints redirected with information on conciliations	 	2,464
 (**)			
Second level	Applications to the Conciliation Service	  (compulsory conciliation)	18,602
		 (optional conciliation) (**)	
	ADR bodies registered in the Authority's List	  (compulsory conciliation)	1,469 (***)
		 (optional conciliation)	
	Requests for activation of special resolution procedures	 	9,265
	Second level complaints		3,458
Transitional management of communications in the waste sector, included sorted, urban and assimilated waste			136

(*) In 371 written requests for information, classified as complex, were redirected to the Conciliation Service because they were related to potential disputes.

(**) Conciliation is the only second-level instrument available to end users served by larger operators (operators serving more than 300,000 inhabitants residing in one or more optimal local districts).

(***) Also including one application received for the district heating sector.

Source: ARERA, processing of data from the Energy and Environment Consumer Help Desk, Conciliation Service and Annual Reports of ADR bodies.

Energy and environment consumer desk

The health emergency caused by the spread of COVID-19 required a rapid adjustment of the organisational structure of ARERA's Consumer Help Desk call centre (managed by Acquirente Unico)²⁸, both in terms of remote working arrangements as well as on the expansion of contact alternatives available to consumers, with the introduction of call backs from April 2020. The latter consists of a "call-back" mechanism, in the event of a busy line, which can be activated by the customer or user by means of a simple procedure of giving consent (and indicating the telephone number to be called back) via the numeric keypad. From 26 March to 31 July, a new




²⁸ Established by law in 2009, its function is to provide free information and free assistance to consumers in the regulated sectors

"key" was also made available on the phone tree called "Coronavirus Emergency: information on bills, payments and disconnections" for addressing any doubts on the Authority's measures related to the health crisis.

In 2020, 480,475 calls were received at the Help Desk's call centre during service hours (-0.5% compared to 2019) mainly in regards to issues relating to the electricity and gas sectors (91%). The top three topics by volume of calls (in line with what was recorded in 2019) were social bonuses (47%), dispute resolution methods (22%) and files opened at the Help Desk (13%).

There were 14,822 written requests for information (+30.5% compared to 2019), most of which related to the energy sectors and, in particular, to topics related to billing (30%), market (22%), contracts (14%), arrears and suspension (13%) and connections, works and technical quality (11%). There was also an increase (+12%) in the number of requests for special information procedures, which reached 32,271.

TABLE 9.7 Results of the customer satisfaction survey for the Help Desk call centre (2020)

	2020
 Good	86%
 Sufficient	10%
 Negative	4%
% conversations evaluated	50%
% users invited by the operator to leave evaluation	80%

Source: based on Nextip data from the Energy and Environment Consumer Help Desk.

The Authority's conciliation service

In the wake of the overall and sudden digital transformation that has affected the country and in part due to the demands of the epidemiological emergency, at the end of 2020 the telematic portal was renewed. Operators and managers use this in order to interact with the Help Desk for all activities other than the Conciliation Service. In particular, a new mobile version of the Conciliation Service platform has been released, which will also be accessible via an app in early 2021, making the procedure even easier to use via smartphone or tablet (alongside accessing it with a PC).

In 2020, **18,602 applications** were received (+ 16% compared to 2019), mainly relating to the electricity sector (54%), followed by gas (26%) and water (12.5%). Finally, applications submitted by dual fuel customers and prosumers cover a share of 7% and 0.5% respectively. **73% of the applications received concerned domestic users.**

Excluding waived procedures, the agreement rate on concluded procedures was 71% (+2% compared to 2019) while the average time to conclude procedures was 62 days (55 in 2019). The rate of agreement in conciliation procedures varies by sector: in the water, gas and dual fuel sectors, counting only the procedures concluded

for each sector, it is higher than the overall average, standing at 81%, 74% and 76% respectively. In the electricity sector and for prosumers, on the other hand, the agreements amounted respectively to 67% and 68% of the procedures concluded.

In 2020, the "compensation", i.e. the financial consideration obtained by customers or end users through the conciliation agreement (in the form of value recovered with respect to the value of the dispute or refunds, indemnities, recalculation of incorrect billing, waiver of costs and default interest, etc.), was approximately 12.9 million euros.

Social bonuses

During 2020²⁹, the Authority gradually completed the necessary steps to make electricity, gas and water rebate bonuses apply automatically to the bill for eligible persons as required by law³⁰. The automatic mechanism, active as of 1 January 2021, is intended to bridge the gap between potential beneficiaries and the actual recipients of bonuses, which has always remained significant (out of a potential audience of over 3 million households, only one third actually apply).

