

ENVIRONMENTAL  
ACCOUNTS







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## SCOPE

The scope of the *Environmental Accounts* is consistent with the reporting perimeter of the *Sustainability Report* (Consolidated Non-Financial Disclosure pursuant to Italian Legislative Decree 254/2016), as defined in the *Methodological Note*.

The water Companies in which Acea has an investment: Acque, AdF, Publiacqua and Umbra Acque – consolidated in the Financial Statements with the equity method – are marginally included in the Environmental Accounts and only relative to the aspects which are specifically signalled in the text. Please see the chapter *Water Company data sheets and overseas activities* (outside the perimeter of the Consolidated Non-Financial Disclosure). In 2020 Companies Acque Industriali and AdF were included in the NFD perimeter. In this regard, the data for the three-year period have been updated.

The *Environmental Accounts*, integral part of the *Sustainability Report*, combines and presents systematically the information and environmental performance data of the principal Companies of the Group.

The data is divided into “product systems” pertaining to the energy, “environment” and “water fields”, according to the Life Cycle Assessment approach (standard ISO Series 14040), which assesses the entire life cycle of the systems.

The report comprises about **450 items and parameters monitored** which quantify the physical flows generated by the activities and some performance indicators.

The substances used by the Group – whether natural, like water, or not natural, like *chemicals*, the “products” and the emissions, the effluents and waste related to the activities managed, are reported for the three-year period, since they are significant in

terms of **producing and distributing energy, collecting and distributing drinking water, waste water treatment** processes and for all the processes connected to **waste management**, including **waste-to-energy**. Every use is reduced to a minimum in terms of quantity and every substance is selected carefully in terms of quality, safety and environmental sustainability.

For the three areas – Energy, Environment, and, Water – the **renewable and non-renewable** resources used are illustrated. In particular, among the renewable re- sources listed we highlight water and the biomasses used for the production of compost.

In the *Explanatory Notes* we provide additional information regarding the **quality of the data presented**, in particular whether it was **measured, estimated or calculated**, and the principal items of the *Environmental Accounts*, indicated in the tables and in the text by a number in brackets, including a brief description.

## PRODUCT SYSTEMS



### ENERGY SEGMENT

- ENERGY GENERATION (HYDROELECTRIC + THERMOELECTRIC + PHOTOVOLTAIC + FROM WASTE AND BIOGAS)
- DISTRIBUTION OF ELECTRICITY
- PRODUCTION AND DISTRIBUTION OF HEAT
- PUBLIC LIGHTING
- CONTROLS AND MEASUREMENTS



### ENVIRONMENT SEGMENT

- SOLID AND LIQUID WASTE DISPOSED OF
- COMPOST PRODUCTION
- ANALYSIS AND MEASUREMENTS



### WATER SEGMENT

- DRINKING WATER SUPPLY
- WATER DISTRIBUTION
- WASTEWATER ADDUCTION/ TREATMENT
- ANALYSIS AND MEASUREMENTS

The data are provided for the 2018-2020 three-year period and aggregated in three homogeneous categories:

- **the products supplied,**
- **the resources used,**
- **the waste produced.**

The service indicators and the principal environmental performance indicators are explained below for every area.

# PRODUCTS – ENERGY SEGMENT

The financial statement data for the generation of electricity refer to Acea Produzione and Acea Ambiente – Waste-to-Energy (San Vittore del Lazio and Terni plants) and Biogas Production (the Orvieto, Aprilia and Monterotondo Marittimo plants).

ELECTRICITY – GENERATION <sup>(*)</sup>	u. m.	2018	2019	2020	Δ% 2020/2019
<b>summary data</b>					
<b>total gross electricity produced (1) = (3+11+14+19)</b>	<b>GWh</b>	<b>968.38</b>	<b>919.61</b>	<b>916.06</b>	<b>-0.4</b>
<b>total net electricity produced (2) = (10+13+18+21)</b>	<b>GWh</b>	<b>900.19</b>	<b>854.85</b>	<b>846.19</b>	<b>-1.0</b>
from fossil fuels (thermoelectric) (5+0.49x15 <sub>San Vittore del Lazio</sub> +0.53x16 <sub>Terni</sub> )	GWh	272.88 28.2% of (1)	269.10 29.3% of (1)	291.27 31.8% of (1)	8.2
from renewable sources (hydroelectric, solar, biodegradable portion of waste and biogas) (4+11+0.51x15 <sub>San Vittore del Lazio</sub> +0.47x16 <sub>Terni</sub> +19)	GWh	695.51 71.8% of (1)	650.50 70.7% of (1)	624.79 68.2% of (1)	-4.0
<b>Acea Produzione – hydroelectric and thermoelectric</b>					
<b>total gross electricity produced (3) = (4+5)</b>	<b>GWh</b>	<b>549.84</b>	<b>516.23</b>	<b>468.03</b>	<b>-9.3</b>
<b>total gross hydroelectric energy (4)</b>	<b>GWh</b>	<b>476.52</b>	<b>425.95</b>	<b>375.88</b>	<b>-11.8</b>
A. Volta Castel Madama	GWh	31.64	26.17	22.45	-14.2
G. Ferraris Mandela	GWh	0.00	0.00	4.64	-
G. Marconi Orte	GWh	73.01	57.06	53.72	-5.9
Sant'Angelo	GWh	188.68	162.05	116.58	-28.1
Salisano	GWh	180.49	178.42	176.84	-0.9
Other minor	GWh	2.70	2.24	1.65	-26.4
<b>total gross thermoelectric energy (5)</b>	<b>GWh</b>	<b>73.32</b>	<b>90.29</b>	<b>92.16</b>	<b>2.1</b>
from gas oil Montemartini power plant <sup>(**)</sup>	GWh	0.56	1.36	1.49	9.7
from natural gas Tor di Valle plan – CAR	GWh	72.76	88.93	90.67	2.0
<b>total losses of electricity (6) = (7+8+9)</b>	<b>GWh</b>	<b>12.32</b>	<b>12.19</b>	<b>12.74</b>	<b>4.5</b>
self consumption hydro plants (7)	GWh	2.00	2.40	2.43	1.5
self consumption thermo plants (Tor di Valle, Montemartini) (8)	GWh	5.39	5.27	5.04	-4.5
first processing losses (9)	GWh	4.93	4.52	5.27	16.7
<b>total net electricity produced by Acea Produzione (10) = (3-6)</b>	<b>GWh</b>	<b>537.52</b>	<b>504.04</b>	<b>455.29</b>	<b>-9.7</b>
<b>Acea Produzione – fotovoltaic</b>					
<b>gross fotovoltaic electricity (11)</b>	<b>GWh</b>	<b>10.20</b>	<b>26.38</b>	<b>74.96</b>	<b>184.2</b>
total electricity losses including own consumption (12)	GWh	2.18	2.29	3.98	74.0
<b>net fotovoltaic energy (13) = (11-12)</b>	<b>GWh</b>	<b>8.02</b>	<b>24.09</b>	<b>70.98</b>	<b>194.6</b>
<b>Acea Ambiente – waste-to-energy</b>					
<b>total gross electricity produced (14) = (15)+(16)</b>	<b>GWh</b>	<b>389.71</b>	<b>357.20</b>	<b>346.15</b>	<b>-3.1</b>
San Vittore del Lazio plant (15)	GWh	307.30	276.27	269.38	-2.5
Terni plant (16)	GWh	82.41	80.93	76.77	-5.1
<b>self consumption + losses from first processing (17)</b>	<b>GWh</b>	<b>52.73</b>	<b>49.12</b>	<b>44.95</b>	<b>-8.5</b>
San Vittore del Lazio plant	GWh	44.35	41.12	37.30	-9.3
Terni plant	GWh	8.38	8.00	7.65	-4.4
<b>total net electricity produced (18) = (14-17)</b>	<b>GWh</b>	<b>336.98</b>	<b>308.08</b>	<b>301.20</b>	<b>-2.2</b>
<b>Acea Ambiente – biogas</b>					
<b>total gross electricity produced from biogas (19)</b>	<b>GWh</b>	<b>18.63</b>	<b>19.79</b>	<b>26.91</b>	<b>36.0</b>
Orvieto plant	GWh	18.63	19.79	17.56	-11.3
Aprilia plant	GWh	0.0	0.0	4.84	-
Monterotondo plant	GWh	0.0	0.0	4.51	-
<b>self consumption (20)</b>	<b>GWh</b>	<b>0.97</b>	<b>1.16</b>	<b>8.20</b>	<b>607.0</b>
Orvieto plant	GWh	0.97	1.16	1.09	-5.7
Aprilia plant	GWh	0.0	0.0	3.48	-
Monterotondo plant	GWh	0.0	0.0	3.63	-
<b>total electricity transferred in network (21) = (19-20)</b>	<b>GWh</b>	<b>17.66</b>	<b>18.63</b>	<b>18.71</b>	<b>0.4</b>

(\*) 2019 data has been rectified inasmuch as the figure for energy produced by fotovoltaic installations was certified as definitive.

(\*\*) The Montemartini power plant is maintained operational but in reserve mode.

<b>THERMAL ENERGY – GENERATION, DISTRIBUTION AND SALES</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>Acea Produzione</b>					
<b>gross thermal energy produced Tor di Valle power plant (22) (*)</b>	<b>GWh<sub>t</sub></b>	<b>98.38</b>	<b>95.92</b>	<b>94.00</b>	<b>-2.0</b>
total losses of thermal energy (23)	GWh <sub>t</sub>	28.93	29.47	27.71	-6.0
<i>distribution losses</i>	GWh <sub>t</sub>	18.45	20.66	20.90	1.2
<i>production losses</i>	GWh <sub>t</sub>	10.48	8.80	6.81	-22.6
<b>net thermal energy sold (24) = (22-23)</b>	<b>GWh<sub>t</sub></b>	<b>69.45</b>	<b>66.45</b>	<b>66.29</b>	<b>-0.2</b>

(\*) The figures for 2019 have been restated after the final calculations.

<b>ELECTRICITY – TRANSPORT AND SALE</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>in Rome and Formello – summary data</b>					
supply from Acea Group (25)	GWh	2.62	2.65	2.29	-13.7
electricity from the market (26)	GWh	10,610.06	10,606.69	9,667.68	-8.9
<i>from Single Buyer</i>	GWh	2,321.83	2,537.45	2,509.36	-1.1
<i>from importation</i>	GWh	389.14	n/a	70.81	-
<i>from wholesalers + other producers</i>	GWh	7,899.09	8,069.24	7,087.51	-12.2
<b>electricity requested on the grid (27) = (25+26) = (28+29+30+31+32)</b>	<b>GWh</b>	<b>10,612.68</b>	<b>10,609.35</b>	<b>9,669.97</b>	<b>-8.9</b>
<i>distribution, transport and commercial losses (28)</i>	GWh	763.74 7.2% of (27)	741.14 7.0% of (27)	563.70 5.8% of (27)	-23.9
<i>uses for own transmission and distribution (29)</i>	GWh	39.63	39.47	35.80	-9.3
<i>net electricity transferred to third parties (30)</i>	GWh	2.59	16.45	94.87	476.8
<b>net electricity conveyed from Acea to clients of the open market (31)</b>	<b>GWh</b>	<b>7,463.10</b>	<b>7,615.16</b>	<b>6,998.47</b>	<b>-8.1</b>
<i>net electricity sold by Acea Energia to clients of the open market on distribution Company grid (Areti)</i>	GWh	6,041.16	6,119.50	5,594.36	-8.6
<i>net electricity sold by other sellers to clients of the open market on distribution Company grid (Areti)</i>	GWh	1,421.94	1,495.66	1,404.12	-6.1
<b>net electricity sold to managed clients (32)</b>	<b>GWh</b>	<b>2,343.60</b>	<b>2,197.13</b>	<b>1,977.12</b>	<b>-10.0</b>
<b>sale in Italy – summary data</b>					
<b>net electricity sold by Acea on the open market – including sale on Rome (33)</b>	<b>GWh</b>	<b>3,684.54</b>	<b>4,234.54</b>	<b>5,050.81</b>	<b>19.3</b>
<i>Acea Energia</i>	GWh	3,322.62	3,825.82	4,571.96	19.5
<i>other associated companies</i>	GWh	361.92	408.72	478.85	17.2
<b>net electricity sold by Acea in Italy (open market + managed) (34) = (32+33)</b>	<b>GWh</b>	<b>6,028.14</b>	<b>6,431.67</b>	<b>7,027.93</b>	<b>9.3</b>

<b>GAS – SALES</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>gas sold by Acea Energia in Italy (35)</b>	<b>MSm<sup>3</sup></b>	<b>128.29</b>	<b>139.75</b>	<b>165.19</b>	<b>18.2</b>
<i>Acea Energia</i>	MSm <sup>3</sup>	98.17	108.38	139.89	29.1
<i>other associated companies</i>	MSm <sup>3</sup>	30.12	31.37	25.30	-19.4

<b>PUBLIC LIGHTING</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>luminous flux to Rome (36)</b>	<b>Mlumen</b>	<b>2,010</b>	<b>2,002</b>	<b>2,010</b>	<b>0.4</b>

<b>CONTROLS AND MEASUREMENTS</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>measurement and control activity (37)</b>	<b>no.</b>	<b>526</b>	<b>375</b>	<b>505</b>	<b>34.7</b>
<i>electro-magnetic field measurements</i>	no.	27	26	22	-15.4
<i>noise measurements</i>	no.	17	20	21	5.0
<i>PCB chemical analyses</i>	no.	59	68	65	-4.4
<i>waste classification</i>	no.	130	40	26	-35.0
<i>transformer diagnostics</i>	no.	261	200	356	78.0
<i>other</i>	no.	32	21	15	-28.6

# PRODUCTS – ENVIRONMENT SEGMENT

The data refers to the **Acea Ambiente** and **Acque Industriali** plants. For Acea Ambiente the data refers to the three composting plants (located in Aprilia, Monterotondo Marittimo and Sabaudia), and the waste management centre of Orvieto. For Acque Industriali the data refers to the liquid waste disposal plants located in the Tuscan provinces of Pisa (Pontedera and Pisa-San Jacopo), Florence (Empoli-Pagnana) and Siena (Poggibonsi). After the revamping work of recent years, the Aprilia and Monterotondo Marittimo plants have both implemented a new **anaerobic digestion section**; these are to be added to the one with the same name in Orvieto.

The **Sabaudia plant** has undergone revamping/maintenance since 2016, and operations were resumed in August 2018. Since 31.10.2019, they have been suspended again to allow other revamping works. The **Aprilia plant**, which suffered from the vicissitudes of a preventive seizure, since 2019 was able to operate continuously achieving conditions close to full operation and always under the control of the judicial custodian as in the previous year. Since November 2019, it no longer has any restrictions on operations<sup>139</sup>. In February 2020 the **San Jacopo plant** interrupted its activities pending any subsequent interventions on the plant.

NON-HAZARDOUS WASTE DISPOSED AND RECOVERED – ORVIETO PLANT	u. m.	2018	2019	2020	Δ% 2020/2019
total incoming waste (38) = (39)+(40)	t	91,142	99,910	106,477	6.6
waste sent for treatment (39)	t	58,343	65,674	73,216	11.5
waste sent to the anaerobic digester and aerobic treatment	t	43,420	43,958	34,200	-22.2
sent for aerobic treatment or just shredding	t	14,923	21,716	39,016	79.7
waste sent directly to landfill (40)	t	32,799	34,236	33,261	-2.8
waste sent to landfill after treatment (41)	t	18,469	22,438	34,427	53.4
waste recovered (42)	t	45	64	80	26.0
quality compost (43)	t	5,009	5,240	4,618	-11.9
reduction for stabilisation (44) = (38) – (40+41+42+43)	t	34,820	37,933	34,091	-10.1

COMPOST PRODUCTION	u. m.	2018	2019	2020	Δ% 2020/2019
total incoming organic waste (45) = (46+47+48)	t	28,714.78	53,419.28	115,473.21	116.2
incoming sludge (46)	t	3,385.40	8,809.26	14,945.10	69.7
Aprilia plant	t	1,286.60	3,644.44	4,441.74	21.9
Monterotondo Marittimo plant	t	0.00	585.74	10,503.36	-
Sabaudia plant	t	2,098.80	4,579.08	0.00	-
incoming green (47)	t	3,679.95	10,459.84	25,317.15	142.0
Aprilia plant	t	2,626.81	5,287.70	12,926.64	144.5
Monterotondo Marittimo plant	t	0.00	1,839.96	12,390.51	573.4
Sabaudia plant	t	1,053.14	3,332.18	0.00	-
organic fraction of municipal solid waste and other agrifood waste (48)	t	21,649.43	34,150.18	75,210.96	120.2
Aprilia plant	t	21,649.43	32,588.90	53,395.48	63.8
Monterotondo Marittimo plant	t	0.00	1,561.28	21,815.48	-
quality compost (49) (*)	t	6,779.00	9,330.36	14,729.00	57.9
Aprilia plant	t	5,082.00	6,756.00	10,200.00	51.0
Monterotondo Marittimo plant	t	767.00	0.00	4,529.00	-
Sabaudia plant	t	930.00	2,574.36	0.00	-
non-compostable material for disposal (50)	t	3,565.50	6,753.22	11,615.87	72.0
Aprilia plant	t	2,799.28	6,149.06	7,807.11	27.0
Monterotondo Marittimo and Sabaudia plants	t	766.22	604.16	3,808.76	530.4
reduction through stabilisation (51) = (46+47-49-50)	t	18,370.3	37,335.7	89,128.3	138.7

ANALYTICAL DETERMINATIONS ON WASTE AND ON QUALITY COMPOST	u. m.	2018	2019	2020	Δ% 2020/2019
total analytical determinations (52)	no.	60	122	111	-9.0
analytical determinations on compost – Orvieto plant	no.	12	13	11	-15.4
analytical determinations on compost – Aprilia, Monterotondo Marittimo and Sabaudia plants	no.	17	30	41	36.7
analytical determinations on waste – Orvieto plant	no.	31	79	59	-25.3

(\*) The quantities of compost produced in 2019 were adjusted, as they had been estimated for the previous report.

