



# ARERA

Autorità di Regolazione  
per Energia Reti e Ambiente



## S U M M A R Y

### ANNUAL REPORT 2019

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# INTRODUCTION

The Italian Regulatory Authority for Energy, Networks and Environment (ARERA) carries out regulatory and supervisory activities in the sectors of electricity, natural gas, district heating, water services and the waste cycle. Established by Law n. 481 of 1995, ARERA is an independent administrative authority that operates to ensure the promotion of competition and efficiency in public utility services and protect the interests of users and consumers. It fulfils its functions by harmonising operators' economic and financial objectives with general social objectives, for environmental protection and the efficient use of resources. It also provides consulting and recommendation papers to the Government and the Parliament in matters within its competence, also for the purposes of the definition, transposition and implementation of the EU legislation.

The Authority operates in full autonomy and independence of judgement within the general policy guidelines formulated by the Government and Parliament and the regulations of the European Union. In this perspective, the resources for its operation do not come from the State budget but from a contribution from the revenues of regulated operators.

With Italian Presidential Decree of 9 August 2018 Stefano Besseghini was appointed as President, and Gianni Castelli, Andrea Guerrini, Clara Poletti and Stefano Saglia were appointed as members.

The Authority is a Board consisting of a President and four members appointed by Italian Presidential Decree, for a non-renewable seven years term of office. The appointment procedure provides for the two-thirds majority of the members of the competent Parliamentary Committees to express their binding opinion on the names proposed by the Ministry of Economic Development, jointly with the Ministry of the Environment and Protection of Land and Sea and approved by the Council of Ministers.

On the international level, ARERA participates in the work of the Agency for the Cooperation of Energy Regulators (**ACER**), of which it currently holds the chair of the Board of Regulators 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 prominent role in the Energy Community Regulatory Board (**ECRB**). It also supports the International Confederation of Energy Regulators (**ICER**) and in April 2014 promoted the launch of the European Water Regulators (**WAREG**), a network for cooperation between water sector regulators for which it has held the presidency since 2015.

# SCENARIO

## THE INTERNATIONAL CONTEXT

In 2018 the world economy showed a very slight slowdown, (+3.6% vs. +3.8% in 2017, data from IMF, World Economic Outlook Database, April 2019). The growth was sustained by Asian countries (+ 6.4%), with the United States continuing to record the most sustained increases in GDP among developed countries (+2.9%). By way of comparison, Italy grew by 0.9%; Germany by 1.5%.

### International oil market

The instability that also characterised oil prices in 2018 appeared to have originated more from fears related to political tensions between the US and Iran than from economic factors and market fundamentals. Over the year, growing prices have experienced two moments of tension, one in May and the other in October. **2018 was the third consecutive year of rising oil prices (and therefore energy prices) on international markets: in euros they went from 39.5 €/barrel in 2016, to 48.1 €/barrel in 2017 to 60.2 €/barrel in 2018 (+ 52.4% in three years).** 2019 will be the year in which oil, which continues to grow steadily from at least 15 years, will reach the record of 100 million b/day produced worldwide.

### International gas market

**In 2018 global gas demand was still increasing** (+4.6%, against +2.8% in 2017), with regional dynamics that reflect the economic ones: increases in China: +11 billion cubic meters, +69 billion cubic meters in the American area, especially after the entry into operation of new thermolectric production in the USA. In the European Union there was instead a decline of 16 billion cubic meters (-3.3%): the most significant drops were in Germany (-7.2 billion cubic meters); in the Netherlands (-3.4 billion cubic meters, due to the replacement of natural gas in national thermolectric plants with electricity imports). **Gas supply through LNG marks, for the fifth consecutive year, a new record** in volumes traded worldwide, after the entry into operation of new gas liquefaction capacity in Asia. The flows of LNG to Europe increased from both the United States (from 5.7 to 7.6 million tonnes), and from Russia (from 0.1 to 4.4 million tonnes).

After two years of increases, **gas prices have continued to grow in Europe and Asia in 2018 as well, while increases have been marginal in the USA. The USA continues to benefit from significantly lower energy prices.** The progressive alignment in the three regional markets (Asia, American, European) that was recorded until 2015 failed to occur: **Asia continues to ensure excellent outlets and higher prices than those in the EU.** The spot prices of gas in the main European stock exchanges have registered a rise from 18.6 to 24.4 c€/ m<sup>3</sup> (+31%). Their dynamics are influenced by those of oil, also reflecting their moments of tension (May to October).

**In 2018 the spot price of gas in Italy at the VTP (Virtual Trading Point) has always been always higher that of the other hubs:** the difference with respect to the TTF was 2.22 c€/ m<sup>3</sup> and 2.24 c€/ m<sup>3</sup> with respect to the German NCG, with the former dropping slightly below the average for 2017 (2.35 c€/ m<sup>3</sup>), but the latter growing (2.07 c€/m<sup>3</sup> in 2017). These differences show the shift in market focus toward the Central-Northern Europe. Even more worthy of attention is the fact that gas prices at the Italian border are the highest on average, as well as those imported from Algeria, overturning Italy's historic position.

### International coal market

Coal production has continued to grow worldwide, returning to 2015 levels, supported by demand in the Asian markets. Prices increased by +11%, after the hike of +30% in 2017. Germany saw a decline of imports of this source of -17%.

**ETS**

By 2017 the price of European CO<sub>2</sub> emission permits has tripled, a sustained trend that, since September 2018, has seen prices stable above 20 €/ton with peaks in April 2019, up to 24.9 €/t.

The elements that affect the evolution of the ETS market in the short-term include the post-Brexit effect and the possibility of the birth of an autonomous UK ETS system. In the long-term scenarios will instead be affected by the energy and environmental policies of the main European countries, as well as the implementation of the RED II and CEP directives.

**INTERNATIONAL COMPARISON OF FINAL ELECTRICITY AND GAS PRICES****Electricity prices for domestic customers**

2018 confirms the significant changes, registered for the first time in 2017, in terms of relative positioning of final electricity prices for Italian consumers compared to European prices. In the past, Italian prices for the first two consumption classes (annual consumption less than 1,000 kWh and consumption between 1,000 to 2,500 kWh/y) stood at lower values than those found on average in the euro area, both net and gross of charges and taxes. Conversely, for subsequent classes higher values were recorded, even with marked differences. As in the previous year, **in 2018 there is a negative differential of Italian gross prices compared with the euro area average, which extends to the first three consumption classes (consumption <5,000 kWh/y).**

While the gap reopens for the first class, with a significant -23% (-16% in 2016), the second class (consumption between 1,000 and 2,500 kWh) confirms a differential of -10% in favour of Italian prices and the third (consumption between 2,500 and 5,000 kWh) shows minimal variations (-5% against -4% in 2017).

**The last two classes (5,000 to 15,000 kWh/y and over 15,000 kWh/y) also continue in the process of rapid convergence toward the values assumed in the euro area. In terms of net prices, except for the first consumption class (-22% vs. -10% in 2017), the alignment with the euro area is perfect for the intermediate classes and now also close for the upper two classes** (respectively +2% and +1%, against respectively +6% and +10% in 2017).

**These dynamics originate from lower increases in the Italian net price than those of the euro area, or in the case of some classes, reductions in the net prices against increases in the euro area.** With the entry into force of the electricity tariff reform introduced by the Authority (1 January 2016) the progressive realignment of the network fees applied to the different consumption classes began, which has helped bring Italian net prices closer to the European average, thanks to the gradual phasing out of the former progressive tariff structure. **In 2018 this has been accompanied by reductions, also more advantageous for the Italian customer, of the charges and taxes component. This component maintains a non-digressive structure, unlike what happens in other European countries.**

## Final electricity prices for domestic consumers in 2018

Prices net and gross of taxes; c€/kWh

	CONSUMERS BY ANNUAL CONSUMPTION BAND (kWh)									
	< 1,000		1,000-2,500		2,500-5,000		5,000-15,000		> 15,000	
	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS
Austria	21.02	36.13	14.40	23.66	12.49	19.89	11.15	17.45	10.08	15.72
Belgium	30.55	42.85	21.28	30.60	19.51	28.35	17.61	25.90	15.37	22.69
Bulgaria	8.40	10.08	8.29	9.95	8.27	9.92	8.27	9.92	8.18	9.82
Cyprus	24.59	30.68	17.01	21.65	15.95	20.38	15.29	19.58	14.73	18.89
Croatia	17.50	21.37	11.14	14.18	10.24	13.16	9.83	12.70	9.54	12.37
Denmark	16.35	38.87	12.54	33.79	10.64	31.25	9.74	24.92	9.39	22.80
Estonia	11.70	15.65	10.54	14.25	10.19	13.83	9.57	13.09	8.84	12.22
Finland	26.33	35.44	16.13	22.80	11.09	16.55	9.17	14.16	7.23	11.76
France	29.20	38.56	14.05	20.65	11.51	17.74	10.17	16.17	9.61	15.51
Germany	28.38	47.45	16.56	33.32	13.79	29.94	12.28	28.00	11.07	26.31
Greece	16.18	22.01	11.79	17.02	11.29	16.59	11.00	17.61	10.33	20.91
Ireland	27.39	38.64	23.25	31.67	19.26	24.54	16.92	20.58	14.51	16.87
Italy	22.71	31.68	16.44	22.57	13.51	21.14	12.17	21.21	10.95	20.40
Latvia	13.13	20.90	10.80	16.01	10.38	15.21	9.99	14.50	10.03	14.74
Lithuania	7.92	11.22	7.85	11.14	7.71	10.97	7.37	10.55	6.75	9.80
Luxembourg	24.86	29.70	15.80	19.91	12.93	16.81	10.82	14.54	9.90	13.54
Malta	34.25	36.12	13.79	14.63	12.19	12.96	14.26	15.13	33.05	34.86
Netherlands <sup>(A)</sup>	40.15	0.00	17.27	12.43	12.00	17.07	8.43	18.58	n.d.	n.d.
Poland	11.63	17.63	9.61	15.26	8.98	14.03	8.37	12.98	8.22	12.59
Portugal	15.67	40.70	10.90	24.97	10.18	22.70	9.82	21.64	9.60	20.50
United Kingdom	19.86	28.32	15.40	21.98	13.74	19.56	12.47	17.77	11.66	16.62
Czech Republic	23.98	29.15	17.26	21.04	12.93	15.80	10.02	12.27	9.88	12.11
Romania	9.74	13.20	9.90	13.41	9.77	13.25	9.54	12.96	9.27	12.61
Slovakia	16.47	24.15	10.95	17.53	8.96	15.14	7.23	13.06	5.74	11.28
Slovenia	18.11	32.33	12.90	20.14	11.17	16.26	10.17	14.06	9.46	12.59
Spain	45.83	58.28	23.48	29.87	19.10	24.30	16.05	20.42	13.25	16.85
Sweden	27.47	38.19	15.05	22.66	12.45	19.41	10.20	16.60	8.34	14.27
Hungary	9.22	11.70	9.22	11.70	8.83	11.21	8.65	10.98	8.58	10.90
Norway	32.80	42.25	20.27	26.94	13.18	18.29	9.31	13.57	8.15	12.15
European Union	26.08	36.75	15.59	23.56	13.07	20.83	11.53	19.11	10.54	17.95
Euro Area	29.26	41.29	16.44	25.09	13.54	22.15	11.87	20.51	10.80	19.33

Source: ARERA Calculations on Eurostat data.

Since 97.5% of Italian customers fall within the first three consumption classes (5,000 kWh/y and under) and consumes 90.5% of the volume of energy sold in Italy in the domestic sector, it is also confirmed for 2018 that almost all Italian domestic consumers benefit from lower prices than the Euro Area average.

Among the main European countries, Germany is the country with the highest prices for household electricity customers.

**With respect to Germany, Italian consumers pay lower prices by about -30% for the first three classes and -20% for the last two.** For the latter, before 2017 it was instead Italian customers who paid the higher prices (+25% in 2015).

#### **Prices for industrial customers**

2018 marks the consolidation of the positive trends already recorded in 2017 for the industrial sector as well. In fact, **the gap between prices that industrial customers pay in our country and the average values paid in the euro area continues to close.**

**However, industrial customers continue to pay higher prices than the euro area average, for all classes except higher consumption (70-150k kWh/y, which in 2018 records -12%) in 2018 as well.**

Italian prices are confirmed to be not only lower, as usual, than all German industrial consumers (for percentages gradually increasing with the growth of the class from -8% to -36% with the exception of the penultimate class), but also of British industrial consumers, at least for the last three consumption classes, as well as Spanish industrial consumers, in this case for the first and last class. Italian prices are always higher only when compared to France.

**The relative improvement in Italian final prices originates from the considerable reduction in 2018 of the charges and taxes component that have more than offset the increase in net Italian prices. In 2018 gross Italian prices for industrial customers are therefore still declining.**

#### **Gas prices for domestic consumers**

**For 2018, natural gas prices for Italian domestic consumers gross of taxes and charges is significantly higher than the average prices in the euro area, with growing differentials.**

As always, the first consumption class (< 525 m<sup>3</sup>, mostly cooking and hot water use) is an exception, for which, however, for the first time there is a zero differential in the comparison between net prices.

For the consumption class 525-5,254 m<sup>3</sup> (which has the largest share of the total household consumption, approximately 74%) the differential with the average gross euro area prices was +17% (+15% in 2017); for the consumption class over 5,254 m<sup>3</sup> (mostly central heating) this was + 22%, against + 18% in the previous year. In net terms a differential with the euro area of +10% in 2018 (+6% and +3% in 2017) stands out for both classes.

**The more significant net price increases than the euro area average drive the final price values:** the increase was in fact around 7% for the first two classes and above 11% for the third class, against percentages that have not exceeded approximately 4% in the euro area. Regarding the charges and taxes component, it too has experienced increases of several percentage points, but always lower than the euro area average.

## Final electricity prices for industrial consumers in 2018

Prices net and gross of taxes; c€/kWh

	CONSUMERS BY ANNUAL CONSUMPTION BAND (MWh)											
	< 20		20-500		500-2,000		2,000-20,000		20,000-70,000		70,000-150,000	
	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS
Austria	12.16	19.10	9.24	14.72	7.12	12.05	6.13	10.32	5.45	9.16	4.92	8.31
Belgium	17.65	28.07	11.05	17.82	7.97	13.47	6.71	11.09	5.57	8.79	5.46	7.95
Bulgaria	10.71	12.97	9.45	11.46	8.18	9.94	7.46	9.07	6.70	8.16	6.11	7.45
Cyprus	16.80	21.41	15.60	19.98	14.72	18.95	13.92	17.99	13.64	17.07	12.12	15.85
Croatia	11.73	14.94	9.98	12.94	8.58	11.34	7.47	9.97	6.46	8.16	5.82	6.71
Denmark	9.50	29.84	8.38	27.97	6.22	25.24	6.13	25.04	5.37	24.02	5.31	24.00
Estonia	10.59	14.31	8.63	11.96	7.61	10.74	6.39	9.27	6.00	8.79	5.99	8.71
Finland	8.69	11.64	7.81	10.55	6.24	8.60	5.94	8.24	4.92	6.97	4.79	6.81
France	11.98	18.39	9.35	14.77	7.04	11.14	5.98	8.92	5.48	7.47	5.14	6.69
Germany	13.15	28.59	9.57	22.44	7.76	19.77	6.36	16.49	5.09	12.18	4.68	12.49
Greece	12.10	19.09	10.05	16.45	7.92	12.14	6.95	10.25	6.84	8.94	5.56	7.14
Ireland	17.02	23.58	14.35	17.98	12.06	15.05	9.87	12.10	9.20	11.24	8.38	10.45
Italy	14.36	26.34	10.06	19.84	8.89	16.52	8.09	13.51	7.52	10.43	6.73	8.02
Latvia	14.36	23.04	10.33	15.65	8.22	12.62	6.98	10.70	5.64	9.07	4.85	7.99
Lithuania	10.70	14.63	8.50	11.90	7.32	10.52	6.49	9.50	5.82	8.72	5.38	8.14
Luxembourg	12.63	16.15	9.27	11.33	7.50	9.10	6.19	7.36	4.17	4.55	n.d.	n.d.
Malta	19.53	20.67	15.07	15.98	13.36	14.19	11.82	12.57	9.88	10.53	9.52	10.15
Netherlands <sup>(A)</sup>	n.d.	n.d.	7.34	15.07	6.17	10.11	5.96	9.54	5.39	7.21	5.41	6.82
Poland	11.65	18.09	9.10	14.04	6.49	10.83	5.53	9.58	5.24	9.06	4.56	7.91
Portugal	12.11	24.81	9.97	18.37	7.98	14.11	7.50	13.15	6.67	11.40	6.12	10.41
United Kingdom	13.94	20.21	11.94	18.50	9.89	16.48	10.01	15.53	9.67	14.65	9.18	14.07
Czech Republic	17.68	21.53	12.59	15.36	7.16	8.80	6.26	7.71	6.30	7.76	6.31	7.77
Romania	9.09	12.26	8.32	11.40	7.22	10.10	6.64	9.42	6.13	8.67	5.91	8.44
Slovakia	16.17	23.96	9.82	16.34	8.05	14.20	7.14	13.11	6.27	12.07	5.89	11.61
Slovenia	10.89	17.14	8.83	12.91	6.94	10.54	6.05	8.84	5.43	7.57	5.16	7.07
Spain	25.20	32.05	12.44	15.82	10.27	13.06	9.24	11.75	8.37	10.64	7.39	9.40
Sweden	15.40	19.31	8.20	10.31	7.01	8.82	5.86	7.39	5.13	6.48	4.49	5.67
Hungary	10.81	14.69	9.06	12.47	7.38	10.33	6.70	9.47	6.13	8.75	6.35	9.03
Norway	7.86	12.11	7.38	10.52	7.24	10.32	6.08	8.85	5.41	8.01	4.60	5.75
European Union	14.11	22.91	9.96	17.18	8.00	14.17	7.11	12.24	6.39	10.22	5.90	9.49
Euro Area	14.46	24.39	9.87	17.86	8.00	14.67	6.97	12.39	6.14	9.90	5.64	9.13

Source: ARERA Calculations on Eurostat data.