The new automatic bonus recognition system will be based on the exchange of the necessary information contained in the INPS databases and in the Integrated Information System, managed by Acquirente unico S.p.A, compliance with the corresponding legislation on the protection of personal data.

As for the 2020 data, 854,900 families requested and obtained the social bonus for electricity (805,303 received the bonus for economic hardship and 41,046 the bonus for physical hardship); 543,963 families had access to the social bonus for gas and 461,334 to the social bonus for water.

The total amount of bonuses paid for the electricity sector (for economic and physical hardship) and for the gas sector was, respectively, approximately 135.5 million euros and 76.2 million euros. For the water sector, bonuses totalling approximately 20.4 million euros were paid out.

TABLE 9.13 Customers with electricity and gas bonuses (2016-2020)

	ELECTRICITY BONUS			GAS BONUS	TOTAL BONUS SUPPLIED
	ECONOMIC HARDSHIP	PURCHASING CARD HOLDERS	PHYSICAL HARDSHIP	ECONOMIC HARDSHIP	
2016	622,410	27,624	30,373	448,707	1,129,114
2017	706,969	25,473	32,643	499,808	1,264,893
2018	771,566	23,589	35,903	519,375	1,350,433
2019	829,209	8,389	41,068	558,514	1,428,791
2020	805,303	8,551	41,046	543,963	1,398,863
Variation % 2020/2019	-2.88%	1.93%	-0.05%	-2.61%	-2.09%

Source: SGAtc.

²⁹ The activity continued in 2021

³⁰ The provision was introduced by Decree-Law No 124 of 26 October 2019 and was converted with amendments by Law No 157 of 19 December 2019

SUPERVISION AND LITIGATION

As part of enforcement activities, the Authority monitors the behaviour of operators required to comply with regulatory provisions. Monitoring is initiated following reports or evidence in the possession of the Authority's offices or through the identification, from time to time, of a perimeter of intervention, through the definition of a programme of activities covering one year.

For monitoring activities, the Authority makes use of various instruments, such as surveys, inspections and documentary checks on plants, processes and services. In this context, the contribution of the Guardia di Finanza, through the special unit for goods and services, constitutes an essential part of the Authority's monitoring activities, in terms of both resources and expertise.

Due to the health emergency from March 2020 onwards, which prevented the planned inspections and the annual programme of cooperation with the Guardia di Finanza from being carried out for several months, the number of inspections decreased during the year. The activity was heavily reoriented towards document checks.

In 2020 monitoring activity was carried out through:

- **documentary checks**, in particular concerning the correct payment of incentives to energy-intensive companies and the correct contribution by regulated companies to the Authority's operating costs;
- **surveys and investigations**, in particular, a survey of electricity and gas retail companies was carried out during the reporting period;
- **on-site inspections**, covering priority issues such as service safety, consumer protection, the proper functioning of markets and the checking of the incentives provided and the cost items recognised in the tariff.

Sanctioning activity was also affected by the measures adopted in relation to the health emergency. In particular, the legislator provided for an extraordinary suspension of the deadlines for the commencement of proceedings, as well as for the preliminary and decisional phase, which had expired in the period between 23 February and 18 March 2020, postponing them to 31 May and 5 June of the same year³¹.

In this context, 124 acts were adopted, of which: 28 initiations, 48 communications of preliminary findings, 2 resolutions of admissibility of the commitments and 46 final measures, including sanctions, archiving and declarations of approval of commitments (excluding the 9 proceedings initiated under a simplified procedure, which were settled by reduced payment and cessation of the contested conduct).

Among the 55 proceedings concluded (including the 9 proceedings initiated under the simplified procedure and settled), 45 ended with the establishment of responsibilities and the consequent imposition of sanctions (of these, 13 also featured the adoption of prescriptive measures), 6 ended with archiving and, finally, 4 with the approval of commitments.

³¹ See Article 103, paragraph 6-bis, of Decree-Law no. 18 of 17 March 2020, converted by Law no. 27 of 24 April 2020, as amended