<sup>139</sup> The Aprilia plant, placed under preventive seizure in 2017 by the Latina Public Prosecutor's Office for aspects related to odorous emissions, was able to restart operations in April of the same year, under close in almost full operation, having responded to the notices of compliance prescribed by the relevant Authorities (Arpa, Lazio Region, NOE). On 15 February 2019, the quantitative limitations were completely removed and the plant was able to operate under normal conditions. On 8 July 2019, the deliveries were again reduced under order of the Judicial Custodian and the Public Prosecutor's Office. Finally, the restrictions were removed on 18 November 2019.

DISPOSAL OF TREATMENT AND LIQUID WASTE – ACQUE INDUSTRIALI	u. m.	2018	2019	2020	Δ% 2020/2019
<b>total incoming waste (53) = (54+55+56+57)</b>	<b>t</b>	<b>173,556.88</b>	<b>132,988.36</b>	<b>111,092.37</b>	<b>-16.5</b>
<b>incoming sludge (54)</b>	<b>t</b>	<b>57,745.58</b>	<b>48,765.79</b>	<b>34,830.75</b>	<b>-28.6</b>
Pagnana plant	t	25,703.40	14,118.78	14,637.21	3.7
Pontedera plant	t	8,770.91	9,351.19	5,933.69	-36.5
Poggibonsi plant	t	17,633.46	14,984.30	13,252.68	-11.6
San Jacopo plant	t	5,637.81	10,311.52	1007.17	-90.2
<b>liquid waste (55)</b>	<b>t</b>	<b>18,053.70</b>	<b>17,310.05</b>	<b>10,347.19</b>	<b>-40.2</b>
Pagnana plant	t	11,465.34	8,345.18	3,994.52	-52.1
Pontedera plant	t	6,588.36	8,964.87	6,352.67	-29.1
<b>sewage waste and others (56)</b>	<b>t</b>	<b>32,334.15</b>	<b>14,399.55</b>	<b>12,100.99</b>	<b>-16.0</b>
Pagnana plant	t	14,956.77	9,778.62	8,699.95	-11.0
Pontedera plant	t	16,701.83	4,150.07	2,859.76	-31.1
Poggibonsi plant	t	643.60	437.53	531.16	21.4
San Jacopo plant	t	31.95	33.33	10.12	-69.6
<b>leachate (57)</b>	<b>t</b>	<b>65,423.45</b>	<b>52,512.97</b>	<b>53,813.44</b>	<b>2.5</b>
Pagnana plant	t	33,640.03	27,308.53	28,048.42	2.7
Pontedera plant	t	31,783.42	25,204.44	25,765.02	2.2
<b>ammonium sulphate produced (58)</b>	<b>kg</b>	<b>1,093,510</b>	<b>311,904</b>	<b>255,040</b>	<b>-18.2</b>
Pagnana plant	kg	674,900	136,400	57,460	-57.9
Pontedera plant	kg	418,610	175,504	197,580	12.6

TREATED AND DISCHARGED WATER – INDUSTRIAL WATER	u. m.	2018	2019	2020	Δ% 2020/2019
<b>treated and discharged water (59)</b>	<b>m³</b>	<b>190,145</b>	<b>139,398</b>	<b>117,812</b>	<b>-15.5</b>
Pagnana plant	m³	103,937	71,265	64,685	-9.2
Pontedera plant	m³	58,112	37,884	34,576	-8.7
Poggibonsi plant	m³	23,596	22,099	17,748	-19.7
San Jacopo plant	m³	4,500	8,150	803	-90.1

## PRODUCTS – WATER SEGMENT

The water data **summarized at national level** includes the principal water Companies of the Acea Group: Acea Ato 2 and Acea Ato 5 (Lazio), Gesesa and Gori (Campania), Umbra Acque (Umbria), Acque, Publiacqua and AdF (Tuscany). The details of the water balances are presented only for the Companies in the reporting scope of the *Consolidated Non-Financial Disclosure* (NFD, pursuant to Legislative Decree no. 254/2016): Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa. For the first time, AdF's data were also included for the two-year period 2018-2019, making the data comparable. Please see the chapter *Water Companies data sheets and*

*overseas activities* for the water balance sheets of the other Companies of the Group not in the scope of the NFD. In recent years, **ARERA** has intervened at a regulatory level, introducing progressive changes to the process for calculating the water balance. The Loss Assessment was therefore carried out for the entire three-year period, according to ARERA Resolution 917/17 R/IDR. In particular, the new ARERA procedures establish that water losses are calculated on the entire scope of the aqueduct system (and therefore not only on the distribution network) and include apparent losses.

SUMMARIZED WATER DATA OF THE GROUP IN ITALY <sup>(*)</sup>	u. m.	2018	2019	2020	Δ% 2020/2019
<b>total drinking water collected from the environment or from other systems and fed into the aqueduct systems (60)</b>	<b>Mm³</b>	<b>1,397.9</b>	<b>1,371.7</b>	<b>1,356.1</b>	<b>-1.1</b>
<b>total drinking water supplied and billed (61)</b>	<b>Mm³</b>	<b>620.7</b>	<b>627.0</b>	<b>628.3</b>	<b>0.2</b>

(\*) Some figures for the 2018-2019 two year period have been updated following consolidation. Some 2020 items were estimated and will be consolidated in the months following publication.

SUMMARY WATER DATA OF THE COMPANIES OPERATING IN THE NFD SCOPE ACEA ATO 2, ACEA ATO 5, GORI, GESESA AND AdF <sup>(*)</sup>	u. m.	2018	2019	2020	Δ% 2020/2019
<b>total drinking water collected from the environment or from other systems and fed into the aqueduct systems (62)</b>	<b>Mm³</b>	<b>1,095.8</b>	<b>1,079.0</b>	<b>1,074.1</b>	<b>-0.4</b>
<b>total drinking water supplied (63)</b>	<b>Mm³</b>	<b>468.7</b>	<b>473.9</b>	<b>479.8</b>	<b>1.2</b>



WATER BALANCES OF THE COMPANIES OPERATING IN THE NFD SCOPE <sup>(*)</sup>		u. m.	2018	2019	2020	Δ% 2020/2019
Acea Ato 2 for Ato 2 – central Lazio (Rome + municipalities acquired as at 31.12.2020)						
drinking water collected from the environment or from other systems and fed into the aqueduct systems (64)	Mm³	697.2	689.5	691.1	0.2	
<i>surface (lakes and rivers)</i>	Mm³	0.0	0.0	0.0	-	
<i>from wells</i>	Mm³	89.4	86.2	89.6	3.9	
<i>from springs</i>	Mm³	601.6	596.8	595.3	-0.2	
<i>from other aqueduct systems</i>	Mm³	6.2	6.5	6.2	-4.6	
total drinking water leaving the aqueduct system (65) = (66+67+68+69)	Mm³	371.4	383.7	398.3	3.8	
total drinking water released and invoiced into the Ato 2 network (66)	Mm³	324.1	327.9	332.3	1.3	
<i>measured volume of water delivered to users</i>	Mm³	300.4	298.3	306.8	2.9	
<i>volume consumed by users and not measured</i>	Mm³	23.7	29.7	25.5	-14.0	
total drinking water authorised and not billed in the network (67)	Mm³	1.5	13.2	18.4	39.8	
<i>measured unbilled authorised consumption</i>	Mm³	0.0	0.0	0.0	-	
<i>unmeasured unbilled authorised consumption</i>	Mm³	1.5	13.2	18.4	39.8	
drinking water exported to other systems (68)	Mm³	45.5	42.6	46.8	9.8	
measured drinking water losses (69)	Mm³	0.3	0.0	0.7	-	
loss assessment according to ARERA Resolution 917/17 R/IDR						
water losses (70)	Mm³	325.8	305.8	292.9	-4.2	
water loss percentages (71)	%	46.7	44.3	42.4	-5.1	
Acea Ato 5 for Ato 5 – Southern Lazio – Frosinone (86 municipalities)						
drinking water collected from the environment or from other systems and fed into the aqueduct systems (72)	Mm³	124.7	121.9	119.8	-1.7	
<i>from wells</i>	Mm³	59.5	63.1	59.3	-5.9	
<i>from springs</i>	Mm³	51.3	45.2	44.8	-0.8	
<i>from other aqueduct systems</i>	Mm³	14.0	13.6	15.7	15.1	
total drinking water leaving the aqueduct system (73) = (74+75+76)	Mm³	27.8	29.1	37.9	30.5	
total drinking water dispensed and billed in the network (74)	Mm³	20.8	21.6	24.6	13.6	
<i>measured volume of water delivered to users</i>	Mm³	20.3	17.6	18.6	5.3	
<i>volume consumed by users and not measured</i>	Mm³	0.5	4.0	6.0	50.0	
total drinking water authorised and not billed in the network (75)	Mm³	0.1	0.6	6.8	-	
<i>measured unbilled authorised consumption</i>	Mm³	0.0	0.0	0.0	-	
<i>unmeasured unbilled authorised consumption</i>	Mm³	0.1	0.6	6.8	-	
drinking water exported to other systems (76)	Mm³	6.9	6.8	6.6	-3.8	
loss assessment according to ARERA Resolution 917/17 R/IDR						
water losses (77)	Mm³	96.9	92.8	81.9	-11.8	
water loss percentages (78)	%	77.7	76.2	68.4	-10.2	
Gesesa – Ato Calore Irpino – Benevento (21 municipalities)						
drinking water collected from the environment or from other systems and fed into the aqueduct systems (79)	Mm³	16.2	17.6	19.0	8.9	
<i>from wells</i>	Mm³	7.1	6.6	7.4	12.2	
<i>from springs</i>	Mm³	1.6	2.4	2.1	-10.3	
<i>drinking water collected from other aqueduct systems</i>	Mm³	7.5	8.7	9.5	9.8	
total drinking water leaving the aqueduct system (80) = (81+82+83)	Mm³	7.7	7.6	7.7	1.4	
total drinking water dispensed and billed in the network (81)	Mm³	7.6	7.6	7.6	-	
<i>measured volume of water delivered to users</i>	Mm³	7.4	7.1	6.0	-15.4	
<i>volume consumed by users and not measured</i>	Mm³	0.2	0.5	1.6	223.8	
total drinking water authorised and not billed in the network (82)	Mm³	0.0	0.0	0.0	-	
drinking water exported to other systems (83)	Mm³	0.1	0.0	0.1	-	
loss assessment according to ARERA Resolution 917/17 R/IDR						
water losses (84)	Mm³	8.5	10.0	11.3	12.9	
water loss percentages (85)	%	52.6	56.9	59.4	4.6	
Gori – Sarnese Vesuviano District (76 municipalities)						
drinking water collected from the environment or from other systems and fed into the aqueduct systems (86)	Mm³	196.5	189.7	184.0	-3.0	
<i>from wells</i>	Mm³	55.3	60.7	59.6	-1.8	
<i>from springs</i>	Mm³	2.3	2.5	2.4	-2.0	

<i>drinking water collected from other aqueduct systems</i>	<i>Mm<sup>3</sup></i>	139.0	126.5	121.9	-3.6
<b>total drinking water leaving the aqueduct system (87) = (88+89)</b>	<b>Mm<sup>3</sup></b>	<b>88.8</b>	<b>88.7</b>	<b>87.6</b>	<b>-1.3</b>
<b>total drinking water dispensed and billed in the network (88)</b>	<b>Mm<sup>3</sup></b>	<b>87.9</b>	<b>88.0</b>	<b>86.9</b>	<b>-1.3</b>
<i>measured volume of water delivered to users</i>	<i>Mm<sup>3</sup></i>	80.9	82.9	80.6	-2.8
<i>volume consumed by users and not measured</i>	<i>Mm<sup>3</sup></i>	7.1	5.1	6.3	23.4
<b>total drinking water authorised and not billed in the network (89)</b>	<b>Mm<sup>3</sup></b>	<b>0.4</b>	<b>0.4</b>	<b>0.4</b>	<b>-</b>
<i>measured unbilled authorised consumption</i>	<i>Mm<sup>3</sup></i>	0.0	0.0	0.0	-
<i>unmeasured unbilled authorised consumption</i>	<i>Mm<sup>3</sup></i>	0.4	0.4	0.4	-
<b>drinking water exported to other systems (89 B)</b>	<b>Mm<sup>3</sup></b>	<b>0.5</b>	<b>0.3</b>	<b>0.3</b>	<b>-</b>
<b>loss assessment according to ARERA Resolution 917/17 R/IDR</b>					
<b>water losses (90)</b>	<b>Mm<sup>3</sup></b>	<b>107.7</b>	<b>101.0</b>	<b>96.3</b>	<b>-4.6</b>
<b>water loss percentages (91)</b>	<b>%</b>	<b>54.8</b>	<b>53.2</b>	<b>52.4</b>	<b>-1.6</b>

#### AdF – Optimal Territorial Conference 6 Ombrone (55 Municipalities)

<b>drinking water collected from the environment or from other systems and fed into the aqueduct systems (92)</b>	<b>Mm<sup>3</sup></b>	<b>61.1</b>	<b>59.7</b>	<b>58.7</b>	<b>-1.6</b>
<i>surface water</i>	<i>Mm<sup>3</sup></i>	1.3	1.1	1.0	-10.1
<i>from wells</i>	<i>Mm<sup>3</sup></i>	22.8	20.1	17.6	-12.1
<i>from springs</i>	<i>Mm<sup>3</sup></i>	36.4	37.7	39.4	4.5
<i>from other aqueduct systems</i>	<i>Mm<sup>3</sup></i>	0.6	0.8	0.6	-16.3
<b>total drinking water leaving the aqueduct system (93) = (94+95+96+97)</b>	<b>Mm<sup>3</sup></b>	<b>32.0</b>	<b>32.3</b>	<b>32.8</b>	<b>1.4</b>
<b>total drinking water dispensed and billed in the network (94)</b>	<b>Mm<sup>3</sup></b>	<b>28.3</b>	<b>28.7</b>	<b>28.4</b>	<b>-1.0</b>
<i>measured volume of water delivered to users</i>	<i>Mm<sup>3</sup></i>	28.3	28.7	28.4	-1.0
<i>volume consumed by users and not measured</i>	<i>Mm<sup>3</sup></i>	0.0	0.0	0.0	-
<b>total drinking water authorised and not billed in the network (95)</b>	<b>Mm<sup>3</sup></b>	<b>0.1</b>	<b>0.1</b>	<b>0.5</b>	<b>254.7</b>
<i>measured unbilled authorised consumption</i>	<i>Mm<sup>3</sup></i>	0.0	0.0	0.1	-
<i>unmeasured unbilled authorised consumption</i>	<i>Mm<sup>3</sup></i>	0.1	0.1	0.4	212.2
<b>drinking water exported to other systems (96)</b>	<b>Mm<sup>3</sup></b>	<b>1.6</b>	<b>1.6</b>	<b>1.6</b>	<b>-</b>
<b>measured drinking water losses (97)</b>	<b>Mm<sup>3</sup></b>	<b>1.9</b>	<b>1.9</b>	<b>2.2</b>	<b>18.2</b>
<b>loss assessment according to ARERA Resolution 917/17 R/IDR</b>					
<b>water losses (98)</b>	<b>Mm<sup>3</sup></b>	<b>29.1</b>	<b>27.4</b>	<b>25.9</b>	<b>-5.2</b>
<b>water loss percentages (99)</b>	<b>%</b>	<b>47.7</b>	<b>45.8</b>	<b>44.2</b>	<b>-3.6</b>

(\*) Some figures for the 2018-2019 two year period have been updated following consolidation. The 2020 data are estimated and will be consolidated with the subsequent reporting.

#### TOTAL WASTE WATER TREATED BY THE COMPANIES OF THE GROUP IN ITALY – SUMMARY DATA

THE GROUP IN ITALY - COMPANY DATA					2019/2018
waste water treated in the main treatment plants of the Group Companies in Italy <sup>(*)</sup> (100)	Mm <sup>3</sup>	858.6	853.7	914.3	7.1

(\*) Some Group Company data for 2019 have been adjusted/consolidated.

