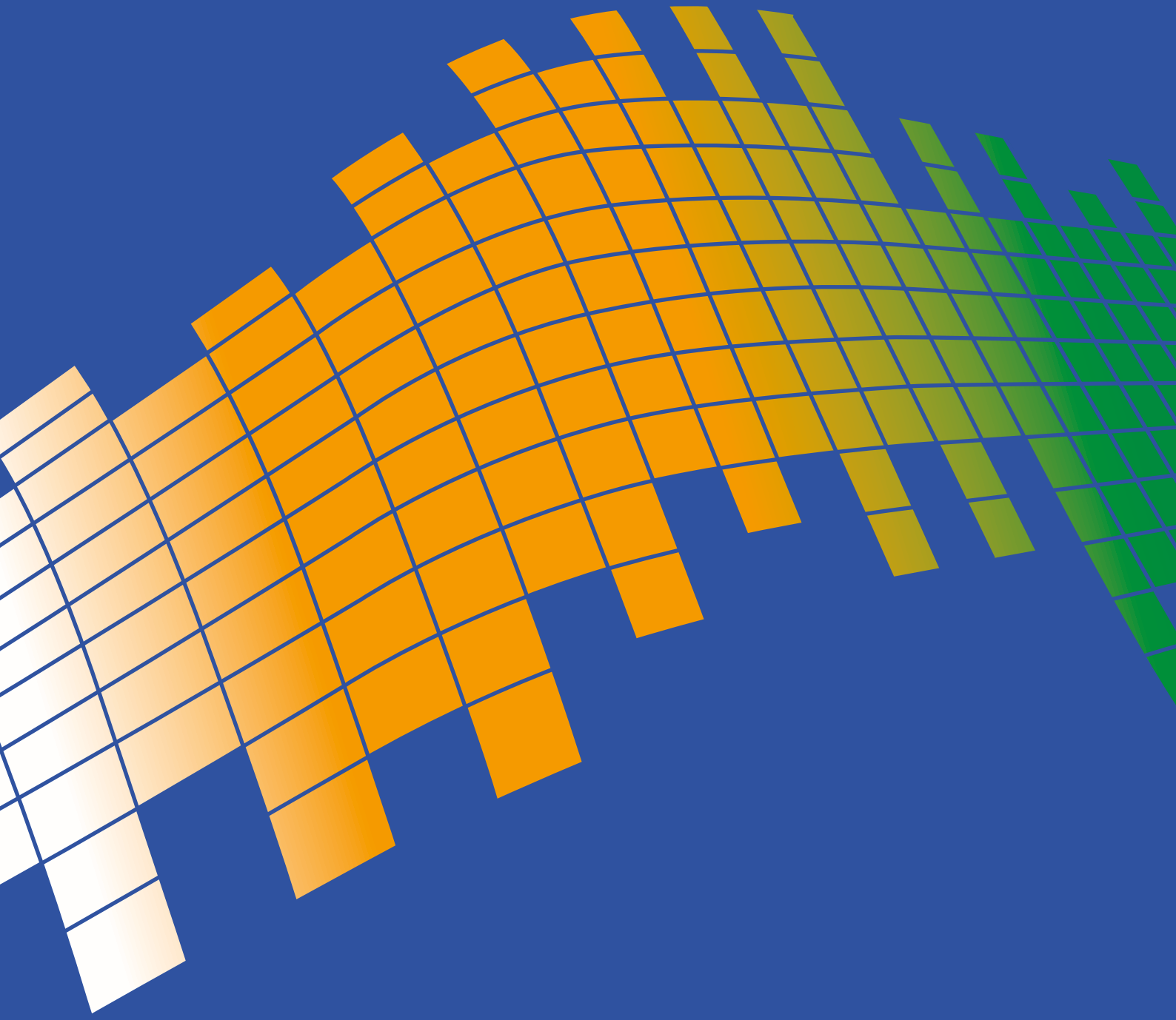

2013

ENVIRONMENTAL REPORT

Product systems

The products

The resources used

Emissions and waste

Key environmental performance indicators (KPI)

Explanatory notes

ENVIRONMENTAL REPORT

BOUNDARIES

The 2013 boundaries include Acea SpA, Acea Distribuzione, Acea Reti e Servizi Energetici, Acea Produzione, Acea Energia, Local Unit 3 of San Vittore del Lazio and Local Unit 1 of Terni, both of A.R.I.A, the company SAO, controlled by A.R.I.A, Acquaser, LaboratoRI, Acea Ato 2, Acea Ato 5, Acque, Gori, Acquedotto del Fiora, Publiacqua and Umbra Acque.

Since 2011 the electricity generation plants, using traditional and renewable sources, have been wholly-owned by Acea SpA, via the companies Acea Produzione, Acea Reti e Servizi Energetici and A.R.I.A.

With regard to the **water sector**, besides the information relating to the "historic" company Acea Ato 2, the account items relating to the other companies indicated above are also provided, as highlighted in the tables, as and when appropriate.

Note that the water figures are considered **globally**, irrespective of the holding of the parent company, because Acea represents the **industrial entity responsible for the management activities** within each of the companies considered.

The Environmental Report, an integral part of the Sustainability Report, bring together and systematically present the information and data on Acea Group's environmental performance in an in-depth manner.
Figures are separated into "product systems" for the energy, environment and water sectors according to the Life Cycle Assessment approach[1] (ISO standard 14040 series), which assesses the entire life cycle of the systems.

Additional information is provided in the *Explanatory Notes* concerning the quality of the figures presented herein, especially when such are measured, estimated or calculated, and the items of the Environmental Report (indicated in the tables and in the text by a number in brackets) are accompanied by a brief illustrative description.

PRODUCT SYSTEMS

ENERGY

- Energy generation (thermoelectric + hydroelectric + photovoltaic + waste to energy)
- Electricity distribution
- Heat production and distribution
- Public lighting
- Tests and Inspections

ENVIRONMENT

- Disposed MSW (Municipal Solid Waste)
- Compost production
- Analysis and measurements

WATER

- Drinking water supply
- Non-drinking water supply
- Water distribution
- Waste water transportation/ treatment
- Analysis and measurements

The figures are provided for the three-year period 2011-2013 and are grouped together in three similar categories:

- **the product supplied;**
- **the resources used;**
- **the waste produced.**

The performance indicators and the key environmental performance indicators are illustrated for each sector below.

1. LCA is a method used to analyze a series of interactions that a product or service has with the environment, considering its entire life cycle, which includes pre-production (therefore material extraction and production), production, distribution, use (therefore reuse and maintenance), recycling and final disposal.

THE PRODUCTS - ENERGY

Electricity generation figures refer to Acea Produzione (AP) (100% Acea SpA), A.R.I.A (100% Acea SpA) and Acea Reti e Servizi Energetici (100% Acea SpA).

ELECTRICITY – GENERATION	unit of measurement	2011	2012	2013	Δ% 2013/2012
Summarized figures					
Total gross electricity produced (1) = (3+11+16)	**GWh**	**544.35**	**651.77**	**785.69**	**20.5**
Total net electricity produced (2) = (10+15+18)	**GWh**	**504.19**	**604.60**	**734.98**	**21.6**
From fossil sources (thermoelectric) (5+0,52x12 San Vittore +0,61x13 Terni)	*GWh*	*95.66 17.6% di (1)*	*119.23 18.3% di (1)*	*152.00 19.3% di (1)*	*27.5*
From renewable sources (hydroelectric, solar, biodegradable fraction of waste) (4+0,48x12 San Vittore +0,39x13 Terni +16)	*GWh*	*448.69 82.4% di (1)*	*532.54 81.7% di (1)*	*633.69 80.7% di (1)*	*19.0*
Acea Produzione (100% Acea)					
Total gross electricity produced (3) = (4+5)	**GWh**	**343.36**	**373.10**	**508.28**	**36.2**
Total gross hydroelectric energy (4)	**GWh**	**320.92**	**360.80**	**496.73**	**37.7**
A. Volta Castel Madama	*GWh*	*23.48*	*15.55*	*30.38*	*95.4*
G. Ferraris Mandela	*GWh*	*15.31*	*10.26*	*23.05*	*124.7*
G. Marconi Orte	*GWh*	*67.24*	*48.07*	*80.91*	*68.3*
Sant'Angelo	*GWh*	*153.72*	*108.77*	*179.15*	*64.7*
Salisano	*GWh*	*58.24*	*175.94*	*180.95*	*2.8*
Other minor plants	*GWh*	*2.93*	*2.21*	*2.29*	*3.6*
Total gross thermoelectric energy (5)	**GWh**	**22.44**	**12.30**	**11.55**	**-6.1**
From gas oil					
Montemartini Plant (*)	*GWh*	*4.68*	*1.94*	*1.28*	*-34.0*
From natural gas	GWh	17.76	10.35	10.27	-0.8
Tor di Valle combined cycle	*GWh*	*9.71*	*1.09*	*0.00*	*-100.0*
Tor di Valle co-generation plant	*GWh*	*8.05*	*9.26*	*10.27*	*10.9*
Total electricity losses (6) = (7+8+9)	**GWh**	**16.34**	**13.29**	**14.22**	**7.0**
Internal consumption - hydroelectric plants (7)	*GWh*	*2.17*	*2.49*	*2.54*	*2.0*
Internal consumption - heat plants (Tor di Valle, Montemartini) (8)	*GWh*	*7.51*	*6.04*	*5.45*	*-9.8*
Initial transformation losses (9)	*GWh*	*6.66*	*4.76*	*6.22*	*30.7*
Total net electricity produced by Acea Produzione (10) = (3-6)	**GWh**	**327.01**	**359.80**	**494.06**	**37.3**
A.R.I.A. (waste to energy) (100% Acea)					
Total gross energy produced (11) = (12)+(13)	**GWh**	**149.43**	**218.24**	**260.09**	**19.2**
San Vittore del Lazio plant (12)	*GWh*	*149.43*	*218.24*	*202.23*	*-7.3*
Terni plant (13) (**)	*GWh*	*n.a.*	*n.a.*	*57.86*	-
Total electricity losses (14)	**GWh**	**21.34**	**29.59**	**35.98**	**21.6**
San Vittore del Lazio internal consumption	*GWh*	*21.34*	*29.59*	*28.94*	*-2.2*
Terni internal consumption	*GWh*	*n.a.*	*n.a.*	*7.04*	-
Total net electricity produced (15) = (11-14)	**GWh**	**128.09**	**188.65**	**224.11**	**18.8**
Acea Reti e Servizi Energetici (100% Acea)					
Gross photovoltaic energy (16)	**GWh**	**51.56**	**60.43**	**17.33**	**-71.3**
Total electricity losses (17)	GWh	2.46	4.29	0.52	-87.9
Net photovoltaic energy (18) = (16-17)	**GWh**	**49.10**	**56.14**	**16.81**	**-70.1**

(*) The Montemartini plant remains operational but only as a standby.