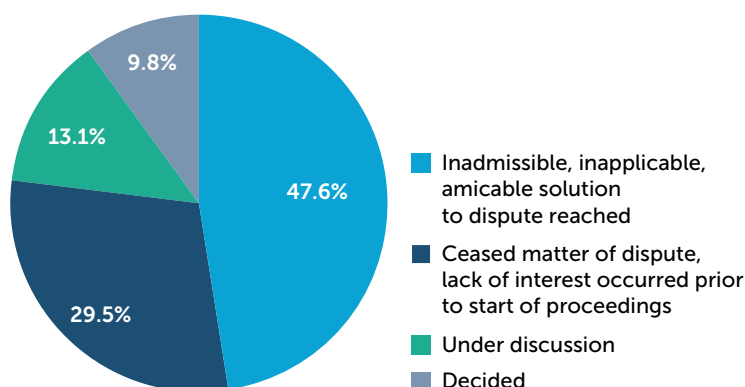
The total amount of the 61 fines imposed (of which 13 have been appealed) was more than EUR 14 million. Also in 2020, the Authority exercised its power to order operators to cease conduct that infringed upon users' rights and to pay compensation. For example a seller was ordered to return the sums unlawfully charged by way of postage fees to end customers, for a value of **approximately 2.4 million Euros**. Also, numerous operators of the integrated water service were required to return the difference between the tariffs actually applied and those that should have been applied to users.

With regard to **the settlement of disputes between regulated parties**, in 2020, justice - as an alternative to judicial protection - is once again confirmed as a rapid and easily accessible tool for operators, completely free of charge, to pursue the publicity objectives set out in European legislation and national regulations (primary and regulatory), as well as a fundamental safeguard, widely appreciated by stakeholders, to guarantee the functionality and effectiveness of the energy infrastructure access and use regime. In view of the central role played by this remedy within its enforcement functions, the Authority has included the development and promotion of the out-of-court dispute resolution between operators and the updating of its decision log as part of the strategic objectives of its institutional action in the period 2019-2021, providing for a specific line of action in order to achieve higher levels of regulatory compliance, with a view to reducing litigation.

During 2020, complaints were handled in accordance with the relevant state legislation related to the Covid-19 emergency. In particular, the mandatory suspension of the terms of administrative proceedings was taken into account³².

In 2020, 61 complaints were submitted pursuant to Resolution 188/2012/E/com of which 47 were archived, 8 were being discussed as at 31 December 2020 and 6 were ruled on.

FIG. 10.7 *Complaints between operators handled by the Authority pursuant to Resolution 188/2012/E/com (focus on 2020)*



Source: ARERA.

The average time for settling disputes between economic operators pursuant to Resolution 188/2012/E/com, managed by the Authority, is 8 months and 4 days.

³² See note 24

The decisions taken by the Authority are respected in almost all cases; in particular, most of the decisions (about 85%) were immediately acknowledged and implemented by the parties, while the remaining (about 15%) were acknowledged and implemented only following reminders from the Authority's Consumer and User Advocacy Department.

Finally, in 2020 the updating of the log of decisions made by the Authority in the exercise of its justice function continued. It is a tool - with no legal value and freely accessible by interested parties from ARERA's institutional website - which aims to promote the widest possible understanding and dissemination of the interpretative guidelines adopted by the Authority in order to meet the need for certainty and uniformity in their application, with a view to regulatory compliance and reducing jurisdictional and legal disputes, as evidenced by the recent increase in the number of cases of archiving complaints.

The **analysis of the outcome of the 2020 disputes** makes it possible to assess the effects of judicial review on the Authority's regulatory acts in the areas within its competence, both with regard to substantive and procedural aspects.

Out of a total of 11,221 resolutions approved by the Authority since its inception (April 1997-31 December 2020), 1,222, equal to 10.9%, were appealed, and 205, 1.8% of those adopted, were annulled (with final judgement), in whole or in part. In statistical terms, the "resistance" index of the Authority's decisions to judicial review stood at around 98.2% (98.5% in 2019). The novelty of 2020 could be seen in the litigation concerning the regulation of the integrated waste service. During the year, the following were challenged: resolution 31 October 2019, 443/2019/R/rif, defining the criteria for the recognition of the efficient operating and investment costs of the integrated waste service, for the period 2018-2021 (four appeals, three of which were settled during the year with a first instance ruling); resolution 3 March 2020, 57/2020/R/rif (one appeal); resolution 5 May 2020, 158/2020/R/rif (one appeal).

In general, there has been an increase in litigation in terms of the number of appeals compared to the previous two years: 144 appeals, compared to 62 in 2019 and 83 in 2018.

IMPLEMENTATION OF REGULATION, COMMUNICATION, ORGANISATION AND RESOURCES

Measures adopted

A total of 609 measures were adopted by the Authority's Board in 2020, including resolutions, consultation documents, memoranda, opinions, reports and warnings, with a monthly average of around 50 measures, with significant peaks in June, October, November and December.