#### TOTAL WASTE WATER TREATED BY THE COMPANIES OPERATING IN THE NFD SCOPE (ACEA ATO 2, ACEA ATO 5, GORI, GESESA and AdF – SUMMARY DATA)

waste water treated in the principal treatment plants of Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF <sup>(*)</sup> (101)	Mm³	637.0	692.1	713.7	3.1
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(\*) Gesesa Company estimated the figure for the first time in 2020, having started to install the first flow meters during the year.

#### WASTE WATER TREATED BY ACEA ATO 2

	Unit	2018	2019	2020	2020/2019
waste water treated in the principal treatment plants (102)	Mm³	490.1	514.1	512.2	-0.4
Rome South	Mm³	279.1	286.4	284.9	-0.5
Rome North	Mm³	85.9	91.5	93.7	2.5
Rome East	Mm³	83.5	90.9	92.8	2.0
Rome Ostia	Mm³	25.7	29.8	30.6	2.5
CoBIS	Mm³	7.1	6.6	6.7	0.7
Fregene	Mm³	8.8	8.8	3.5	-60.2
other – Municipality of Rome	Mm³	11.6	9.7	8.7	-10.5
other – outside the Municipality of Rome	Mm³	81.0	76.0	76.0	-
total waste water treated by Acea Ato 2 (103)	Mm³	582.7	599.8	596.9	-0.5

WASTE WATER TREATED BY ACEA ATO 5	u. m.	2018	2019	2020	Δ% 2020/2019
waste water treated in the principal treatment plants (104)	Mm <sup>3</sup>	21.2	21.3	21.2	-0.5
WASTEWATER TREATED BY GORI	u. m.	2018	2019	2020	Δ% 2020/2019
total wastewater treated (105)	Mm <sup>3</sup>	7.7	45.2	70.1	55.2
WASTEWATER TREATED BY AdF	u. m.	2018	2019	2020	Δ% 2020/2019
waste water treated in the principal treatment plants (106)	Mm <sup>3</sup>	16.9	16.8	16.3	-3.2
waste water treated in other plants	Mm <sup>3</sup>	8.5	9.0	7.0	-22.4
total waste water treated by AdF (107)	Mm <sup>3</sup>	25.4	25.8	23.3	-9.9
WASTEWATER TREATED BY GESESA	u. m.	2018	2019	2020	Δ% 2020/2019
waste water treated in the main treatment plants (107B)	Mm <sup>3</sup>	n/a	n/a	2.2	-
ANALYTICAL DETERMINATIONS ON DRINKING WATER AND WASTE WATER IN THE GROUP IN ITALY – SUMMARY DATA	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on Group total drinking water (108)	no.	1,365,213	1,456,316	1,523,028	4.6
analytical determinations on Group total waste water (109)	no.	428,417	495,921	448,829	-9.5
ANALYTICAL DETERMINATIONS ON DRINKING WATER AND WASTE WATER OF THE COMPANIES OPERATING IN THE NFD PERIMETER: ACEA ATO 2, ACEA ATO 5, GORI, AdF AND GESESA – SUMMARY DATA	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on drinking water of Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa (110)	no.	692,976	729,983	769,888	5.5
analytical determinations on waste water of Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa (111)	no.	236,413	288,863	252,160	-12.7
ANALYTICAL DETERMINATIONS ACEA ATO 2	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on Acea Ato 2 drinking water (112)	no.	35,9491	365,728	365,633	-
analytical determinations on Acea Ato 2 wastewater (113)	no.	127,378	170,641	124,625	-27.0
ANALYTICAL DETERMINATIONS ACEA ATO 5	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on Acea Ato 5 drinking water (114)	no.	115,345	123,790	116,327	-6.0
analytical determinations on Acea Ato 5 wastewater (115)	no.	35,064	41,616	43,812	5.3
GESESA ANALYTICAL DETERMINATIONS	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on Gesesa drinking water (116)	no.	6101	8,428	9,372	11.2
analytical determinations on Gesesa wastewater (117)	no.	4,702	5,514	5,736	4.0
GORI ANALYTICAL DETERMINATIONS	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on Gori drinking water (118)	no.	95,462	109,363	141,288	29.2
analytical determinations on Gori wastewater (119)	no.	19,854	21,027	25,499	21.3
AdF ANALYTICAL DETERMINATIONS	u. m.	2018	2019	2020	Δ% 2020/2019
analytical determinations on AdF drinking water (120)	no.	116,577	122,674	137,268	11.9
analytical determinations on AdF wastewater (121)	no.	49,415	50,065	52,488	4.8

# RESOURCES USED – ENERGY SEGMENT

The data on the resources used refer to Acea Produzione, Acea Ambiente's plants and Areti.

GENERATION, TRANSPORT AND SALE OF ELECTRICITY AND HEAT, PUBLIC LIGHTING	u. m.	2018	2019	2020	Δ% 2020/2019
<b>natural gas</b>					
<b>electricity and heat generation (122) = (123+124)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>23,742</b>	<b>25,828</b>	<b>25,148</b>	<b>-2.7</b>
<b>thermoelectric and heat production (123)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>20,305</b>	<b>22,468</b>	<b>22,272</b>	<b>-0.9</b>
<i>Tor di Valle – high-efficiency cogeneration (CAR)</i>	<i>Nm<sup>3</sup> x 1,000</i>	<i>20,305</i>	<i>22,468</i>	<i>22,272</i>	<i>-0.9</i>
<b>waste-to-energy (124)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>3,438</b>	<b>3,359</b>	<b>2,876</b>	<b>-16.8</b>
<i>San Vittore del Lazio waste-to-energy plant</i>	<i>Nm<sup>3</sup> x 1,000</i>	<i>3,126</i>	<i>3,029</i>	<i>2,486</i>	<i>-21.8</i>
<i>Terni waste-to-energy plant (*)</i>	<i>Nm<sup>3</sup> x 1,000</i>	<i>312</i>	<i>331</i>	<i>390</i>	<i>15.2</i>
<b>gas oil for thermoelectric generation</b>					
<b>thermoelectric production (125)</b>	<b>l x 1,000</b>	<b>291</b>	<b>630</b>	<b>639</b>	<b>1.5</b>
<i>Montemartini power plant</i>	<i>l x 1,000</i>	<i>230</i>	<i>574</i>	<i>587</i>	<i>2.2</i>
<i>Terni and San Vittore del Lazio plants</i>	<i>l x 1,000</i>	<i>61</i>	<i>56</i>	<i>52</i>	<i>-6.3</i>
<b>RDF (Refuse-Derived Fuel) processed</b>					
<b>San Vittore del Lazio waste-to-energy plant (126)</b>	<b>t x 1,000</b>	<b>357.174</b>	<b>340.531</b>	<b>319.122</b>	<b>-6.3</b>
<b>waste-to-energy paper mill pulper</b>					
<b>Terni waste-to-energy plant (127)</b>	<b>t x 1,000</b>	<b>99.971</b>	<b>94.092</b>	<b>90.215</b>	<b>-4.1</b>
<b>biogas for the production of electricity</b>					
<b>composting and waste management plants (128)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>10,766</b>	<b>11,491</b>	<b>17,153</b>	<b>49.3</b>
<i>Orvieto plant</i>	<i>Nm<sup>3</sup> x 1,000</i>	<i>10,766</i>	<i>11,491</i>	<i>10,867</i>	<i>-5.4</i>
<i>Aprilia plant</i>	<i>Nm<sup>3</sup> x 1,000</i>	<i>0</i>	<i>0</i>	<i>3621</i>	<i>-</i>
<i>Monterotondo plant</i>	<i>Nm<sup>3</sup> x 1,000</i>	<i>0</i>	<i>0</i>	<i>2665</i>	<i>-</i>
<b>water</b>					
<b>derivation from hydroelectric production (129)</b>	<b>Mm<sup>3</sup></b>	<b>4,221.71</b>	<b>3,458.09</b>	<b>2,926.25</b>	<b>-15.4</b>
<b>process water (130)</b>	<b>Mm<sup>3</sup></b>	<b>0.27</b>	<b>0.25</b>	<b>0.18</b>	<b>-28.3</b>
<b>water for civilian/sanitary uses (131)</b>	<b>Mm<sup>3</sup></b>	<b>0.27</b>	<b>0.27</b>	<b>0.30</b>	<b>10.6</b>
<b>miscellaneous materials</b>					
<b>dielectric mineral oil in operation (132)</b>	<b>t</b>	<b>9,957</b>	<b>10,004</b>	<b>10,138</b>	<b>1.3</b>
dielectric mineral oil – reintegrations	t	1.89	0.76	1.19	57.3
<b>SF<sub>6</sub> in operation (133)</b>	<b>t</b>	<b>21.70</b>	<b>21.94</b>	<b>22.29</b>	<b>1.6</b>
SF <sub>6</sub> – replenishments	t	0.50	0.40	0.37	-7.5
<b>cooling fluids (HCFC type) in operation (134)</b>	<b>t</b>	<b>1.56</b>	<b>1.49</b>	<b>1.68</b>	<b>12.8</b>
cooling fluids (HCFC type) – reintegrations	t	0.015	0.00007	0.00042	-
<b>miscellaneous chemicals (135)</b>	<b>kg</b>	<b>10,650,639</b>	<b>9,944,328</b>	<b>9,787,951</b>	<b>-1.6</b>
sodium chloride	kg	8,000	13,000	9,000	-30.8
sodium hydroxide (caustic soda)	kg	164,520	256,470	247,640	-3.4
sodium bicarbonate	kg	7,795,510	7,181,660	7,140,770	-0.6
hydrochloric acid	kg	165,260	253,200	255,150	0.8
ammonia solution	kg	636,630	560,340	598,950	6.9
activated carbon	kg	404,400	511,520	468,160	-8.5
carbamine	kg	866,810	631,040	228,820	-63.7
other (for TLR e waste-to-energy)	kg	609,509	537,098	839,461	56.3
<b>miscellaneous oils and greases/lubricants (136)</b>	<b>kg</b>	<b>46,887</b>	<b>34,387</b>	<b>37,664</b>	<b>9.5</b>
<b>electricity</b>					
<i>consumption for electrical distribution (137) = (28)</i>	<i>GWh</i>	<i>763.74</i>	<i>741.14</i>	<i>563.70</i>	<i>-23.9</i>
<i>consumption for electricity production (138) = (1)-(2)</i>	<i>GWh</i>	<i>68.20</i>	<i>64.76</i>	<i>69.87</i>	<i>7.9</i>
<i>consumption for offices (50% of the electricity consumed by the Parent Company) (139)</i>	<i>GWh</i>	<i>4.83</i>	<i>4.50</i>	<i>3.77</i>	<i>-16.1</i>
<i>other consumption (140)</i>	<i>GWh</i>	<i>1.20</i>	<i>1.22</i>	<i>1.32</i>	<i>8.6</i>
<i>other personal uses (141)</i>	<i>GWh</i>	<i>39.63</i>	<i>39.47</i>	<i>35.80</i>	<i>-9.3</i>
<b>total (142) (137+138+139+140+141)</b>	<b>GWh</b>	<b>877.61</b>	<b>851.08</b>	<b>674.47</b>	<b>-20.8</b>
<b>Public Lighting</b>					
<b>consumption for Public Lighting (143)</b>	<b>GWh</b>	<b>83.98</b>	<b>70.08</b>	<b>66.96</b>	<b>-4.5</b>

(\*) The data for the 2018-2019 two year period were rectified in order to define the calculation.



## RESOURCES USED – ENVIRONMENT AREA

The data on the resources refers to the three composting plants of Acea Ambiente located in Aprilia, Monterotondo Marittimo and Sabaudia, the waste management plant of Orvieto and four of Acque Industriali's plants in Pontedera, Pagnana, Poggibonsi and San Jacopo.

WASTE MANAGEMENT – ORVIETO PLANT	u. m.	2018	2019	2020	Δ% 2020/2019
miscellaneous chemicals (144)	t	19.9	15.1	20.1	33.2
electricity (145)	GWh	4.513	4.722	4.398	-6.9
gas oil (146)	l	240,022	245,735	229,533	-6.6
process water (147)	m <sup>3</sup>	9,663	5,574	4,792	-14.0
water for civilian/sanitary uses (148)	m <sup>3</sup>	1,261	1,180	1,230	4.2

COMPOST PRODUCTION	u. m.	2018	2019	2020	Δ% 2020/2019
miscellaneous chemicals (posting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (149)	t	31.48	41.48	540.45	-
electricity (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (150)	GWh	3.392	3.942	4.039	2.4
gas oil (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (151)	l x 1,000	95.28	170.47	220.73	29.5
locally produced biogas (composting plants of Aprilia and Monterotondo Marittimo) (152)	Nm <sup>3</sup>	n.a.	176,614	6,286,431	-
process water (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) <sup>(*)</sup> (153)	m <sup>3</sup>	11,882	16,562	28,928	74.7
water for civil use (composting plants of Aprilia, Monterotondo Marittimo and Sabaudia) (154)	m <sup>3</sup>	1,929	1,480	2,330	57.4

(\*) The 2019 figure was rectified following actual recorded consumption.

DISPOSAL OF TREATMENT AND LIQUID WASTE – ACQUE INDUSTRIALI	u. m.	2018	2019	2020	Δ% 2020/2019
miscellaneous chemicals (Pagnana, Pontedera and Poggibonsi plants) (155)	t	2,609.9	1,116.2	975.9	-12.6
electricity (Pagnana, Pontedera, Poggibonsi and San Jacopo plants) (156)	GWh	0.620	0.481	0.713	48.1
methane (Pagnana plant) (157)	Sm <sup>3</sup>	6,6982	30,307	25,079	-17.3
BTZ (Basso Tenore di Zolfo – Low Sulphur Content) combustible Oil (Pontedera plant) (158)	t	0.060	0.045	0.049	9.2
process water (Pagnana, Pontedera, Poggibonsi and San Jacopo plants) (159)	m <sup>3</sup>	27,351	23,841	15,600	-34.6
water for civil use (Pagnana, Pontedera, Poggibonsi and San Jacopo plants) (160)	m <sup>3</sup>	1,100	743	747	0.5

## RESOURCES USED – WATER SEGMENT

The data refers to the Water Companies of the Group included in the reporting scope of the *Consolidated Non-Financial Disclosure* (NFD, pursuant to Legislative Decree no. 254/2016): Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa.

In general a fall in the use of energy was recorded due to the health emergency, except for those Companies that expanded the perimeter of their plants, in this case Gori.

COLLECTION, SUPPLY AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER	u. m.	2018	2019	2020	Δ% 2020/2019
reagents for purification and disinfection (161)	t	3,174.6	3,564.3	3,265.4	-8.4
reagents for chemical analyses (162)	t	1.50	1.50	1.65	10.0
gas for chemical analyses (163)	MNm <sup>3</sup>	5.82	6.06	5.79	-4.4
cooling fluids (HCFC type) in operation (164) = (134)	t	1.56	1.49	1.68	12.8
cooling fluids (HCFC type) – reintegrations	t	0.015	0.00007	0.00035	-
total electricity consumed (165)	GWh	362.81	414.91	481.45	16.0
water pumping plants (166)	GWh	356.78	409.12	476.28	16.4
offices/personal use (50% of energy consumed by the Parent Company) (167) = (139)	GWh	4.83	4.50	3.77	-16.1
chemical laboratory (168)	GWh	1.19	1.29	1.40	7.9

<b>drinking water</b>					
<b>total drinking water consumed (169)</b>	<b>Mm<sup>3</sup></b>	<b>1.46</b>	<b>1.80</b>	<b>2.81</b>	<b>56.1</b>
<i>civilian/sanitary uses</i>	<i>Mm<sup>3</sup></i>	<i>1.30</i>	<i>1.63</i>	<i>2.16</i>	<i>32.5</i>
<i>process uses (*)</i>	<i>Mm<sup>3</sup></i>	<i>n.a.</i>	<i>n.a.</i>	<i>0.48</i>	<i>-</i>
<i>offices (50% of the drinking water consumed by the Parent Company)</i>	<i>Mm<sup>3</sup></i>	<i>0.16</i>	<i>0.17</i>	<i>0.17</i>	<i>-</i>

(\*) It is water recovered from treatment plants.