### Prices for industrial gas customers

The dynamics of recent years are confirmed: industrial companies belonging to the three higher gas consumption classes (over 263,000 m<sup>3</sup>) have continued to benefit from more advantageous gross prices compared to those of the euro area in 2018 as well, albeit with declining differentials compared to the previous year.

## Final natural gas prices for domestic consumers in 2018

Prices net and gross of taxes; c€/m<sup>3</sup>

	CONSUMERS BY ANNUAL CONSUMPTION BAND (m <sup>3</sup> )					
	< 525.36		525.36-5,253.60		> 5,253.60	
	NET	GROSS	NET	GROSS	NET	GROSS
Austria	79.64	106.64	53.00	72.45	44.79	62.33
Belgium	70.21	87.82	48.49	61.37	42.78	54.56
Bulgaria	37.45	44.94	35.98	43.17	35.92	43.10
Croatia	38.69	48.37	30.76	38.45	28.95	36.19
Denmark	54.96	110.21	42.28	94.37	39.90	91.39
Estonia	37.40	50.95	31.34	43.67	29.82	41.85
France	123.89	158.19	54.69	75.49	44.04	62.58
Germany	81.88	108.00	47.75	64.30	42.34	57.86
Greece	63.99	74.04	54.13	62.76	53.99	62.57
Ireland	72.27	86.46	60.99	73.67	55.37	67.31
Italy	90.07	119.75	57.11	88.08	47.87	81.18
Latvia	56.70	70.76	34.71	44.16	34.65	44.08
Lithuania	54.50	68.67	30.77	42.51	24.14	33.32
Luxembourg	41.73	46.31	39.90	44.38	39.52	43.91
Netherlands	83.53	138.86	42.00	88.61	n.d.	n.d.
Poland	45.79	56.43	37.41	46.17	35.14	43.79
Portugal	75.60	n.d.	60.95	n.d.	56.22	n.d.
United Kingdom	66.18	73.90	46.85	51.79	41.75	46.06
Czech Republic	92.54	111.97	49.97	60.46	46.10	55.78
Romania	30.08	35.79	29.97	35.66	29.08	34.60
Slovakia	89.70	107.63	39.06	46.87	37.97	45.57
Slovenia	45.37	63.93	41.65	59.39	36.13	52.65
Spain	86.04	107.11	64.81	81.41	49.91	63.38
Sweden	125.91	196.75	71.53	124.12	66.81	119.11
Hungary	29.36	37.29	29.36	37.29	29.36	37.29
European Union <sup>(A)</sup>	79.81	102.96	48.78	66.63	42.08	59.35
Euro Area	90.27	120.48	51.69	75.20	43.55	66.46

(A) Data for Cyprus, Finland and Malta are not available and therefore they are not shown in the table.

For companies with lower consumption (up to 263,000 m<sup>3</sup>, corresponding to the first two consumption classes) prices remain higher than the euro area average, with differentials not changing too much from one year to another.

## Final natural gas prices for industrial consumers in 2018

Prices net and gross of taxes; c€/m<sup>3</sup>

	CONSUMERS BY ANNUAL CONSUMPTION BAND (thousands of m <sup>3</sup> )									
	< 26		26-263		263-2,627		2,627-26,268		26,268-105,072	
	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS	NET	GROSS
Austria	46.04	63.64	35.55	50.86	28.48	42.14	23.65	35.92	21.54	33.25
Belgium	41.32	52.74	30.87	40.12	23.46	30.87	20.86	26.96	22.05	28.05
Bulgaria	34.29	42.53	32.01	39.81	27.73	34.58	22.67	27.92	21.20	25.48
Croatia	35.56	45.54	30.78	39.78	27.92	35.63	26.06	33.07	n.d.	n.d.
Denmark	39.51	90.90	37.71	88.51	29.75	76.61	27.99	73.80	27.12	72.52
Estonia	30.33	42.46	28.81	40.64	28.31	40.03	28.31	40.03	27.29	38.82
Finland	48.16	83.16	45.19	79.48	41.75	75.21	n.d.	n.d.	n.d.	n.d.
France	46.76	65.81	38.55	55.56	31.48	45.99	26.56	34.33	22.76	26.12
Germany	40.27	52.99	34.94	46.65	29.19	39.80	23.35	32.86	23.42	32.95
Greece	49.16	62.09	38.74	50.91	30.18	38.57	27.90	33.89	n.d.	n.d.
Ireland	48.72	59.72	42.12	52.11	34.74	42.50	27.49	31.50	n.d.	n.d.
Italy	49.49	71.63	38.88	54.16	28.53	34.10	26.38	29.05	26.80	28.78
Latvia	38.50	48.74	35.56	45.01	31.59	39.88	29.06	36.90	n.d.	n.d.
Lithuania	36.20	50.07	34.58	47.85	33.29	45.60	30.70	41.47	n.d.	n.d.
Luxembourg	40.11	44.57	38.66	42.43	34.01	37.21	25.05	27.11	n.d.	n.d.
Netherlands	n.d.	n.d.	28.88	72.40	23.95	43.59	22.63	32.86	22.12	29.45
Poland	38.36	48.15	36.25	45.60	31.78	40.06	26.08	32.73	24.80	30.96
Portugal	50.20	71.34	42.62	55.32	29.32	36.97	26.46	33.14	26.97	33.42
United Kingdom	48.05	57.66	27.83	34.52	27.09	33.68	21.59	26.79	21.81	26.63
Czech Republic	35.03	44.02	28.75	36.41	26.30	33.45	25.03	31.92	24.74	31.57
Romania	32.10	38.20	30.69	36.52	28.54	33.96	25.30	30.11	22.58	26.87
Slovakia	40.76	50.59	35.50	44.28	30.18	37.89	25.75	32.58	22.84	29.09
Slovenia	43.29	60.80	40.03	55.90	30.10	42.62	25.10	34.11	n.d.	n.d.
Spain	43.15	52.90	38.48	47.25	30.55	37.66	27.17	33.57	25.99	32.14
Sweden	60.49	111.82	51.71	100.84	42.14	88.88	36.20	81.45	35.06	80.03
Hungary	30.65	41.16	29.28	39.33	26.22	35.42	26.28	35.47	26.08	34.83
European Union <sup>(A)</sup>	42.90	59.70	34.68	49.23	28.73	39.14	24.58	32.16	23.83	30.47
Euro Area	43.43	62.09	36.01	52.24	28.90	39.84	24.78	32.33	23.98	30.41

(A) Data for Cyprus, Finland and Malta are not available and are therefore not shown in the table.

Source: ARERA Calculations on Eurostat data.

Compared to the previous year net Italian prices have suffered markedly greater increases than what happened in the euro area, except for the last class. The differentials with the euro area are all positive and between +6% and +14%. There remain differences between our country and other European countries in the **taxation structure**. Only the smallest companies (< 26,000 m<sup>3</sup>) are burdened by higher tax levels than the euro area average (+19%).

## ENVIRONMENTAL SECTORS IN EUROPE

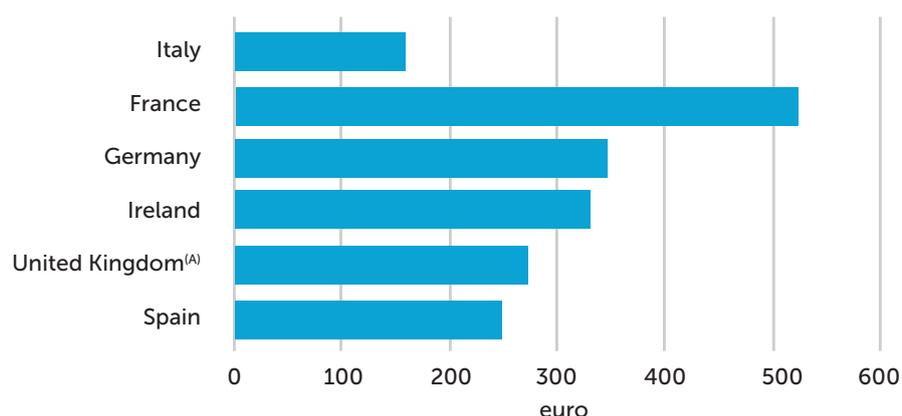
### Water systems

The European Union is implementing the revision of the regulations on a range of issues including the effects of water stresses generated by the combined effect of increasing levels of urbanisation (in terms of increasing consumption), by the effects of pollution (in terms of reduction of the drinkable water share) and climate (with frequent periods of drought and concentrated rainfall both in terms of intensity and in terms of volume, in limited periods). In 2015 33% of the European population was exposed to conditions of water stress, concentrated in the southern European countries Greece Portugal and Spain (also in Italy in 2017).

Agriculture is the sector to which the greatest share of water withdrawn is dedicated (about 42% in Europe), followed by electricity production (28%), industrial use (18%) and household use and services (12%).

According to the study "International Comparisons of Water Sector Performance" (Global Water Intelligence commissioned by Water UK) the annual cost per capita of the Italian integrated water service is the lowest (156.39 euro). The most expensive of all the countries considered was France.

### Cost-per-capita of the water service in certain European countries



(A) The data refers to England and Wales.

Source: International Comparisons of Water Sector Performance, Report commissioned to Global Water Intelligence by Water UK.

Heterogeneous situations can also be observed by analysing the population's rate of connection to the sewer-water treatment systems, with higher values in the countries of Central Europe (97%), and more contained values in the countries of southern, south-eastern and eastern Europe. The European Environment Agency has quantified that in 2015 30 million people in Europe were not connected tied to waste water treatment plants, equal to about 6% of the total population, while in 2014 10 million people in the European Union still lived without access to advanced sanitation services, out of a total of 2.4 billion people around the world (source: European Commission). With regard to sludges from purification, at European level the situation is extremely varied, with countries, including Italy, for which there is a high, or absolutely predominant, proportion destined for landfill, while this solution is practically absent for the main European countries, where agricultural use or incineration prevails (exception Spain, which has a small share of sludge intended for landfill, 14.9%). With respect to the United Kingdom and Germany, Italy also shows, in the data for 2015, decidedly lower recourse to incineration (3.8% for Italy against an average of over 40%). On average in the EU 58% of sludge is reused in agriculture, against 48.5% in Italy, a value which has, however, been declining in recent years.

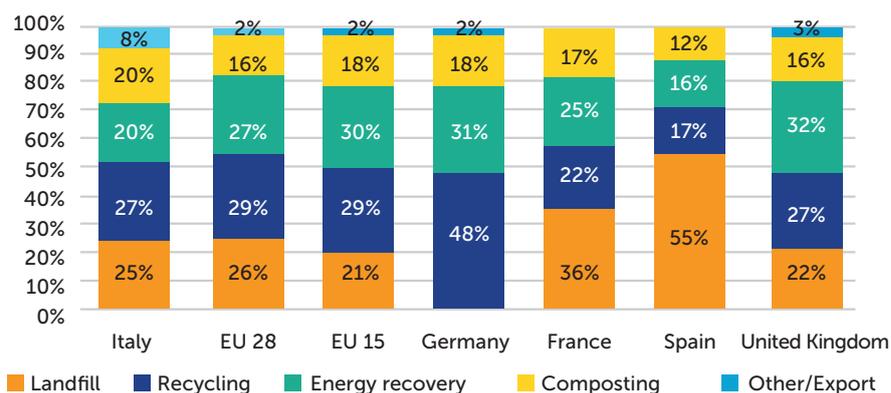
## Production and management of urban and related waste in Europe

There is no common regulatory framework for the waste sector in the various Member States of the European Union. In France municipal competences have been progressively devolved to associations of municipalities, while responsibility for territorial planning has moved to the regional level. In Germany competences are at the municipal level, but the general objectives are established at the federal level. In the United Kingdom sector regulation is organised at the level of national agencies (England, Wales and Scotland), which implement the plans defined at the government level; more technologically complex services are outsourced to industrial entities with multi-year contracts that also contain elements of economic regulation. **Italy is one of the first countries in which sector regulation is entrusted to an independent authority.**

Regarding waste production per capita, in 2016 Italy presented a value of almost 497 kg, in line with both the average in the EU (483 kg) and with France (511 kg) and the United Kingdom (483 kg), but further from the values of Germany (627 kg) and Spain (443 kg). The percentage of waste disposed of in landfills, which stands at about 25% for our country, is also not far from the EU average but is still higher than the best performing countries (Germany 0%, United Kingdom 22%).

## Treatment of municipal waste by technology

Year 2016, percentages of the total of urban and related waste



Source: ARERA Calculations on Eurostat data.

The comparison of the per capita expenditure associated with the services, based on the fiscal nature of the levy to cover costs, appears more complex. Even with the necessary caution, the cost is higher in our country (167 €/inhabitant in 2014) than in others, except in the United Kingdom (200 €/inhabitant). Spain and France amounted to 105-110 €/inhabitant.

## MAIN REGULATORY REFERENCES IN THE EU

After a long and intense debate that started in December 2016 with the proposal of the European Commission, the European Parliament and the European Council have found an agreement on all the measures in the package "Clean Energy for all Europeans" (also called *Clean Energy Package*). The package is divided into eight legislative acts that refer to four areas of intervention.

### 1. Electricity market:

- Directive on common rules for the internal market in electricity (recast);

- Regulation on the internal market in electricity (recast);
  - Regulation on risk-preparedness in the electricity sector;
  - Regulation establishing an Agency for the Cooperation of Energy Regulators (recast);
2. Renewable Energy Sources:
- Directive (EU) 2018/2001 on the promotion of the use of energy from renewable sources (recast);
3. Energy Efficiency:
- Directive (EU) 2018/2002 amending Directive 2012/27/EU on energy efficiency;
  - Directive (EU) 2018/844 on the energy performance of buildings;
4. Governance:
- Regulation (EU) 2018/1999 on the governance of the energy union and climate action.

The European Commission has submitted two proposals to reform the water sector legislation, both currently under scrutiny in the European Parliament and the Council of Ministers of the European Union:

- proposal for a directive on the quality of water intended for human consumption;
- proposal for a regulation of the European Parliament and of the Council on minimum requirements for water reuse.

In the past year, the European Parliament and the EU Council of Ministers have approved a *Circular Economy Package*, primary point of initiative for the waste management policies provided for in the *European circular economy strategy* and in the upcoming *Circular Economy Action Plan*, and which also has an impact on the plastic sector, with specific rules and the purpose of containing its impact on the environment.

The Package consists of:

- four directives adopted on 18 June 2018 and published on 4 July 2018;
- two proposals for a directive on which, at the end of 2018, a definitive political agreement was reached as a result of the trialogue process, but which have not yet been definitively approved and published.

The four directives introduce new rules that complement or replace directives in force:

- directive 2018/851/EU amends the "waste framework directive" (2008/98/EC);
- directive 2018/852/EU amends the "packaging directive" (1994/62/EC, previously amended in 2004);
- directive 2018/850/EU amends the "landfill directive" (1999/31/EC);
- directive 2018/849/EU amends directives 2000/53/EC on end of life vehicles, 2006/66/EC on batteries and accumulators and waste batteries and accumulators, 2012/19/EU on waste electrical and electronic equipment.

Member States should transpose these directives within 5 July 2020.

## ENERGY SUPPLY AND DEMAND IN ITALY

In a framework of structural weakness of the Italian economy (after 4 years of growth in 2018 **GDP has slowed its rate of increase, stopping 0.9%**) total energy consumption is also characterised by a slight increase (+1.5% compared to 2017). The gap between current consumption and the pre-crisis peaks (2003), in addition to the low production of the industrial sector and the construction sector, is also due to improved energy efficiency in end uses.