(**) As from August 9th 2010, until the end of 2012, the Terni plant was shutdown for revamping work.

THERMAL ENERGY – GENERATION	unit of measurement	2011	2012	2013	Δ% 2013/2012
Acea Produzione (100% Acea)					
Gross thermal energy produced Tor di Valle plant (19)	**GWh_t**	**84.64**	**87.96**	**99.33**	**12.9**
Total thermal electricity losses (20)	GWh_t	16.40	11.62	22.76	96.2
distribution losses	*GWh_t*	*13.90*	*9.35*	*19.69*	*110.6*
production losses	*GWh_t*	*2.50*	*2.27*	*3.07*	*35.2*
Net thermal energy sold (21) = (19-20)	**GWh_t**	**68.24**	**76.34**	**76.57**	**0.3**

ELECTRICITY – TRANSPORT AND SALE	unit of measurement	2011	2012	2013	Δ% 2013/2012
to Rome and Formello - Summarized figures					
Supply from Acea Group (22)	**GWh**	**2.93**	**2.18**	**1.96**	**-10.1**
Electricity from the market (23)	**GWh**	**11,869.00**	**11,861.09**	**11,383.35**	**-4.0**
from Sole Buyer	*GWh*	*3,493.75*	*3,327.25*	*3,107.76*	*-6.6*
from imports	*GWh*	*432.38*	*433.56*	*431.50*	*-0.5*
from third partyproducers interconnected to the Acea Distribuzione network (*)	*GWh*	*20.14*	*0.00*	*0.00*	-
from wholesalers + other producers	*GWh*	*7,922.74*	*8,100.28*	*7,844.09*	*-3.2*
Electricity demand on the network (24) = (22+23) = (25+26+27+28+29)	**GWh**	**11,871.93**	**11,863.27**	**11.385,31**	**-4.0**
Distribution, transport and commercial losses (25)	GWh	733.10 6.18% of (24)	757.12 6.38% of (24)	701.72 6.16% of (24)	-7.3
Internal transmission and distribution (26)	GWh	27.90	30.61	30.43	-0.6
Net electricity sold to third parties (27)	GWh	2.86	2.54	2.15	-15.4
Net electricity conveyed by Acea to free market customers (28)	**GWh**	**7,461.57**	**7,636.13**	**7,416.84**	**-2.9**
Net electricity sold by Acea Elettricità to free market customers on Acea Distribuzione network	*GWh*	*3,974.33*	*4,627.90*	*4,982.27*	*7.7*
Net electricity sold by Other Sellers to free market customers on Acea Distribuzione network	*GWh*	*3,487.24*	*3,008.23*	*2,434.57*	*-19.1*
electricity sold to protected customers (29)	**GWh**	**3,646.50**	**3,436.87**	**3,234.19**	**-5.9**
Sale in Italy - Summarized figures					
Net electricity sold by Acea on the free market - including sale on Rome (30)	**GWh**	**12,891**	**9,960**	**9,381,9**	**-5.8**
Acea Elettricità	*GWh*	*10,139*	*9,050*	*8,600.6*	*-5.0*
Other investee companies	*GWh*	*2,752*	*910*	*781.3*	*-14.1*
Net electricity sold by Acea in Italy (free market + protected customers) (29+30)	**GWh**	**16,537**	**13,397**	**12,616**	**-6.2**

(*) In 2012 a thermoelectric production plant located at Malagrotta was temporarily suspended. In 2011 it produced 20.14 GWh.

PUBLIC LIGHTING	unit of measurement	2011	2012	2013	Δ% 2013/2012
Lighting flux in Rome (31)	**Mlumen**	**3,057**	**3,148**	**3,275**	**3.9**

MONITORING AND GAUGING	u. m.	2011	2012	2013	Δ% 2013/2012
Monitoring and gauging activities (32)	**No.**	**339**	**488**	**392**	**-19.7**
Electromagnetic field measures	*No.*	*7*	*42*	*40*	*-4.8*
Noise monitoring	*No.*	*3*	*39*	*12*	*-69.2*
Chemical analysis of PCB	*No.*	*103*	*151*	*55*	*-63.6*
Waste classification	*No.*	*13*	*16*	*45*	*181.3*
Transformer diagnostics	*No.*	*196*	*213*	*190*	*-10.8*
Other	*No.*	*17*	*27*	*50*	*85.2*

THE PRODUCTS - ENVIRONMENT

Data refer to the companies Kyklos and Solemme, both in Aquaser Srl (100% Acea SpA) and to the company SAO srl, controlled by A.R.I.A. (100% Acea SpA).

NON-HAZARDOUS WASTE, DISPOSED OF AND RECOVERED - SAO	unit of measurement	2011	2012	2013	Δ% 2013/2012
Incoming waste to plant (33)	**t**	**135,052**	**143,384**	**120,059**	**-16.3**
Landfilled waste (34)	*t*	*110,473*	*122,770*	*99,953*	*-18.6*
Recovered waste (35)	*t*	*1,277*	*488*	*260*	*-46.7*
Compost (36)	*t*	*281*	*658*	*439*	*-33.3*
Reduction for stabilisation (37) = (33-34-35-36)	*t*	*23,021*	*19,468*	*19,407*	*-0.3*

PRODUCTION OF COMPOST	unit of measurement	2011	2012	2013	Δ% 2013/2012
Total incoming organic waste = (38+39+40)	**t**	**59.351,80**	**59.510,75**	**63.271,43**	**6,3**
Incoming sludges (38)	*t*	***14,369.46***	***16,249.88***	***15,491.54***	***-4.7***
Kyklos	*t*	*11,817.80*	*12,151.68*	*10,322.30*	*-15.1*
Solemme	*t*	*2,551.66*	*4,098.20*	*5,169.24*	*26.1*
Incoming Green (39)	*t*	***7,696.28***	***6,236.96***	***6,923.14***	***11.0***
Kyklos	*t*	*5,468.26*	*4,522.86*	*3,416.40*	*-24.5*
Solemme	*t*	*2,228.02*	*1,714.10*	*3,506.74*	*104.6*
Incoming organic fraction from waste collection system (40)	*t*	***37,286.06***	***37,023.91***	***40,856.75***	***10.4***
Kyklos	*t*	*37,286.06*	*37,023.91*	*40,856.75*	*10.4*
High Quality compost produced (41)	**t**	**19,473.92**	**11,652.66**	**18,389.10**	**57.8**
Kyklos	*t*	*16,438.22*	*9,295.66*	*14,370.00*	*54.6*
Solemme		*3,035.70*	*2,357.00*	*4,019.10*	*70.5*
Non-compostable material to disposal (42)	**t**	**3,422.92**	**3,784.88**	**4,671.95**	**23.4**
Kyklos	*t*	*3,422.92*	*3,784.88*	*4,671.95*	*23.4*
Solemme	*t*	*0.00*	*0.00*	*0.00*	*-*
Reduction for stabilisation = (38+39+40-41-42)	**t**	**36.454,96**	**44.073,21**	**40.210,38**	**-8.8**

ANALYTICAL CONTROLS ON WASTE AND ON HIGH QUALITY COMPOST	unit of measurement	2011	2012	2013	Δ% 2013/2012
Total analytical controls (43)	**No.**	**95**	**100**	**110**	**10.0**
Analytical controls on compost - SAO	*No.*	*8*	*8*	*10*	*25.0*
Analytical controls on compost - Solemme and Kyklos	*No.*	*37*	*42*	*50*	*19.0*
Analytical controls on waste - SAO	*No.*	*50*	*50*	*50*	*0.0*

THE PRODUCTS - WATER

Summarized water figures include the main water companies in the Acea Group - Acea Ato 2, Acea Ato 5, Gori, Acque, Publiacqua, Acquedotto del Fiora and Umbra Acque, calculated at 100%. This in consideration of the role of industrial entity responsible for management, covered by Acea in the shareholding structures of the service providers.

GROUP WATER BALANCE IN ITALY	unit of measurement	2011	2012	2013	Δ% 2013/2012
Summarized figures					
Total drinking water withdrawn from the environment or from other systems (44)	**Mm³**	**1,401.5**	**1,399.1**	**1,421.2**	**1.6**
Total drinking water introduced onto the network (45)	**Mm³**	**1,254.6**	**1,263.0**	**1,271.3**	**0.7**
Total drinking water supplied (46)	**Mm³**	**668.7**	**655.7**	**645.7**	**-1.5**

WATER BALANCE OF THE COMPANIES OPERATING IN THE REGIONS OF LAZIO AND CAMPANIA	unit of measurement	2011	2012	2013	Δ% 2013/2012
Acea Ato 2 for Rome historic network					
Drinking water withdrawn from the environment (47)	**Mm³**	**612.8**	**609.8**	**618.5**	**1.4**
from Lake Bracciano, treated	*Mm³*	*13.9*	*21.9*	*7.3*	*-66.7*
from wells	*Mm³*	*16.2*	*27.2*	*16.9*	*-37.9*
from springs	*Mm³*	*582.6*	*560.7*	*594.3*	*6.0*
Drinking water sold to municipal retailers **(48)**	Mm³	89.8	92,4	96.1	4.0
Drinking water introduced onto non-drinking water network **(49)**	Mm³	14.8	16,1	15.9	-1.2
Drinking water returned to the environment /technical operating volumes **(50)**	Mm³	37.4	28.5	33.4	17.2
Drinking water introduced onto the Rome historic network (51) = (47)-(48+49+50)	**Mm³**	**470.8**	**472.7**	**473.1**	**0.1**
Drinking water supplied via the Rome historic network (52)	**Mm³**	**300.3**	**298.0**	**295.0**	**-1.0**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(53)**	Mm³	155.1	159.3	162.8	2.2
Effective losses (parameter A15 MD 99/97) **(54)**	Mm³	117.5 (25.0% of 51)	122.1 (25.8% of 51)	125.9 (26.6% of 51)	3.1
Water balance - Rome non-drinking water network					
Non-drinking water withdrawn from the environment (55)	**Mm³**	**23.7**	**29.7**	**25.6**	**-13.8**
from the River Tiber, treated (Grottarossa plant)	*Mm³*	*0.0*	*4.7*	*2.2*	*-53.2*
from springs	*Mm³*	*8.9*	*8.9*	*7.5*	*-15.7*
drinking water introduced onto non-drinking network	*Mm³*	*14.8*	*16.1*	*15.9*	*-1.2*
Non-drinking water supplied to the Municipality of Rome (56)	**Mm³**	**13.8**	**14.1**	**14.3**	**1.4**
Non-drinking water supplied to other Municipalities (57)	**Mm³**	**0.03**	**0.03**	**0.03**	**0.0**
Acea Ato 2 for ATO 2 – Central Lazio (Rome + 73 municipalities acquired as of 31 Dec. 2012)					
Drinking water withdrawn from the environment (58)	**Mm³**	**718.1**	**715.4**	**728.5**	**1.8**
from Lake Bracciano, treated	*Mm³*	*13.9*	*21.9*	*7.3*	*-66.7*
from wells	*Mm³*	*76.9*	*89.6*	*76.2*	*-15.0*
from springs	*Mm³*	*625.6*	*602.3*	*642.4*	*6.7*
from other aqueduct systems	*Mm³*	*1.6*	*1.6*	*2.6*	*62.5*
Drinking water sold to municipal retailers **(59)**	Mm³	64.5	68.2	74.5	4.1
Drinking water introduced onto non-drinking water network **(60)**	Mm³	14.8	16.1	15.9	-1.2
Drinking water returned to the environment /technical operating volumes **(61)**	Mm³	40.1	28.50	33.4	17.2
Drinking water introduced onto the ATO 2 network (62) = (58)-(59+60+61)	**Mm³**	**598.7**	**602.5**	**604.6**	**0.3**
Total drinking water supplied to the ATO 2 network (63)	**Mm³**	**359.6**	**349.7**	**346.4**	**-0.9**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(64)**	Mm³	216.6	230.5	235.9	2.3
Effective losses (parameter A15 MD 99/97) **(65)**	Mm³	161.2 (26.9% of 62)	177.6 (29.5% of 62)	183.4 (30.3% of 62)	3.3