<b>WASTEWATER TREATMENT</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>miscellaneous materials and natural resources</b>					
<b>reagents for purification waste water (170)</b>	<b>t</b>	<b>8,573</b>	<b>12,086</b>	<b>13,683</b>	<b>13.2</b>
<i>polyelectrolyte for sludge dehydration</i>	<i>t</i>	<i>1,469</i>	<i>2,305</i>	<i>2,478</i>	<i>7.5</i>
<i>sodium hypochlorite for final disinfection</i>	<i>t</i>	<i>2,755</i>	<i>2,761</i>	<i>3,948</i>	<i>43.0</i>
<i>ferric chloride for sludge dehydration</i>	<i>t</i>	<i>165</i>	<i>497</i>	<i>462</i>	<i>-7.1</i>
<i>peracetic acid</i>	<i>t</i>	<i>3,016</i>	<i>3,673</i>	<i>3,995</i>	<i>8.8</i>
<i>other (anti-foaming, etc.)</i>	<i>t</i>	<i>1,153</i>	<i>2,310</i>	<i>2,716</i>	<i>17.6</i>
<b>reagent kit for on-site controls (171)</b>	<b>no.</b>	<b>57,271</b>	<b>53,856</b>	<b>69,249</b>	<b>28.6</b>
<b>oil and fat (172)</b>	<b>t</b>	<b>15.7</b>	<b>13.9</b>	<b>10.1</b>	<b>-27.6</b>
<b>electricity</b>					
<b>sewerage and purification (173)</b>	<b>GWh</b>	<b>233.5</b>	<b>251.3</b>	<b>250.7</b>	<b>-0.2</b>
<b>fuels</b>					
<b>methane for processes (dryers and other processes) (174)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>2,063.0</b>	<b>2,868.8</b>	<b>3,058.8</b>	<b>6.6</b>
<b>gas oil for processes (174 B)</b>	<b>l x 1,000</b>	<b>0.0</b>	<b>111.8</b>	<b>224.2</b>	<b>100.5</b>
<b>biogas produced and consumed on site (175)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>1,354.2</b>	<b>2,382.5</b>	<b>5,234.7</b>	<b>119.7</b>

## FUEL USED BY THE COMPANIES OF THE GROUP FOR TRANSPORT AND HEATING

The figures refer to all the Companies in the NFD reporting scope including AdF.

<b>TYPE OF FUEL</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>transport (Group car fleet)</b>					
<b>petrol (176)</b>	<b>l x 1,000</b>	<b>102.5</b>	<b>122.6</b>	<b>225.3</b>	<b>83.7</b>
<b>diesel (177)</b>	<b>l x 1,000</b>	<b>3,839.8</b>	<b>3,410.1</b>	<b>3,371.7</b>	<b>-1.1</b>
<b>LPG (178)</b>	<b>l x 1,000</b>	<b>0.0</b>	<b>5.1</b>	<b>8.1</b>	<b>58.9</b>
<b>heating</b>					
<b>gas oil (179)</b>	<b>l x 1,000</b>	<b>2.8</b>	<b>1.9</b>	<b>0.9</b>	<b>-52.6</b>
<b>methane (180)</b>	<b>Nm<sup>3</sup> x 1,000</b>	<b>395.9</b>	<b>419.6</b>	<b>387.3</b>	<b>-7.7</b>
<b>LPG (181)</b>	<b>l x 1,000</b>	<b>10.2</b>	<b>30.1</b>	<b>33.9</b>	<b>12.4</b>

## EMISSIONS AND WASTE – ENERGY SEGMENT

The data on the emissions and waste refer to Acea Produzione, to the waste-to-energy plants of Acea Ambiente and Areti.

<b>ATMOSPHERIC EMISSIONS</b>	<b>u.m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>CO<sub>2</sub> (182) = (183+184+185+186) (*)</b>	<b>t</b>	<b>361,539</b>	<b>338,692</b>	<b>39,2471</b>	<b>15.9</b>
<i>Acea Produzione (183)</i>	<i>t</i>	<i>42,888</i>	<i>48,506</i>	<i>47,643</i>	<i>-1.8</i>
<i>Areti – SF<sub>6</sub> replenishment (184)</i>	<i>t</i>	<i>11,233</i>	<i>9,682</i>	<i>8,695</i>	<i>-10.2</i>
<i>HCFC replenishment (185)</i>	<i>t</i>	<i>22.9</i>	<i>0.0</i>	<i>0.7</i>	<i>-</i>
<i>waste-to-energy (186)</i>	<i>t</i>	<i>307,395</i>	<i>280,504</i>	<i>336,133</i>	<i>19.8</i>
<b>NO<sub>x</sub> (187) = (188+189)</b>	<b>t</b>	<b>189.40</b>	<b>188.19</b>	<b>190.67</b>	<b>1.3</b>

Acea Produzione (188)	t	13.69	17.44	20.83	19.4
waste-to-energy (189)	t	175.71	170.75	169.84	-0.5
<b>CO (190) = (191+192)</b>	<b>t</b>	<b>6.38</b>	<b>7.02</b>	<b>8.22</b>	<b>17.1</b>
Acea Produzione (191)	t	2.02	4.19	6.00	43.2
waste-to-energy (192)	t	4.36	2.83	2.22	-21.5
<b>SO<sub>2</sub> (193) = (194+195)</b>	<b>t</b>	<b>0.16</b>	<b>0.33</b>	<b>0.90</b>	<b>174.0</b>
Acea Produzione (194)	t	0.01	0.02	0.02	-
waste-to-energy (195)	t	0.15	0.31	0.88	185.4
<b>powders (196) = (197+198)</b>	<b>t</b>	<b>0.50</b>	<b>0.60</b>	<b>0.60</b>	<b>-</b>
Acea Produzione (197)	t	0.01	0.03	0.03	-
waste-to-energy (198)	t	0.49	0.57	0.57	-
<b>HCl (199)</b>	<b>t</b>	<b>3.56</b>	<b>2.92</b>	<b>3.12</b>	<b>6.8</b>
<b>HF (200)</b>	<b>t</b>	<b>0.12</b>	<b>0.12</b>	<b>0.06</b>	<b>-47.2</b>
<b>organic carbon (201)</b>	<b>t</b>	<b>1.75</b>	<b>1.99</b>	<b>1.07</b>	<b>-46.2</b>

<b>OTHER EMISSIONS AND WASTE</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
wastewater treated (202)	Mm <sup>3</sup>	0.0166	0.0300	0.0241	-19.7
electrical fields at 50 Hz	kV	monitored commitment to maintain the value below the legal limit			
magnetic fields at 50 Hz	μT	monitored commitment to maintain the value below the legal limit			
noise	dB	monitored commitment to maintain the value below the legal limit			
luminous flux dissipated	Mlumen	commitment to design the plants in order to limit to the utmost the emission value dissipated upwards			

<b>WASTE (Legislative Decree no. 152/06)</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>hazardous waste – excluding waste-to-energy area (203)</b>	<b>t</b>	<b>673.1</b>	<b>1,268.9</b>	<b>211.2</b>	<b>-83.4</b>
production energy own area	t	671.6	1,268.1	210.6	-83.4
proportion for the activities performed by the Parent Company <sup>(*)</sup>	t	1.5	0.8	0.6	-18.8
<b>hazardous waste from waste-to-energy (204)</b>	<b>t</b>	<b>85,757.7</b>	<b>73,202.0</b>	<b>64,806.2</b>	<b>-11.5</b>
<b>non-hazardous waste – excluding waste-to-energy area (205)</b>	<b>t</b>	<b>800.6</b>	<b>1,167.0</b>	<b>833.6</b>	<b>-28.6</b>
production energy own area	t	739.9	1,118.9	805.2	-28.0
proportion for the activities performed by the Parent Company <sup>(**)</sup>	t	60.7	48.1	28.4	-40.9
<b>non-hazardous waste from waste-to-energy (206)</b>	<b>t</b>	<b>14,578.0</b>	<b>24,239.3</b>	<b>22,606.8</b>	<b>-6.7</b>

(\*) Terni's figures for 2019 have been restated after the final calculations and ETS certificate. The data of the San Vittore del Lazio plant has been measured at the chimney since 2018.

(\*\*) The portion is equal to 50% of the waste produced by the Parent Company.

## EMISSIONS AND WASTE – ENVIRONMENT SEGMENT

The data refers to the three composting plants of Acea Ambiente located in Aprilia, Monterotondo Marittimo and Sabaudia, the

waste management plant of Orvieto and four of Acque Industriali's plants located in Pontedera, Pagnana, Poggibonsi and San Jacopo.

<b>WASTE (Legislative Decree no. 152/06) – Orvieto and composting plants</b>	<b>u. m.</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>Δ% 2020/2019</b>
<b>hazardous waste – composting plants of Aprilia, Monterotondo Marittimo and Sabaudia including leachate (207)</b>	<b>t</b>	<b>4.7</b>	<b>1.2</b>	<b>3,672.5</b>	<b>-</b>
<b>non-hazardous waste – composting plants of Aprilia, Monterotondo Marittimo and Sabaudia including leachate (208)</b>	<b>t</b>	<b>13,418.7</b>	<b>14,821.2</b>	<b>27,984.0</b>	<b>88.8</b>
<b>hazardous waste Orvieto plant (209)</b>	<b>t</b>	<b>16.2</b>	<b>12.7</b>	<b>11.4</b>	<b>-10.4</b>
<b>non-hazardous waste Orvieto plant including leachate (210)</b>	<b>t</b>	<b>24,355.0</b>	<b>21,635.0</b>	<b>20,295.1</b>	<b>-6.2</b>

ATMOSPHERIC EMISSIONS – Orvieto and compost plants	u.m.	2018	2019	2020	Δ% 2020/2019
CO <sub>2</sub> – Orvieto plant and composting plants (211)	t	1,076	1,282	1,363	6.3
particles (212)	t	< 0.02	0.001	0.274	-
total organic compounds (TOC) (213)	t	< 1.04	0.011	0.927	-
ammonia (214)	t	< 0.13	0.001	3.711	-
volatile inorganic compounds (SIV) (215)	t	< 1.98	0.062	1.941	-

WASTE – ACQUE INDUSTRIALI	u.m.	2018	2019	2020	Δ% 2020/2019
hazardous waste Pagnana plant (216)	t	0.03	0.02	0.00	-
non-hazardous waste of Pagnana, Pontedera, Poggibonsi and San Jacopo (217)	t	3,510.2	3,124.5	2,516.2	-19.5

ATMOSPHERIC EMISSIONS – ACQUE INDUSTRIALI	u.m.	2018	2019	2020	Δ% 2020/2019
CO <sub>2</sub> – Pagnana, Pontedera plants (218)	t	320.7	201.5	204.2	1.3
hydrogen Sulphide (219)	t	0.076	0.012	0.019	56.7
ammonia (220)	t	0.155	0.019	0.038	97.9

## EMISSIONS AND WASTE – WATER SEGMENT

The data refers to the Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa water Companies. The previous two year period was therefore correct for including the data of AdF.

WASTE PRODUCED	u. m.	2018	2019	2020	Δ% 2020/2019
<b>specific waste from treatment of wastewater <sup>(*)</sup></b>					
<b>total treatment sludge (221)</b>	<b>t</b>	<b>166,909</b>	<b>132,041</b>	<b>124,590</b>	<b>-5.6</b>
Acea Ato 2 purification sludge (222)	t	65,380	70,506	77,638	10.1
Liquid sludge disposed of by third parties (223)	t	71,669	29,793	237	-99.2
Acea Ato 5 purification sludge (224)	t	15,987	11,352	9,408	-17.1
Gori treatment sludge (225)	t	4,743	10,437	29,246	180.2
Gesesa treatment sludge (226)	t	623	979	770	-21.4
AdF purification sludge (227)	t	8,508	8,975	7,292	-18.8
<b>total sand and slabs from purification (228)</b>	<b>t</b>	<b>8,043</b>	<b>10,902</b>	<b>12,574</b>	<b>15.3</b>
Acea Ato 2 sand and slabs (229)	t	6,428	7,789	9,372	20.3
Acea Ato 5 sand and slabs (230)	t	80	87	101	16.2
Gori sand and slabs (231)	t	944	2,066	2,305	11.6
Gesesa sand and slabs (232)	t	66	39	71	81.4
AdF sand and slabs (233)	t	524	921	724	-21.3
<b>waste (pursuant to Italian Legislative Decree no. 152/06)</b>					
<b>total hazardous waste (234) = (235+236+237+238+239+240)</b>	<b>t</b>	<b>65.2</b>	<b>124.5</b>	<b>142.9</b>	<b>14.7</b>
Acea Elabiori (235)		14.1	19.7	15.9	-19.5
Acea Ato 2 (236)	t	38.6	34.3	82.4	140.1
Acea Ato 5 (237)	t	0.3	2.0	0.9	-54.3
Gori (238)	t	0.1	49.5	17.8	-64.1
AdF (239)	t	10.7	18.3	41.2	125.7
proportion for the activities performed by the Parent Company (240) <sup>(**)</sup>	t	1.5	0.8	0.6	-18.5
<b>total non-hazardous waste (241) = (242+243+244+245+246+247)</b>	<b>t</b>	<b>7,555</b>	<b>8,658</b>	<b>12,346</b>	<b>42.6</b>
Acea Ato 2 and Elabiori (242)	t	378	1,022	2,631	157.4
Acea Ato 5 (243)	t	6,635	5.89	6,567	9.7
Gori (244)	t	93	1137	102	-91.0
Gesesa (245)	t	8	41	0	-
AdF (246)	t	380	416	3,017	616.4
proportion for the activities performed by the Parent Company (247) <sup>(**)</sup>	t	61	48	28	-41.0



other emissions and waste					
CO <sub>2</sub> from dryers (248)	t	4,300	5,972	6,371	6.7
CO <sub>2</sub> from HCFC replenishment (249)	t	22.9	0.0	0.7	-
noise	dB	monitored commitment to maintain the value below the legal limit			
odours		monitored commitment to maintain the value below the limit of perception and in the areas adjacent to the treatment plants			

(\*) Some of the 2018 and 2019 figures were consolidated and updated.

(\*\*) The portion is equal to 50% of the waste produced by the Parent Company.

## THE EMISSIONS OF CARBON DIOXIDE FROM TRANSPORT AND PACKAGING

The data of the 2018-2019 two year period has been updated including AdF in the perimeter.

GROUP COMPANIES	u. m.	2018	2019	2020	Δ% 2020/2019
transport					
CO <sub>2</sub> (250)	t	10,416	9,309	9,449	1.5
heating					
CO <sub>2</sub> (251)	t	848	914	850	-7.0

## KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – ENERGY SEGMENT

Environmental Key Performance Indicators.

INDICATOR	u. m.	2018	2019	2020
energy used for the processes <sup>(*)</sup>				
A consumption in the distribution of electricity	TJoule (GWh)	1,204.6 (334.6)	1,188.4 (330.1)	983.0 (273.1)
B consumption in the production of electricity (138)		245.5 (68.2)	233.1 (64.8)	251.5 (69.9)
C heat lost in the district heating network (23)		104.1 (28.9)	106.1 (29.5)	99.8 27.7
D consumption for Public Lighting (143)		302.3 (84.0)	252.3 (70.1)	241.1 (67.0)
E environment Segment consumption (145+150)		30.7 (8.5)	32.9 (9.1)	32.9 (9.1)
F water distribution (165-167)		1,288.7 (358.0)	1,477.5 (410.4)	1,719.6 (477.7)
G water purification (173)		840.7 (233.5)	904.8 (251.3)	902.7 (250.7)
H electricity for offices (Item 139+167)		34.8 (9.7)	32.4 (9.0)	27.2 (7.5)
I consumption for heating offices		15.1 (4.2)	16.2 (4.5)	15.3 (4.3)
L water area dryer consumption		76.7 (21.3)	106.7 (29.6)	113.8 (31.6)
M layoffs		141.3 (39.3)	126.5 (35.1)	128.3 (35.7)
Total consumption = indirect consumption + consumption through mobility + heating		4,284.6 (1,190.2)	4,476.9 (1,243.6)	4,515.2 (1,254.2)

## EMISSIONS, EFFLUENTS AND WASTE

greenhouse gas emissions (CO <sub>2</sub> ) (182+211+218+248+249+250+251)	t	378,522	356,371	410,721
emissions of SO <sub>2</sub> , NO <sub>x</sub> and other significant gasses by type				
NO <sub>x</sub> (187)	t	189.40	188.19	190.67
CO (190)	t	6.38	7.02	8.34
SO <sub>2</sub> (164)	t	0.16	0.33	0.90
NO <sub>x</sub> /thermoelectric production	g/kWh	0.41	0.42	0.44
CO <sub>2</sub> /thermoelectric production	g/kWh	757	735	876
CO <sub>2</sub> /thermoelectric production Acea Produzione	g/kWh	585	537	517
CO <sub>2</sub> /total production Acea Produzione	g/kWh	77	89	88
CO <sub>2</sub> /gross total production	g/kWh	361.7	357.8	418.9
SO <sub>2</sub> /thermoelectric production	g/kWh	0.0	0.0	0.0

## PRODUCTS AND SERVICES: ELECTRICITY

	u. m.	2018	2019	2020
performance of the electrical production process of Acea Produzione				
gross average performance thermoelectric production (calculation 1)	%	41.1	40.7	41.9
Tor di Valle power plant (electrical performance cogeneration only)	%	41.3	41.2	42.4
Montemartini power plant	%	24.9	24.3	26.1
gross average thermoelectric production out included thermal energy recovered (calculation 2)	%	71.9	69.6	70.2
gross average performance hydroelectric production (calculation 3)	%	78.7	79.2	83.5
gross average performance overall production (calculation 4)	%	73.6	72.5	76.1
gross average total production performance including thermal energy recovered (calculation 5)	%	77.5	77.5	81.1
performance of the electrical production process – waste-to-energy plants				
San Vittore in Lazio				
SRF produced/gross energy produced	kt/GWh	1.164	1.233	1.185
gross performance SRF conversion into electricity (calculation 6)	kWh/kg SRF	0.86	0.81	0.84
electrical performance (calculation 7)	%	20.0	19.2	19.2
total waste produced/hours worked	t/h	3.47	3.36	3.18
Terni				
gross performance pulper conversion into electricity (calculation 8)	kWh/kg pulper waste	0.82	0.86	0.85
electrical output (calculation 9)	%	14.7	21.3	15.8
total waste produced/hours worked	t/h	1.8	1.7	1.7
performance of the electrical production process – photovoltaic energy				
average efficiency photovoltaic modules	%	14.0	14.0	14.0
other indicators (territory, public lighting, controls, losses)				
protection of the territory (total length of HV cable lines/(length of overhead HV lines + cable lines) x 100)	%	46.3	46.3	46.3
public lighting illumination efficiency (36)/(143)	Lumen/kWh	23.9	28.6	30.0
average performance of installed lamps (36)/(electrical power)	Lumen/W	112.7 (17,830 kW)	127.9 (15,653 kW)	127.9 (15,716 kW)
specific consumption per lamp (143)/(no. lamps)	kWh/ no. lamps	372.22 (225,619)	310.46 (225,730)	295.46 (226,635)
percentage of roads illuminated (**)	% (km of roads illuminated/ total km of roads)	88.6 (6,297/7,110)	88.8 (6,316/7,110)	89.1 (6,338/7,110)
no. operating and laboratory checks /GWh net electricity sold (37)/(32)	no./GWh	0.22	0.17	0.26
reintegrations of SF6/km electricity distribution network	kg/km	0.0161	0.0128	0.0118
total loss of electricity (28)/(27) (***)	% energy requested	7.2	7.0	5.8

(\*) The data of the 2018-2019 two year period has been updated to include AdF and Acque Industriali.