## National energy balance in 2018

Mtoe

	SOLIDS	GAS	OIL	RENEWABLE SOURCES	ELECTRICITY <sup>(A)</sup>	TOTAL
<b>YEAR 2018</b>						
<b>1 Production</b>	0.25	4.46	4.68	34.00	0.00	43.40
<b>2 Import</b>	9.48	55.59	81.49	1.57	10.38	158.51
<b>3 Export</b>	0.25	0.32	29.53	0.27	0.72	31.09
<b>4 Changes in stocks</b>	0.24	0.22	-1.92	0.00	0.00	-1.47
<b>5 Availability for Domestic consumption (1+2-3-4)</b>	9.24	59.51	58.57	35.30	9.66	172.28
<b>6 Consumption and losses in the energy sector</b>	-0.18	-1.91	-3.72	0.00	-39.16	-44.97
<b>7 Transformation into electricity</b>	-6.90	-19.81	-1.68	-26.37	54.75	-
<b>8 Total end uses (5+6+7)</b>	2.16	37.80	53.18	8.93	25.25	127.32
- industry	2.11	12.64	2.88	0.13	9.48	27.23
- transport	-	0.83	37.06	1.24	0.99	40.12
- civil use	0.00	23.58	2.78	7.52	14,25	48,14
- agriculture	0.00	0.13	2.29	0.04	0.52	2.99
- non-energy uses	0.05	0.62	5.02	0.00	-	5.69
- bunkering	-	-	3.15	-	-	3.15

(A) Primary electricity (hydroelectric, geothermoelectric, wind), imports/exports from abroad and losses valued at thermoelectric input.

Source: ARERA Calculations on data from the Ministry of Economic Development and Terna.

The analysis of consumption by source sees natural gas in first place (59.51 Mtoe) with a downturn of 3.3% followed closely by oil (58.57 Mtoe) that, conversely, shows a positive variation of 1.4%. Added to coal, which has dropped to a new historic low (9.2 Mtoe), fossil sources cover a share equal to 74%.

Despite the decline from wind and photovoltaic sources, renewables show an upturn of 11.4%, establishing a new record with 35.3 Mtoe, driven by the boom of hydroelectric power.

In terms of uses within final consumption, industry shows stable consumption from one year to another; energy consumption increased in the civil sector (+1%), as well as the transport sector (+3.2%).

# ELECTRICITY

## Consumption, production, infrastructures and markets

In 2018 the **electricity consumption (303.4 TWh)** recorded a slight increase of 0.5% (against +2% in 2017), driven by the agricultural sector (+1.8%) while other sectors remained stable, in particular the domestic sector (+0.1%).

**National gross production decreased from 295.8 TWh in 2017 to 290.6 TWh in 2018 (-1.8%).**

**National demand has been met by national production for 87.1%**, declining by 1.8% compared to 2017 with all sources seeing a negative change aside from the **boom of hydroelectric power which saw an increase of +36.1%**. Renewable sources grew by 10%, despite the decrease in photovoltaic energy (-7.1%), and wind energy (-1.4%). There were also declines in energy production from natural gas (-7.6%), from oil products (-21.6%) and from coal (-13.3%). Gas accounted for 44.6% of gross production (47.4% in 2017 and 43.5% in 2016).

**The amount of incentivised electricity stood at around 63 TWh** (65 in 2017, -2%), **for a system cost of 11.2 billion euros** (12.1 billion in 2017, -7%) out of total **general costs slightly above 13 billion euros**. The amount of electricity purchased from the Italian system, instead, was equal to 295.6 TWh (292 TWh in 2017), reaching the highest level of the last 6 years.

The **volumes traded on the stock exchange** also grew, reaching 213 TWh (+1%), as well as the average purchase price of electricity (national single price - PUN) that saw an increase of 14%, amounting to 61.31 €/MWh. At the zonal level the price growth has been characterised by rises ranging between 12 and 19% and values between 59 €/MWh in the South (which is the area with the lowest price) and 69 €/MWh in Sicily (which instead has the highest zonal price for the twelfth consecutive year). The differential between Sicily and the Northern Zone also increased (8.77 €/MWh against almost 5-6 of the previous two years). The differential between Sardinia and the North zone was erased. There is once more a slight increase in the differential between zones and in particular with the North zone, which in recent years had instead recorded differences ranging between 1 and 3 €/MWh.

The **electricity transmission** segment - whose 99.7% is covered by Terna - which, in 2018, has the same 9 companies owning assets of the National Transmission Grid (NTG) consisting of a little over 73,000 km of lines and electrical circuits and about 890 substations, is however stable.

As regards **distribution**, there was a slight decline in the subjects that, at 31 December 2018, were registered to the Authority's registry of operators: 130 electrical distributors, four less than in the previous year, which have supplied a total of 267.9 TWh. In terms of volumes distributed, e-distribution has a market share of 86.2% in the domestic sector and 84.8% in non-domestic.

**The number of delivery points remained basically unchanged (-0.2%) at a little less than 37 million of which 29.5 million were households and 7.3 million non-domestic (-0.3% compared to 2017). 80.3% of domestic customers are resident and consume 88.9% of all the energy distributed.** From the analysis of the distribution data, it emerges that the electrical consumption of Italian families is quite contained: **53.5% of domestic customers fall within an annual consumption band that does not exceed 1,800 kWh and are delivered 26.4% of the entire electricity distributed** while the remaining 46.5% (>1,800 kWh) are delivered 73.6% of the total. Most of the families (about 90%) has a contract with committed power between 1.5 and 3 kW.

Looking at end sales market data, **43.4% of domestic customers are in the free market** (an increase compared to 38.8% in 2017) **and consume an average of 2,073 kWh/year against 1,840 kWh/year** purchased by families who are still in the regulated market (values which have fallen in both cases compared to 2017).

On the supply side, **in 2018 the number of suppliers on the retail market grew markedly** (+73 units in the free market, reaching 638 operators) confirming a trend of expansion which has continued since 2007. The dominant operator of the entire Italian electricity market remains Enel Group, which also saw a slight increase in its market share this year to 37.8% of volumes sold followed from afar by Edison (4.9%) and by the groups Hera and Eni (both around 4.3%). Compared to 2017, there is an increase in the concentration level, which rose from 45.9% to 47% of total sales.

The number of customers that have changed supplier (**switching**) increased in 2018, rising to 10.7% compared to 10.3% in the previous year and can mainly be attributed to domestic customers.

Looking at the data relating to **the free market, the share of dual fuel household contracts out of the total is about 14%**, a percentage that has remained fairly constant over the years against an increase in the number of total customers who use this type of contract, passing from 1.7 to 1.8 million in absolute value. **The preferred contractual mode is non-TOU**, chosen by 63.32% of customers, contrary to what happens in the standard offer service where the two-tier tariff is widely prevalent.

The panorama of commercial offers available on the free market is a highly complex and varied reality, enriched by the presence of PLACET offers (free price offers under uniform contractual conditions). **The average number of commercial offers that companies can make to their potential customers was 16.7 for domestic customers and 39.2 for non-domestic customers, while 25% of suppliers offer only one option** (31% in 2017).

Currently **online offers** play a rather limited role: in 86% of cases the number of offers available through this sales channel was lower than the total offers. 25.7% of suppliers don't make any online offers. On the other hand, at the moment this option doesn't seem of great interest for families, and it turns out that only 3.4% of customers entered into a contract offered through this channel. This is a decrease compared to the 3.8% of last year.

Looking at the **preferred type of price**, it emerged that **approximately 86% (84% in 2017) of domestic customers in the free market have entered a price lock contract**, i.e. the price doesn't change for at least one year from the date of stipulation; 2.3% (5% in 2017) of customers have entered into a contract that contains a minimum contract period clause; 42% have signed a contract that provides a rebate or discount for one or more free periods or for a fixed sum in money or in volume, which can be one-off or permanent, and possibly conditional upon a certain occurrence.

Regarding the presence of additional services in the contracts entered into between domestic customers who chose a fixed price contract there is a clear preference for both the guarantee to purchase electricity produced from renewable energy sources (39% of customers signed a contract that involves this) or a points programme (36% of customers); instead 12.1% chose not to have additional services. Of the customers who have signed a variable price contract more than half have chosen one free of additional services; in this case as well customers are interested in the guarantee of purchasing electricity produced from renewable sources (27.6% of customers).

## Percentage of customers who have signed an electricity supply contract with additional services

ADDITIONAL SERVICES	FIXED PRICE CONTRACTS			VARIABLE PRICE CONTRACTS		
	2016	2017	2018	2016	2017	2018
Offers subscribed to compared to the total	68.5%	68.6%	70.4%	31.5%	31.4%	29.6%
<b>ADDITIONAL SERVICES</b>						
No additional services	85.3%	38.3%	45.0%	68.4%	86.5%	82.7%
Points collection programme (own or others)	72.0%	51.4%	46.1%	13.3%	2.0%	1.8%
Accessory energy services (e.g. digital and collaborative tools to control energy costs and consumption, tools to increase energy efficiency, professional services such as telephone assistance, plant maintenance, insurance, etc.)	23.0%	7.1%	6.1%	20.9%	7.0%	6.6%
Advantages on the purchase of other goods or services (e.g. petrol discounts, subscriptions to magazines, etc.)	5.0%	1.4%	0.9%	1.5%	0.4%	0.4%
Gift or gadgets	n.d.	0.2%	0.2%	n.d.	0.3%	0.4%
Personalised telephone services	n.d.	0.0%	0.0%	n.d.	0.0%	0.0%
Other not included in the above	1.0%	1.6%	1.8%	64.3%	3.7%	8.2%
<b>TOTAL</b>	<b>100.0%</b>	<b>100%</b>	<b>100%</b>	<b>100.0%</b>	<b>100%</b>	<b>100%</b>

Source: ARERA Annual survey on regulated sectors.

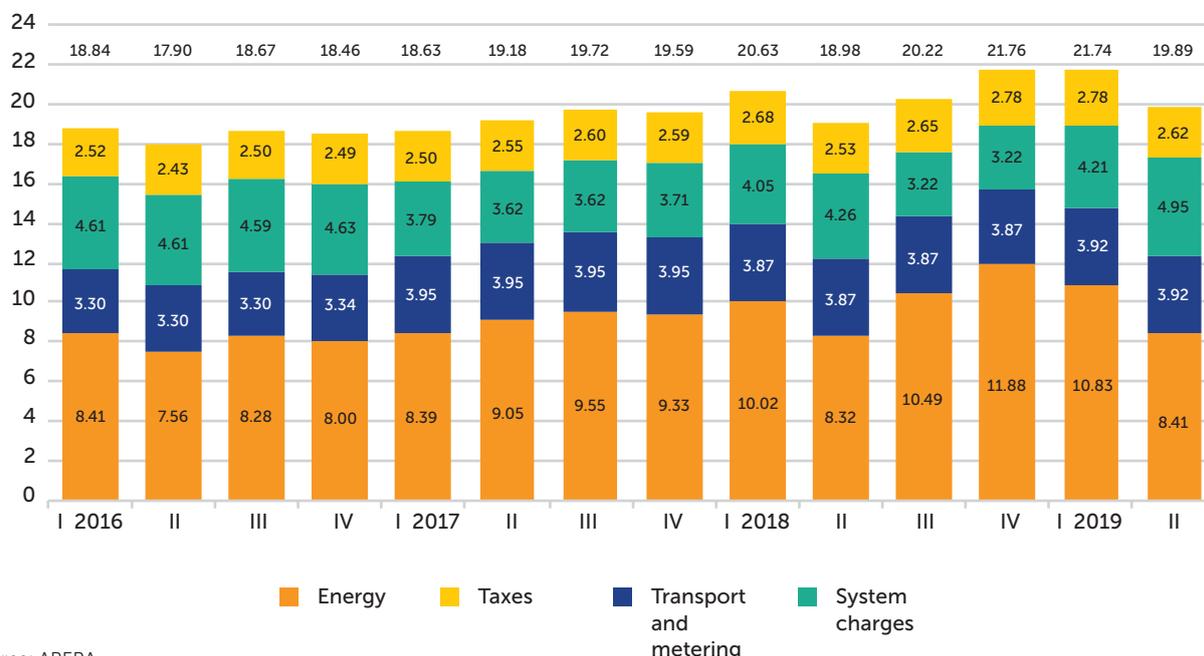
In 2018, the **safeguarded categories** saw a strong decline that can be attributed to customers connected at low voltage and of these, in particular, to public lighting (-18%), which therefore marks a shrinkage in the cases of administrations who pay higher prices for this service than market prices. Lazio, Campania, Sicily and Lombardy are the regions in which there is greater recourse to the safeguarded categories.

### Prices and tariffs

At the end of 2018 the Authority updated the tariffs relating to the provision of electricity transmission, distribution and metering services for domestic and non-domestic customers to be applied in 2019. **The national average tariff to cover the costs of transmission, distribution and metering for 2019 is equal to 2.745 c€/kWh (2.716 c€/kWh in 2018).**

As regards **the economic conditions of the standard offer service for the typical domestic consumer** (annual consumption equal to 2,700 kWh and power equal to 3kW), after several years during which supplies showed a substantially stable price level, starting from the second quarter of 2017 there has been a growing trend.

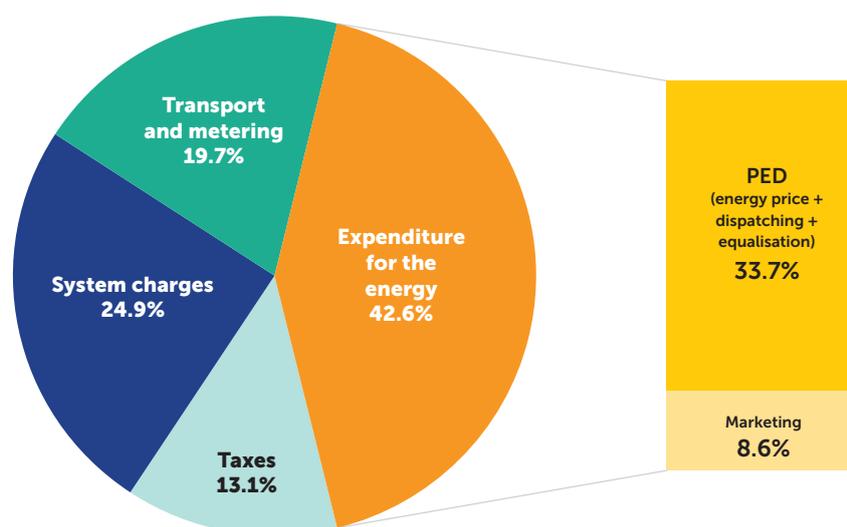
The economic conditions of the standard offer service for the typical domestic consumer with annual consumption equal to 2,700 kWh and power equal to 3 kW c€/kWh



Source: ARERA.

Percentage composition of the economic conditions of the standard offer service for the typical consumer with annual consumption equal to 2,700 kWh and power equal to 3 kW

Values updated to the second quarter of 2019



Source: ARERA.

## General system charges for 2018

Millions of euros

ITEM	DESCRIPTION	ANNUAL REVENUE
$A_{SOS}$	Charges relating to support for energy from renewable sources and cogeneration CIP6	12,288
$A_{3^*SOS}^{(A)}$	Support for renewable sources and cogeneration CIP6	10,928
$A_{ESOS}$	Charges deriving from subsidies for energy-intensive companies	1,822
$A_{91/14SOS}^{(B)}$	Discounts provided for by Decree Law 91/14	-462
$A_{RIM}^{(C)}$	Remaining general charges	791
$A_{2RIM}$	Charges for financing residual nuclear activities	94
$A_{3RIM}$	Charges relating to the production of non-biodegradable waste	23
$A_{4RIM}$	Special railway tariff schemes	106
$A_{5RIM}$	Research funding	34
$A_{5RIM}$	Social Bonus	43
$A_{uc4RIM}$	Minor electricity companies	33
$A_{uc7RIM}$	Energy efficiency in end uses	407
$A_{SVRIM}$	Technological development	26
$A_{mctRIM}$	Territorial compensation measures	24
<b>TOTAL</b>		<b>13,079</b>

(A) Includes discounts for energy-intensive companies.

(B) The element A91/14SOS is negative because it entails discounts recognised to low and medium voltage users not included among energy-intensive companies.

(C) The ARIM component has been removed for the entire second half of 2018.

Source: ARERA Calculations on CSEA data.

### Technical quality

In 2018 the trend of improvement that began two years prior halted for the transmission service. The average number of long (longer than 3 minutes) and short outages (lasting between one and three minutes) by user due to all causes, including beyond the responsibility of Terna, including major incidents, slightly worsened nationwide with respect to the values recorded in 2017 even if in some regions there were improvements (Turin, Florence, Rome and Cagliari).