WATER BALANCE OF THE COMPANIES OPERATING IN THE REGIONS OF LAZIO AND CAMPANIA	unit of measurement	2011	2012	2013	Δ% 2013/2012
Acea Ato 5 for ATO 5 –Southern Lazio - Frosinone (85 municipalities)					
Drinking water withdrawn from the environment (66)	**Mm³**	**103.9**	**98.8**	**110.6**	**11.9**
from lakes/rivers	*Mm³*	*0.0*	*0.0*	*0.0*	-
from wells	*Mm³*	*73.8*	*68.6*	*80.5*	*17.3*
from springs	*Mm³*	*30.1*	*30.2*	*30.1*	*-0.3*
Drinking water introduced onto network (67)	**Mm³**	**93.5**	**93.7**	**105.3**	**12.4**
Drinking water supplied (68)	**Mm³**	**20.4**	**20.7**	**21.0**	**1.4**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(69)**	Mm³	70.50	70.41	81.56	15.8
Effective losses (parameter A15 MD 99/97) **(70)**	Mm³	56.80 (60.7% of 67)	56.60 (60.4% of 67)	66.30 (63.0% of 67)	17.1
Gori for ATO 3 - Sarnese Vesuviano (76 municipalities)					
Drinking water withdrawn from the environment (71)	**Mm³**	**41.17**	**38.83**	**38.84**	**0.0**
from lakes/rivers	*Mm³*	*0*	*0*	*0*	-
from wells	*Mm³*	*38.56*	*36.19*	*36.27*	*0.2*
from springs	*Mm³*	*2.61*	*2.64*	*2.57*	*-2.7*
Water withdrawn from other aqueduct systems (72)	**Mm³**	**170.4**	**175.8**	**176.2**	**0.2**
Drinking water introduced onto the network (73) = (71) + (72)	**Mm³**	**211.6**	**214.6**	**215.0**	**0.2**
Drinking water supplied **(74)**	Mm³	91.1	91.1	87.6	-3.8
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(75)**	Mm³	119.3	123.5	126.4	2.3
Effective losses (parameter A15 MD 99/97) **(76)**	Mm³	94.6 (44.7% of 73)	94.6 (44.1% of 73)	95.1 (44.2% of 73)	0.5

WATER BALANCE OF THE COMPANIES OPERATING IN THE REGIONS OF TUSCANY AND UMBRIA	unit of measurement	2011	2012	2013	Δ% 2013/2012
Publiacqua for ATO 3 – Medio Valdarno (52 municipalities)					
Drinking water withdrawn from the environment (77)	**Mm³**	**163.6**	**167.6**	**166.3**	**-0.8**
from lakes/rivers	*Mm³*	*108.1*	*110.7*	*110.9*	*0.2*
from wells	*Mm³*	*43.6*	*44.6*	*43.2*	*-3.1*
from springs	*Mm³*	*11.9*	*12.2*	*12.2*	*0.0*
Drinking water introduced onto the network (78)	**Mm³**	**148.8**	**151.6**	**150.6**	**-0.7**
Drinking water supplied (79)	**Mm³**	**86.0**	**86.0**	**86.0**	**0.0**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(80)**	Mm³	55.0	57.4	55.5	-3.3
Effective losses (parameter A15 MD 99/97) **(81)**	Mm³	44.5 (29.9% of 78)	46.5 (30.7% of 78)	44.6 (29.6 of 78)	-4.1
Acque for ATO 2 – Basso Valdarno (57 municipalities)					
Drinking water withdrawn from the environment (82)	**Mm³**	**76.98**	**74.55**	**72.89**	**-2.2**
from lakes/rivers	*Mm³*	*3.32*	*3.63*	*3.28*	*-9.6*
from wells	*Mm³*	*66.90*	*65.53*	*62.85*	*-4.1*
from springs	*Mm³*	*6.76*	*5.39*	*6.75*	*25.2*
Water withdrawn from other aqueduct systems (83)	**Mm³**	**5.98**	**6.09**	**6.00**	**-1.5**
Drinking water introduced onto the network (84)	**Mm³**	**82.96**	**80.63**	**78.89**	**-2.2**
Drinking water supplied (85)	**Mm³**	**49.48**	**45.70**	**44.87**	**-1.8**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(86)**	Mm³	27.55	26.61	25.71	-3.4
Effective losses (parameter A15 MD 99/97) **(87)**	Mm³	18.79 (22.6% of 84)	18.08 (22.4% of 84)	16.98 (21.5% of 84)	-6.1

WATER BALANCE OF THE COMPANIES OPERATING IN THE REGIONS OF TUSCANY AND UMBRIA	unit of measurement	2011	2012	2013	Δ% 2013/2012
Acquedotto del Fiora for ATO 6 – Ombrone (56 municipalities)					
Drinking water withdrawn from the environment (88)	**Mm³**	**62.43**	**62.75**	**64.80**	**3.3**
from lakes/rivers	*Mm³*	*0.85*	*n.d.*	*n.d.*	-
from wells	*Mm³*	*21.97*	*n.d.*	*n.d.*	-
from springs	*Mm³*	*39.04*	*n.d.*	*n.d.*	-
Drinking water introduced onto the network (89)	**Mm³**	**60.33**	**60.93**	**60.10**	**-1.4**
Drinking water supplied (90)	**Mm³**	**31.45**	**31.4**	**31.4**	**-**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(91)**	Mm³	28.18	n.d.	n.d.	-
Effective losses (parameter A15 MD 99/97) **(92)**	Mm³	22.85 (37.8% of 78)	n.d.	n.d.	-
Umbra Acque for ATOs 1 and 2 – Umbria (38 municipalities)					
Drinking water withdrawn from the environment (93)	**Mm³**	**58.96**	**59.30**	**57.05**	**-3.8**
from lakes/rivers	*Mm³*	*0.98*	*1.18*	*0.92*	*-22.0*
from wells	*Mm³*	*44.62*	*45.27*	*39.33*	*-13.1*
from springs	*Mm³*	*13.36*	*12.85*	*16.80*	*30.7*
Drinking water introduced onto the network (94)	**Mm³**	**58.72**	**59.07**	**56.80**	**-3.8**
Drinking water supplied (95)	**Mm³**	**30.63**	**31.09**	**28.45**	**-8.5**
Assessment of losses according to Italian Ministerial Decree No. 99/97					
Overall losses (parameter A17 MD 99/97) **(96)**	Mm³	23.90	23.50	24.17	2.9
Effective losses (parameter A15 MD 99/97) **(97)**	Mm³	22.30 (37.9% of 94)	21.90 (37.1% of 94)	22.69 (40.0% of 94)	3.6

TOTAL WASTE WATER TREATED BY THE GROUP COMPANIES, IN ITALY	unit of measurement	2011	2012	2013	Δ% 2013/2012
Waste water treated in main purification plants of the Group companies in Italy (98)	**Mm³**	**935.6**	**851.9**	**916.4**	**7.6**

WASTE WATER TREATED BY ACEA ATO 2	unit of measurement	2011	2012	2013	Δ% 2013/2012
Waste water treated in main purification plants (99)	**Mm³**	**598.6**	**522.1**	**562.3**	**7.7**
Rome South	*Mm³*	*353.3*	*300.2*	*331.8*	*10.5*
Rome North	*Mm³*	*104.7*	*96.7*	*96.2*	*0.5*
Rome East	*Mm³*	*100.2*	*87.8*	*94.0*	*7.1*
Rome Ostia	*Mm³*	*26.7*	*24.5*	*26.8*	*9.4*
CoBIS	*Mm³*	*7.9*	*7.4*	*7.3*	*-1.4*
Fregene	*Mm³*	*5.8*	*5.5*	*4.1*	*-25.5*
Other – municipality of Rome	**Mm³**	**13.4**	**14.4**	**14.1**	**-2.1**
Other – outside Municipality of Rome	**Mm³**	**60.8**	**63.0**	**65.3**	**3.7**
Total waste water treated by Acea Ato 2 (100)	**Mm³**	**672.8**	**599.5**	**639.6**	**6.7**

ANALYTICAL CONTROLS ON DRINKING WATER AND WASTE WATER FOR ACEA GROUP IN ITALY	unit of measurement	2011	2012	2013	Δ% 2013/2012
DGroup total analytical checks on drinking water (101) (*)	**No.**	**1,102,737**	**1,169,201**	**1,200,924**	**2.7**
Acea Ato 2	*No.*	*337,529*	*328,202*	*339,229*	*3.4*
Acea Ato 5	*No.*	*94,327*	*79,953*	*78,830*	*-1.4*
Gori	*No.*	*82,193*	*70,488*	*71,409*	*1.3*
Acque	*No.*	*254,297*	*330,569*	*355,380*	*7.5*
Publiacqua	*No.*	*189,508*	*192,653*	*185,399*	*-3.8*
Acquedotto del Fiora	*No.*	*65,007*	*87,079*	*90,472*	*3.9*
Umbra Acque	*No.*	*79,876*	*80,257*	*80,205*	*-0.1*
Group total analytical checks on waste water (102)	**No.**	**358,320**	**412,461**	**468,182**	**13.5**
Acea Ato 2	*No.*	*95,527*	*122,231*	*178,262*	*45.8*
Acea Ato 5	*No.*	*17,786*	*23,816*	*24,820*	*4.2*
Gori	*No.*	*14,986*	*9,821*	*13,333*	*35.8*
Acque	*No.*	*105,076*	*125,546*	*119,192*	*-5.1*
Publiacqua	*No.*	*34,405*	*37,664*	*38,869*	*3.2*
Acquedotto del Fiora	*No.*	*42,902*	*48,259*	*48,774*	*1.1*
Umbra Acque	*No.*	*47,638*	*45,124*	*44,932*	*-0.4*

(*) the number includes the controls carried out independently by each Company, and those carried out by LaboratoRI in-house.