(\*\*) Estimate.

(\*\*\*) The total losses of electricity include: transformation losses, transport losses and commercial losses, these last due to fraud and incorrect readings.

# KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – WATER SEGMENT

Environmental Key Performance Indicators.

INDICATOR	u. m.	2018	2019	2020
carbon footprint				
WATER SERVICE				
total CO <sub>2</sub> /m <sup>3</sup> of water supplied (integrated water services) <sup>(7)</sup>	kgCO <sub>2</sub> /m <sup>3</sup>	0.45	0.50	0.51
CO <sub>2</sub> /m <sup>3</sup> of water supplied (water distribution process)	kgCO <sub>2</sub> /m <sup>3</sup>	0.27	0.31	0.33
CO <sub>2</sub> /m <sup>3</sup> of waste water treated (treatment process)	kgCO <sub>2</sub> /m <sup>3</sup>	0.13	0.13	0.12
PRODUCT: DRINKING WATER				
Acea Ato 2 network				
specific electricity consumption per input in the water network (energy consumption of Acea Ato 2's network)/(65)	kWh/m <sup>3</sup>	0.467	0.467	0.477
intensity of the checks on drinking water distributed (112)/(65)	no./Mm <sup>3</sup>	968	953	918
drinking water additive index (161 – Acea Ato 2 network)/(65)	g/m <sup>3</sup>	6.1	7.0	6.1
Acea Ato 5 network				
specific electricity consumption per input into the water network (energy consumption of Acea Ato 5 network)/(73)	kWh/m <sup>3</sup>	2.136	2.065	1.623
intensity of the checks on drinking water distributed (73)/(73)	no./Mm <sup>3</sup>	4,150	4,259	3,068
drinking water additive index (161 – Acea Ato 5 network)/(73)	g/m <sup>3</sup>	11.3	9.7	7.4
Gori network				
specific electricity consumption per amount of water withdrawn from the network (energy consumption of the Gori network) / (87)	kWh/m <sup>3</sup>	0.873	1.420	2.102
intensity of the checks on drinking water distributed (118)/(87)	no./Mm <sup>3</sup>	1,075	1,232	1,613
drinking water additive index (161 – Gori network)/(87)	g/m <sup>3</sup>	1.8	2.3	2.2
Gesesa network				
specific electricity consumption per amount withdrawn from the water network (energy consumption of Gesesa network) / input (80)	kWh/m <sup>3</sup>	1.348	1.296	1.319
intensity of the checks on drinking water distributed (116)/(80)	no./Mm <sup>3</sup>	795	1,110	1,217
drinking water additive index (161 – Gesesa network)/(80)	g/m <sup>3</sup>	12.7	8.3	7.3
AdF network				
specific electricity consumption per input in the water network (energy consumption of AdF network)/(93)	kWh/m <sup>3</sup>	1.077	1.010	0.889
intensity of the checks on drinking water distributed (120)/(93)	no./Mm <sup>3</sup>	2,513	2,576	4,190
drinking water additive index (161 – AdF network)/(93)	g/m <sup>3</sup>	9.76	10.20	9.44
SERVICE: WASTEWATER TREATMENT				
Acea Ato 2				
sludge disposed of (222)	t	65,380	70,506	77,638
liquid sludge disposed of to third parties	t	71,669	29,793	237
sand and slabs removed (229)	t	6,428	7,789	9,372
COD input	t	221,357	207,914	173,392
COD removed	t	205,125	188,327	159,487
efficiency of COD removal	%	93	91	92
SST input	t	135,698	134,685	100,637
SST removed	t	126,330	124,417	93,172
efficiency of SST removal	%	93	92	93
efficiency of BOD removal	%	89	88	90
total N input (like NH <sub>4</sub> +NO <sub>2</sub> +NO <sub>3</sub> + organic)	t	20,276	18,433	17,993
total N removed	t	14,133	14,333	13,925
efficiency of N removal	%	70	78	77
Acea Ato 2 wastewater additivation index	g/m <sup>3</sup>	12.0	13.8	16.2
Acea Ato 2 specific consumption of electricity by purification process	kWh/m <sup>3</sup>	0.299	0.299	0.282

INDICATOR (cont.)	u. m.	2018	2019	2020
<b>Acea Ato 5</b>				
disposed of sludge (224)	t	15,987	11,352	9,408
sand and slabs removed (230)	t	80	87	101
COD input	t	8,884	13,506	19,341
COD removed	t	7,709	12,407	18,182
efficiency of COD removal	%	87	92	89
total N input	t	779	1,136	1,219
total N removed	t	600	757	827
efficiency of N removal (NH <sub>4</sub> <sup>+</sup> )	%	89	89	91
SST input	t	8,365	8,364	10,349
SST removed	t	7,872	7,940	9,993
efficiency of SST removal	%	94	95	96
Acea Ato 5 additivation index	g/m <sup>3</sup>	31.4	33.2	33.6
Acea Ato 5 specific consumption of electricity by purification process	kWh/m <sup>3</sup>	0.811	0.830	0.755
<b>Gori</b>				
disposed of sludge (225)	t	4,743	10,437	29,246
sand and slabs removed (231)	t	944	2,066	2,305
COD input	t	1,882	7,579	25,650
COD removed	t	1,730	6,376	24,419
efficiency of COD removal	%	92	84	95
total N input	t	n/a	944	3,310
total N removed	t	n/a	714	3,159
efficiency of N removal (NH <sub>4</sub> <sup>+</sup> )	%	96	76	95
SST input	t	n/a	3,438	6,967
SST removed	t	n/a	2,777	5,932
efficiency of SST removal	%	86	81	85
Gori additivation index	g/m <sup>3</sup>	58.2	54.6	36.9
Gori specific consumption of electricity by purification process	kWh/m <sup>3</sup>	1.871	0.634	0.584
<b>Gesesa <sup>(*)</sup></b>				
disposed of sludge (226)	t	1,130	623	979
sand and slabs removed (232)	t	12	66	39
COD input	t	n/a	n/a	349
COD removed	t	n/a	n/a	307
efficiency of COD removal	%	n/a	n/a	88.1
total N input	t	n/a	n/a	30
total N removed	t	n/a	n/a	15
efficiency of N removal (NH <sub>4</sub> <sup>+</sup> )	%	n/a	n/a	48.2
SST input	t	n/a	n/a	76
SST removed	t	n/a	n/a	44
efficiency of SST removal	%	n/a	n/a	57.1
Gesesa additive index	g/m <sup>3</sup>	n/a	n/a	42.3
Gesesa specific consumption of electricity by purification process	kWh/m <sup>3</sup>	n/a	n/a	0.849
<b>AdF</b>				
disposed of sludge (227)	t	8,508	8,975	7,292
sand and slabs removed (233)	t	524	921	724
COD input	t	8,765	8,120	9,172
COD removed	t	8,171	7,516	8,587
efficiency of COD removal	%	93.2	92.6	93.6
total N input	t	816	852	866
total N removed	t	536	574	562
efficiency of N removal (NH <sub>4</sub> <sup>+</sup> )	%	76.9	81.1	79.7
SST input	t	3,584	2,656	4,008
SST removed	t	3,429	2,512	3,872
efficiency of SST removal	%	95.7	94.6	96.6
AdF additive index	g/m <sup>3</sup>	17.8	19.3	27.5
AdF specific consumption of electricity by purification process	kWh/m <sup>3</sup>	0.980	0.929	1.018

(\*) Emissions defined as “Scope 2”, in other words resulting from the consumption of electricity by the water Companies in question.

(\*\*) Water purification efficiency data is estimated. Water purification indicators are available from 2020, when the Company installed the first waste water flow meters at the main treatment plants.



# KEY ENVIRONMENTAL PERFORMANCE INDICATORS (KPI) – ENVIRONMENT SEGMENT

Environmental Key Performance Indicators.

INDICATOR	u. m.	2018	2019	2020
non-hazardous waste disposed in landfill/total incoming waste (40+41) / (38)	t/t	0.56	0.57	0.64
waste disposed of in landfill/energy consumed net of photovoltaic energy (40+41) / (145)	t/MWh	11.36	12.00	15.39
compost produced/incoming waste (43+49) / (38+45)	t/t	0.10	0.10	0.09
compost produced/consumed electricity (43+49) / (145+150)	kg/kWh	1.49	1.68	2.29
consumed electricity/incoming waste in the Pagnana plant (156 – Pagnana) / (54+55+56+57 – Pagnana)	kWh/kg	0.004	0.004	0.004
consumed electricity/incoming waste in the Pontedera plant (156 – Pontedera) / (54+55+56+57 – Pontedera)	kWh/kg	0.003	0.004	0.011
consumed electricity/incoming waste in the Poggibonsi plant (156 – Poggibonsi) / (54+55+56+57 – Poggibonsi)	kWh/kg	0.002	0.003	0.003
chemicals used/incoming waste at the Pagnana plant (155 – Pagnana) / (54+55+56+57 – Pagnana)	kg/t	17.782	7.593	5.125
chemicals used/incoming waste at the Pontedera plant (155 – Pontedera) / (54+55+56+57 – Pontedera)	kg/t	15.613	11.651	14.184
chemicals used/incoming waste at the Poggibonsi plant (155 – Poggibonsi) / (54+55+56+57 – Poggibonsi)	kg/t	4.815	7.042	8.111

## ENVIRONMENTAL COMPLIANCE

INDICATOR	u. m.	2018	2019	2020
<b>GROUP COMPLIANCE</b>				
penalties paid for non-conformities related to rules/agreements of an environmental nature	€	162,853	139,964	143,601
<b>NFD COMPLIANCE</b>				
penalties paid for non-conformities related to rules/agreements of an environmental nature	€	161,838	121,150	41,504

## DESCRIPTION OF THE CALCULATIONS USED TO DETERMINE THE ELECTRICAL GENERATION EFFICIENCY

calculation 1

$$\text{Efficiency}_{(thermoelectric)} = \frac{\text{Energy}_{thermoelectric} \text{ (kWh)}}{\text{Energy}_{gas\ oil} \text{ (kWh)} + \text{Energy}_{methane} \text{ (kWh)}}$$

Where:

$\text{Energy}_{thermoelectric}$  = gross electricity produced with the thermoelectric cycle

$$\text{Energy}_{gas\ oil} \text{ (kWh)} = \frac{\text{gas oil (l)} \times 0.835 \times \text{LHV}_d \text{ (kcal/kg)}}{860 \text{ (kcal/kWh)}}$$

$$\text{Energy}_{methane} \text{ (kWh)} = \frac{\text{methane (Nm}^3\text{)} \times \text{LHV}_m \text{ (kcal/Nm}^3\text{)}}{860 \text{ (kcal/kWh)}}$$

$\text{LHV}_d$  = about 10,000 kcal/kg (Lower Heating Value of gas oil)

$\text{LHV}_m$  = about 8,500 kcal/Nm<sup>3</sup> (Lower Heating Value of methane)

860 = energy conversion factor from kcal to kWh

0.835 = specific gravity of gas oil (kg/l)

NOTE: The calorific values used for Acea Produzione are the real values derived from measurements made by gas and gas oil suppliers.

### calculation 2

$$\text{Efficiency}_{(thermoelectric)} = \frac{\text{Energy}_{thermoelectric} (\text{kWh}) + \text{Energy}_{thermal} (\text{kWh})}{\text{Energy}_{gas\ oil} (\text{kWh}) + \text{Energy}_{methane} (\text{kWh})}$$

$\text{Energy}_{thermal}$  = Gross thermal energy produced

$\text{Energy}_{thermoelectric}$  = Gross thermoelectric energy produced

$$\text{Energy}_{gas\ oil} (\text{kWh}) = \frac{\text{gas oil (l)} \times 0.835 \times \text{LHV}_d (\text{kcal/kg})}{860 (\text{kcal/kWh})}$$

$$\text{Energy}_{methane} (\text{kWh}) = \frac{\text{methane (Nm}^3\text{)} \times \text{LHV}_m (\text{kcal/Nm}^3\text{)}}{860 (\text{kcal/kWh})}$$

$\text{LHV}_d$  = Lower Heating Value of gas oil

$\text{LHV}_m$  = Lower Heating Value of methane

860 = energy conversion factor from kcal to kWh

0.835 = specific gravity of gas oil (kg/l)

NOTE: The calorific values used for Acea Produzione are the real values derived from measurements made by gas and gas oil suppliers.

### calculation 3

$$\text{Efficiency (hydroelectric)} = \frac{\text{Energy}_{hydroelectric} (\text{MWh}) \times 3.6 \times 10^9}{[m(\text{kg}) \times 9.8 (\text{m/s}^2) \times h(\text{m})] (\text{Joule})}$$

Where:

$3.6 \times 10^9$  = conversion factor of hydropower from joules to MWh

$m$  = derived water for hydroelectric production

9.8 = acceleration of gravity at sea level

$h$  = height of water fall (exposed surface - turbine)

$\text{Energy}_{hydroelectric}$  = energy produced in the hydroelectric cycle

#### calculation 4

$$\text{Efficiency (average)} = \frac{E_h}{(E_h + E_t)} \times \eta_h + \frac{E_t}{(E_h + E_t)} \times \eta_t$$

Where:

$E_h$  = total amount of hydroelectric energy produced

$E_t$  = total amount of thermoelectric energy produced

$\eta_h$  = hydroelectric efficiency

$\eta_t$  = thermoelectric efficiency

efficiency (average) = average production efficiency

#### calculation 5

$$\text{Efficiency (average)} = \frac{E_h}{(E_h + E_T)} \times \eta_h + \frac{E_T}{(E_h + E_T)} \times \eta_T$$

Where:

$E_h$  = total amount of hydroelectric energy produced

$E_T$  = total amount of energy (thermoelectric and thermal) produced

$\eta_h$  = hydroelectric efficiency

$\eta_T$  = thermoelectric efficiency (thermoelectric + thermal)

efficiency (average) = average production efficiency

#### calculation 6

$$\text{Recovery efficiency (kWh/kg)} = \frac{\text{Gross electricity produced (kWh)}}{\text{SRF (kg)}}$$

Gross electricity produced (kWh) = gross electricity produced in San Vittore del Lazio

calculation 7

$$\text{Electrical efficiency} = \frac{\text{Electricity produced (kWh)}}{\text{Internal SRF energy (kWh)} + \text{Internal methane energy (kWh)}}$$

Where:

Electricity produced = Electricity produced in San Vittore del Lazio

$$\text{Internal methane energy} = \frac{\text{CH}_4 (\text{Sm}^3) \times \text{LHV}_m (\text{kcal/ Sm}^3)}{860 (\text{kcal/kWh})}$$

$\text{LHV}_m$  = average Lower Heating Value of methane

860 = energy conversion factor from kcal to kWh

$$\text{Internal SRF energy (kWh)} = \frac{\text{SRF (kg)} \times \text{LHV}_{\text{SRF}} (\text{kcal/kg})}{860 (\text{kcal/kWh})}$$

$\text{LHV}_{\text{SRF}}$  = average Lower Heating Value of the SRF

860 = energy conversion factor from kcal to kWh

calculation 8

$$\text{Recovery efficiency (kWh/kg)} = \frac{\text{Gross electricity produced (kWh)}}{\text{paper mill pulp (kg)}}$$

Gross electricity produced (kWh) = electricity produced in Terni

calculation 9

$$\text{Efficiency} = \frac{\text{Electricity produced (kWh)}}{\text{Internal paper mill pulp energy (kWh)} + \text{internal methane energy (kWh)}}$$

Where:

Electricity produced = Electricity produced in Terni

$$\text{Internal methane energy (kWh)} = \frac{\text{CH}_4 (\text{Sm}^3) \times \text{LHV}_m (\text{kcal/ Sm}^3)}{860 (\text{kcal/kWh})}$$

$\text{LHV}_m$  = average Lower Heating Value of methane

860 = energy conversion factor from kcal to kWh

$$\text{Internal paper mill pulp energy (kWh)} = \frac{\text{Paper mill pulp (kg)} \times \text{LHV}_p (\text{kcal/kg})}{860 (\text{kcal/kWh})}$$

$\text{LHV}_p$  = LHV paper mill pulp = average Lower Heating Value of paper mill pulp

860 = energy conversion factor from kcal to kWh



# EXPLANATORY NOTES TO THE ENVIRONMENTAL ACCOUNTS

The numerical data presented in the *Environmental Accounts* is produced and certified by the competent Functions and has been checked as follows:

- 1) comparison with historical data to highlight and justify possible large deviations;
- 2) at least two repetitions of the acquisition process;
- 3) *feedback* to the Departments responsible for the final validation of the data.