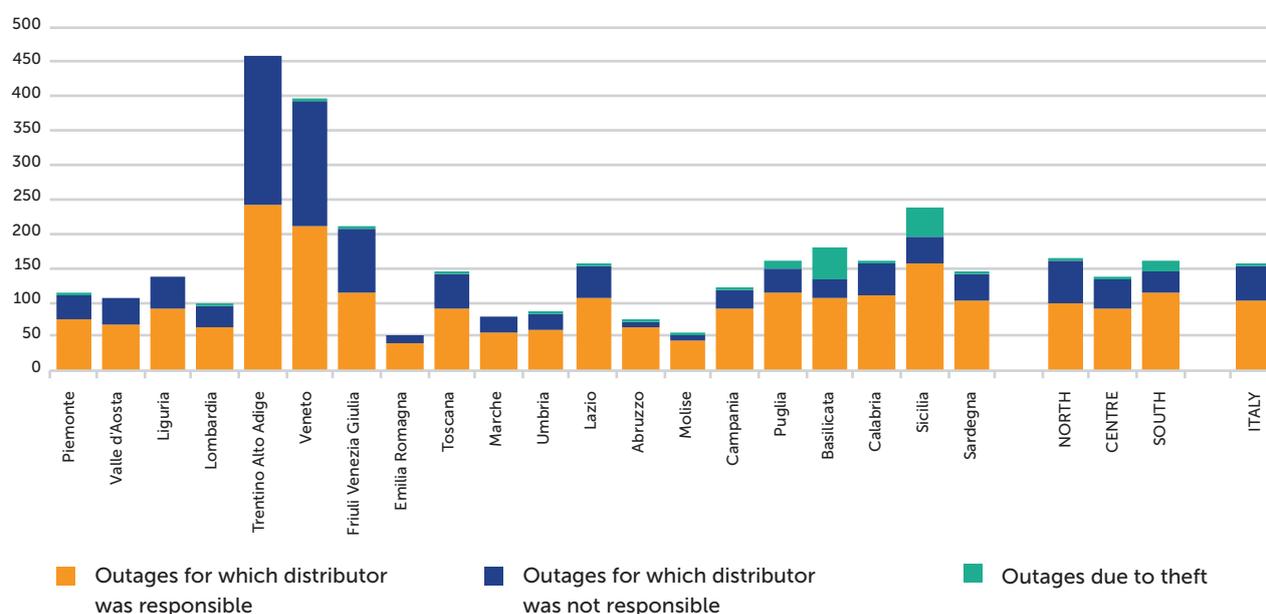
The distribution service also worsened, both in terms of duration and number of outages, confirming the trend of 2017 and mainly due to the exceptional weather conditions.

Compared to 2000, the first year in which the regulation was introduced, the improvement is equal to 49% for the duration of the outages and 40% for the number of long outages (>3 minutes).

In detail, the duration of outages without notice for which the distribution companies were responsible stood at 45 minutes at national level while the number of long and short outages without notice (lasting between one and three minutes) for which distribution companies were responsible stood at 3.38 outages per low voltage user nationwide. The gap between the Centre and North and South of the country is confirmed for 2018 as well.

## Duration (minutes lost) of outages per low voltage user per region

Referring to e-distribution and other distribution companies<sup>(A)</sup>



(A) The share of outage minutes for which distributors were responsible in 2018 is still subject to checks by the Authority.

Source: ARERA Calculations on operators' declarations.

Since 2009 individual standards have been in force for low and medium voltage users (extended from 2012 to LV and MV manufacturers as well) on the maximum duration of outages, irrespective of the reasons behind them. With reference to the automatic compensation that distribution companies have paid to low voltage and medium voltage users, with reference to the outages that occurred in 2017, for exceeding the standards established, in total about 76 million euros were paid to about 620,000 low voltage users (on average about €123 per user) and about 6 million euros to 4,500 medium voltage users (on average €1,249 per user). For 2017 about 75 million euros of compensation were borne by the Exceptional Events Fund, of the CSEA (Energy and Environmental Services Fund), since the compensation was due to outages for which the distributors were not responsible. For **outages that occurred in 2018 92 million was paid to low voltage users (on average about €103 per user) and 10 million euros for medium voltage users (on average €1,650 per user)**. For 2018, approximately 24 million euros of compensation were instead borne by companies due to the Authority's 2017 provisions, with which it was established that, if 72 hours of outage was exceeded, the additional burden of the compensation is the responsibility of the distribution company and/or Terna, even if the cause of the outage is due to force majeure.

### Commercial quality

Last year the number of cases of non-compliance with the minimum and mandatory standards for distribution and metering services related to the performance required by customers (connections, activations, deactivations, quotes, responses to complaints against the distribution activity, etc.) subject to automatic reimbursement further increased. This resulted in an increase in both the number and the amount of compensation paid to users (approximately 1.6 million euros).

About the sales service, instead, in 2018 the average actual times declared by operators in cases of written response to complaints against billing corrections and double billing improved. They fall below the minimum standards set by the Authority but are better than in 2017. The average response times to requests for information are also lower than the general standard, but slightly higher than last year.

Overall with 284,507 written complaints, in 2018 there was a decrease of 12% compared to the previous year, largely due to domestic customers, both of the free market and under standard offer. 53% of written complaints came from customers on the domestic market, both free and under standard offer.

There were 31,276 cases of non-compliance with the standards that entitled users to obtain compensation, for a total amount of approximately 1.5 million euros, most of which were for non-compliance with the standard response to written complaints from customers in the domestic free market, in 94.4% of cases for reasons attributable to the sales companies.

### Number of complaints in the electricity sector in 2017 and in 2018 by customer type

TYPE OF CUSTOMER	2017	2018
Low voltage domestic customers served under standard offer	82,907	67,393
Low voltage non-domestic customers served under standard offer	50,045	46,208
Low voltage domestic customers served in the free market	117,602	101,132
Low voltage non-domestic customers served in the free market	51,884	48,725
Medium voltage customers served in the free market	2,721	3,051
Multi-site customers	18,413	17,998
<b>TOTAL</b>	<b>323,572</b>	<b>284,507</b>

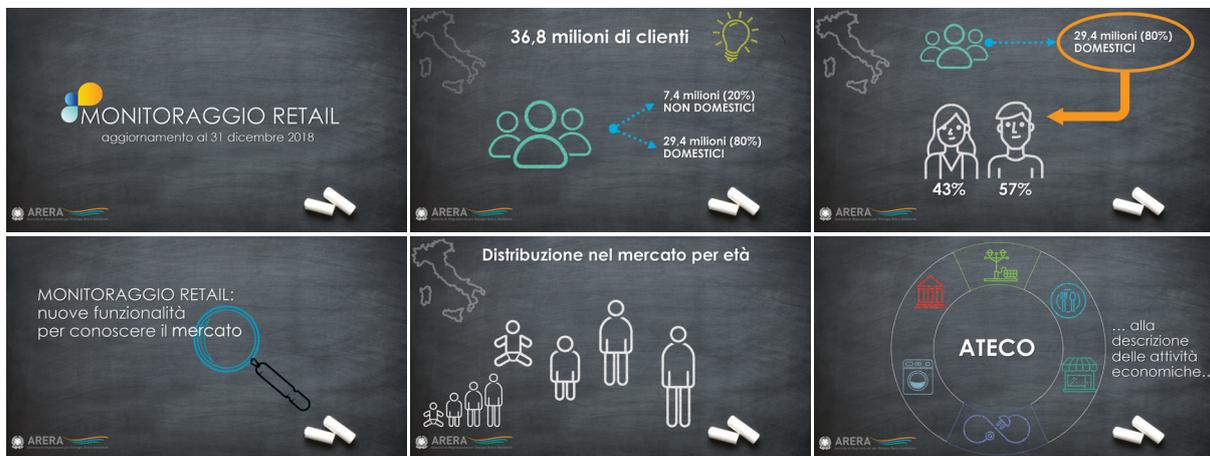
Source: ARERA Data declared by operators 2017-2018.

### Automatic compensation granted in the electricity sector in 2018

Euros

TYPE OF CUSTOMER	DELAY IN RESPONSE TO COMPLAINTS	BILLING CORRECTIONS	DOUBLE BILLING CORRECTIONS	TOTAL
Low voltage domestic customers served under standard offer	498,875	3,955	2,125	504,955
Low voltage non-domestic customers served under standard offer	243,005	950	1,050	245,005
Low voltage domestic customers served in the free market	471,846	21,390	52,400	545,636
Low voltage non-domestic customers served in the free market	204,820	5,480	11,795	222,095
Medium voltage customers served in the free market	19,482	1,010	625	21,117
Multi-site customers	54,955	3,670	1,625	60,250
<b>TOTAL</b>	<b>1,492,983</b>	<b>36,455</b>	<b>69,620</b>	<b>1,599,058</b>

Source: ARERA Data declared by operators 2018.



On 20<sup>th</sup> February 2019 the Authority held a seminar in Milan entitled “Retail monitoring: an instrument for market development”. On that occasion, the potential of the new monitoring, which will be subjected to a public consultation, was illustrated for the first time. Making use of the Integrated Information System (SII), will make it easier to understand the development of competitive pressures and the level of opening-up of the electricity and gas markets, as well as customers’ level of awareness, while simplifying the obligations of suppliers and distributors.

With the new monitoring it will be possible to classify and provide a more comprehensive and detailed description of the type of clientele, with clusters related to the characteristics of the customers themselves (for example: age, gender, commercial or professional categories of non-domestic users), the geographical area of the supply, with regional, provincial and municipal focus, the offers available on the market (thanks to the mapping of the Offers Portal) and the choices made by customers, the number of suppliers, their size and geographic location. Finally, it will also be easier to benefit from the new data produced, as well as from the historical series, because they will be published with greater frequency and can be viewed by all stakeholders in open data mode.

# NATURAL GAS

## Consumption, production, infrastructures and markets

**In 2018 the domestic natural gas consumption decreased by 3.3% compared to 2017, amounting to 70.3 billion cubic meters** The recovery of industrial consumption (+4.1%) was not able to compensate for the sudden drop in thermoelectric consumption, which decreased by 11%, and the decline in other uses (-4.3%). Civil consumption remains substantially unchanged (residential and tertiary, -0.1%)

**Production** is still falling and has reached a low of 5.5 billion cubic meters (1.8%), especially due to the reduction in production at sea (-10%), while mainland production grew by 14.5%. The degree of dependence on foreign sources grew again and reached 93.4% (92.7% in 2017).

In 2018 **imports** amounted to 67.9 billion cubic meters, down 2.6% compared to 2017. The contributions of Russia (47.6%) and Qatar (9.6%) were stable, while imports from Libya fell from 7% to 6.6% and from Algeria fell from 28% to 26.5%. The weight from Northern Europe increased, with Norway and the Netherlands together accounting for 6.1% (5.5% in 2017). 4.3% of the gas provisioned abroad is purchased at the European Exchanges. Eni imports represent a growing share of 52.3% (51.1% in 2017). This share is maintained well above the low reached in 2010 when, due to the antitrust ceilings established by Legislative Decree 164/2000, the portion of foreign gas provisioned by Eni had fallen to 39.2%. The first three importers cover a share of 83.5% (85.1% in 2017) of the imported gas, due to the lowering of the shares of Edison (21.8%) and Enel Global Trading (9.4%), which is not offset by Eni's increase.

As regards the **type of contracts**, "long term" contracts (longer than 20 years) represent 76.2%, in line with the previous year, while 5-year contracts have grown further to 13.9% (10.9% in 2017). Medium duration contracts (5-10 years) decreased by two percentage points (10% against 12.1% in 2017). The incidence of spot imports (duration of less than a year) increased from 9.8% in 2017 to 11.5%. 55.4% of contracts in place in 2018 will expire within the next ten years and 38.6% within the next five years. In contrast, 36.6% have a residual life of more than 15 years. This share has been constantly rising since 2014.

If we consider the **transport** activity carried out over the past ten years, it can be observed that the total quantity of gas delivered to the various types of customers are very slowly catching up to the peak reached in 2010: in 2018 we are still below the level of 8.2 billion cubic meters. The network is 93.2% controlled by Snam.

Italy is characterised by important gas **storage** capacities (12.8 billion cubic meters commercial and 4.6 billion cubic meters strategic, usable only in case of emergency). The procedures for the conferral of storage capacity for the thermal year 2018-2019 on a competitive basis (70% system capacity) have determined the allocation at an average price that shows a sharp increase compared to the extremely low values of 2017, also by virtue of the low spot prices in the auction allocation period.

In 2018 there were 2017 active players in **distribution** with a distributed volume of 32.1 billion m<sup>3</sup>, 462 million m<sup>3</sup> more than the previous year, to 23.8 million end customers. Total average consumption was equal to 1.351 m<sup>3</sup>/y, in line with last year. With respect to consumption for heating, kitchen use and hot water (54.7% of customers) the average consumption is of 1,120 m<sup>3</sup>. The share of households with an electronic meter rose to 47% (+52% from 2017 to 2018). Domestic customers represent 21.9 million out of a total of 23.8. The service was managed through 6,426 concessions in 7,190 municipalities. In terms of infrastructure, network expansion appears to have slowed in recent years but still continues: last year 12 new towns gained access to methane (58 in 2017) and the

length of the networks grew by about 679 km in low pressure (1,600 km in 2017). 58% of networks (152,595 km) is located in the North, 23% in the Centre (59,782 km) and the remaining 19% (49,983 km) is in the South and in Sicily.

In the **sales** sector, out of a total of 412 active companies (-8 with respect to 2017) only 31 (7.5%) have sold over 300 million m<sup>3</sup>. 2018 saw a reduction of the concentration on the end market with the share controlled by the first 3 corporate groups falling from 45% to 43.5%, while for the first five groups it fell from 53.4% to 51.7%. The company rankings see Eni Group in first place with 19.3% (-1.5% compared to 2017) followed by Edison with 13.2% (which shortens the distance from 7.4 to 6 percentage points), while in third place we find Enel with a share of 11%.

### Sales to the end market of major suppliers in 2018

*M(m<sup>3</sup>) and percentage shares*

COMPANY	TO END CUSTOMERS	TO WHOLESALEERS AND SUPPLIERS	TOTAL	SHARE OF RETAIL
Eni Gas e Luce	5,785	46	5,831	10.2%
Eni	5,157	32,931	38,088	9.1%
Edison Energia	4,857	1,825	6,681	8.6%
Enel Energia	4,408	0	4,408	7.8%
Iren Mercato	2,407	208	2,615	4.2%
Edison	2,221	14,961	17,182	3.9%
Ep Commodities	1,890	286	2,175	3.3%
Enel Global Trading	1,839	19,392	21,231	3.2%
Hera Comm	1,767	225	1,992	3.1%
A2A Energia	1,324	35	1,358	2.3%
Sorgenia	1,274	209	1,484	2.2%
Engie Italia	1,149	10,137	11,286	2.0%
Axpo Italia	1,009	2,045	3,054	1.8%
E.On Energia	949	107	1,055	1.7%
Estra Energie	928	1,576	2,504	1.6%
Shell Energy Italia	826	749	1,575	1.5%
Bp Energy Europe Ltd	800	2,022	2,822	1.4%
Solvay Energy Services Italia	688	0	688	1.2%
Vivigas	651	136	786	1.1%
Unogas Energia	643	153	796	1.1%
Ascotrade	523	330	852	0.9%
Dolomiti Energia	492	0	492	0.9%
Metaenergia Spa	444	60	504	0.8%
Egea Commerciale	378	39	417	0.7%
Green Network	357	111	468	0.6%
Linea Più	356	22	379	0.6%
Edison Energie	343	375	718	0.6%
Repower Vendita Italia	335	0	335	0.6%
Soenergy	331	73	404	0.6%
Alperia Energy	330	53	383	0.6%
Duferco Energia	329	698	1,027	0.6%
Altri	11,953	22,145	34,098	21.1%
<b>TOTAL</b>	<b>56,744</b>	<b>110,945</b>	<b>167,689</b>	<b>-</b>
Average price (c€/m <sup>3</sup> )	39.96	24.43	29.69	-

Source: ARERA Annual survey on regulated sectors.

The average price charged to final customers by suppliers was equal to **39.96 c€/m<sup>3</sup>**, an increase of **5,68 c€ (+16.6%) compared to 2017**. This year as well, this price is higher than the one offered on the end market by the wholesalers, which was equal to 37.53 c€/m<sup>3</sup>.

The share of volumes sold on the free market is 68.3% (67.9% in 2017), on the regulated market is 11.3% (12% in 2017), while 20.3% is self-consumed. If we consider sales in its strict sense and therefore exclude self-consumption, 85.8% of the gas was purchased on the **free market** and the remaining 14.2% on the **regulated market**. In terms of customers, **53.2% turned to the regulated market, while 46.8% bought on the free market**.

Considering only the domestic sector it can be observed that the share of volumes purchased on the free market in 2018 reached 50.6% (45.2% in 2017) for families and 78.4% for multi-occupied buildings (76% in 2017). In terms of the delivery points, in 2018 **for the first time the proportion of families who purchased gas in the regulated market fell below half, to 49.9%**.