THE RESOURCES USED - ENERGY

The figures of the resources used refer to Acea Produzione (AP) (100% Acea SpA), A.R.I.A. (100% Acea SpA) and Acea Distribuzione (100% Acea SpA)

GENERATION, TRANSPORT AND SALE OF ELECTRICITY, HEAT AND PUBLIC LIGHTING	unit of measurement	2011	2012	2013	Δ% 2013/2012
Natural gas					
Electricity and heat generation (103) = (104+105)	**Nm^3x1,000**	**15,336**	**14,249**	**19,155**	**34.4**
Thermoelectric and heat production AP (104)	**Nm^3x1,000**	**12,664**	**11,352**	**14,113**	**24.3**
Tor di Valle reserve boilers - for district heating	*Nm^3x1,000*	*7,419*	*7,615*	*10,071*	*32.3*
Tor di Valle co-generation plant	*Nm^3x1,000*	*2,956*	*3,328*	*4,042*	*21.5*
Tor di Valle combined cycle	*Nm^3x1,000*	*2,289*	*408*	*0*	*-100.0*
Waste to energy (105)	**Nm^3x1,000**	**2,572**	**2,897**	**5,042**	**74.0**
San Vittore del Lazio waste to energy plant	*Nm^3x1,000*	*2,572*	*2,897*	*3,460*	*19.4*
Terni waste to energy plant (*)	*Nm^3x1,000*	*n. a.*	*n.a.*	*1,582*	*-*
Gas oil for thermoelectric generation					
Montemartini plant (106)	**lx1,000**	**1,815**	**758**	**512**	**-32.5**
Refuse Derived Fuel (RDF) burnt					
San Vittore del Lazio waste to energy plant (107)	**tx1,000**	**158.451**	**218.256**	**224.220**	**2.7**
Pulper from paper industry waste burnt					
Impianto di termovalorizzazione di Terni (108) (*)	**tx1,000**	**n. a.**	**n.a.**	**69.417**	**-**
Water					
Cooling of thermoelectric plants AP (109) = (167)	**Mm^3**	**6.69**	**0.80**	**0.00**	**-**
Offtake for hydroelectric production (110)	**Mm^3**	**3,400.50**	**2,740.50**	**4,436.62**	**61.9**
Process water (111)	**Mm^3**	**0.1549**	**0.1380**	**0.1604**	**16.2**
Domestic/sanitary uses (112)	**Mm^3**	**0.2609**	**0.3776**	**0.2796**	**-27.9**
Sundry materials					
Dielectric mineral oil in operation (113)	**t**	**4,564**	**4,587**	**9,462**	**-**
Dielecric mineral oil - oil loss make-up	*t*	*28.0*	*24.2*	*76.6*	*-*
SF_6 in operation (114)	**t**	**n.d.**	**29.15**	**29.68**	**1.8**
SF_6 - gas loss make-up	*t*	*0.62*	*0.44*	*0.73*	*65.9*
Coolants (HCFC type) loss replacement/make-up (115)	**t**	**0.215**	**0.017**	**0.040**	**135.3**
Sundry chemicals (116)	**kg**	**3,611,579**	**4,765,055**	**6,807,934**	**41.7**
Acidity corrector	*kg*	*7,200*	*2,340*	*780*	*-66.7*
Deoxygenating substances	*kg*	*660*	*0.0*	*0.0*	*-*
Stabilizers and bio-dispersing agents	*kg*	*2,700*	*1,300*	*0.0*	*-*
Sodium chloride	*kg*	*76,500*	*78,000*	*72,000*	*-7.7*
Caustic soda	*kg*	*109,080*	*71,990*	*98,630*	*37.0*
Sodium hypochlorite	*kg*	*4,800*	*3,390*	*620*	*-81.7*
Sodium bicarbonate	*kg*	*2,910,380*	*3,982,720*	*5,983,440*	*50.2*
Hydrochloric acid	*kg*	*119,320*	*68,675*	*101,759*	*32.5*
Ammoniacal solution	*kg*	*380,939*	*556,640*	*550,705*	*-1.1*
Oil and greases / lubricants (117)	**kg**	**10,576**	**4,986**	**5,125**	**2.8**
Electricity					
Consumed for electricity distribution **(118)** = (25)	GWh	733.10	757.12	701.72	-7.3
Consumed for electricity generation **(119)** = (1)-(2)	GWh	40.16	47.17	50.71	7.5
Consumed for offices (50% of the electricity consumed by the Parent Company) **(120)**	GWh	5.21	5.20	5.77	10.9
Other internal uses **(121)**	GWh	27.90	30.61	30.43	-0.6
Total (122) = (118+119+120+121)	**GWh**	**806.37**	**840.10**	**788.41**	**-6.2**
Illuminazione pubblica					
Consumption for public lighting (123)	**GWh**	**161.66**	**162.16**	**161.66**	**-0.3**

(*) Terni plant was shutdown for revamping work from August 2010 to the end of 2012.

THE RESOURCES USED - ENVIRONMENT

The figures of the resources used refer to Kyklos and Solemme both of Aquaser Srl (100% Acea SpA) and to SAO, controlled by A.R.I.A.

LANDFILL WASTE DISPOSAL - SAO	unit of measurement	2011	2012	2013	Δ% 2013/2012
Process water (124)	**m³**	**2,712**	**1,532**	**1,208**	**-21.1**
Sundry chemicals (125)	**l**	**7,000**	**7,000**	**7,000**	**0.0**
Electricity (126)	**GWh**	**1.695**	**1.574**	**1.605**	**1.9**
Gasolio (127)	**l**	**435,440**	**352,189**	**295,753**	**-16.0**
Domestic/sanitary water uses	**Mm³**	**0.0012**	**0.0011**	**0.0015**	**34.4**

PRODUCTION OF COMPOST	unit of measurement	2011	2012	2013	Δ% 2013/2012
Process water (Kyklos, Solemme) (128)	**m³**	**0.00**	**0.00**	**0.00**	**-**
Sundry chemicals (Kylos, Solemme) (129)	**t**	**0.00**	**139.39**	**265.32**	**90.3**
Sodium hydroxide	*t*	*0.00*	*12.89*	*14.83*	*15.1*
Sulphuric acid	*t*	*100.8*	*126.50*	*250.49*	*98.0*
Electricity (130) (Kylos, Solemme)	**GWh**	**2.603**	**2.971**	**3.492**	**17.6**
Fuels (131) (Kylos, Solemme)	**t**	**128.80**	**136.90**	**128.30**	**-6.3**
Gas oil	*t*	*128.80*	*136.90*	*128.30*	*-6.3*

THE RESOURCES USED - WATER

The figures of the resources used refer to the main Group water companies: Acea Ato 2, Acea Ato 5, Gori, Acque, Publiacqua, Acquedotto del Fiora and Umbra Acque.

COLLECTION, TRANSPORTATION AND DISTRIBUTION OF DRINKING AND NON-DRINKING WATER	unit of measurement	2011	2012	2013	Δ% 2013/2012
Sundry materials and natural resources					
Reagents for purification and disinfection (132)	**t**	**11,213.7**	**12,616.67**	**12,310.40**	**-2.4**
Reagents used in chemical analyses (133)	**t**	**1.30**	**1.30**	**1.40**	**7.7**
Gas used in chemical analyses (134)	**MNm³**	**3.11**	**3.13**	**4.06**	**29.7**
Coolants (HCFC type) replacement/make-up (135)	**t**	**0.215**	**0.017**	**0.040**	**135.3**
Electricity					
Water pumping plants **(136)**	GWh	481.17	489.07	443.42	-9.3
Offices /internal use (50% of energy consumed by the Parent Company) **(137)** = (120)	GWh	5.21	5.20	5.77	10.9
Chemical laboratory **(138)**	GWh	1.14	1.25	1.25	-
Total electricity consumed (139) = (136+137+138)	**GWh**	**487.52**	**495.52**	**450.44**	**-9.1**
Drinking water					
Domestic/sanitary uses **(140)**	Mm³	0.87	1.36	0.99	-27.2
Offices (50% of drinking water consumed by Parent Company) **(141)**	Mm³	0.17	0.21	0.15	-28.6
Total drinking water consumed (142) = (140+141)	**Mm³**	**1.02**	**1.57**	**1.15**	**-26.7**

WASTE WATER TREATMENT	unit of measurement	2011	2012	2013	Δ% 2013/2012
Materiali vari e risorse naturali					
Reagents used in waste water treatment (143)	**t**	**8,430**	**9,897**	**10,366**	**4.7**
Polyelectrolytes used to dehydrate sludge	*t*	*1,692*	*1,781*	*1,815*	*1.9*
Sodium hypochlorite for final disinfection	*t*	*3,794*	*3,201*	*3,341*	*4.4*
Ferric chloride used to dehydrate sludge	*t*	*571*	*1,040*	*1,119*	*7.6*
Lime, Formic acid, aluminium polychloride	*t*	*338*	*1,889*	*2,231*	*18.1*
Peracetic acid	*t*	*1,720*	*1,739*	*1,604*	*-7.8*
Others (anti-foaming agents, etc.)	*t*	*315*	*248*	*256*	*3.3*
Mineral oil and grease (144)	**t**	**2.05**	**1.1**	**4.75**	**331.8**
Electricity					
Sewage and purification systems (145)	**GWh**	**296.3**	**297.0**	**304.3**	**2.5**

FUELS USED BY THE GROUP COMPANIES FOR AUTOMOTIVE AND HEATING PURPOSES

The figures concerning the Vehicle Pool refer to the main Group companies: Acea Ato 2, Acea Ato 5, Acea Distribuzione, Acea SpA, Laboratori, Acea Reti e Servizi Energetici.

The figures concerning heating purposes refer to Acea SpA, Acea Ato 2, Acea Distribuzione and Acea Produzione.