TABLE 11.2 Monthly trend of measures produced for the year 2020

MACRO-AREAS	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TO-TAL	%
R - Regulation	12	14	32	30	32	38	31	17	22	52	54	89	423	69.46%
E - Enforcement and consumers	3	4	6	4	2	4	5	1	2	9	5	4	49	8.05%
S - Sanctioning proceedings	5	4	4	5	3	10	7	3	1	2	3	2	49	8.05%
C - Litigation and arbitration	-	-	1	1	-	-	-	-	-	-	1	3	6	0.99%
A - Administration	3	1	6	5	6	6	2	2	1	7	2	7	48	7.88%
I - Institutional	1	1	5	2	2	2	1	4	3	2	5	6	34	5.58%
Rds - System Search	-	-	-	-	-	-	-	-	-	-	-	-	-	0.00%
TOTAL	24	24	54	47	45	60	46	27	29	72	70	111	609	100.00%

Source: ARERA.

The most important macro-areas in numerical terms are those relating to "Regulation" with 423 acts (approximately 69.5% of the total acts adopted by the Authority in 2019), "Enforcement and Consumers" with 49 acts (8%) and "Sanctioning Procedures" with 49 acts (8% of the total). There were lower numbers of measures attributable to the activities of "Administration", "Institutional", "Litigation and arbitration" sector and "System research".

TABLE 11.3 Measures adopted by the Authority in 2019 and 2020, divided by macro-areas of intervention

TYPE	2019		2020	
	NUMBER	SHARE%	NUMBER	SHARE%
R - Regulation	380	65.52%	423	69.46%
E - Enforcement and consumers	54	9.31%	49	8.05%
S - Sanctioning proceedings	49	8.45%	49	8.05%
I - Institutional	37	6.38%	34	5.58%
C - Litigation and arbitration	15	2.59%	6	0.99%
A - Administration	44	7.59%	48	7.88%
Rds - System Search	1	0.17%	0	0.00%
TOTAL	580	100.00%	609	100.00%

Source: ARERA.

Communication

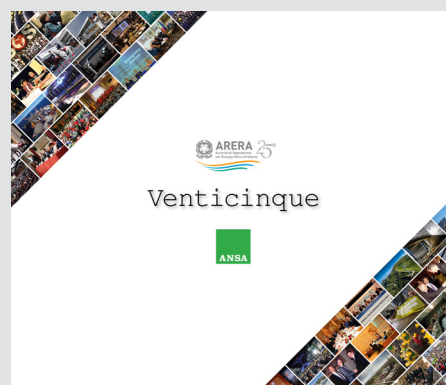
The definition of communication objectives is primarily based on the Authority's 2019-2021 Strategic Framework.

The 25th anniversary of the Authority

On 14 November 1995, Law No. 481 was passed, which established the independent regulatory authorities for public utility services in Italy. Therefore, in November 2020 ARERA celebrated its 25th anniversary.

This anniversary was marked by a new graphic design of the logo in all communication spaces, to accompany, throughout 12 months, the ordinary and extraordinary institutional activities of the Authority. To celebrate the 25th anniversary, the volume "Venticinque" was produced in collaboration with ANSA (Associated National Press Agency).

The book recounts, in words and images, the last quarter of a century in the energy and environment sectors: a journey that retraces some of the fundamental steps in the life of the Authority, in the context of the main national, European and world events.



In collaboration with Rai, a live television broadcast of the presentation of the 2020 Annual Report to the Government and Parliament was made for the first time. The report of the President of the Authority was broadcast in its entirety in cooperation with TG2.

Particular attention was also paid to the drafting and dissemination of information to consumers on social bonuses for reducing bills due to economic and/or physical hardship, via the web, the mass media and social networks, with a further acceleration caused by the introduction of the automatic system for obtaining them recognised by law.

In relation to the gradual removal of price protection and the launch of the **gradual standard offer service**, specific information pages have been prepared on the Authority's institutional website and cooperation with some business associations has been set up. In this context, the board created customised communication materials³³ with the different logos, producing graphic and text formats for a coordinated communication operation throughout the territory and across all categories of companies.

Finally, the Authority's institutional activity was accompanied by integrated action across the different media, with particular attention to the evolution of digital communication and social media.

³³ The following materials were prepared: brochures, posters, banners for websites, cards for social networks and articles for dissemination through newsletters

Human resources

The Authority employs 230 permanent staff and, following stabilisation, 20 fixed-term staff. As at 31 December 2020, there were 208 permanent employees (18 of whom were managers, 143 officials, 45 operatives and 2 executives), 14 employees on fixed-term contracts and 16 staff on secondment, detachment or leave from other public administrations. The Authority can also count on the cooperation of personnel from the Guardia di Finanza to carry out its inspections. Employees have an average age of just over 48 years; more than 90% are university graduates.