The percentage of **switching**, i.e. the number of customers who switched over to another provider during the 2018 calendar year, **was a total of 7%**, or 49.8% when measured according to the consumption of customers who switched. Compared to 2017 the percentages increased or are stable.

Data collected showed that the **average number of commercial offers** that sales companies were able to offer their potential customers was **13.5 for the domestic customers, 7.8 for domestic use central heating and 24.9 for non-domestic customers**. These numbers are growing for both households (8 offers in 2016 and 13 in 2017) and for multi-occupied buildings (7 in 2016, 7.6 in 2017). **17% of suppliers offer only one type of contract**, 31% offer up to 3 and the remaining 52% offer four upwards. Finally, as already seen in the case of electricity, **subscription to online offers stands at 2.6% of customers**.

From the point of view of the **type of price chosen, 70.4% of domestic customers in the free market entered into a price lock contract**, against 29.6% who chose a variable price contract (in 2017 the latter was chosen by 31.4% of households); 2.8% of domestic customers entered into a contract with a clause allowing for a minimum contract period; 39.6% preferred contracts which provide for a rebate or discount of one or more free periods or of a fixed sum in money or in volume, which can be one-off or permanent, and possibly conditional. The latter option increased a lot compared to 2017 probably due to families' preference for simple, easily understandable and quick to find contract types.



*The Portale Offerte has been online since 1 July 2018, for the collection and publication of all offers on the retail electricity and gas market. On this public website domestic customers, households and small businesses can compare and choose electricity and gas offers in a clear and simple way and free of charge. The Portale Offerte provides a search engine that is easy to use and offers a series of useful information about the electricity and gas markets and on new laws.*

*The Portale Offerte is implemented and managed by Acquirente Unico (Single Buyer), as required by ARERA in implementation of law 124/2017 which envisaged the end of the standard offer services from 1 July 2019 (deadline postponed to 1 July 2020 by Law 108/2018 of conversion of Decree Law n. 91/2018 - so-called "Thousand postponements").*

### **Prices and tariffs**

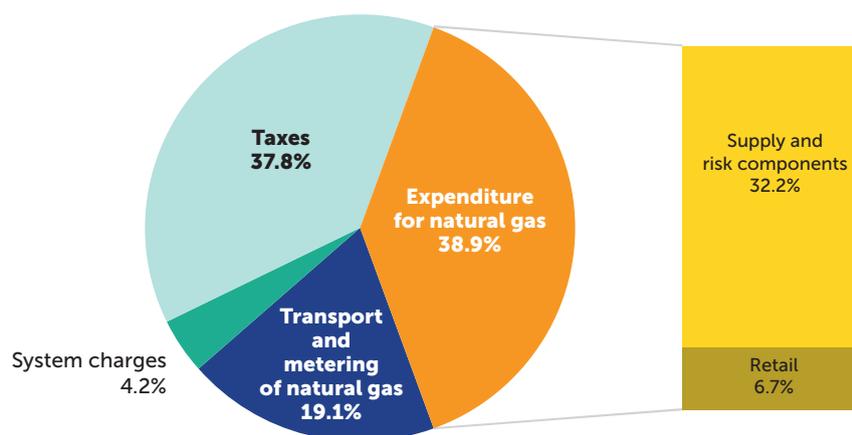
Overall, the average amount per unit for the set of **transport** fees applied by the main operator in 2017 was equal to 2.68 €cent/S(m<sup>3</sup>) a value in decline compared to the 2.75 c€/S(m<sup>3</sup>) valued for 2016. In August 2017 the Authority has approved the criteria for regulating **transport and dispatching** tariffs for the transitional period 2018-2019 (Regulation of tariffs for the natural gas transport and dispatching service - RTTG). The tariff proposals relating to natural gas transport and dispatching fees and the fee for the transport metering service for the calendar year 2019 were approved in June 2018.

At the end of 2018, the Authority has also approved the tariff proposals for the **regasification** service, relating to 2019, submitted by GNL Italia for the terminal in Panigaglia, Terminale GNL Adriatico for the terminal in Rovigo and OLT Offshore LNG Toscana for the terminal in Livorno. The regulation for access to **storage** services and for their delivery (RAST) for the period 1 April 2019 - 31 March 2020 was instead defined in February 2019. The outcomes of the auctions carried out by Stogit and Edison Stoccaggio for the thermal year 2019-2020 show a marked increase in the average allocation price compared to very low values of 2017, also because of the low spot prices in the auction allocation period.

In 2018 the average gas price (weighted with the quantities sold), net of taxes, practised by **sales** companies to end customers, was equal to 40 c€/m<sup>3</sup> (34.3 c€/m<sup>3</sup> in 2017), an increase of 16.6%. The highest increase, both in absolute (7.5c€/m<sup>3</sup>) and relative terms (20.7%) relates to the customers in the intermediate class (50,000 - 200,000 m<sup>3</sup>) while for other classes, large customers (2 - 20 million m<sup>3</sup>) have seen an increase of 3.5 €/m<sup>3</sup>, (+15.3%) and smaller customers (less than 5,000 m<sup>3</sup>) rose by 6.2 c€/m<sup>3</sup> (+ 11.9%).

**Percentage composition of the price of natural gas for a typical domestic consumer**

*Percentage values to 1 April 2019; family with individual heating and annual consumption of 1,400 m<sup>3</sup>*



Source: ARERA

**On 1 April 2019 the price for an Italian family that consumes 1,400 m<sup>3</sup> and has an individual heating system is 62.2% constituted by components to cover costs and the remaining 37.8% by taxes levied on the natural gas sector (excise duty, additional regional tax and VAT).** The expenditure for the raw material (including the sales costs) affects the overall price of gas for 38.9%, the costs for the use of transport, distribution and metering infrastructure for 19.1%, while system charges (equalisation of retail sales, arrears for last resort services and interventions for energy saving and the development of renewable sources) represent 4.2%.

**LPG**

On 1 April 2019, the price for an Italian family that consumes 200 m<sup>3</sup> of LPG is equal to 361 c€/m<sup>3</sup> and is 71.5% constituted by components to cover costs and the remaining 28.5% by taxes. The cost of the raw material affects the overall value of LPG for 21.5%, the cost of the retail marketing account for 5%, local distribution accounts for 25.6%, while costs for transport upstream of the distribution system constitute 19.4%.

**Technical quality**

In 2018, the distribution sector registered: a very slight improvement in time of arrival at emergencies; a worsening in planned inspections, in relation to the increase of the number of more dangerous leaks; an improvement in leaks reported by third parties which are generally decreasing (-12%); a reduction in network length inspected in the three year period 2016-2018 compared with the previous period 2015-2017.

### **Commercial quality**

**Distribution** also records an improvement of the cases of non-compliance with commercial quality standards, except for some services, in particular operation checks on meters, and supply pressure checks, for which instead there was an increase in the number of cases of failure to comply with the standard. In 2018, against 24,108 cases of failure to comply with specific standards, 26,756 euros in automatic compensation have been paid to end customers, for a total amount paid equal to over 1.42 million euros.

Overall, in 2018 the **sales** companies that serve the regulated and free natural gas market received 194,074 written complaints, 62.5% of which referred to the free market, 30.5% to the regulated market and 7% to multi-site customers (table 3.82). With reference to 2017, there was a decline in complaints relating to both the free market, which fell from 126,538 to 121,257 (-4.2%), and the regulated market, -22.4% (from 76,243 to 59,135). The decrease in billing corrections was particularly significant which, overall (table 3.84), compared to 2017, is equal to 53.4%, similar to that which occurred in the electricity sector (51.2%).

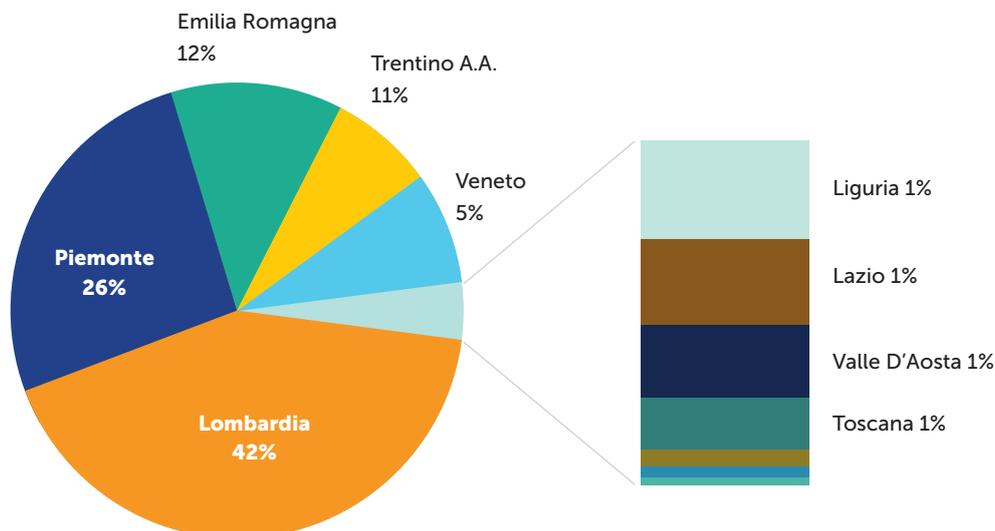
## DISTRICT HEATING SERVICE

Italy is one of the European countries with the least widespread district heating service, with a market share of 6% of the population served. The trend for the dissemination of this service is however historically positive, since the installation of the first plants in the '70s, with a progressive growth both in terms of volume served and extension of the heat distribution networks: **Between 2000 and 2017 the volume connected increased at an average annual rate of 6.7% from 117.3 to 349.2 million cubic meters**; at the same time the extension of the networks quadrupled, rising from about 1,487 km in 2000 to 4,377 km in 2017.

By heating demand characteristics and population density, 95% of the volume connected is concentrated in the northern regions: Piemonte, Lombardia, Veneto, Trentino-Alto Adige and Emilia-Romagna.

### Geographical distribution of district heating networks in 2017

(Share of total volume connected)



Source: AIRU yearbook 2018.

In 2017 the thermal power stations at the service of district heating networks produced 11,155 GWh of thermal energy, 6,729 GWh of electrical energy and 135 of cooling energy, with an increase with respect to 2016 respectively equal to 3.4%, 5.9% and 8.1%. Gas, with a share of 71.6% of total energy consumed in line with recent years, is the source most used while residual municipal waste cover 13.8% and bioenergy 9.1%. Regarding the impact of the different types of plants on the total quantities of thermal energy produced, cogeneration plants for electricity and heat have a share of 68%.

The productive mix of district heating systems has allowed, despite the physiological thermal dispersion of distribution networks, significant savings of energy and greenhouse gas emissions with respect to the use of systems for separate production of electricity and heat quantified by the AIRU at 508 kton of fossil sources saved and 1,743 kton of CO<sub>2</sub> not emitted in 2017. Further study is ongoing for the purposes of the definition by the Authority, with the contribution of RSE and AIRU, of a shared methodology for the determination of the CO<sub>2</sub> saved by a district heating system.

276 companies operating in the district heating sector are currently registered with the Authority's registry of operators. Of these over 80% handle, normally in an integrated way, the distribution, sale and the metering of heat while the remainder is only responsible for the production of thermal energy or other. Companies have very varied customers by consumption class, depending on their location and the population density of the places supplied. The 34 larger operators serving over 75% of users, corresponding to more than 85% of the thermal energy supplied. Most enterprises do not yet use remotely read and remotely managed meters. The Authority intends to intervene on heat metering with a regulation that promotes the diffusion and favours the start of trials on bidirectional heat supply or demand side management.

The energy distributed by district heating networks is primarily used for air conditioning and production of hot water for sanitation purposes, while its use in industrial processes, which usually require supply temperatures higher than those of the network, is only marginal. Therefore, 65.2% of the heat supplied in 2017 was destined for residential uses, 31.9% for the tertiary sector, 2.7% for the industrial sector and 0.1% for process uses. The data collected by the Authority and referring to 2018 shows that most users are small, 67% have a contractual power not exceeding 50 kW, 27% between 50 and 350 kW and only 6% greater than 350 kW. The latter represent over 50% of consumption.

The prices for the service are calculated by the companies or on the basis of a sustained cost criterion or based on the avoided cost (prevailing methodology for cooperatives or publicly owned companies, which mostly use biomass in rural areas or for companies that offer the district cooling service) i.e. the cost that the user would have sustained using a different technology (larger entities that operate in areas of high population density).

The information collected by the Authority showed that **there are potential issues in the transparency of prices**, with operators that only publish such conditions on their website in 20% of cases and, in the vast majority of cases, more than 80% indicate the contract as the source of transparency for the conditions practised and their update, making it difficult for the user to compare and check the conditions practised once they have made the choice of supply and connection. In relation to the latter phase the information collected shows how operators will only choose to make users pay a portion of the actual costs to make the choice competitive.

These costs are then recovered during the supply relationship, even in the presence of clauses relating to a minimum contract duration (applied to 26% of users). In general, it was found that these clauses are applied or to customers of small operators, these obviously being more sensitive to market risk, or large users or non-residential users, for which the minimum duration is also longer.

These aspects obviously have implications in terms of competitive structure and sector efficiency and protection of the user and are the subject of interventions envisaged by the regulation introduced by the Authority in 2018 (regulation of connections and withdrawal from 1 June 2018, the commercial quality from 1 July 2019 and transparency from 2020).

Within the scope of the regulation and control functions assigned to the Italian Regulatory Authority for Energy, Networks and Environment (hereinafter, the Authority) by legislative decree of 4 July 2014, n. 102, in the district heating and district cooling sector (district heat), the definition of the relevant regulatory framework also continued during 2018, which focused on the following topics:

- the definition of the criteria for the determination of fees for connection to the district heat network and of the procedures for the exercise, by the user, of the right of withdrawal from the supply contract;
- the consolidation and simplification of obligations on disclosures to the Authority by subjects that operate in the district heating sector;
- the regulation of the commercial quality of the district heat service;
- the regulation of the transparency obligations of operators on the main dimensions of the district heat service, including adequate monitoring of prices in the sector;
- the regulation of the technical quality of the district heat service with reference to service security, continuity and efficiency.

The establishment of the regulatory framework has been defined on the basis of extensive collection of data and information aimed at detailed knowledge of the state of the sector. During 2018 the Authority has approved the following Integrated Texts:

- **OITLR - Disclosure obligations for subjects operating in the district heating and district cooling sector**

Approved by resolution 574/2018/2018/tlr on 13 November 2018

- **RQCT - Regulation of the commercial quality of district heating and district cooling services (2019 - 2021)**

Approved by resolution 661/2018/2018/tlr on 11 December 2018

- **TUAR - Regulation of the criteria for determining connection fees and the procedures for the user to exercise the right of withdrawal (2018 - 2021)**

Approved by resolution 24/2018/2018/tlr on 18 January 2018

# WATER SERVICES

## INFRASTRUCTURE ASPECTS OF THE SERVICE AND TECHNICAL QUALITY

During 2018 the Authority has continued the reconnaissance operations aimed at assessing the conditions of the water service infrastructures, together with the investment needs of the sector. Considering the specific regulation introduced on technical quality (resolution of 27 December 2017, n. 917/2017/R/idr and its Annex A, RQTI) the methodologies for gathering information were further systematised, allowing the main aspects related to the state of water services to be outlined with increasing detail.

### **The macro-indicators defined by the RQTI**

- *M1 containment of water leaks in the networks and aqueduct plants*
- *M2 continuity of the drinking water service, based on the measurement of the frequency of service outages*
- *M3 adequacy of the quality of the water supplied*
- *M4 minimisation of the environmental impact resulting from conveying waste water, according to the degree of adequacy of the sewage system*
- *M5 minimisation of the environmental impact connected to the disposal of sludge arising from waste water purification*
- *M6 minimisation of environmental impact associated with the disposal of waste water outlet from purification treatments*

In general, the country is experiencing a water service divide, with technical parameter values that generally tend to represent situations of greater criticality in the South and the Islands (2016 data).

### **M1 - "Water leaks"**

Analysis of the **linear** and **percentage** values of water leaks shows national averages respectively equal to **23.1 m<sup>3</sup>/km/day and 42.4%**, confirming strong differences at territorial level. Specifically, more contained leak values are found in the North while average values are very high in the Centre and in the South and the Islands, where approximately half of the water introduced into the aqueduct systems is dispersed.

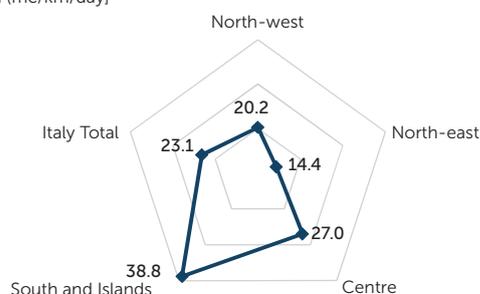
In addition, the correlation between the data relating to water leaks and those of electricity consumption relating to the water supply chain are also significant, which account for about 60% of the total consumption of the integrated water service, highlighting the energy cost, as well as environmental cost, of the phenomenon.