FUEL TYPE	unit of measurement	2011	2012	2013	Δ% 2013/2012
Automotive (Group Vehicle Pool)					
Gasoline (146)	**lx1,000**	**639.2**	**831.6**	**643.9**	**-22.6**
Diesel (147)	**lx1,000**	**566.1**	**848.3**	**697.7**	**-17.8**
Heating					
Gas oil (148)	**lx1,000**	**6.5**	**8.7**	**4.4**	**-49.4**
Natural gas (149)	**Nm³x1,000**	**690.3**	**690.3**	**386.0**	**-44.1**
GPL (150)	**lx1,000**	**23.2**	**24.5**	**24.9**	**1.9**

EMISSIONS AND WASTE - ENERGY

The figures concerning emissions and waste refer to Acea Produzione (AP) (100% Acea SpA) and A.R.I.A. (100% Acea SpA)

EMISSIONS INTO THE ATMOSPHERE	unit of measurement	2011	2012	2013	Δ% 2013/2012
CO_2 (151) = (152+153)	**t**	**30,851**	**126,364**	**225,404**	**43.9**
Acea Produzione (152)	*t*	*30,851*	*25,364*	*30,404*	*19.9*
A.R.I.A. (153)	*t*	*n.a.*	*101,000*	*195,000*	*93.1*
NO_x (154) = (155+156)	**t**	**95,79**	**96.76**	**155.03**	**60.2**
Acea Produzione (155)	*t*	*62.26*	*51.34*	*48.04*	*-6.4*
A.R.I.A. (156)	*t*	*33.53*	*45.42*	*106.99*	*135.6*
CO (157) = (158+159)	**t**	**6.74**	**10.12**	**9.94**	**-1.8**
Acea Produzione (158)	*t*	*3.23*	*4.16*	*2.76*	*-33.7*
A.R.I.A. (159)	*t*	*3.51*	*5.96*	*7.18*	*20.5*
SO_2 (160) = (161+162)	**t**	**0.69**	**0.04**	**0.23**	**-**
Acea Produzione (161)	*t*	*0.07*	*0.03*	*0.02*	*-33.3*
A.R.I.A. (162)	*t*	*0.64*	*0.01*	*0.21*	*-*
Dust (163) = (164+165)	**t**	**0.32**	**0.05**	**0.46**	**-**
Acea Produzione (164)	*t*	*0.09*	*0.04*	*0.03*	*-25.0*
A.R.I.A. (165)	*t*	*0.23*	*0.01*	*0.43*	*-*

OTHER EMISSIONS AND WASTE	unit of measurement	2011	2012	2013	Δ% 2013/2012
Waste water treated (166)	**Mm^3**	**0.0007**	**0.0001**	**0.0007**	**600.0**
Acqua per raffreddamento restituita (167) = (109)	**Mm^3**	**6.694**	**0.803**	**0.000**	**-**
50 Hz electric fields	**kV**	**Monitored** Commitment to keep within the legal limits			
50 Hz magnetic fields	**µT**	**Monitored** Commitment to keep within the legal limits			
Noise	**dB**	**Monitored** Commitment to keep within the legal limits			
Dispersed luminous flux	**Mlumen**	Commitment to design the plants in order to limit to the maximum the percentage of emissions dispersed towards the sky			

WASTE (ITALIAN LEGISLATIVE DECREE NO. 152/06)	unit of measurement	2011	2012	2013	Δ% 2013/2012
Hazardous waste excluding waste to energy sector and Aquaser's waste (168)	**t**	**604.30**	**665.60**	**849.98**	**27.7**
Energy sector production	*t*	*598.0*	*663.50*	*847.97*	*27.8*
Portion deriving from activities carried out by Parent Company (*)	*t*	*6.30*	*2.10*	*2.01*	*-4.3*
Hazardous waste of A.R.I.A. (169)	**t**	**23,122.5**	**39,354.0**	**44,561.7**	**13.2**
Non-hazardous waste excluding waste to energy sector and Aquaser's waste (170)	**t**	**1,071.9**	**1,316.5**	**993.1**	**-24.6**
Energy sector production	*t*	*1,062.2*	*1,303.3*	*966.4*	*-25.8*
Portion deriving from activities carried out by Parent Company (*)	*t*	*9.7*	*13.2*	*26.7*	*102.3*
Non-hazardous waste of A.R.I.A. (171)	**t**	**2,814.2**	**1,684.9**	**10,408.7**	**517.8**

(*) 50% of waste produced by Parent Company.

EMISSIONS AND WASTE - ENVIRONMENT

The figures refer to Kyklos and Solemme both of Aquaser Srl (100% Acea SpA) and to SAO, controlled by Aquaser.

WASTE (ITALIAN LEGISLATIVE DECREE NO. 152/06)	unit of measurement	2011	2012	2013	Δ% 2013/2012
Hazardous waste of Kyklos + Solemme (172)	**t**	**1.5**	**1.6**	**1.79**	**10.1**
Non-hazardous waste of Kyklos + Solemme (173) excluding the leachate	**t**	**3,457.15**	**3,832.37**	**4,790.98**	**20.0**
Hazardous waste of SAO (174)	**t**	**1.1**	**1.2**	**0.7**	**-71.4**
Leachate (175)	**t**	**30,194.50**	**29,564.19**	**31,290.70**	**5.5**
Kyklos	*t*	*9,557.8*	*11,316.5*	*10,289.1*	*-10.0*
Solemme	*t*	*485.70*	*55.72*	*351.56*	*84.2*
SAO	*t*	*20,151*	*18,192*	*20,650*	*11.9*

EMISSIONS INTO THE ATMOSPHERE	unit of measurement	2011	2012	2013	Limite
Dust (176)	**t**	**5.725**	**8.564**	**6.300**	**-35.9**
Total Organic Compound (177)	**t**	**4.681**	**4.513**	**6.152**	**26.6**
Ammonia (178)	**t**	**0.771**	**1.570**	**1.741**	**9.8**
Volatile inorganic acids (179)	**t**	**2.376**	**1.149**	**1.910**	**39.8**

EMISSIONS AND WASTE - WATER

The figures refer to the main water companies in the Acea Group: Acea Ato 2, Acea Ato 5, Gori, Acque, Publiacqua, Acquedotto del Fiora and Umbra Acque.

ACEA ATO 2	unit of measurement	2011	2012	2013	Δ% 2013/2012
Specific waste from waste water treatment					
Treatment sludge (180)	t	140,880	136,831	136,305	-0.4
Sand and sediment from treatment (181)	t	10,008	9,332	10,442	10.6
Waste (Italian Legislative Decree No. 152/06)					
Hazardous waste (182)	t	55.5	55.6	196.3	250.1
own production in water sector	*t*	*49.2*	*53.5*	*194.3*	*263.2*
portion deriving from activities carried out by Parent Company (*)	*t*	*6.3*	*2.1*	*2.0*	*-4.8*
Non-hazardous waste (183)	t	1,674.9	1,046.0	489.2	-53.2
own production in water sector	*t*	*1,188.3*	*325.1*	*251.4*	*-22.7*
portion deriving from activities carried out by Parent Company (*)	*t*	*9.7*	*13.2*	*26.7*	*102.6*
inert material	*t*	*477.0*	*707.7*	*211.0*	*-70.2*
Other emissions and waste					
Noise	dB	**Monitored** Commitment to keep within the legal limits			
Smells		**Monitored** Commitment to keep within the limit of perception in areas nearby treatment plants			

(*) 50% of waste produced by Parent Company.

OTHER WATER COMPANIES (*)	unit of measurement	2011	2012	2013	Δ% 2013/2012
Specific waste from waste water treatment					
Treatment sludge (184)	t	129,337	144,047	142,765	-0.9
Sand and sediment (185)	t	6,652	6,835	7,573	10.8
Waste (Italian Legislative Decree No. 152/06)					
Hazardous waste (186)	t	247.9	100.6	72.0	-28.4
Non-hazardous waste (187)	t	48,538.4	77,426.3	28,197.7	-63.6

(*) 2012 waste figures are estimated. Data from previous years are annually confirmed or rectified.

EMISSIONS FROM VEHICLES AND AIR-CONDITIONING

The figures concerning the Car Pool refer to the main companies of the Group: Acea Ato 2, Acea Ato 5, Acea Distribuzione, Acea Spa, Laboratori, Acea Reti e Servizi Energetici.

The figures concerning heating purposes refer to Acea SpA, Acea Ato 2, Acea Distribuzione and Acea Produzione.

GROUP COMPANIES	unit of measurement	2011	2012	2013	Δ% 2013/2012
Vehicles					
CO_2 (188)	t	2,699	3,993	3,166.6	-20.7
NO_x (189)	t	4.8	7.9	6.4	-19.0
CO (190)	t	28.0	39.5	30.7	-22.3
SO_2 (191)	t	n.d.	n.d.	n.d.	-
Heating					
CO_2 (192)	t	1,758	1,766	1,003	-43.2

ENVIRONMENTAL SUSTAINABILITY PERFORMANCE – ENERGY

Key environmental performance indicators (Key Performance Indicators)

INDICATOR	u. m.	2011	2012	2013
Energy used in processes				
A Consumption for electricity distribution	TJoules (GWh)	1,692.4 (470.1)	1,377.2 (382.6)	1,512.7 (420.2)
B Consumption for electricity production (item 119)	TJoules (GWh)	144.7 (40.2)	169.8 (47.17)	182.6 (50.71)
C Heat loss on district heating network (item 20)	TJoules (GWh)	59.0 (16.4)	41.8 (11.6)	82.1 (22.8)
D Consumption for public lighting (item 123)	TJoules (GWh)	582.0 (161.7)	583.9 (162.2)	582.1 (161.7)
E Consumption for Environment (126+130)	TJoules (GWh)	-	-	18.4 (5.1)
F Water distribution (139-137)	TJoules (GWh)	1,736.3 (482.3)	1,765.1 (490.3)	1,600.9 (444.7)
G Waste water treatment (item 145)	TJoules (GWh)	1,066.7 (296.3)	1,069.2 (297.0)	1,095.5 (304.3)
H Electricity for offices (item 120+137)	TJoules (GWh)	37.4 (10.4)	37.4 (10.4)	41.4 (11.5)
I Consumption for office heating	TJoules (GWh)	24.5 (6.8)	24.6 (6.8)	14.0 (3.9)
L Vehicles (item 146+147)	TJoules (GWh)	40.4 (11.2)	56.5 (15.7)	45.2 (12.6)
Indirect consumption + consumption from vehicles + heating	**TJoules (GWh)**	**5,383.4 (1,495.4)**	**5,125.60 (1,423.8)**	**5,174.9 (1,437.5)**
M - Energy losses when converting from primary sources to electricity	TJoules (GWh)	2,237.15 (621.43)	2,884.6 (801.3)	4,185.0 (1,162.5)
Total energy use (sum A:M)	**TJoules (GWh)**	**7,620.5 (2,116.8)**	**8,010.1 (2,225.1)**	**9,359.9 (2,600.0)**
EMISSIONS, EFFLUENT, AND WASTE				
Greenhouse gas emissions (CO_2) (dato 151+188+192)	**t**	**35,308**	**132,123**	**229,574**
Emissions of SO_2 NO_x and other significant gases by type				
NO_x (item 154+189)	**t**	**100.59**	**104.66**	**161.43**
CO (item 157+190)	**t**	**34.73**	**49.62**	**40.64**
SO_2 (item 160+191)	**t**	**0.71**	**0.04**	**0.23**
Acea Produzione emission/production indicators (*)				
NO_x/thermoelectric production	**g/kWh**	**2.78**	**n.a**	**n.a**
CO/thermoelectric production	**g/kWh**	**0.14**	**n.a**	**n.a**
CO_2/thermoelectric production	**g/kWh**	**1,375**	**n.a**	**n.a**
CO_2/thermoelectric production	**g/kWh**	**90**	**n.a**	**n.a**
SO_2/thermoelectric production	**g/kWh**	**0.00312**	**n.a**	**n.a**
Acea (Acea Produzione and A.R.I.A.) emission/production indicators				
NO_x/thermoelectric production	**g/kWh**	**0.99**	**0.80**	**1,02**
CO_2/thermoelectric production	**g/kWh**	**180**	**548**	**830**
CO_2/total gross production	**g/kWh**	**56.7**	**193.9**	**286.9**
SO_2/thermoelectric production	**g/kWh**	**0.0**	**0.0**	**0.0**

(*) having registered a very low level of thermoelectric production in both years 2012 and 2013 at Tor Di Valle combined cycle plant, the emission indicators are not sufficiently representative.