The numerical data have been divided into the three categories:

- estimated;
- calculated;
- measured.

In the event of data resulting from estimates, the utmost attention was paid to the verification of the reasonableness of the basic criteria used, with the objective of resorting as little as possible, in the future, to this type of measurement of the sizes of environmental significance.

When data was achieved through calculation, the algorithm used was briefly explained to permit full understanding of the mathematical result.

Lastly, when the data was measured, an uncertainty estimate to be associated with the number was provided.

# ADDITIONAL INFORMATION ON THE NUMERICAL DATA PROVIDED IN THE ENVIRONMENTAL ACCOUNTS

## PRODUCTS – ENERGY SEGMENT

item no.	explanation – comment
1	Gross total energy produced by Acea Ambiente and Acea Produzione. The figure is calculated.
2	Electricity produced net of the losses due to just the Produzione phase. The figure is calculated.
3 = 4 + 5	Total electricity produced, inclusive of the losses, by the Acea Produzione power plants. IncEudes thermoelectric and hydro- electric energy. The figure is measured with an uncertainty of less than $\pm 0.5\%$ .
6 = 7 + 8 + 9	Losses of electricity attributable to just the production phase of the Acea Produzione power plants. Includes: the self-consumption (thermal and hydro) and the losses of initial transformation. The figure is measured with an uncertainty of less than $\pm 0.5\%$ .
10	Electricity produced by the Acea Produzione power plants net of the losses. The figure is calculated.
11	Gross energy produced by photovoltaic installations. The FV of Parco della Mistica is not reported because it is outside the scope. The data includes energy produced by the plants in Orvieto (Acea Ambiente), in Acea Ato 2 and by the plants acquired starting from 2019 and attributable to Acea Sun Capital. The figure is measured with an uncertainty of less than $\pm 0.5\%$ .
12	Total losses during photovoltaic generating phase, due in particular to joule effect (dissipation during heating) in the equipment. Estimated figure.
13	Net photovoltaic electricity made available by the generating installations. The figure is calculated.
14 = 15 + 16	Electricity produced by the Waste-to-Energy installations: waste-to-energy of San Vittore del Lazio and waste-to-energy of Terni of Acea Ambiente. We wish to specify that the fuel used in the two installations (SRF – solid recovered fuel – for San Vittore del Lazio and paper mill pulp for the Terni plant) is composed of both biodegradable organic material, neutral on the balance of the CO <sub>2</sub> , and by non-biodegradable organic substance (plastic, resins, etc.). In 2020, the renewable share for the San Vittore del Lazio plant was equal to 42.5%, the Terni incinerator share to 42.4%. With regard to the energy produced at San Vittore del Lazio and Terni, problems on the turbine of line 3 of the first plant and on the turbine of the second plant affected the quantities of electricity produced which, for this reason was less than in 2019.
17	Self-consumption of the two waste-to-energy plants of San Vittore del Lazio and Terni + initial transformation losses. The figure is measured with an uncertainty of less than $\pm 0.5\%$ .
18	Electricity produced by the two waste-to-energy plants of San Vittore del Lazio and Terni, net of the self-consumption and initial transformation losses. The figure is calculated.
19	Electricity produced from biogas by the waste management plant in Orvieto and, from 2020, the two composting plants of Aprilia and Monterotondo Marittimo (Acea Ambiente). The figure is calculated.
20	Self-consumption of biogas production plants, including small dissipations. The figure is measured with an uncertainty of less than $\pm 5\%$ .
21	Net electricity produced from biogas and transferred to the network. The figure is measured with an uncertainty of less than $\pm 5\%$ .
22	Thermal energy produced in the cogeneration plant of Tor di Valle including losses. The figure is measured with an uncertainty of $\pm 2\%$ , near the delivery piping of the generators.
23	Losses of thermal energy of the district heating systems, due to: thermal dissipation, losses on the network, technical releases for maintenance operations, thermal reintegrations of the heat accumulation systems. The figure is calculated as the difference between the thermal energy produced and that actually supplied to the clients (invoiced).
24	Net thermal energy supplied to final clients. The figure, calculated, is obtained from the consumption invoiced.
25	Electricity supplied to Acea Produzione to Acea Energia with inter-Group exchange. The figure is marginal as a result of the choice made by the Acea Group to sell the electricity produced in Borsa (Stock Exchange) or through bilateral agreements.
26	Electricity supplied by the Single Purchaser and Market, including the amount imported subject to recalculation in relation to the ARERA DCO 492/2019/R/eel. The figure is measured with an uncertainty of $\pm 0.5\%$ .
27	Energy requested on the electrical distribution network of Rome and Formello by all the client connected (open market + managed service). The figure is estimated.
28	Losses of electricity that occur during the distribution and transmission phase. They are attributable to: losses of transformation and transport, fraud and incorrect measurements. The figure is estimated.
29	Personal use of electricity for the implementation of the distribution activities. The figure is estimated.
30	Electricity transferred to third parties. This is electricity sold to distribution companies. The increase is a consequence of two new closed distribution systems powered by Areti from July 2019. The figure is measured with an uncertainty of $\pm 0.5\%$ .
31	Total net electricity conveyed to final clients of the open market connected to the electrical distribution network of Rome and Formello. Includes both the quota of electricity sold by Acea Energia, and that sold by other operators active on the open market. The figure is measured with an uncertainty of $\pm 5\%$ according to Standard CEI 13-4.
32	Net electricity transferred to managed final clients. The decrease is the result of the progressive passage of managed service clients to the open market. In other words, it is a direct consequence of the deregulation process of the electricity market in effect in Italy since 1999 (Italian Legislative Decree no. 79/99). The figure is estimated based on the consumption invoiced.
33	Net electricity sold by Acea on the open market nationally. The figure is estimated.
34	Net electricity sold by Acea nationally on the open market and the standard service. The figure is calculated.

## PRODUCTS – ENERGY SEGMENT (cont.)

item no.	explanation – comment
35	Natural gas sold by Acea on the Italian national market. The figure is calculated.
36	Luminous flux supplied by the Public Lighting system in Rome. The figure, calculated, is the product of the number of lamps installed and the relative value of “rated” luminous flux.
37	Total number of measurements/controls performed in favour of the energy segment. The figure is calculated as the sum of the individual determinations carried out by the competent laboratories.

## PRODUCTS – ENVIRONMENT SEGMENT

item no.	explanation – comment
38	Total incoming waste. They are the quantities arriving at the Orvieto plant which include: unsorted municipal solid waste, organic fraction, green, non-hazardous industrial waste. The figure is calculated.
39	Waste partly sent for shredding only, partly just for aerobic treatment, partly both to the anaerobic digester and the aerobic treatment. The figure is calculated.
40	Waste disposed directly in landfill. The figure is measured with an uncertainty of $\pm 1\%$ .
41	Waste disposed of in landfill after treatment. The figure is measured with an uncertainty of $\pm 1\%$ .
42	Waste recovered and not sent to landfill. It is glass, paper and cardboard, iron and plastic. The figure is calculated.
43	Compost produced at the Orvieto plant. Thanks to the combination of the anaerobic and aerobic processes, the product is Quality Compost. The figure is measured with an uncertainty of $\pm 1\%$ .
44	Reduction due to stabilization. This represents the loss of mass due to the natural transformations of the material and the loss of water through evaporation. The figure is calculated.
45	Total incoming organic waste. They are the amounts arriving at the plants of Aprilia, Monterotondo Marittimo and Sabaudia, which include: sludge, green and organic fraction. The Monterotondo Marittimo plant, which had suspended deliveries in 2018, was restarted in 2019 after work on the construction of a new anaerobic digestion section, while the Aprilia plant, placed under preventive seizure in 2017 by the Latina Public Prosecutor’s Office for aspects related to odorous emissions, since 2019 has operated at almost full capacity. The figure is calculated.
46	Incoming sludge. It is the quantity of sludge entering the composting plants of Aprilia, Monterotondo Marittimo and Sabaudia. The sharp decrease in 2018 quantities is due to the suspension of contributions to the Monterotondo Marittimo plant. The figure is measured with an uncertainty of $\pm 1\%$ .
47	Incoming green. It is the quantity of green matter coming from the parks, woods or other areas arriving at the plants of Aprilia, Monterotondo Marittimo and Sabaudia. The figure is measured with an uncertainty of $\pm 1\%$ .
48	Organic fraction of municipal solid waste (OFMSW) entering the composting plant of Aprilia and OFMSW and other agrifood waste arriving at the Monterotondo Marittimo plant. The figure is calculated.
49	Quality Compost. It is the quantity of Quality Compost produced at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The production figure for 2020 is estimated. The compost estimate is made based on the quantities transported daily for maturation or to the final storage areas. Due to process losses, at the time of sale the compost may be less than estimated. Compost at Sabaudia is zero because the plant is at a standstill awaiting authorisation for revamping.
50	Non-compostable material for disposal. It is the non-biodegradable material (for example plastics), which is separated from the compostable material sent for disposal. The figure is measured with an uncertainty of $\pm 1\%$ .
51	Reduction due to stabilization. This represents the loss of mass due to the natural transformations of the material and the loss of water through evaporation. The figure is calculated.
52	Total analytical determinations. They represent the total of analytical determinations made at the following plants: Orvieto, Aprilia, Monterotondo Marittimo and Sabaudia. The figure is calculated.
53	Total incoming waste. These are the amounts arriving at Acque Industriali’s plants at Pagnana, Pontedera, Poggibonsi and San Jacopo. The figure is calculated.
54	Incoming sludge. Represents the quantity of incoming sludge at Acque Industriali’s plants at Pagnana, Pontedera, Poggibonsi and San Jacopo. The figure is measured with an uncertainty of $\pm 1\%$ .
55	Liquid waste. Represents the quantity of liquid waste coming into the Pagnana and Pontedera plants. The figure is calculated.
56	Sewage and other waste. Represents the quantity of sewage and other non-hazardous waste. The figure is calculated.
57	Leachate. Represents the quantity of leachate coming into the Pagnana and Pontedera plants. The figure is measured with an uncertainty of $\pm 1\%$ .
58	Ammonium Sulphate produced. Represents the quantity of quality of Ammonium Sulphate produced at the Pagnana and Pontedera plants. The figure is estimated.
59	Water treated before discharging at the Pontedera, Pagnana, Poggibonsi and San Jacopo plants. Some of these also include water that is consumed for industrial and/or civil use inasmuch as distinct flow meters before discharge are not always present. At San Jacopo, the water that is produced is input into the biological treatment plant of Acque SpA.

## PRODUCTS – WATER SEGMENT

item no.	explanation – comment
60	Total drinking water collected from the environment or from other systems and fed into the aqueduct systems. This is the total amount of water collected from the following Group Companies: Acea Ato 2, Acea Ato 5, Gesesa, Gori, AdF, Acque, Publiacqua, Umbra Acque. The figure is calculated.
61	Total drinking water supplied and invoiced to the respective clients by the Companies listed at item number 60. The figure is estimated.
62	Total drinking water collected from the environment or from other systems and fed into the aqueduct systems. This is the sum of the water taken from the Companies Acea Ato 2, Acea Ato 5, Gori, Gesesa, AdF. The figure is calculated.
63	Total drinking water supplied and invoiced to the respective clients by the Companies listed under line number 62. The figure is estimated.
64	Total drinking water collected from the environment or other systems by Acea Ato 2 and released into the aqueduct system of the “Ambito Territoriale Ottimale 2” of Central Lazio. The figure is measured with an uncertainty of $\pm 3\%$ .
65	Total amount of drinking water leaving the Acea Ato 2 aqueduct system. This is the sum of drinking water supplied and billed, drinking water authorised and not billed, water exported to other systems and measured drinking water losses. The figure is calculated.
66	Total drinking water supplied and billed (in other words measured at the meters, where present) to the customers connected to the Acea Ato 2 network.
67	Total drinking water authorised and not billed in the Acea Ato 2 network. The figure is estimated.
68	Total amount of drinking water exported to other aqueduct systems by Acea Ato 2. The 2020 figure is estimated and may undergo consolidation after publication.
69	Total Acea Ato 2 drinking water losses. The figure is measured with an uncertainty of $\pm 3\%$ .
70	Water losses – Acea Ato 2 network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted.
71	Acea Ato 2 water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
73, 74, 75, 76	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by Acea Ato 5.
77	Water losses – Acea Ato 5 network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted.
78	Acea Ato 5 water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
79, 80, 81, 82, 83	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by Gesesa.
84	Water leaks – Gesesa network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted.
85	Gesesa water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
86, 87, 88, 89	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, by Gori.
90	Water leaks – Gori network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted.
91	Gori water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
92, 93, 94, 95, 96	Respectively: quantity of water collected from the environment and fed into the aqueduct system, leaving the system, supplied and billed, authorised and not billed, exported to other aqueduct systems, by AdF.
97	Total AdF drinking water losses. The figure is measured with an uncertainty of $\pm 3\%$ .
98	Water losses – Acea AdF network. This is the amount of water lost in the network distribution, calculated as the water collected from the environment or from other systems and fed into the network, from which the total water leaving the aqueduct system is subtracted.
99	AdF water losses as a percentage is equal to the value of water losses expressed as a percentage of the total withdrawn. They correspond to item M1b of ARERA Resolution 917/17 R/IDR.
100	Total treated waste water in the main treatment plants of the following water Companies of the Group: Acea Ato 2, Acea Ato 5, Gesesa, Gori, AdF, Umbra Acque, Publiacqua, Acque. The figure is calculated.
101	Total amount of waste water treated in the main treatment plants of the water Companies in the NFD perimeter: Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa.
102	Total waste water sent to the principal treatment plants of Acea Ato 2 and treated. The total figure is calculated.
103	Total waste water sent to the treatment plants and treated by Acea Ato 2, including the quantities treated in the small plants of the municipalities of Rome and in those outside the municipalities of Rome. The total figure is calculated.
104	Total waste water sent to the main treatment plants and treated by Acea Ato 5. The figure is calculated.

## PRODUCTS – WATER SEGMENT (cont.)

item no.	explanation – comment
105	Total amount of waste water sent to the main treatment plants of Gori and treated. The substantial increase in the quantities treated in 2019 and 2020 is linked to the management transfer of several treatment plants from the Campania region. The total figure is calculated.
106	Total amount of waste water sent to the main treatment plants and treated by AdF. For the 2018-2019 two year period this is water treated in treatment plants for a PE > 20,000; for 2020 it is the water treated in purification plants for a PE > 10,000. The figure is calculated.
107	Total amount of waste water used in treatment plants and treated by AdF, including the quantities treated in minor plants.
107 B	Estimated amount of waste water, for the first time in 2020, used and treated in the main treatment plants of Gesesa and treated. The estimate is based on the value of invoicing in 2020; in 2020 the first flow meters were installed.
108	Number of analytical determinations conducted overall on the drinking water by the Acea Group. The figure is calculated.
109	Number of analytical determinations conducted overall on the waste water by the Acea Group. The figure is calculated.
110	Number of analytical determinations conducted overall on the drinking water by Acea Ato 2, Acea Ato 5, Gori, AdF and Gesesa.
111	Number of analytical determinations conducted overall on the waste water by Acea Ato 2, Acea Ato 5, Gori and Gesesa.
112	Number of analytical determinations conducted overall on the drinking water by Acea Ato 2.
113	Number of analytical determinations conducted overall on the waste water by Acea Ato 2.
114	Number of analytical determinations conducted overall on the drinking water by Acea Ato 5.
115	Number of analytical determinations conducted overall on the waste water by Acea Ato 5.
116	Number of analytical determinations conducted overall on the drinking water by Gesesa.
117	Number of analytical determinations conducted overall on the waste water by Gesesa.
118	Number of analytical determinations conducted overall on the drinking water by Gori.
119	Number of analytical determinations conducted overall on the waste water by Gori.
120	Number of analytical determinations conducted overall on drinking water by AdF.
121	Number of analytical determinations conducted overall on waste water by AdF.