With reference to the volume metering services, there are still some shortcomings, both regarding process metering (on average 89.7% of metered volumes) and, to a lesser extent, relating to user metering (on average 95.0% of metered volumes).

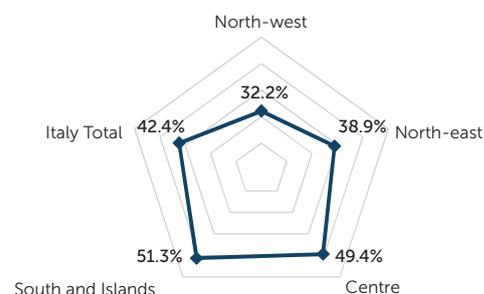
With respect to the data on user metering there was an increase in attempted readings, which rose from 2.04 to 2.21 per user (+8.5%), and a significant increase in validated readings, from 1.65 to 1.88 per user (+13.5%). Following the entry into force of the TIMSII (metering service regulation) in 2016, there has been an initial positive impact on user metering.

### Average M1a and M1b values by geographical area

M1a (mc/km/day)



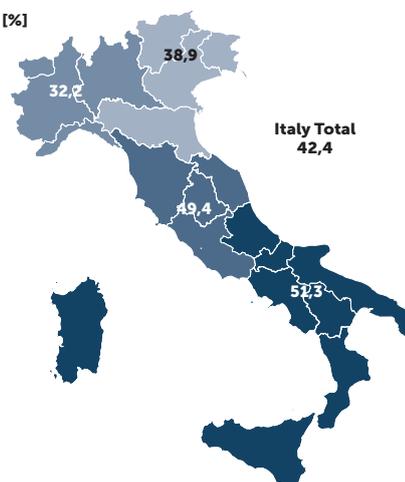
M1b [%]



M1a (mc/km/day)



M1b [%]



Source: ARERA Calculations on tariff update data (Resolution 918/2017/R/idr).

### M2 - "Service outages"

With regard to this macro-indicator average values equal to 36.05 hours/year were recorded, a figure strongly influenced by certain critical situations at territorial level (especially in the Centre and South and Islands). In particular, M2 values were low on average in the North-west (0.49 hours/year) and in the North-east (1.39 hours/year), with significantly higher values in the Centre (45.37 hours/year, due to the value reported by two operators) and even higher in the South and the Islands (105.51 hours/year, also due to reports by three operators).

### M3 - "Quality of the water supplied"

The quality of the water distributed through the aqueduct systems constitutes a fundamental aspect for assessing the management of the service. The analysis of the data collected shows that 10% of the population are under optimal conditions (Class A, characterised by the absence of orders on the non-potability of water in the current year), about half of the sample are under intermediate conditions and the remaining 40% are in a critical situation. Also in this case there is a very strong geographical difference among the population served by operators under excellent conditions and are distributed across the various areas (with a prevalence in the North West, where 20% is in class A), while the critical situations are more prevalent in the South and the Islands (66% in Class E) and in Central Italy (47% in Class E).

#### M4 - "Adequacy of the sewage system"

The information collected during investigations have confirmed that the main critical points found in the different areas of the country mainly concern the partial or total lack of networks for collecting and discharging waste waters, confirming the profiles of non-conformity with Directive 91/271/EEC concerning the treatment of waste water. In detail, the frequency of flooding and spills from sewage (indicator M4a) is on average equal to 11 every 100 km of sewerage (with a peak of 21.6/100 km in the South and the Islands), with 23% of storm drains to be adapted to current legislation (indicator M4b) and 33% of storm drains not controlled (indicator M4c).

#### M5 - "Disposal of sludge in landfill"

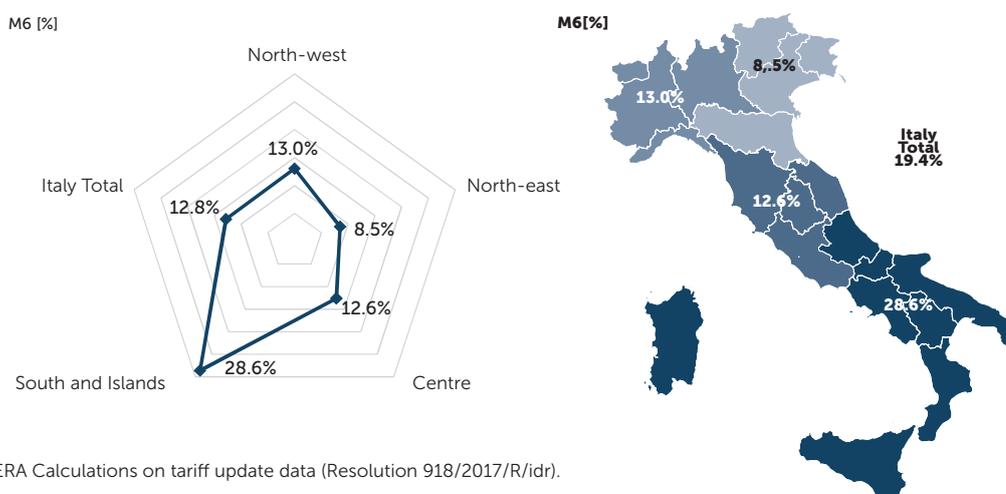
The Authority intends to progressively discourage recourse to disposal in landfill, minimising the environmental impact and enhancing all the options that can potentially be pursued for reuse and recovery of resources.

As for the other indicators, also in this case the national average figure referring the share of sludge disposed of in landfill sites (20%) shows very different levels between the different geographical areas. Against a very contained average value in the North-west (about 4%) and aligned with the national average for the North-east (19%), more than one third is disposed of in landfill at the Centre (35.4%), with the regions of the South and the Islands at 28.8%. At national level, more than 80% of the sludge produced is therefore destined for reuse or recovery of resources and agricultural use is prevalent (either direct spreading on land or indirectly through the production of soil improvers of organic origin - compost), while energy recovery in installations such as incinerators or cement is residual, confined almost exclusively to the northern regions.

#### M6 - "Quality of treated water"

Through the introduction of this macro-indicator in the context of the regulation of the technical quality, the Authority intends to further consolidate the objective of environmental protection. At the geographical level, the rate of exceedance of the limits in samples of discharged waste water is 12.8% on average, with the areas of the North-west and Centre substantially aligned, the southern regions and islands with a value equal to more than double the national figure, while the North-east is characterised by a value slightly above 8%.

#### Average values of the macro-indicator M6 by geographical area



Source: ARERA Calculations on tariff update data (Resolution 918/2017/R/idr).

### PLANNED INVESTMENTS AND ADDITIONAL CHARGES

The distribution of investment requirements (gross of contributions) at national level shows the concentration of operators' efforts to contain the level of water leaks (M1), which is therefore a priority objective in the planning choices of the government entities in the sector. Overall the resources allocated to interventions to improve M1 amounted to approximately 1.2 billion euro in the 2018-2019 period, with peaks of 33.5% in the South and in the Islands.

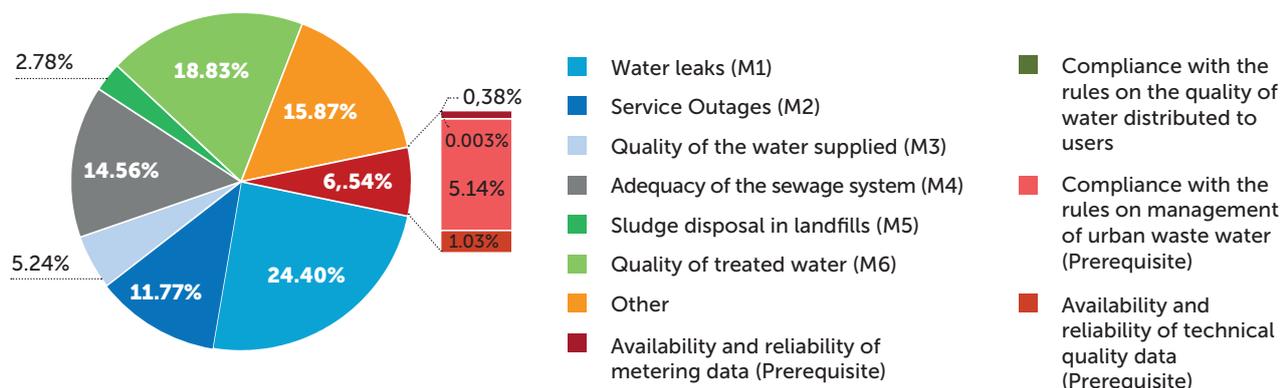
This is followed by investments to improve the quality of treated water (M6) and for the adjustment of the sewage system (M4), which stand at 18.9% and 14.6%, respectively.

With reference to the individual activities of the integrated water service, the national requirement is equally distributed among the objectives of the aqueduct phase and the objectives of the collection and treatment phase (approximately 2 billion euros each), taking into account that the latter also include resources for overcoming critical situations in agglomerations convicted by the Court of Justice with regard to the treatment of waste water (or the prevention of further sentences in the presence of Community infringement), which constitutes a specific prerequisite in the discipline of technical quality.

The remaining share of investments (15.87%) finally concerns interventions on infrastructure of the integrated water service, not directly attributable to the specific objectives established by the Authority, related to extension of the coverage of the integrated water service, improving user services, energy efficiency of plants.

In terms of operating costs, the transposition of the technical quality obligations has resulted in contained tariff impacts: on average, additional charges related to adaptation to the technical quality standards established by the Authority amounted to 0.63 euros/inhabitant in 2018 and to 1.60 euros/inhabitant in 2019.

#### Distribution of planned investments 2018-2019, as resulting from the Investment Plan analysed for the biennial update



Source: ARERA Calculations on tariff update data (Resolution 918/2017/R/idr).

## **INVESTMENTS AND TARIFFS**

The tariff regulation of the integrated water service has been progressively developed by the Authority in order to promote transparency, accountability, consistency, efficiency and effectiveness in the sector as well as to phase out the infrastructural issues characterising the segment. In the course of 2018 - and in the first months of 2019 - the Authority has continued its preliminary activities for the approval of the tariff arrangements update or, in certain cases, even for the entire 2016-2019 regulatory period, concluding, in particular, checks on certain tariff arrangements referring to contexts characterised by the complexity of the proposals themselves or by the prolongation of the times for their completion at local level.

**The approval of the biennial tariff update proposals for the years 2018 and 2019** resolved upon by the Authority on 31 May 2019, concern 78 operations serving 30,711,083 inhabitants (53% of the national population). **The average variation of the tariffs, compared to the previous year, was equal to 0.4% in 2018 and 0.8% in 2019**, confirming a substantial stability of user tariffs, even in the presence of the path for improvement of the quality of the integrated water service.

The checks carried out by the Authority with reference to the costs of the fixed assets charged within the tariff showed a smaller deviation between actual expenditure for investments and the requirements planned for 2016 and 2017: however, for the mentioned two year period, the rate of implementation of the planned interventions was respectively equal to 82.9% for 2016 and 86.4% for 2017, registering an increase with respect to the rates of implementation for the previous years (equal to 81.9% for 2014 and 77.6% for 2015).

With reference to the second regulatory period (considering the update of the investment requirements planned by competent subjects for the 2018-2019 period), the intervention plans transmitted to the Authority lead it to quantify, for the four year period 2016-2019, expenditure for investments financed through tariffs equal to 9 billion euros; in per capita terms, 178 €/inhabitant at national level with the highest values in the Centre, equal to 225 €/inhabitant. Also considering the forecast for the availability of public funding for the construction of water infrastructure, planned investments for the four years 2016-2019 are, in per capita terms, equal to 235 €/inhabitant at national level with the highest value in the South and the Islands (281 €/inhabitant).

The **investment expenditure**, including the availability of public funds amounted to 11.9 billion euros for the four-year period (2.2 billion in 2016; 2.8 billion in 2017; 3.5 and 3.4 billion euros, respectively, in 2018 and 2019). In particular, examination of the tariff arrangements communicated for the purposes of the biennial update showed that the transposition of the regulation on the technical quality has led the sector government entities - in agreement with the relevant operators - to plan further investments for the years 2018 and 2019 with respect to those envisaged in the first tariff arrangement within the meaning of the resolution 664/2015/R/idr, in fact upwardly redetermining, by approximately 14%, the investment expenditure (covered by tariff) originally planned for the aforementioned 2018-2019 period.

## AVERAGE EXPENDITURE OF THE DOMESTIC USER FOR THE INTEGRATED WATER SERVICE FOR 2018

With reference to a sample of 103 operations (which deliver the service to over 40 million inhabitants), for the 2018, **the average annual expenditure incurred by a typical domestic household** (family of 3 persons, with annual consumption equal to 150 mc) **amounted to 306 euro/year at national level** (303 euro/year in 2017).

At the geographical level, this value has a high variability even within the same area: by way of example, in the North West, the typical family with a consumption of 150 m<sup>3</sup>/year is require to sustain an annual outlay for the water service equal, on average, to 244 euros/year, a value between a minimum of 112 euros per year and a maximum of 524 euros/year.

Breaking down the different items that compose the fee paid by domestic users for an annual consumption of 150 mc, it can be observed that 39% of the expenditure is attributable to the aqueduct service, for which 121.1 euros/year is spent at national level, while for the sewerage and treatment services 39 euros/year (13% of the total) and 89 euros/year (with an incidence of 29%) are charged respectively.

## CONTRACTUAL QUALITY

The analysis of the information transmitted (by a panel of 152 operations that deliver the service to 45.6 million inhabitants), relating to 2018 confirms, on the one hand, the high level of compliance with the obligation for operators to communicate data on contractual quality in the North and the Centre and, on the other hand, the absence of a satisfactory response from operators located in some areas of the South and in the Islands, denoting territorial differences partially attributable to the different starting quality levels as well as the different organisational and managerial characteristics of the operators involved.

The data relating to 27 specific standards show a high level of contractual quality offered in 2018, with an average percentage of non-compliance with the standard of 3.8%. Overall, in 2018 compensation was paid for a value of 9.4 million mainly due to the recovery two years prior.

However, despite improved performance attributable to the phases of start-up, management and termination of the contractual relationship, contained tariff impacts are found: on average, additional charges related to adaptation to contractual quality standards set by the Authority stand, both for 2018 and for 2019, at 0.98 euros/inhabitant/year.

### Average annual expenditure for the integrated water service in 2018

Average expenditure (including VAT) for annual consumption of 150 m<sup>3</sup>; annual expenditure in euro/year, unit expenditure in euro/m<sup>3</sup>

GEOGRAPHICAL AREA		ANNUAL EXPENDITURE (euros/year)	UNIT EXPENDITURE (euros m <sup>3</sup> /year)
North-West	Weighted average of the population	244.2	1.63
	Max.	524.0	3.49
	Min.	112.4	0.75
North-East	Weighted average of the population	299.7	2.00
	Max.	422.1	2.81
	Min.	207.9	1.39
Centre	Weighted average of the population	377.6	2.52
	Max.	563.5	3.76
	Min.	253.6	1.69
South and Islands	Weighted average of the population	300.2	2.00
	Max.	490.4	3.27
	Min.	199.2	1.33
TOTAL	Weighted average of the population	306.3	2.04
	Max.	563.5	3.76
	Min.	112.4	0.75

Source: ARERA Calculations on operators' data.

### Components of the average expenditure in 2018

Expenditure in euros/year

	ACQUEDUCT	SEWERAGE	WATER TREATMENT	FIXED AMOUNT	VAT	TOTAL SII
Expenditure for consumption of 150 euro/year	121.1	38.9	88.6	29.9	27.8	306.3
Incidence on total expenditure	39.5%	12.7%	28.9%	9.8%	9.1%	100.0%

Source: ARERA Calculations on operators' data.