INDICATOR	unit of measurement	2011	2012	2013
PRODUCTS AND SERVICES: ELECTRICITY				
Electricity production process efficiency - Acea Produzione figures (*)				
Gross average efficiency of thermoelectric production (calculation 1)	**%**	**30.8**	**26.3**	**24.1**
Tor di Valle plant (combined cycle)	%	40.69	25.2	0.0
Tor di Valle plant (co-generation – solely electricity efficiency)	%	25.9	26.5	24.0
Montemartini plant	%	26.1	26.0	25.4
Gross average efficiency of thermoelectric production including recovered thermal energy (calculation 2)	**%**	**46.1**	**55.3**	**57.4**
Gross average efficiency of hydroelectric production (calculation 3)	**%**	**84.3**	**82.7**	**83.1**
Gross average efficiency of total production (calculation 4)	**%**	**80.8**	**80.8**	**81.8**
Gross average efficiency of total production including recovered heat (calculation 5)	**%**	**82.9**	**81.8**	**82.4**
Electricity generation process efficiency – Waste to energy plants				
San Vittore del Lazio plant				
Gross efficiency of WTE conversion in electricity (calculation 6)	kWh /kg RDF	0.94	1.00	0.90
Electric net efficiency (calculation 7)	%	18.6	20.1	17.9
Terni plant				
Gross efficiency of Pulper conversion in electricity (calculation 8)	kWh /kg pulper	n.a.	n.a.	0.83
Electric net efficiency (calculation 9)	%	n.a.	n.a.	16.4
Electricity generation process efficiency – photovoltaic plants				
Average efficiency of photovoltaic units	**%**	**14.0**	**14.0**	**14.0**
Other indicators (surroundings, public lighting, controls, water leaks)				
Specific production of waste	**g/kWh**	**0.46**	**0.58**	**0.57**
Protection of the surrounding areas total length of HV lines in cables / (length of HV overhead and in cable lines)x100	**%**	**39.31**	**39.31**	**42.93**
Public lighting flux efficiency (item 31 / item 123)	**Lumen/kWh**	**18.9**	**19.4**	**20.3**
Average efficiency of installed lamps (item 31 / wattage)	**Lumen/W installed power**	**79.8** (38,300 kW)	**80.5** (39,020 kW)	**82.7** (39,590 kW)
Specific consumption per lighting unit (item 111 / No. of lighting units)	**kWh/lighting unit** (No. lighting units x year)	**888.3** (181,991)	**870.7** (186,238)	**853.7** (189,361)
Percentage of illuminated roads (**)	**%** (km of lighted roads / km of total roads)	**n.d**	**n.d.**	**84.8** (6,032/7,110)
No. of operating and laboratory checks /GWh net electricity sold (item 32 / item 29)	**no./GWh**	**0.09**	**0.14**	**0.12**
Total electricity losses (item 25) / (item 24) **(***)**	**% of required energy**	**6.2**	**6.4**	**6.2**

(*) The thermoelectricity generation efficiencies, calculated using computation as described before the explanatory notes at the end of the document, are strongly affected by the low level of production recorded in 2013 at the combined cycle power plant of Tor di Valle. Such calculations therefore have to be evaluated cautiously because not complying with typical values of the plant technologies used.

(**) This is an estimate.

(***) The total electricity losses include: initial transformation loss, transport loss, internal consumptions and technical and commercial losses, these due to incorrect measurements and fraud.

ENVIRONMENTAL SUSTAINABILITY PERFORMANCE – WATER

key environmental performance indicators (Key Performance Indicators)

INDICATOR	unit of measurement	2011	2012	2013
Carbon footprint				
WATER SERVICE IN ITALY				
Total CO_2/m^3 of water supplied (integrated water service) (*)	**kgCO_2/m^3**	**0.61**	**0.63**	**0.61**
CO_2/m^3 of water supplied (distribution process)	**kgCO_2/m^3**	**0.38**	**0.39**	**0.37**
CO_2/m^3 of treated water (treatment process)	**kgCO_2/m^3**	**0.16**	**0.18**	**0.17**
DRINKING WATER SERVICE (Assessment parameters as per Italian Ministerial Decree No. 99/97)				
Rete di Acea Ato 2				
Primary efficiency (R1): (item 63) / (item 62)	**%**	**60.1**	**58.0**	**57.3**
Efficiency at consumption level (R2): (item 63+A11) / (item 62) A 11 = 2.0% of (item 63)	**%**	**61.4**	**59.2**	**58.4**
Net efficiency (R3): (item 63+A11+A12) / (item 62) A 12 = 2.0% of (item 62)	**%**	**63.8**	**61.5**	**60.4**
"Historic" network (Rome + Fiumicino)				
Primary efficiency (R1) "historic" network: (item 52) / (item 51)	**%**	**63.8**	**63.0**	**62.4**
Efficiency at consumption level (R2): (item 52 + A 11) / (item 51) A 11 = 2.0% of (item 52)	**%**	**65.1**	**64.3**	**63.6**
Net efficiency (R3): (item 52 + A 11 + A 12) / (item 51) A 12 = around 2.0% of (item 51)	**%**	**67.1**	**66.3**	**65.6**
PRODUCT: DRINKING WATER				
Acea Ato 2 network				
Linear index of overall drinking water losses (as per MD No. 99/97) (item 64) / (km network) (**)	**Mm^3 (1,000)/km**	**20.7** (10,444.9)	**21.8** (10,508.5)	**22.3** (10,568.9)
Linear index of effective distribution losses (as per MD No. 99/97) Ato 2 network (item 65) / (km network) (**)	**Mm^3 (1,000)/km**	**15.4** (10,444.9)	**16.9** (10,508.5)	**17.4** (10,568.9)
Specific electricity consumption for water network (Ato 2 energy network consumption) / (item 62)	**kWh/m^3**	**0.221**	**0.259**	**0.226**
No. of checks on drinking water distributed (item 102- drinking water Ato 2) / (item 62)	**n./Mm^3**	**564**	**545**	**559**
Indice di additivazione acqua potabile (dato 132 - solo rete di Acea Ato2) / (item 62)	**g/m^3**	**1.9**	**2.8**	**3.0**
"Historic" network (Rome + Fiumicino)				
Linear index of overall drinking water losses (as per MD No. 99/97: A 17 / km network) (item 53) / (km network) (**)	**Mm^3 (1,000)/km**	**21.7** (7,161.7)	**22.1** (7,207.3)	**22.4** (7,258.7)
Indice lineare delle perdite reali acqua potabile (as per MD No. 99/97: A15 / km network) (item 54) / (km network) (**)	**Mm^3 (1,000)/km**	**16.4** (7,161.7)	**16.9** (7,207.3)	**17.3** (7,258.7)
SERVICE: WASTE WATER TREATMENT				
Total sludge disposed of (item 180)	**t**	**140,880**	**136,831**	**136,305**
Sand and sediment removed (item 181)	**t**	**10,008**	**9,332**	**10,442**
COD removed	**t**	**149,055**	**133,210**	**124,339**
Total Suspended Solids (TSS) removed	**t**	**86,202**	**69,657**	**77,428**
Additive process index	**g/m^3**	**9.81**	**10.44**	**9.89**
Specific electricity consumption for treatment process	**kWh/m^3**	**0.237**	**0.273**	**0.257**
Intensity of checks on waste water	**n./Mm^3**	**140.5**	**195.9**	**256.7**
COMPLIANCE				
Penalty paid for non-compliance with environmental regulations/agreements	**euro**	**473,731**	**544,132**	**167,934**

(*) "Scope 2" emissions, arising from electricity consumption of the Group.

(**) These are the kilometres of distribution and transportation network.

ENVIRONMENTAL SUSTAINABILITY PERFORMANCE – ENVIRONMENT

key environmental performance indicators (Key Performance Indicators)

INDICATOR	unit of measurement	2011	2012	2013
Non-hazardous waste disposed in landfill / t total waste entered at plan (item 34) / (item 33)	t/t	0.82	0.86	0.83
Waste disposed in landfill / energy consumed (item 34) / (item 126)	t/kWh	0.07	0.08	0.06
Waste disposed in landfill / energy consumed net of photovoltaic production	t/kWh	0.09	0.10	0.08
Compost/ incoming waste (item 41) / (item 38+ item 39+ item 40)	t/t	0.33	0.20	0.29
Compost produced/electricity consumed (item 41) / (item 130)	t/kWh	0.007	0.004	0.005

DESCRIPTION OF THE CALCULATIONS USED TO DETERMINE ELECTRICITY GENERATION EFFICIENCY

CALCULATION 1

$$\textit{efficiency (thermoelectric)} = \frac{Energy_{thermoelectric}\ (kWh)}{Energy_{diesel\ oil}\ (kWh) + Energy_{natural\ gas}\ (kWh)}$$

where:

$Energy_{thermoelectric}$ = gross electricity produced using thermoelectric cycle

$$Energy_{diesel\ oil}\ (kWh) = \frac{\text{diesel oil (l) x 0.835 x } NCV_d\ (kCal/kg)}{860\ (kCal/kWh)}$$

Energy equivalent to diesel oil consumed (106)

$$Energy_{natural\ gas}\ (kWh) = \frac{\text{natural gas } (Nm^3) \text{ x } NCV_m\ (kCal/Nm^3)}{860\ (kCal/kWh)}$$

Energy equivalent to natural gas consumed (104)

NCW_m = 8,500 kCal/Nm³ (net calorific value of natural gas)
NCV_d = 10,000 kCal/kg (net calorific value of diesel oil)
860 = energy conversion factor from kCal to kWh
0.835 = specific weight of diesel oil (kg/l)

NB: betweewn 2011-2013, the calorific values used for Acea Produzione were the effective ones taken from the gaugings of thr natural gas and diesel oil suppliers

CALCULATION 2

$$\textit{efficiency (thermoelectric)} = \frac{Energy_{thermoelectric}\ (kWh) + Energy_{thermal}\ (kWh)}{Energy_{diesel\ oil}\ (kWh) + Energy_{natural\ gas}\ (kWh)}$$

where:

$Energy_{thermal}$ = Gross thermal energy produced

$Energia_{thermoelectric}$ = Gross thermoelectric energy produced

$$Energia_{diesel\ oil}\ (kWh) = \frac{\text{diesel oil (l) x 0.835} \bullet NCV_d\ (kCal/kg)}{860\ (kCal/kWh)}$$

Energy equivalent to diesel oil consumed (106)

$$Energia_{natural\ gas}\ (kWh) = \frac{\text{natural gas } (Nm^3) \text{ x } NCV_m\ (kCal/Nm^3)}{860\ (kCal/kWh)}$$

Energy equivalent to natural gas consumed (104)

NCV_m = 8,500 kCal/Nm³ (net calorific value of natural gas)
NCV_d = 10,000 kCal/kg (net calorific value of diesel oil)
860 = energy conversion factor from kCal to kWh
0.835 = specific weight of diesel oil (kg/l)

NB: the calorific value used for Acea Produzione weew the effective ones taken from the gaugings of the gas and diesel oil suppliers

CALCULATION 3

$$\text{efficiency (hydroelectric)} = \frac{Energy_{hydroelectric}\ (MWh) \times 3.6 \times 10^{9}}{[m(kg) \times 9.8(m/s^{2}) \bullet h(m)](joule)}$$

where:

3.6×10^{9}	= water energy conversion factor from Joules to MWh
m	= offtake water for hydroelectric production
9.8	= gravitation ecceleration at sea level
h	= height of water drop (free surface reservoir – turbine)
$Energy_{hydroelectric}$	= energy produced in hydroelectric cycle

CALCULATION 4

$$\frac{(E_i)}{(E_i + E_t)} \bullet \varepsilon_i + \frac{(E_t)}{(E_i + E_t)} \bullet \varepsilon_t = \varepsilon_{average}$$

where:

E_i	= total hydroelectricity produced
E_t	= total thermoelectricity produced
ε_i	= hydroelectric efficiency
ε_t	= thermoelectric efficienty
$\varepsilon_{average}$	= average production efficiency

CALCULATION 5

$$\frac{(E_i)}{(E_i + E)} \bullet \varepsilon_i + \frac{(E)}{(E_i + E)} \bullet \varepsilon = \varepsilon_{average}$$

where:

E_i	= total hydroelectricity produced
E	= sum of total energy (thermoelectric and thermal) produced
ε_i	= hydroelectric efficiency
ε	= efficiency (thermoelectric and thermal)
$\varepsilon_{average}$	= average production efficiency

CALCULATION 6

$$\text{recovery efficiency} = \left(\frac{kWh}{kg}\right) = \frac{\text{Gross electricity produced (kWh)}}{\text{RDF (kg)}}$$

Gross electricity produced (kWh) = gross electricity produced at S. Vittore = (item 12)

CALCULATION 7

$$\text{electric efficiency (\%)} = \frac{\text{Net electricity produced (kWh)}}{\text{RDF internal energy (kWh)} + \text{Natural gas internal energy (kWh)}}$$

where:

Net electricity produced at S. Vittore (item 12 – internal consumptions)

$$\text{Natural gas internal energy (kWh)} = \frac{\text{Natural gas (Sm}^3\text{) x NCY}_n\text{ (kCal/Sm}^3\text{)}}{\text{860 (kCal/kWh)}}$$

NCV_n = about 8,500 kCal/Sm³ (net calorific value of natural gas)
860 = energy conversion factor from kCal to kWh

$$\text{RDF internal energy (kWh)} = \frac{\text{RDF (kg) X PCI}_w\text{ (kCal/kg)}}{\text{860 (kCal/kWh)}}$$

NCV_w = 3,583 kCal/kg (15,000 kJ/kg) - RDF average net calorific value
860 = energy conversion factor from kCal to kWh

CALCULATION 8

$$\text{recovery efficiency} = \left(\frac{\text{kWh}}{\text{kg}}\right) = \frac{\text{Gross electricity produced (kWh) at Terni}}{\text{pulper (kg)}}$$

$\text{Gross}_{\text{electricity}}$ *produced (kWh) at Terni = Gross electricity produced = (item 13)*

CALCULATION 9

$$\text{electric efficiency (\%)} = \frac{\text{Net electricity produced (kWh)}}{\text{pulper internal energy (kWh)} + \text{natural gas internal energy (kWh)}}$$

where:

Net electricity produced at Terni (intem 13 – internal consumptions)

$$\text{Natural gas internal energy (kWh)} = \frac{\text{Natural gas (Sm}^3\text{) x NCV}_n\text{ (kCal/Sm}^3\text{)}}{\text{860 (kCal/kWh)}}$$

NCV_n = about 8,500 kCal/Sm³ (net calorific value of natural gas)
860 = energy conversion factor from kCal to kWh

$$\text{Pulper internal energy (kWh)} = \frac{\text{pulper (kg) x NCV}_p\text{ (kCal/kg)}}{\text{860 (kCal/kWh)}}$$

NCV_p = 3,635 kcal/kg 15,216 kJ/kg) - Pulper average net calorific value
860 = energy conversion factor from kCal to kWh

EXPLANATORY NOTES TO THE *ENVIRONMENTAL REPORT*

The figures presented in the *Environmental Report* have been produced and audited by the pertinent divisions.
Responsibility for the correct formation of the figures has been maintained within the individual production units, pending the implementation of a standardized Environmental Management System, capable of coding the procedures for obtaining a regular flow of numeric information.
Before final acceptance, however, the official figures have been subject to a validation process which anticipated four control procedures:

1. comparison with the historical data in order to highlight and justify any significant discrepancies;
2. repetition at least twice of the acquisition process;
3. *feedback* to the divisions responsible for the final validation of the figures;
4. sample audit carried out by an auditing firm.

The figures have been divided up into three categories:

- estimated;
- calculated;
- measured.

In the event of estimated data, the greatest of attention was paid to checking the reasonableness of the underlying criteria used, with the aim of resorting as little as possible, in the future, to this form of measurement of the environmental parameters.
When the figures are the result of calculation, the algorithm used has been concisely specified in order to permit the full comprehension of the mathematical result.
When, lastly, the data has been measured, an estimate of the uncertainty to be associated with the number is provided.

ADDITIONAL INFORMATION ON FIGURES PROVIDED IN THE *ENVIRONMENTAL REPORT*

ENERGY SECTOR PRODUCTS	
Item No	**explanation – comment**
1	Total gross energy produced by the Group. This figure is calculated.
2	Electricity produced net of losses due to just the production phase. This figure is calculated.
3 = 4+5	Total electricity produced by the Acea Produzione plants, gross of losses. It includes thermoelectric and hydroelectric energy. The production increase registered at the Salisano plant is due to return to operation after repowering work The figure is measured with uncertainty of less than ± 0.5%.
6 = 7+8+9	Electricity losses attributable to just the production phase of the Acea Production plants. Includes: internal consumption (thermo and hydro) and initial transformation losses. The figure is measured with uncertainty of less than ±0.5%.
10	Electricity produced by the Acea Produzione plants, net of losses. This figure is calculated.
11 = 12+13	Electricity produced by the waste to energy plants: San Vittore del Lazio plant and Terni plant belonging to A.R.I.A. Note that the fuel used by the two plants (RDF -Refuse Derived Fuel - for San Vittore and industry pulper for the Terni plant) comprises both biodegradable organic material, therefore neutral with regard to the CO_2 balance, and non-biodegradable organic substances (plastic, resins. etc.). The Terni plant was reactivated, after revamping works, at the end of December 2012.
14	Internal consumption of the two waste to energy plants at S. Vittore and Terni. It does not include the energy withdrawn from the network. The figure is measured with uncertainty of less than ±0.5%.
15	Electricity produced by the two waste-to-energy plants at S. Vittore and Terni, net of internal consumption. This figure is calculated.
16	Gross energy produced by photovoltaic plants. The figure is measured with uncertainty of less than ±0.5%.
17	Total losses in photovoltaic generation phase, due above all else to the Joule effect (dissipation with heating) in the equipment. Estimated figure.
18	Net photovoltaic energy made available by the generation plants. The figure is measured with uncertainty of less than 0.5%.
19	Thermal energy produced at the Tor di Valle co-generation plant, gross of losses. The item is measured with uncertainty of ± 2% in correspondence with the delivery pipes of the boilers. The thermal energy is produced by the co-generation plant, comprising a turbogas unit and superheated water regeneration generator powered by the hot exhaust fumes of the turbogas units, with the possibility of integration via Galleri-type auxiliary boilers.
20	Thermal energy losses of the district heating system, due to: heat dispersion, losses on the network, technical emissions due to maintenance work, thermal recoveries of the heat accumulation systems. The item is calculated as the difference between the thermal energy produced and that effectively supplied to the customers (billed).
21	Net thermal energy supplied to end customers. The item, calculated, was obtained from the reading of the billed consumption.
22	Electricity supplied by Acea Produzione to Acea Energy SpA involving infra-Group exchange. The item is marginal due to the decision made by the Acea Group to sell the electricity produced on the electricity exchange or by means of bilateral agreements.
23	Net electricity acquired on the market by: • Sole Buyer for 3,107.76 GWh • Imports for 431.50 GWh • Market for 7,844.09 GWh. In 2012 and 2013 the "Colari plant" of Malagrotta (waste Gasifier) didn't work. In 2011 had produced and marketed in the Acea distribution network 20.14 GWh. The item is measured with uncertainty of ± 0.5%.
24	Energy requested on the Rome and Formello distribution network by all the connected customers (free + protected markets). This item is estimated.
25	Electricity losses which take place during the distribution and transmission phase. These are attributable to: transformation and transport losses, fraud and erroneous measurements. This item is estimated.
26	Internal uses of electricity for the performance of distribution activities. The 2013 item is estimated.
27	Electricity transferred to third parties. This involves exchanges of energy between distribution companies. The item is measured with uncertainty of ± 0.5%.

ENERGY SECTOR PRODUCTS

Item No	explanation – comment
28	Total net electricity conveyed to customers in free market connected to the Rome and Formello electricity distribution network. This includes both the portion of electricity sold by Acea Energy and that sold by other operators active on the free market. The item is measured with uncertainty of ± 5%. (CEI 13-4 standard).The considerable increase in the item over the last few years is the direct consequence of the process for deregulating the electricity market underway in Italy since 1999 (Italian Legislative Decree No. 79/99).
29	Net electricity sold to customers in enhanced protection market. The downwards trend is the consequence of the progressive changeover of protected customers to the deregulated market, in other words it is the direct consequence of the process for de-regulating the electricity market underway in Italy since 1999 (Italian Legislative Decree No. 79/99). The item is estimated on the basis of the readings of billed consumption.
30	Net electricity sold by Acea on the free market at Italian national level. The item is measured with uncertainty of ± 5%. (CEI 13-4 standard). Includes . Includes the sold on Rome and Formello (item 28). Total sales on the free and the protected market is obtained by summing the items (29) and (30). The figure is estimated.
31	Lighting flux supplied by the public lighting system in Rome. The item, calculated, represents the product between the number of lamps installed and the related value of "rated" lighting flux. As a result of the overestimation introduced by: 1. abatement of efficiency due to the ageing of the lamps; 2. shutdown due to faults; 3. shutdown due to maintenance; it is believed that a more realistic supplied lighting flux figure equates to the item provided, decreased by 20%.
32	Total number of gaugings/checks carried out benefiting the energy area. The item is calculated as the sum of the individual calculations made by the pertinent laboratories.