## RESOURCES USED – ENERGY SEGMENT

item no.	explanation – comment
122 = 123 + 124	Total quantity of natural gas used to generate the electricity and heat at the Acea Produzione plants and at the waste-to-energy plants of Acea Ambiente. The figures expressed in normal cubic metres (volume at 0°C and 1 Atm), is measured with an uncertainty of $\pm 0.5\%$ . Estimated figure.
123	Total quantity of natural gas used in the Tor di Valle power plant.
124	Total quantity of natural gas used by waste-to-energy plants. The figure is measured with an uncertainty of about 2%.
125	Total quantity of gas oil used to generate electricity at the Montemartini power plant (turbogas) and for operations at the waste-to-energy plants of Terni and, for a small part, of San Vittore del Lazio. The consumption of the Montemartini power plant is significant during those years when the power plant produces more electricity in order to fulfil the normal scheduled periodic tests, and to conduct extraordinary maintenance. The figure is measured with an uncertainty of $\pm 2\%$ .
126	Quantity of RDF (Refuse-Derived Fuel) sent for waste-to-energy processing in the San Vittore del Lazio plant. Some problems with the turbines of line 1 and line 3 affected the quantities of electricity produced and the quantity of SRF sent for energy recovery. The figure is measured with an uncertainty of $\pm 1\%$ .
127	Quantity of paper mill pulp sent to waste-to-energy in the Terni plant. The figure is measured with an uncertainty of $\pm 1\%$ .
128	Amount of biogas produced for the purpose of producing electricity. A minimal part is not used and burned in a flame. The figure is measured with an uncertainty of $\pm 1\%$ .
129	Total water derived from surface resources and aqueducts (as in the case of the hydroelectric power plant of Salisano) for the production of hydroelectric energy. The figure is calculated.
130	Total quantity of water used in the industrial processes. The various contributions are due to: - reintegration of losses in the district heating network. It is aqueduct water; - various uses in the waste-to-energy plants of San Vittore del Lazio and Terni. This is water from the aqueduct, wells and first and second rain recovery. The figure is calculated.
131	Quantity of aqueduct water used by the Companies included in the energy segment, for civilian/sanitary uses. It includes the consumption of Acea Produzione, Areti and the waste-to-energy plants, as well as 50% of the consumption of the Holding Company. The figure, calculated, refers to the consumption invoiced.
132	It represents the total quantity of dielectric mineral oil present in the primary and secondary substations. The figure also includes the amount of oil present in the Petersen coils installed in certain primary substations is also included approx. 225 tons in 256 Petersen systems. The data related to the reintegrations is estimated. The total quantity of new dielectric mineral oil released into the production circuit (transformers, capacitors, storage deposits, etc.) includes both the Areti and the Acea Produzione data. The figure is estimated.



## RESOURCES USED – ENERGY SEGMENT (cont.)

item no.	explanation – comment
133	It represents the total quantity of gaseous insulation (SF <sub>6</sub> ) in the Areti plants. The figure is estimated. The figure referred to the reintegrations, also estimated, represents the total quantity of SF <sub>6</sub> released ex-novo into the production circuit during the year.
134	It represents the total quantity of cooling fluids in operation. The reintegrations represent the quantity of cooling fluids used for the maintenance of the air-conditioning equipment, during which the gas in operation is recovered and replaced with the new one. The data refer to the previous year compared to the year as they are based on ISPRA annual statements following the publication of the <i>Sustainability Report</i> . Both figures are calculated by attributing all the gas supplied overall by the Parent Company to the energy segment and the water segment in equal parts (50%).
135	Total chemical substances used in the electrical and thermal generating process in the Acea Produzione power plants and the waste-to-energy plants of Acea Ambiente. The figure is calculated.
136	Quantity of lubricating oils and fats used by Acea Produzione. The figure is measured with an uncertainty of $\pm 0.5\%$ .
137	The figure matches Item 28.
138	Matches the difference between Items 1 and 2.
139	Electricity consumed by the processes not directly connected to the production phase (offices). The figure is calculated at 50% of the electricity consumed overall by the parent Company. The remaining 50% is attributed as consumption to the water area.
140	Consumption of electricity at other sites and plants, including the consumption of the waste-to-energy plants (Terni and San Vittore del Lazio). The figure is estimated.
141	Other uses of the electricity in the energy segment. The figure is calculated.
142	Total electricity consumed by the product systems included in the energy area. The figure is calculated.
143	Total electricity consumed for public lighting in the municipality of Rome. The sharp reduction in consumption since 2019 was due to the completion of the planned transformations with the LED plan. The figure is calculated based on the consistencies of the installations in operation during the year.

## RESOURCES USED – ENVIRONMENT SEGMENT

item no.	explanation – comment
<b>ORVIETO PLANT</b>	
144	Total chemical substances used at the Orvieto plant. The figure is calculated.
145	Electricity consumed in the Orvieto plant. The figure is measured with an uncertainty of $\pm 1\%$ .
146	Total quantity of gas oil consumed at the Orvieto plant. The figure is measured with an uncertainty of $\pm 2\%$ .
147	Quantity of water consumed at the Orvieto plant. It is specified that this resource comes partly from roofs (rainwater) and partly from the riverbed (river water). The figure is estimated.
148	Quantity of water used for civilian purposes in the plant region of Orvieto. It is supplied by tanker trucks since the plant is not connected to the aqueduct. The figure is estimated.
<b>COMPOST PRODUCTION</b>	
149	Total chemical substances used at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is calculated.
150	Electricity consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is measured with an uncertainty of $\pm 1\%$ .
151	Total quantity of gas oil consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The figure is measured with an uncertainty of $\pm 2\%$ .
152	Quantity of biogas produced at the new Aprilia and Monterotondo plants. The final objective is to produce electricity. From 2020 production at Monterotondo and Aprilia has practically reached capacity. The figure is measured with an uncertainty of $\pm 1\%$ .
153	Quantity of water consumed at the Aprilia, Monterotondo Marittimo and Sabaudia plants. The quantities of water recycled are included. The figure is estimated.
154	Quantity of water used for civil purposes in the composting plants of Aprilia, Monterotondo Marittimo and Sabaudia. The value is partially estimated.
<b>DISPOSAL OF TREATMENT AND LIQUID WASTE – ACQUE INDUSTRIALI</b>	
155	Total chemical substances used at Acque Industriali's plants in Pagnana, Pontedera, and Poggibonsi. Any fluctuations that may be evident in the figure from one year to the next depend on the chemical composition of incoming waste. Greater chemical complexity can require a greater consumption of <i>chemicals</i> for treatment prior to disposal. The figure is calculated.
156	Electricity consumed in the Pagnana, Pontedera, Poggibonsi and San Jacopo plants. The figure is measured with an uncertainty of $\pm 1\%$ .
157	Quantity of methane consumed at the Pagnana plant. The figure is measured with an uncertainty of $\pm 1\%$ .

## RESOURCES USED – ENVIRONMENT AREA (cont.)

item no.	explanation – comment
158	Amount of BTZ (Basso Tenore di Zolfo – Low Sulphur Content) combustible Oil at the Pontedera plant. The figure is measured with an uncertainty of $\pm 2\%$ .
159	Amount of water consumed at the Pagnana, Pontedera, Poggibonsi and San Jacopo plants.
160	Amount of water used for civil purposes at the Pagnana, Pontedera, Poggibonsi and San Jacopo plants.

## RESOURCES USED – WATER SEGMENT

item no.	explanation – comment
161	The figure represents the sum of the consumption of reagents for the purification and disinfection of water for Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF. In particular, they are sodium hypochlorite, used as disinfectant at the request of the Health Authorities, aluminium polychloride, caustic soda and ozone. The figure is calculated.
162	Total quantity of chemical reagents used by the Company Acea Elabori to carry out the official duties, namely the analytical checks for the Companies of the Acea Group. The figure is measured.
163	Total volume of pure gases for analysis, used by Acea Elabori. The figure is measured.
164	It represents the total quantity of cooling fluids in operation. The reintegrations indicate the quantity of cooling fluids used for the maintenance of the air-conditioning equipment, during which the gas in operation is recovered and replaced with the new one. The data refer to the previous year compared to the year as they are based on ISPRA annual statements following the publication of the <i>Sustainability Report</i> . Both figures are calculated by attributing all the gas supplied overall by the Parent Company to the energy segment and the water segment in equal parts (50%).
165	Total energy consumed in the water area. The figure is calculated.
166	Electricity used for the drinking water and non-potable water pumping stations. The figure is measured with an uncertainty of $\pm 1\%$ .
167	Electricity consumed by the processes not directly connected to the production phase (offices). The figure is calculated at 50% of the electricity consumed overall by the parent Company.
168	Electricity used by Acea Elabori. It includes all the energy related to the various fields of activity of the Company, not only the analytical laboratory activities. The figure is estimated.
169	This is the amount of drinking water for civil/sanitary and process uses at the offices of Acea S.p.A. (calculated at 50% of the water consumed overall by the Parent Company) and for Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF. In 2020 the process water accounted for is water recovered at the treatment plants. The figure is calculated.
170	Total quantity of <i>chemicals</i> used in the purification process of waste water including: polyelectrolytes, sodium hypochlorite, iron chloride, lime. The figure is calculated.
171	Total number of reagent kits purchased from the Acea Ato 2 wastewater treatment plants for additional controls beyond analytical testing. The use of the kits responds to the need of the laboratories connected to the treatment plants to be able to carry out complex analyses in a simple, fast manner. Acea Ato 2 uses photometers and rapid analysis systems for all the parameters of interest and to perform reliable monitoring of wastewater legal limits.
172	Total quantity of lubricating oil and fat used for the equipment of the water area (pumps, centrifuges, motors, etc.). The figure is calculated.
173	Electricity used to run the waste water treatment plants and to operate the sewer network. The figure is measured with an uncertainty of $\pm 1\%$ .
174	Amount of methane used in the treatment processes (for example in the dryers of Acea Ato 2 and Gori and for the treatment of sludge through thermochemical hydrolysis in the treatment plants of AdF). The significant increase in 2019 compared to 2018 is due to the progressive activation of new anaerobic digesters at the main treatment plants of Acea Ato 2. The figure is measured with an uncertainty of $\pm 2\%$ .
174 B	Amount of gas oil used in the purification and other (for example in the Ostia desiccator of Acea Ato 2) processes and for both water as well as sewage and purification generators. The figure is measured with an uncertainty of $\pm 2\%$ .
175	Quantity of biogas produced and consumed on site. The significant increase in 2020 compared to the previous year is due to the full activation of anaerobic digesters at the treatment plants of Acea Ato 2 in South Rome and East Rome activated in 2019. The figure is measured with an uncertainty of $\pm 2\%$ .

## FUELS USED BY THE GROUP (TRANSPORT AND HEATING)

item no.	explanation – comment
176	Total quantity of petrol used for the vehicle fleet of the Acea Group. Since 2019 the data comes from the calculations of the Group's Energy managers. In 2020 the increase is mainly due to the increase of the number of petrol powered vehicles in Gori and to the increase in consumption in Acea Ato 2. For the conversions from the unit of volume (litres) to that of mass (kg) a density value of 0.73 kg/l was used (source: <i>Defra, conversion factors 2020</i> ).
177	Total quantity of gas oil used for the vehicle fleet of the Acea Group. Since 2019 the data comes from the calculations of the Group's Energy managers. For the conversions from the unit of volume (litres) to that of mass (kg) a density value of 0.84 kg/l was used (source: <i>Defra, conversion factors 2020</i> ). The figure includes the fuel consumed by Aquasfer's vehicles.

## FUELS USED BY THE GROUP (TRANSPORT AND HEATING) (cont.)

item no.	explanation – comment
178	Total amount of LPG (Liquefied Petroleum Gas) used for the Acea Group car fleet. For the conversions from the unit of volume (litres) to that of mass (kg) a density value of 0.55 kg/l was used.
179	Total quantity of gas oil used for heating work areas and for the supply of the generators. The figure is measured with an uncertainty of $\pm 0.5\%$ .
180	Total quantity of natural gas used for heating the work spaces. The figure is measured with an uncertainty of $\pm 0.5\%$ .
181	Total quantity of LPG (Liquefied Petroleum Gas) used to heat the work spaces. The figure is measured with an uncertainty of $\pm 0.5\%$ .

## EMISSIONS AND WASTE – ENERGY SEGMENT

item no.	explanation – comment
182	Total quantity of carbon dioxide released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the waste-to-energy process of SRF and pulper. Includes the equivalent CO <sub>2</sub> estimated on the basis of the replenishment of SF <sub>6</sub> and HCFC refrigerants. Estimated figure.
183	Quantity of carbon dioxide released into the atmosphere by the Acea Produzione power plants. The figure for the year preceding reporting is corrected in the year of publication, after ETS certification. The figure is calculated in accordance with current legislation.
184	Quantity of equivalent CO <sub>2</sub> estimated based on the of SF <sub>6</sub> replenishment, considering that 1 t of this gas has a heating power 23,500 times that of the CO <sub>2</sub> (source: <i>GHG Protocol – IPCC Fifth Assessment Report</i> ).
185	Quantity of equivalent CO <sub>2</sub> estimated on the basis of refrigerant fluid replenishments (HCFCs), considering that 1 t of gas has a heating capacity of about 700-2,500 times that of CO <sub>2</sub> . The value depends on the specific type of gas (source: <i>GHG Protocol – IPCC Fifth Assessment Report</i> ; for gas mixtures the factor is calculated on the primary source). Half of the emissions are allocated to the energy segment and half to the water segment, as is the case for the quantities of refrigerant fluids (HCFCs). The figure coincides with item no. 249. For 2019 and 2020 the figure is less than one inasmuch as replenishments were not significant.
186	Quantity of carbon dioxide released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure for 2019 was recorded following the issue of the ETS certificate. The figure is measured.
187	Total quantity of nitrogen oxides (NO + NO <sub>2</sub> ) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels, and from SRF and waste-to-energy processes. Their presence in traces of the emissions is due to undesired secondary reactions which occur at high temperature between the nitrogen and the oxygen of the air. The figure is calculated.
188	Total quantity of nitrogen oxides (NO + NO <sub>2</sub> ) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated.
189	Quantity of nitrogen oxides (NO + NO <sub>2</sub> ) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
190	Total quantity of carbon oxide (CO) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and the waste-to-energy process. The existence of the pollutant in the emissions is due to incomplete fuel reaction and represents a symptom of deterioration in the performance of the combustion reaction. The figure is calculated.
191	Total quantity of carbon oxide (CO) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated.
192	Quantity of carbon oxide (CO) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
193	Total quantity of sulphur dioxide (SO <sub>2</sub> ) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the waste-to-energy process of SRF and paper mill pulp. The use of methane and gas oil with low sulphur content in the power plants enables this type of emission to be contained. The figure is calculated.
194	Quantity of sulphur oxide (SO <sub>2</sub> ) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated.
195	Quantity of sulphur dioxide (SO <sub>2</sub> ) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
196	Total quantity of powders (microscopic particles with average aerodynamic diameter equal or less than 10 thousand of a millimetre) released into the atmosphere as a result of generating thermoelectric energy from fossil fuels and from the SRF and pulper waste-to-energy processes. Basically, it is amorphous unburned carbon, with traces of other compounds of various composition, obtained as sub-product of the combustion when it achieved completely. The figure is calculated.
197	Quantity of powders released into the atmosphere as a result of generating thermoelectric energy from fossil fuels in the Acea Produzione power plants. The figure is calculated.
198	Quantity of powders released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
199	Quantity of hydrochloric acid (HCl) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
200	Quantity of hydrofluoric acid (HF) released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.
201	Quantity of organic carbon released into the atmosphere by the Acea Ambiente waste-to-energy plants. The figure is calculated.

## EMISSIONS AND WASTE – ENERGY SEGMENT (cont.)

item no.	explanation – comment
202	Total quantity of waste water, treated, resulting from the thermoelectric energy production activities. The figure is measured with an uncertainty of $\pm 2\%$ .
203	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the Companies of the Group excluding the waste-to-energy area. The 2020 figure decreased due to the Covid-19 pandemic and in particular because no HV/MV transformers were changed. The figure is measured with an uncertainty of $\pm 2\%$ .
204	Hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the waste-to-energy area. It is essentially light ashes and slag resulting from the incineration processes. The figure is measured with an uncertainty of $\pm 2\%$ .
205	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the Companies of the Group excluding the waste-to-energy area. The figure is measured with an uncertainty of $\pm 2\%$ .
206	Non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the waste-to-energy area. It is essentially heavy ashes and slag resulting from the incineration processes. The figure is measured with an uncertainty of $\pm 2\%$ .