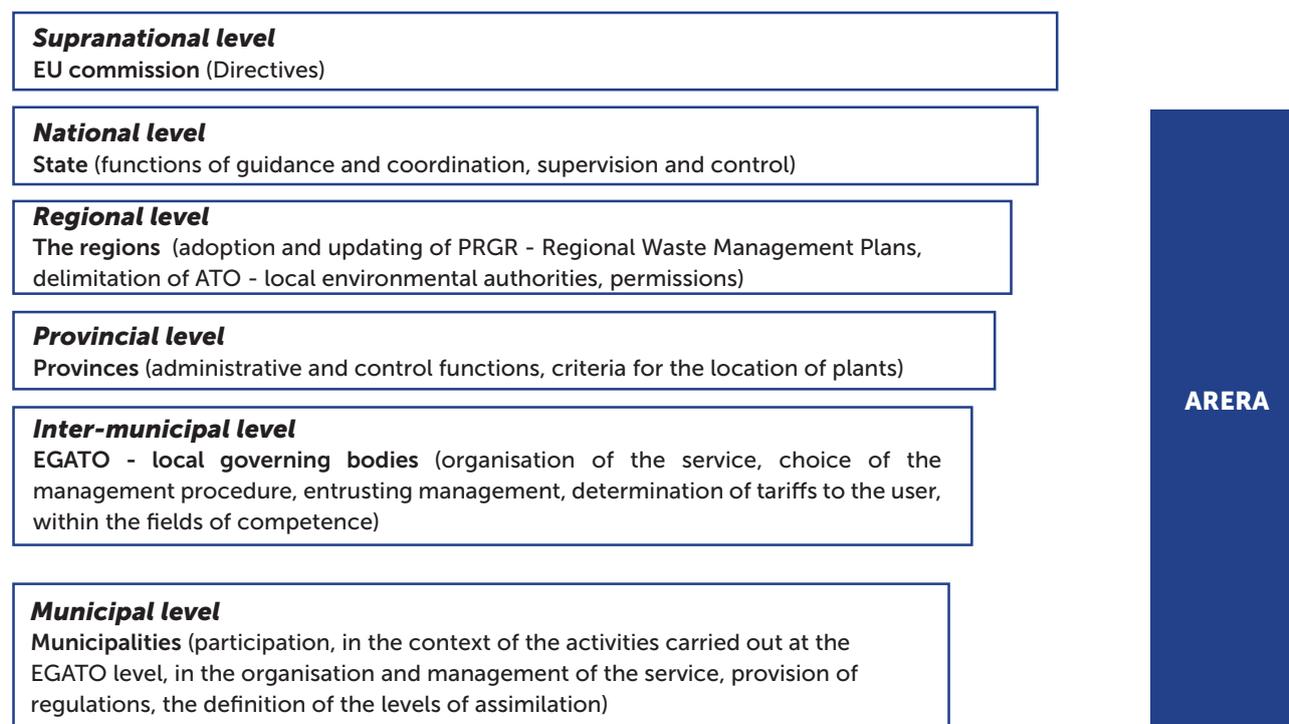
# WASTE CYCLE

## SECTOR STRUCTURE AND GOVERNANCE

Law of 27 December 2017, n. 205, has attributed the Italian Regulatory Authority for Energy, Networks and Environment (hereinafter the Authority) the tasks of the regulation and control of the cycle of urban and related waste, to be practised "with the same powers and in the framework of the principles, objectives and powers, also of a sanctioning nature, established by Law of 14 November 1995, n. 481".

The governance model in the waste sector is structured on several levels: national, regional and local level, and above these, supranational. This is a multilevel system that implies frequent interrelationships between the different levels of government.

### Sector governance



Source: ARERA

The close relationship with the territory inherent in the nature of the urban and related waste cycle implies, as emerges from the summary of the main competences in the multilevel perspective laid out above, a key role of local authorities, of first and second degree, in the governance of the sector.

The waste sector presents relevant differences when compared with the other sectors regulated by the Authority and is characterised by a high level of complexity and heterogeneity in its management, in addition to its governance. Over time the sector has transformed from a simple supply chain system, in which the protected interest was limited to urban hygiene, to a complex supply chain system, in which the objective of urban hygiene is joined by need to reduce the environmental impact and to replace landfill disposal with the recovery of materials and energy

Within the productive configuration of the urban waste cycle we can identify the following main steps:

- collection and transport;
- recovery of the organic fraction (FORSU - Organic Fraction of Municipal Solid Wastes) of collection (SC - Sorted Collection);
- recovery of "dry" fractions of the SC (plastic, paper, glass, wood, aluminium and steel) and the related treatment operations;
- energy recovery and any treatment operations aimed at the recovery of materials;
- disposal and the related treatment operations.

With the consultation document of 27 December 2018, 713/2018/R/RIF, the Authority submitted the first guidelines on tariff matters, identifying the following as priority objectives:

- promotion of maximum transparency in the sector (in particular, in the definition of the costs recognised for the delivery of services that constitute the management of the integrated cycle and in the definition of the conditions put in place by owners of treatment facilities for access by users of the service);
- infrastructural adaptation to the objectives set by EU legislation, through the introduction of appropriate tariff mechanisms to help support the development of the necessary treatment capacity;
- the consistency with the environmental objectives established by the framework at European and national level, in particular by encouraging the preparation for reuse and recycling of waste and at the same time reducing contributions to landfill;
- promotion of competition to limit the risk of dominant positions in some phases of the cycle and to facilitate the entry of new operators, with consequent benefits in terms of lower cost of the service for final users;
- protection of users of the integrated urban waste management service through a tariff system that provides adequate price signals, also paying homage to the Community principle *pay-as-you-throw*, that is transparent and non-discriminatory and that pursues economic-social rebalancing objectives at the same time.

In view of the specificity and complexity of each of the services that make up the integrated cycle managed, the Authority intends to establish a specific regulation for: the collection and transport service, services for waste treatment and the integrated management cycle. In addition, to provide certainty and regulatory stability to the system and to promote efficient and effective management of the cycle's services, the Authority intends to introduce a first tariff regulation period lasting four years and divided into two half-periods (of equal duration).

During the first half regulation period, the Authority intends to:

- define the criteria for determining fees for the collection and transport service;
- establish the criteria for determining fees for the different treatment services;
- introduce incentive mechanisms to facilitate the achievement of environmental objectives and to promote the adaptation of infrastructure to the objectives imposed by European legislation;
- define the criteria for determining the cost recognised for the integrated service;
- over the course of the period, define, based on specific analyses, the reform of the tariff structure criteria of the service for users, providing that, until then, the criteria currently in force should continue to be applied;
- define adequate disclosure obligations with reference to the technical and economic conditions practised by owners of treatment plants.

With reference, instead, to the second half regulation period, the Authority intends to define a regulation aimed more towards cost efficiency and effectiveness of the service offered, and to assess the possible adoption of specific measures to promote the aggregation of collection and transport operators, in order to overcome the current management fragmentation and foster the achievement of industrial service structures, as well as in order to pursue the efficiency and cost effectiveness of operations.

### MAIN SECTOR DATA

The urban waste sector presents a non-homogeneous degree of integration upstream and downstream of the supply chain. An analysis conducted by Utilitatis on companies that provide services for collection, sweeping and transport of municipal waste and the operators who manage plants for the treatment of residual urban and organic waste, shows that about 73% of those identified fall into the category “Collection and integrated cycle”, i.e. operates exclusively in the collection segment or has been entrusted for the entire integrated cycle while the remaining 27% is represented by companies that exclusively manage plants for the recovery and disposal of residual urban waste and/or of the organic fraction.

### WASTE PRODUCTION AND COLLECTION

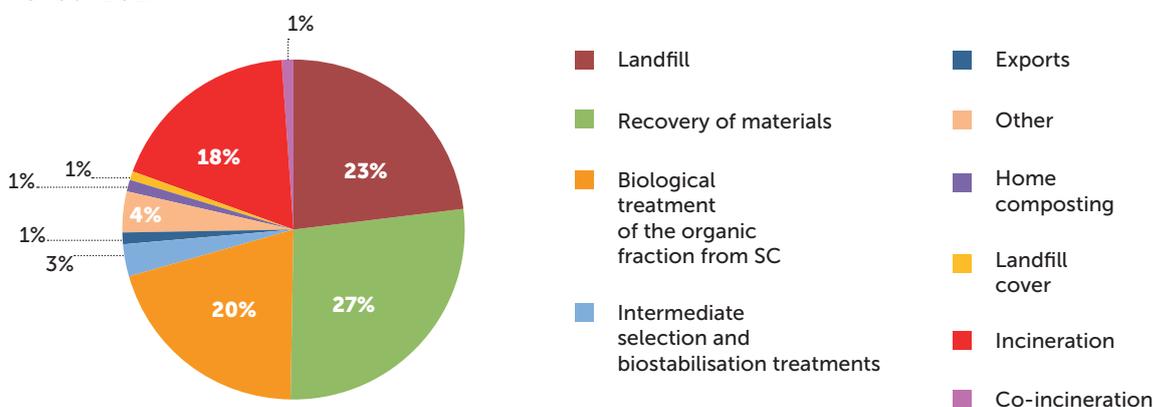
In 2017 the percentage of sorted collection was equal to 55.5% of national waste production (16.4 million tonnes of sorted waste, source: ISPRA 2018), well below the target of 65% provided for by the 2012 Legislative Decree n. 152/06. In reality the data show the high heterogeneity of the service at the local level, with the North that has achieved the legislative objectives with sorted collection of approximately 9.2 million tonnes (equal to 66.2%) unlike the Centre, which amounted to 51.8% (3,4 million tonnes), and especially the South, with 41.9% of sorted collection (3,8 million tonnes). As regards the composition of sorted collection, the main fractions are: organic 40.3% (6.6 million tonnes), paper 19.9% (3.3 million), glass 12.2% (2 million), plastic 7.8% (1.3 million), wood 4.9% (0.8 million) and metal 1.9% (0.3 million). Regarding the composition of the individual fractions, it is estimated that for plastic and glass it is mainly packaging (respectively 93% of plastics and 87% of glass), while the share of packaging drops significantly for metal (43%), and paper and cardboard (28%).

In the context of the technical meetings organised by the Authority’s offices with some of the main stakeholders in the sector a series of issues emerged for the supply chain, notably including:

- the absence of uniform criteria for sorting waste at national level and the poor quality of the collected sorted waste;
- the shortcomings of laws relating to the end of waste;
- the absence of an adequate market for recycled fractions;
- the closure of foreign markets for low quality sorted fractions;
- the difficulties in managing waste from preparation for reuse and recycling, with a lack of outlets for the waste of some product fractions.

### Breakdown of municipal waste management

Period: 2017



Source: ISPRA. Urban Waste Report 2018.

## URBAN WASTE TREATMENT PLANTS

According to the survey carried out by ISPRA, in 2017 644 plants for the treatment and disposal of urban waste were operating on the national territory. Of these, 340 were dedicated to the treatment of the organic fraction of sorted collection, 130 were plants for the intermediate mechanical or mechanical-biological treatment of waste, 123 were landfill plants in addition to 39 incineration plants and 12 industrial plants that carry out the co-incineration of urban waste. In some cases, the operators of such plants have also been entrusted with the collection and transport service.

Landfill disposal still affects a significant proportion of urban waste produced, equal to 23% (figure 6.5), well beyond the objective of 10% in 2035 introduced by the recent Directive 850/2018/EU. The percentage of waste subjected to treatment prior to disposal in a landfill is 93%, this implies that there is still a significant proportion of waste disposed of in landfills without the preventive treatments prescribed by the regulations.

Mechanical-biological treatment (MTB) represents the form of management that is increasingly being used to treat waste before disposal in landfill but is also frequently used upstream of incineration. The comparison between the quantities collected of unsorted waste and those sent to plants for mechanical-biological treatment, landfill, incineration and co-incineration in each geographical area highlights the gap in terms of plant that characterises, in particular, the areas of the Centre and the South who are unable to treat all the residual urban waste collected, which is therefore sent to plants located in the North or abroad. The North instead is self-sufficient, with higher quantities of urban waste treated than those collected. According to Utilitalia data, in 2017 28.9% of the total capacity for the thermal treatment of urban waste is concentrated in 3 plants with capacity above 60 t/h (plants in Brescia, Milan and Acerra).

Regarding to recourse to landfill as a method for final waste disposal, there is a significant difference between the different areas of the country: the South uses this type of disposal for 40% of waste produced, with percentages of up to 73% (Sicily) at regional level, the Centre for 24% of waste produced, while the North sends 12% of its waste to landfill (2017 data).

With respect to the treatment of the organic fraction of urban waste, representing, inter alia, the most important fraction of sorted waste in quantitative terms, there are 340 plants present on the national territory. Also in this case, the Centre and the South have a plant capacity lower than their needs: moreover, the most widespread type of treatment in these macro areas is composting, while aerobic and anaerobic integrated treatment, which is a more developed treatment technology, is still marginal. The North has, on the contrary, a plant capacity greater than the amount of organic waste collected, of which over 50% is represented by integrated aerobic and anaerobic treatment.

Although not specifically quantified, some more recent estimates value national investment requirements at around 4 billion euros.

As regards investments in new plants, which represent the majority of the investments required, the main obstacles to realisation are represented by the complex authorisation procedure to which they are

subjected, and the hostility often shown by the population and by some local authorities in respect of certain types of works.

### **COSTS OF THE WASTE MANAGEMENT SERVICE**

From ISPRA data (2017), the overall cost for the management of urban hygiene services at national level would be approximately 10,419 million euros per year; the total cost per kg of waste relating to the management of the integrated cycle increased by 51% between 2006 and 2017 with the North having a total cost of 30.06 c€/kg, the Centre 37.56 and the South 40.4 c€/kg. The average annual cost per capita of urban waste management is 171.19 €/year, 33.1% attributable to the management of unsorted waste, 29.7% to the management of sorted collection, 12.4% to street sweeping and cleaning and the remaining percentage to common costs and remuneration of capital. The total annual cost per capita increases from 135.10 €/inhabitant to 193.12 €/inhabitant per year when moving from municipalities with a population of less than 5,000 inhabitants to those with a population of more than 50,000 inhabitants.

### **TARIFF CRITERIA CURRENTLY APPLIED**

The options currently applicable for determining the tariff to the users are contained in Law of 27 December 2013, n. 147, instituting the TARI (waste rate), which provided that the Municipality can choose from different options for determining the tariff to users by opting for the application of a tariff that takes the form of a tax or, where a system to accurately measure the quantity of waste has been adopted and the municipal rules envisage it, for the application of a tariff that takes the form of a fee in place of the tax.

# ABOUT CONSUMER PROTECTION

## THE SYSTEM OF SAFEGUARDS FOR CUSTOMERS AND END USERS

During 2018 and the first months of 2019 activities carried out by the Italian Regulatory Authority for Energy, Networks and Environment related to the implementation of the system of safeguards reformed for handling complaints and settling out-of-court disputes of customers and end users in respect of operators or managers of the regulated sectors has continued.

In the course of the last year and with reference to both the electricity and gas sectors in which the system has been functional since 1 January 2017, the Authority intervened on the second level, and in particular on the Conciliation service, inserting elements to increase efficiency and harmonisation of the Integrated Text on Conciliation - TICO with the double purpose of transposing the inputs received through monitoring the first year of operation of the TICO for an ever increasing effectiveness of the procedure and to provide clarifications about the application of the instrument for the benefit of stakeholders.

### System of safeguards: Volumes input to the Help Desk - 2018 and the first quarter of 2019, electricity, gas and water sectors

ACTIVITIES AND SECTORS			YEAR 2018	1 <sup>ST</sup> QUARTER 2019
Base level	Calls to the Call Centre 800-166654 (received in service hours)		404,822	127,987
		from March 2018		
	Written requests for information		6,762 (*)	2,700 (*)
		from March 2018		
Requests to activate special information procedures		20,159	6,895	
Second level complaints redirected with information on conciliations		3,884	384	
Second level	Applications to the Conciliation Service	 (mandatory conciliation)	11,034	3,476
		from July 2018 (optional conciliation)		
	ADR bodies registered to the Authority's list	 (mandatory conciliation)	2,167 (**)	N.A. (***)
		(optional conciliation)		
Requests to activate special resolution procedures		7,247	2,397	
Second level complaints	from March 2018	3,527	883	
Other activities	Reports		4	1
		from March 2018		
Requests to the associations help desk		41	13	
	from March 2018			

(\*) In 2018, 1,738 written requests for information, classified as complex, were redirected to the conciliation service because they were connected to potential disputes. In the first quarter of 2019, there were 143 complex requests.

(\*\*) Also counting a request received for the district heating and district cooling sector.

(\*\*\*) Survey carried out on an annual basis within the meaning of the Consumer Code

Source: ARERA Calculations on data from the Help Desk, Conciliation service and Annual Reports of ADR Bodies.

## ENERGY AND ENVIRONMENT CONSUMER HELP DESK

In 2018, in the energy sectors the basic level has recorded a constant volume of incoming calls to the Help Desk call centre (+6%) **while there was a significant increase in written requests for information (+44%) and requests for the activation of special information procedures (+77%)**. The conciliatory procedures provided for by the TICO to trial mandatory conciliation attempts in the energy sectors decreased: the constant trend of applications submitted to the Authority’s Conciliation Service (+1%) does not offset the drop in those submitted to ADR (Alternative Dispute Resolution) bodies registered to the Authority’s list, which declined by 10%.

**The topics covered in the phone calls received at the Help Desk** concerned mostly **the gas, electricity and water bonus (44%)**, dispute resolution procedures (20.5%) and rights and regulation (13.7%) and are proportioned differently for the energy and water sectors. In the case of the social bonus, in fact, the average is between 42% calls for the electricity and gas sector and 85% for the water sector, introduced in 2018.