## EMISSIONS AND WASTE – ENVIRONMENT SEGMENT

item no.	explanation – comment
207	Hazardous waste (pursuant to Italian Legislative Decree no. 152/06) produced by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The increase is due to the almost fully operational restart of the Monterotondo Marittimo and Aprilia plants. The figure is calculated.
208	Non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) produced by the Aprilia, Monterotondo Marittimo and Sabaudia plants. The increase is due to the almost fully operational restart of the Monterotondo Marittimo and Aprilia plants. The figure is calculated.
209	Hazardous waste (pursuant to Italian Legislative Decree no. 152/06) produced by the Orvieto plant. The figure is measured with an uncertainty of $\pm 2\%$ .
210	Non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) produced by the Orvieto plant. The figure is measured with an uncertainty of $\pm 2\%$ .
211	CO <sub>2</sub> emissions from the composting plants and Orvieto and related to the ancillary services of the waste-to-energy plants, not strictly related to the production of electricity. They also include non-biogenic emissions from the combustion of biogas produced on site. The figure is measured with an uncertainty of $\pm 2\%$ .
212, 213, 214, 215	They are powders, Total Organic Compounds (TOC), ammonia and volatile inorganic substances (SIV) issued at the Monterotondo Marittimo plant. The other plants provide only concentration values, with no regulatory obligation to calculate absolute values. The values in mg/l of all plants are well below official limits. The increase of the data is due to the almost fully operational restart of the Monterotondo Marittimo plant. The data is calculated starting from the measurement of the concentrations.
216	Hazardous waste (pursuant to Italian Legislative Decree no. 152/06) produced by the Orvieto plant. The figure is calculated.
217	Non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) produced by the Pagnana, Pontedera, Poggibonsi and San Jacopo plants. The figure is calculated.
218	Emissions of CO <sub>2</sub> of the Pagnana and Pontedera plants relate to the consumption of fuels. The figure is measured with an uncertainty of $\pm 2\%$ .
219	Hydrogen Sulphide emissions from the Pagnana and Pontedera plants. The Pagnana figure is measured. The Pontedera figure is estimated taking into account the maximum value that can be recorded in the plant.
220	Ammonia emissions at the Pagnana and Pontedera plants. The Pagnana figure is measured. The Pontedera figure is estimated taking into account the maximum value that can be recorded in the plant.

## EMISSIONS AND WASTE – WATER SEGMENT

item no.	explanation – comment
221	Total quantity of purification sludge disposed of by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF. Non-hazardous waste. The figure is measured with an uncertainty of $\pm 2\%$ .
222	Total quantity of purification sludge disposed of by Acea Ato 2. The figure is measured with an uncertainty of $\pm 2\%$ .
223	Total quantity of liquid sludge produced by Acea Ato 2 and disposed of to third parties.
224	Total quantity of purification sludge disposed of by Acea Ato 5. The figure is measured with an uncertainty of $\pm 2\%$ .
225	Total quantity of purification sludge disposed of by Gori. The sharp increase in the quantities produced in 2019 and in 2020 is due to the transfer to Gori of the management of treatment plants previously managed by the Campania Region. The figure is measured with an uncertainty of $\pm 2\%$ .
226	Total quantity of purification sludge disposed of by Gesesa. The figure is measured with an uncertainty of $\pm 2\%$ .
227	Total quantity of purification sludge disposed of by AdF. The figure is measured with an uncertainty of $\pm 2\%$ .
228	Total quantity of sand and slabs disposed of by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF. The figure is measured with an uncertainty of $\pm 2\%$ .
229	Total quantity of sand and slabs disposed of by Acea Ato 2. The figure is measured with an uncertainty of $\pm 2\%$ .
230	Total quantity of sand and slabs disposed of by Acea Ato 5. The figure is measured with an uncertainty of $\pm 2\%$ .
231	Total quantity of sand and slabs disposed of by Gori. The increase in the quantities produced since 2019 is due to the progressive transfer to Gori of the management of treatment plants previously managed by the Campania Region. The figure is measured with an uncertainty of $\pm 2\%$ .

## EMISSIONS AND WASTE – WATER SEGMENT (cont.)

item no.	explanation – comment
232	Total quantity of sand and slabs disposed of by Gesesa. The figure is measured with an uncertainty of $\pm 2\%$ .
233	Total quantity of sand and slabs disposed of by AdF. The figure is measured with an uncertainty of $\pm 2\%$ .
234	Total quantity of hazardous waste (pursuant to Legislative Decree no. 152/06) including that disposed of by Acea Ato 2, Acea Elabori, Gori, Acea Ato 5 and AdF and a portion of waste produced by the Parent Company (attributed in equal parts to the energy and water segments). The figure is calculated.
235	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Elabori. The figure is measured with an uncertainty of $\pm 2\%$ .
236	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 2. The figure is measured with an uncertainty of $\pm 2\%$ .
237	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 5. The figure is measured with an uncertainty of $\pm 2\%$ .
238	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Gori. The figure is measured with an uncertainty of $\pm 2\%$ .
239	Total quantity of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by AdF. The figure is measured with an uncertainty of $\pm 2\%$ .
240	Proportion of hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the Parent Company and attributed to the water segment. The same proportion was attributed to the energy segment.
241	Total quantity of non-hazardous waste (pursuant to Legislative Decree no. 152/06) including that disposed of by Acea Ato 2, Acea Ato 5, Gori, Gesesa and AdF, and a portion of waste produced by the Parent Company (attributed in equal parts to the energy and water segments). The figure is calculated.
242	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 2. The increase in the quantities in 2020 is mainly due to the launching of filters at the drinking water plant of Pescarella. The figure is calculated.
243	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Acea Ato 5. The figure is estimated.
244	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Gori. The figure is estimated.
245	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by Gesesa. The figure is estimated.
246	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by AdF. The figure is estimated.
247	Proportion of non-hazardous waste (pursuant to Italian Legislative Decree no. 152/06) disposed of by the Parent Company and attributed to the water segment. The same proportion was attributed to the energy segment.
248	Total amount of carbon dioxide emitted by Acea Ato 2 and Gori dryers, using methane as fuel. The significant increase since 2019 compared with 2018 is due to the progressive activation of new anaerobic digesters at the main treatment plants of Acea Ato 2. The data for the last two years were calculated using the consumption of fuel and the emission coefficients (MATTM 2019).
249	Quantity of equivalent CO <sub>2</sub> estimated on the basis of refrigerant fluid replenishments (HCFCs), considering that 1 t of gas has a heating capacity of about 1,300-2,500 times that of CO <sub>2</sub> . The value depends on the specific type of gas (source: <i>GHG Protocol – IPCC Fifth Assessment Report</i> ; for gas mixtures the factor is calculated on the primary source). Half of the emissions are allocated to the energy segment and half to the water segment, as is the case for the quantities of refrigerant fluids (HCFCs). The figure coincides with item no. 249. For 2019 and 2020 the figure is less than one inasmuch as replenishments were not significant.

## CO<sub>2</sub> EMISSIONS FROM TRANSPORT AND HEATING

item no.	explanation – comment
250	Total quantity of carbon dioxide issued by the motor pool of the Acea Group. The three-year figure is calculated using the consumption of fuel and the emission coefficients (ISPRA 2019). The figure is calculated.
251	Total quantity of carbon dioxide emitted by the systems used to air-condition the work spaces. The figure is calculated.





**ACEA SPA**

**INDEPENDENT AUDITOR'S REPORT ON THE CONSOLIDATED  
NON-FINANCIAL STATEMENT PURSUANT TO ARTICLE 3,  
PARAGRAPH 10, OF LEGISLATIVE DECREE NO. 254/2016 AND  
ARTICLE 5 OF CONSOB REGULATION NO. 20267 OF JANUARY  
2018**

**YEAR ENDED 31 DECEMBER 2020**



## ***Independent auditor's report on the consolidated non-financial statement***

*pursuant to article 3, paragraph 10, of Legislative Decree No. 254/2016 and article 5 of CONSOB Regulation No. 20267 of January 2018*

To the Board of Directors of Acea SpA

Pursuant to article 3, paragraph 10, of Legislative Decree No. 254 of 30 December 2016 (the "Decree") and article 5 of CONSOB Regulation No. 20267/2018, we have performed a limited assurance engagement on the "2020 Sustainability Report – (Consolidated Non-Financial Statement pursuant to Legislative Decree no. 254/2016, prepared according to the GRI Standard)" of Acea SpA and its subsidiaries (hereafter the "Group") for the year ended 31 December 2020 prepared in accordance with article 4 of the Decree and approved by the Board of Directors on 10 March 2021 (hereafter the "NFS").

### ***Responsibilities of the Directors and the Board of Statutory Auditors for the NFS***

The Directors are responsible for the preparation of the NFS in accordance with article 3 and 4 of the Decree and with the "Global Reporting Initiative Sustainability Reporting Standards" defined in 2016, and updated to 2018, by the GRI - Global Reporting Initiative (the "GRI Standards"), indicated at paragraph "Disclosing Sustainability: Methodological Note" of the NFS identified by them as the reporting standards.

The Directors are also responsible, in the terms prescribed by law, for such internal control as they determine is necessary to enable the preparation of a NFS that is free from material misstatement, whether due to fraud or error.

Moreover, the Directors are responsible for identifying the content of the NFS, within the matters mentioned in article 3, paragraph 1, of the Decree, considering the activities and characteristics of the Group and to the extent necessary to ensure an understanding of the Group's activities, its performance, its results and related impacts.

Finally, the Directors are responsible for defining the business and organisational model of the Group and, with reference to the matters identified and reported in the NFS, for the policies adopted by the Group and for the identification and management of risks generated or faced by the Group.

The Board of Statutory Auditors is responsible for overseeing, in the terms prescribed by law, compliance with the Decree.

### ***PricewaterhouseCoopers SpA***

Sede legale: **Milano** 20145 Piazza Tre Torri 2 Tel. 02 77851 Fax 02 7785240 Capitale Sociale Euro 6.890.000,00 i.v. C.F. e P.IVA e Reg. Imprese Milano Monza Brianza Lodi 12979880155 Iscritta al n° 119644 del Registro dei Revisori Legali - Altri Uffici: **Ancona** 60131 Via Sandro Totti 1 Tel. 071 2132311 - **Bari** 70122 Via Abate Gimma 72 Tel. 080 5640211 - **Bergamo** 24121 Largo Belotti 5 Tel. 035 229691 - **Bologna** 40126 Via Angelo Finelli 8 Tel. 051 6186211 - **Brescia** 25121 Viale Duca d'Aosta 28 Tel. 030 3697501 - **Catania** 95129 Corso Italia 302 Tel. 095 7532311 - **Firenze** 50121 Viale Gramsci 15 Tel. 055 2482811 - **Genova** 16121 Piazza Piccapietra 9 Tel. 010 29041 - **Napoli** 80121 Via dei Mille 16 Tel. 081 36181 - **Padova** 35138 Via Vicenza 4 Tel. 049 873481 - **Palermo** 90141 Via Marchese Ugo 60 Tel. 091 349737 - **Parma** 43121 Viale Tanara 20/A Tel. 0521 275911 - **Pescara** 65127 Piazza Ettore Troilo 8 Tel. 085 4545711 - **Roma** 00154 Largo Fochetti 29 Tel. 06 570251 - **Torino** 10122 Corso Palestro 10 Tel. 011 556771 - **Trento** 38122 Viale della Costituzione 33 Tel. 0461 237004 - **Treviso** 31100 Viale Felissent 90 Tel. 0422 696911 - **Trieste** 34125 Via Cesare Battisti 18 Tel. 040 3480781 - **Udine** 33100 Via Poscolle 43 Tel. 0432 25789 - **Varese** 21100 Via Albuzzi 43 Tel. 0332 285039 - **Verona** 37135 Via Francia 21/C Tel. 045 8263001 - **Vicenza** 36100 Piazza Pontelandolfo 9 Tel. 0444 393311

[www.pwc.com/it](http://www.pwc.com/it)



### ***Auditor's Independence and Quality Control***

We are independent in accordance with the principles of ethics and independence set out in the Code of Ethics for Professional Accountants published by the International Ethics Standards Board for Accountants, which are based on the fundamental principles of integrity, objectivity, competence and professional diligence, confidentiality and professional behaviour. Our audit firm adopts International Standard on Quality Control 1 (ISQC Italia 1) and, accordingly, maintains an overall quality control system which includes processes and procedures for compliance with ethical and professional principles and with applicable laws and regulations.

### ***Auditor's responsibilities***

We are responsible for expressing a conclusion, on the basis of the work performed, regarding the compliance of the NFS with the Decree and with the GRI Standards. We conducted our work in accordance with International Standard on Assurance Engagements 3000 (Revised) – Assurance Engagements Other than Audits or Reviews of Historical Financial Information ("ISAE 3000 Revised"), issued by the International Auditing and Assurance Standards Board (IAASB) for limited assurance engagements. The standard requires that we plan and apply procedures in order to obtain limited assurance that the NFS is free of material misstatement. The procedures performed in a limited assurance engagement are less in scope than those performed in a reasonable assurance engagement in accordance with ISAE 3000 Revised, and, therefore, do not provide us with a sufficient level of assurance that we have become aware of all significant facts and circumstances that might be identified in a reasonable assurance engagement.

The procedures performed on the NFS were based on our professional judgement and consisted in interviews, primarily of company personnel responsible for the preparation of the information presented in the NFS, analyses of documents, recalculations and other procedures designed to obtain evidence considered useful.

In particular, we performed the following procedures:

1. analysis of the relevant matters reported in the NFS relating to the activities and characteristics of the Group, in order to assess the reasonableness of the selection process used, in accordance with article 3 of the Decree and with the reporting standards adopted;
2. analysis and assessment of the criteria used to identify the consolidation area, in order to assess their compliance with the Decree;
3. comparison of the financial information reported in the NFS with that reported in the Group's Consolidated Financial Statements;
4. understanding of the following matters:
  - business and organisational model of the Group with reference to the management of the matters specified by article 3 of the Decree;
  - policies adopted by the Group with reference to the matters specified in article 3 of the Decree, actual results and related key performance indicators;
  - key risks generated and/or faced by the Group, with reference to the matters specified in article 3 of the Decree.

With reference to those matters, we compared the information obtained with the information presented in the NFS and carried out the procedures described under point 5 a) below;



5. understanding of the processes underlying the preparation, collection and management of the significant qualitative and quantitative information included in the NFS. In detail, we held meetings and interviews with the management of Acea SpA and with the personnel of Acea Produzione SpA and Acea ATO 2 SpA and we performed limited analyses of documentary evidence, to gather information about the processes and procedures for the collection, consolidation, processing and submission of the non-financial information to the function responsible for the preparation of the NFS.

Moreover, for material information, considering the activities and characteristics of the Group:

- at a group level:
  - a) with reference to the qualitative information included in the NFS, and in particular to the business model, the policies adopted and the main risks, we carried out interviews and acquired supporting documentation to verify its consistency with available evidence;
  - b) with reference to quantitative information, we performed analytical procedures as well as limited tests, in order to assess, on a sample basis, the accuracy of consolidation of the information;
- for the companies Acea SpA, Acea Produzione SpA, Acea ATO 2 SpA and for the thermoelectric plant of Tor di Valle (Acea Produzione SpA) which were selected on the basis of their activities, their contribution to the performance indicators at a consolidated level and their location, we carried out meetings and interviews during which we met local management and gathered supporting documentation regarding the correct application of the procedures and calculation methods used for the key performance indicators.

### **Conclusions**

Based on the work performed, nothing has come to our attention that causes us to believe that the NFS of Acea Group for the year ended 31 December 2020 is not been prepared, in all material respects, in accordance with articles 3 and 4 of the Decree and with the GRI Standards.

Milan, 31 March 2021

PricewaterhouseCoopers SpA

*Signed by*

Massimo Rota  
(Partner)

*Signed by*

Paolo Bersani  
(Authorised signatory)

*This report has been translated from the Italian original solely for the convenience of international readers. We have not performed any controls on the NFS 2020 translation.*

# 2020

## SUSTAINABILITY REPORT

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### ACEA GROUP

#### ACEA SPA

Registered Office  
Piazzale Ostiense 2 – 00154 Rome, Italy

#### Share Capital

Euro 1,098,898,884 fully paid up

#### Tax Code, VAT No.

and Rome Companies Registry No.  
05394801004

Rome Economic and Administrative Index No. 882486

#### Under the responsibility of

Investor Relations & Sustainability, Legal and Corporate Affairs and  
Corporate Services, Communications  
Acea SpA

#### Editorial team

**Davide de Caro, Graziella Farfaglia, Silvia Fortuna, Debora Sabatini**  
Coordination **Irene Mercadante**  
RSI@aceaspa.it

#### Art, Graphic Design and Layout Management

K-Change Srl  
On behalf of Acea SpA – **Barbara Salmoni, Roberta Rindone**  
Coordination by **Tiziana Flaviani**

#### Photographs

Acea Archive, **Stefano Santia** and **Massimo Di Soccio**

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