Over the course of 2018, the Help Desk contact centre received 6,595 **written requests for information** for the energy sectors and 3,884 second level complaints for which it informed the customer about the conciliation tools provided at the second level of the system of safeguards and that can be used to resolve the dispute, i.e. the Conciliation Service or other conciliation bodies.

In total, 5,627 customers were redirected to the **Conciliation Service** or other conciliatory procedure, directly or indirectly (7,524 in 2017).

34.8% of the 4,852 **simple information** requests related to the electricity and gas service were in relation to billing and, in particular, the sub topic “Incorrect estimated consumption”; 19.1% has focused on the topic “market” and, specifically, topics related to “alleged unsolicited contracts” and to “switching” were of particular interest to end customers. Finally, 12.4% of simple information requests focused on the topic “arrears and suspension”, while, for the topic “contracts” (10.1%), requests for information concentrated on the topics of transfers and takeovers and withdrawal.

In 2018 Requests to activate special information procedures amounted to 20,159, a substantial increase (+ 77%) compared to 2017. The sectoral breakdown is in line with that of the previous year: 76% of requests covered the electric sector, 18% gas and 6% both sectors.

### Results of the survey “Let’s face it” for the Help Desk call centre - 2018 and the first quarter of 2019

	2018 YEAR	2019 QUARTER
Good	83.8%	84.6%
Sufficient	11.7%	11.0%
Negative	4.5%	4.4%
% Calls taken subjected to evaluation	54.2%	54.4%
% Users invited by the operator to leave an evaluation	88%	88.3%

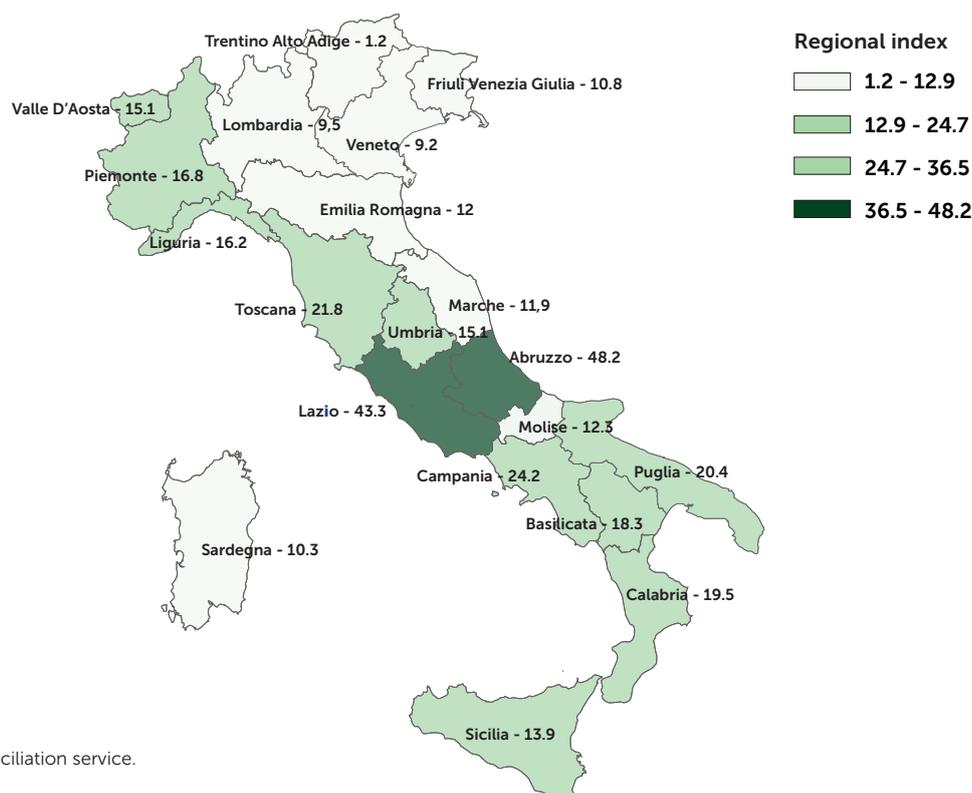
Source: Single buyer. Help desk for the energy and environment consumer.

### The Authority's Conciliation Service

**In 2018 (second year of operation of the TICO), the Conciliation Service received 11,034 applications (+4% compared to 2017).** From 1 July 2018, the procedure can also be used by end users of the water sector, on a voluntary basis and as an alternative to the complaint of second instance to the Help Desk and to any further tools available at the local level. **Over 90% of applications for conciliation are attributable to the electricity (6,008, 54.5%) and gas sectors (3,994, 36%).** The remainder is distributed between dual fuel (643, 6%), water (329,3%, with a clear prevalence of disputes relating to aqueduct service of the and only 12 applications divided equally between sewerage and water treatment) and prosumer (60, 0.5%). 73% of the applications received come from domestic customers (-3% compared to 2017) and the remaining from non-domestic customers.

In 2018, the Conciliation Service, net of renounced procedures (approximately 1% of the applications accepted), has recorded a rate of agreement on procedures concluded of 66%, a slight decrease compared to 2017. Broken down by sectors, the electricity sector has recorded 60% agreement between the parties, gas stood at 73%, dual fuel at 75%, in water it reached 78%, while for the prosumer it was 66%.

### **Regional index of applications received by the Conciliation Service - 2018**



Source: ARERA Conciliation service.

### **EVALUATION OF COMPLAINTS IN THE ENVIRONMENTAL SERVICES SECTOR, WASTE SECTOR AND DISTRICT HEATING SECTOR**

With Decision 55/2018/E/idr, the Authority has defined a path to ensure the gradual extension of the system of safeguards for complaints and disputes from end customers in force for the energy sectors to the water sector, taking account of the specific nature of the sector and of local experiences. 3,527 complaints were sent to the Help Desk by end users in 2018 (from 1 March). These complaints mainly concern billing (72%), followed by the water bonus (8%), metering (6%), contracts (5%), the technical quality of the service (5%) and works/connections

(3%). Of the total number of complaints managed in 2018, 91% were resolved through the Help Desk, 6% were still in the definition phase (these cases include those pending a response from the operator or from the user).

In the framework of the procedure initiated to identify the preparatory activities related to the definition of a system of safeguards for handling complaints and disputes from users of the waste sector, resolution 197/2018/R/rif was adopted, that, consistently with what has already been regulated for the energy sectors and started for the water sector, laid down the temporary provisions that from 1 July 2018 have entrusted the Help Desk for the energy and environment consumer with initial management of information requests, complaints, applications and reports from users of the waste sector. Pending the definition of the regulation, the Help Desk also has the task of classifying and examining the reports received from users only to transfer the information collected to the Authority so that it can take it into account for the overall definition of the regulatory framework of competence.

About district heating, the Authority has defined the procedures and commercial quality standards that must be applied in the regulation period July 2019 - December 2021 by operators of the district heating service. Pending the definition of the rules to safeguard service users, the Authority has provided that complaints, reports and requests for information from users are managed by the Authority's Offices only in cases of collective communications and of particular relevance and after having verified that the report has already been transmitted to the operator, in order to carry out any necessary examinations, including of a technical nature, and send requests for information to the operator aimed at identifying possible solutions to the issue reported.

### ELECTRICITY, GAS AND WATER SOCIAL BONUS

In the implementation of regulatory provisions provided for by the Decree of the President of the Council of Ministers of 13 October 2016 concerning the social tariff of the integrated water service, from 1 July 2018 the "Integrated text of the procedures for application of the water social bonus for the supply of water to domestic users in economic hardship (TIBSI)" shall apply. The Authority has provided for the possibility of requesting the water social bonus by means of a single application, using the forms (suitably integrated) already available for requesting the electricity and/or gas bonus.

**In 2018 the total amount of bonuses paid (+6.8 compared to 2017), both for the electricity sector (economic hardship and physical discomfort) and for the gas sector, was more than 1.3 million euros.** These three bonuses can be cumulated in compliance with the restriction that each ISEE (Equivalent Financial Situation Indicator) household is entitled to only one bonus for each category. To confirm what was highlighted in the previous years, also for 2018 approximately 65% of the families who obtained the electricity bonus also requested and obtained the gas bonus.

As regards the water bonus, during the period 1 July - 31 December 2018, 238,534 applications were submitted, of which 232,561 accepted by the Municipalities and transferred to operators from 4 October; 3,257 accepted applications (1.4%) concerned operators not enrolled in the SGAt register, as envisaged by the regulations: in these cases a communication is sent to interested users, inviting them to come directly to the help desks of the operators with the information contained in the communication itself. 5,172 Municipalities were involved as subjects to which to submit applications, while 773 operators were involved, which 166 are not accredited (of which 89% is constituted by Municipalities that manage the service directly) finally 93 the ATO were involved.

## **INITIATIVES TO DEVELOP AWARENESS OF ELECTRICITY AND GAS CONSUMERS**

In 2018 the Authority has defined and communicated to suppliers the content of the information to be shown in the invoice. Communications included in the bills issued in the first and second half of 2018 informed the final customer of the phasing out of price safeguards, initially planned for 1 July 2019 and subsequently extended until 1 July 2020, inviting them to inform themselves on the opportunities of the free market.

The text to be included in the invoices issued in the first half of 2019 contains, instead, on the one hand, an indication of how switching contract or supplier is easy and free with the assurance of continuity of service and, on the other hand, elements that should urge the final customer to take advantage of the Authority's instruments in order to make an informed decision, such as the Offers Portal for electricity and gas and PLACET offers.

With the resolution of 28 June 2018, 366/2018/R/com, instead, the Authority intervened on the Code of commercial conduct by envisaging the harmonisation of criteria for estimating the annual expenditure of the comparison sheets with those used in the Offers Portal for electricity and gas.

## **INTERVENTIONS IN FAVOUR OF POPULATIONS AFFECTED BY NATURAL DISASTER**

Starting from December 2016, the Authority has adopted a series of resolutions (the last is 312/2018/R/com) in implementation of the provisions of Article 48, paragraph 2, of the Decree Law of 17 October 2016, n. 189 ("earthquake decree"), has approved the provisions relating to tariff concessions and instalment payments for the populations of Central Italy affected by the earthquake that occurred in on 24 August 2016 and the following days.

Following the collapse of the Polcevera viaduct in Genoa, the Authority has adopted an urgent measure to protect and guarantee the owners of the utilities situated in the buildings affected by the natural disaster (Decision 442/2018/R/com).

In particular, it was envisaged to suspend the terms of payment of bills issued or issuable, relating to the utilities and supplies affected by the collapse; to suspend the terms of payment of bills or payment reminders relating to the fees due for connection, activation, deactivation, transfer or takeover by owners of the utilities and supplies affected; the assimilation to resident domestic consumers of new utilities/supplies activated following the collapse by the owners of the utilities affected.

# ABOUT SUPERVISION AND LITIGATION

## SUPERVISION

In the context of its enforcement activities, the Authority carries out checks on the behaviour of operators required to respect the regulatory provisions, in response to reports or evidence held by the Offices or identifying, from time to time, the scope of intervention through the definition of a programme of activities defined annually.

The following were carried out **during 2018**:

- surveys, related to the parties considered as priorities by the Strategic framework of the Authority for the four-year term of 2015-2018, in particular, in the reference period, the survey continued in matters of investments declared by the companies;
- on-site inspections, for a wide range of topics, with attention to priority topics such as consumer protection, service quality, correct operation of the markets and control of the distributed incentives and the costs items recognized in the tariff;
- document surveys, mainly related to the correct application of the brand unbundling obligation and the communication policies of the electricity and gas distribution companies, and to the correct contribution, by the regulated companies, of the Authority's operational costs, and to the information supplied in the context of the Registry of the Authority operators.

In continuity with previous years, the Authority has carried out most of the supervisory activities in collaboration with the Guardia di Finanza (Italian Financial Police), on the basis of what is provided for by the existing Memorandum of Understanding between the two institutions, within the meaning of Article. 3 of Legislative Decree of 19 March 2001, n. 68. The contribution of the Guardia di Finanza, through the special goods and services team, is an essential contribution to the Authority's supervision activities. **In 2018 the Guardia di Finanza disputed over 260 million euros during inspections on the activities of water, electricity and gas companies for costs recognised in the tariff but not owed**, a significant part of which has already returned to customers through tariff reductions.

The joint activity - which also includes eight complaints made to the judicial authority for offences, in addition to the tariff issues linked to investments not made or incentives not owed - has allowed security and the proper quality of service to be restored both in the gas sector and in the electrical system, on several occasions.

The cases recorded in 2018 include the lack of "odorisation" of gas networks, non-compliance with the rules that govern early intervention in the event of reports and the need for revision of the safety procedures of several small electricity distribution businesses.

Thanks to the checks made 12 million euros have also been recovered from the companies that had not paid the contribution for the operation of the Authority in the years 2013-2015.

## Summary of inspection activities carried out in the period 2014-2018

Number of inspections carried out with site visit

SUBJECT	2014	2015	2016	2017	2018
Consumer protection	11	16	9	8	9
Tariffs and unbundling	6	2	-	5	2
Service quality	92	83	87	84	76
Wholesale and retail markets	-	2	4	5	7
Connection of production plants	3	2	3	11	5
Incentivised plants	22	14	2	2	2
Tariffs and consumer protection in the integrated water service	6	9	11	9	7
<b>TOTAL</b>	<b>140</b>	<b>128</b>	<b>116</b>	<b>124</b>	<b>108</b>
In collaboration with:					
Guardia di Finanza - special goods and services team	118	114	114	122	106
Experimental station for fuels	68	55	61	61	51
Fund for energy and environmental services	4	6	5	4	7
Energy services manager	22	14	7	2	2

Source: ARERA.

### **Implementation of the REMIT regulation**

Throughout 2018, the Authority has strengthened coordination with the Energy Markets Operator (GME) and with Terna in relation to the reporting obligations of potential violations of Articles 3 and 5 of Regulation (EU) 1227/2011 on wholesale energy market integrity and transparency (REMIT), that Article 15 assigns to them in their capacity as market managers, i.e. "Persons" professionally arranging transactions (PPAT).

The Authority also confirmed its own effective contribution to the working groups in the context of ACER and CEER, to promote a coordinated approach in the implementation of the REMIT regulations, contributing to:

- the preparation of the ACER guidelines dedicated to the identification of specific manipulative cases;
- the constant update of the Market Monitoring Handbook, user manual for the internal use of ACER and the regulators, to promote the cooperation and coordination in the management of REMIT cases;
- the sharing of tools, methods and means for the surveillance of the wholesale market and of the issues related to the coordination of the potential violations in the cross-border market;
- the monitoring of the evolution of the financial regulations and the contribution to the training for the CEER-ACER positions in the relevant contexts for the correct functioning of the energy markets.

### **Sanctions and commitments**

In 2018 the Authority has imposed **sanctions**, following ordinary methods and with closure under simplified procedure, for a **total of almost 7 million euros to over 80 companies**. Instead, there are six operators who have submitted **commitments** within the framework of a sanctioning process and declared eligible by the Authority, as provided for in Article 17, paragraph 1 of the Regulation on Sanctions and commitments.

**LITIGATION**

The analysis of the outcome of litigation in 2018 (January - December 2018) allows us to assess the effects of judicial review on the Authority's regulatory acts in the areas of its competence, both regarding substantive and procedural aspects.

Out of a total of 10,032 resolutions approved by the Authority since its inception (April 1997 - 31 December 2018), 1,130 have been challenged, equal to 11.3% and 141 have been annulled (with *res judicata*), in whole or in part, equal to 12.5% of the total of the contested resolutions and 1.4% of those adopted. In statistical terms, the index of resistance of the Authority's resolutions to judicial control continues to be around 98.6%.

In 2018, there was a decrease in litigation compared to the previous year in terms of the number of appeals: 83 in 2018 (compared to 180 in 2017 and to 199 in 2016). There is, however, a high percentage of contested resolutions out of the total of those issued, 99 contested resolutions, 13.8% of the total issued in 2018 (715); the highest percentage of the contested resolutions remains that of 2017, or 20.3% of the total issued in that year (928). Such a figure is explained with the dispute generated from the appeal, in 2018, against prescriptive measures (of an individual nature) for 2017 and 2018, adopted against withdrawal and/or input dispatching users with respect to non-diligent programming strategies as part of the dispatching service for consumers, following the proceedings started with the resolution of 24 June 2016, 342/2016/E/ eel (59 challenged measures).

For the water sector, there was a considerable drop in appeals, only 8 appeals of which 5 against the resolution of 27 December 2017, 917/2017/R/idr, approving the Regulation of the technical quality of the integrated water service or of each of the individual services that make it up (RQTI). The figure indicates a consolidation of the regulation in this sector, already occurred in 2017 (6 appeals), especially if compared to the number of appeals of previous years (34 in 2016, 31 in 2015).

Finally, in 2018, the administrative judge, to whom the Authority's matters of institutional competence are devolved in the context of exclusive jurisdiction, ruled on some issues of significant interest for tariff and market regulation.