ENVIRONMENT SECTOR PRODUCTS

33	Incoming total waste.These are the amounts arriving at SAO plant: Municipal solid waste, organic fraction, green, non-hazardous industrial waste. This figure is calculated.
34	Landfilled waste, either directly or after processing. The figure is calculated.
35	Recovered waste. This is glass, paper and paperboard, iron and plastic, recycled and not sent to landfills. The figure is calculated.
36	Compost produced at the SAO plant. The data is measured with an uncertainty of ± 1%.
37	Reduction for stabilisation. Represents the mass loss caused by such as treatments or natural transformation of matter. This figure is calculated.
38	Incoming sludges. This is the amount of incoming sludges at the Acquaser plants: Kyklos and Solemme. The item is measured with uncertainty of ± 1 %.
39	Incoming green. This is the amount of green from the parks, forests and other areas arriving at Acquaser plants, Kyklos (Latina) and Solemme (Grosseto). The data is measured with an uncertainty of ± 1%.
40	Organic fraction from incoming waste collection. It represents the total quantity of organic fraction resulting from recycling collection. The item is measured with uncertainty of ± 1 %.differenziata. Il dato è misurato con incertezza del ± 1 %.
41	High Quality Compost. It represents the amount of high quality compost produced at the Acquaser plants, Kyklos (Latina) and Solemme (Grosseto). The item is measured with uncertainty of ± 1 %.
42	Non-compostable material to disposal. It is the plastic that is sent to disposal as unfit to be composted. The item is measured with uncertainty of ± 1 %.
43	Total analytical controls. The item represents the total of analytical determinations made at the following plants: SAO, Kyklos e Solemme. Il dato è calcolato

WATER SECTOR PRODUCTS

Item No	explanation – comment
44	Total drinking water withdrawn from the environment or from other systems. This is the sum of the water withdrawn by the Group companies: Acea Ato 2 (Rome), Acea Ato 5 (Frosinone); Gori (Sarnese Vesuviano); Acque (Pisa); Publiacqua (Florence); Acquedotto del Fiora (Grosseto); Umbra Acque (Umbria).
45	Total drinking water delivered to the distribution networks of the companies listed under item 44 net of losses due to the water supply at sources. The figure is estimated.
46	Total drinking water supplied to the respective customers of the companies listed in item 44. The figure represents estimated consumption due to the entire territories served. Includes consumptions due to users, fountains, pipe washing activities, etc. The figure is estimated.
47	Total drinking water withdrawn from the sources except the high drains, by the company Acea Ato 2 and introduced into the aqueduct system of the Rome historic network. It includes the water withdrawn from Lake Bracciano, treated. The item is measured with uncertainty of ±3%.
48	Total drinking water sold to Municipalities located along the route of the aqueducts, in turn retailers of the resource, who are not Acea Ato 2 customers. The item is measured and is affected by a systematic error estimated as around - 5%.
49	Drinking water introduced onto non-drinking water network. These are events which take place in the case of maintenance or extraordinary measures which make the dedicated non-drinking water resource insufficient. The item is estimated.
50	Drinking water returned to the environment / technical operating volumes with reference to the Rome "historic" distribution network (Rome + Fiumicino). This figure is calculated.
51	Total drinking water transported to the Rome "historic" distribution network (Rome + Fiumicino), net of the losses due to the water supply at sources. The item is estimated.
52	Total drinking water supplied in the Municipality of Rome on the "historic" network (Rome + Fiumicino). The figure represents estimated consumption due to the entire territory served. It includes the consumption due to users, drinking fountains, pipe washing activities, etc. The item is estimated.
53	Overall distribution losses – Rome "historic" network. This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. A17 = A9 – (A10+A11+A12) = (A13+A14+A15+A16), where: *Parameter A9 of MD 99/97* – total volume of water introduced onto the network; *Parameter A10 of MD 99/97* – gauged volume of water supplied to the end user; *Parameter A11 of MD 99/97* – authorized and unrecorded uses, totaling around 2% of total water supplied to end users; *Parameter A12 of MD 99/97* – maintenance and cleaning, totaling around 2% of total introduced onto the network; *Parameter A13 of MD 99/97* – inefficiencies, estimated at 3 million m^3 per year; *Parameter A14 of MD 99/97* – frauds, totaling 1.0% of total water supplied to end users (item 20) x 1.0/100; *Parameter A15 of MD 99/97* – volume lost in distribution (effective losses); *Parameter A16 of MD 99/97* – gauging errors, totaling 10% of total water supplied to end users - (item 41) x 10.0/100; *Parameter A17 of MD 99/97* – overall distribution losses
54	Effective distribution losses - Rome "historic" network (Rome + Fiumicino). This is the parameter A15 of the Italian MD No. 99/97 and represents the nearest value to the true estimate of the volume of water lost along the distribution network for reasons linked to the state of maintenance of the assets.
55	Total non-drinking water taken from the environment, gross of losses. This item is estimated.
56	Total non-drinking water supplied to Rome and Fiumicino. The item, calculated, corresponds with total water billed.
57	Total non-drinking water supplied to Municipalities other than the Municipality of Rome and Fiumicino. This is a small estimated quantity.
58	Total drinking water withdrawn from the sources except the high drains, by the company Acea Ato 2 and introduced into the Central Lazio Optimum Area of Operations ATO 2 (Rome "historic" network + Municipalities acquired) aqueduct system. The item is measured with uncertainty of ±3%.
59	Total drinking water sold to Municipalities located along the route of the aqueducts, in turn retailers of the resource, who are not Acea Ato 2 customers. The item is measured and is affected by a systematic error estimated as around - 5%.
60	Drinking water introduced onto non-drinking water network. These are events which take place in the case of maintenance or extraordinary measures which make the dedicated non-drinking water resource insufficient. This item is estimated.
61	Drinking water returned to the environment / technical operating volumes with reference to the Ato 2 distribution network (Rome and Fiumicino + municipalities acquired as of 31 December 2013). This figure is calculated.
62	Total drinking water transported to the Ato 2 distribution network (Rome and Fiumicino + municipalities acquired as of 31 December 2013). The item is gauged with uncertainty of ±3%. This item was estimated for 2013.
63	Total drinking water supplied (i.e. gauged at the metres, where present) to the customers connected to the Ato 2 network (Rome and Fiumicino + municipalities acquired as of 31 December 2013). The figure represents estimated consumption due to the entire territory served. It includes the consumption due to users, drinking fountains, pipe washing activities, etc.

WATER SECTOR PRODUCTS (SEGUE)

Item No	explanation – comment
64	Overall distribution losses – Ato 2 network (Rome and Fiumicino + municipalities acquired as of 31 December 2013). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
65	Effective distribution losses - Ato 2 network (Rome and Fiumicino + municipalities acquired as of 31 December 2013). This is the parameter A15 of the Italian MD No. 99/97. See item 54.
66, 67, 68	Respectively: quantity of water withdrawn from the environment, introduced onto the distribution network and supplied to its customers by Acea Ato 5 (Frosinone).
69	Overall distribution losses of Acea Ato 5 (Frosinone). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
70	Effective distribution losses of Acea Ato 5 (Frosinone). This is the parameter A15 of the Italian MD No. 99/97. See item 54.
71, 73, 74	Respectively: quantity of water withdrawn from the environment, introduced onto the distribution network and supplied to its customers by Gori (Sarnese Vesuviano).
72	Water withdrawn from other aqueduct systems to satisfy excess demand; if added to the water withdrawn from the environment (item 71), the quantity introduced onto the network is obtained (item 73).
75	Overall distribution losses of Gori (Sarnese Vesuviano). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
76	Effective distribution losses of Gori (Sarnese Vesuviano). This is the parameter A15 of the Italian MD No. 99/97. See item 54 for details.
77, 78, 79	Respectively: quantity of water withdrawn from the environment, introduced onto the distribution network and supplied to its customers by Publiacqua (Florence). Estimated figures.
80	Overall distribution losses of Publiacqua (Florence). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
81	Effective distribution losses of Publiacqua (Florence). This is the parameter A15 of the Italian MD No. 99/97. See item 54.
82, 84, 85	Respectively: quantity of water withdrawn from the environment, introduced onto the distribution network and supplied to its customers by Acque (Pisa). Estimated figures.
83	Water withdrawn from other aqueduct systems to satisfy excess demand; if added to the water withdrawn from the environment (item 82), the quantity introduced onto the network is obtained (item 84).
86	Overall distribution losses of Acque (Pisa). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
87	Effective distribution losses of Acque (Pisa). This is the parameter A15 of the Italian MD No. 99/97. See item 54.
88, 89, 90	Respectively: quantity of water withdrawn from the environment, introduced onto the distribution network and supplied to its customers by Acquedotto del Fiora (Grosseto). Estimated figures.
91	Overall distribution losses of Acquedotto del Fiora (Grosseto). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
92	Effective distribution losses of Acquedotto del Fiora (Grosseto). This is the parameter A15 of the Italian MD No. 99/97. See item 54.
93, 94, 95	Respectively: quantity of water withdrawn, introduced and supplied by Umbra Acque (Umbria). Estimated figures.
96	Overall distribution losses of Umbra Acque (Umbria). This is the parameter A17 of the Italian MD No. 99/97 defined as the quantity of water lost during distribution. See item 53 for details.
97	Effective distribution losses of Umbra Acque (Umbria). This is the parameter A15 of the Italian MD No. 99/97. See item 54.
98	Total waste water conveyed to main treatment plants of Acea Ato 2 and treated. For the remarkable change of the item if compared with 2011, see item 88, that represents the most sensitive variation. This figure is calculated.
99	Total waste water conveyed to the main treatment plants of Acea Ato 2 and treated. The reduction amount is mainly due to exchanged flowmeter re-calibration of Roma Sud, decreasing. This figure is calculated.
100	Total waste water conveyed to the treatment plants of Acea Ato 2 and treated, including the quantities treated in the minor plants of the Municipality of Rome and in those outside the Municipality of Rome. This figure is calculated.
101	Overall number of analytical controls carried out on drinking water by the Acea Group. The item includes the analysis carried out by LaboratoRI and the analysis carried out independently by the companies. This figure is calculated.
102	Overall number of analytical controls carried out on waste water by the Acea Group. The item includes the analysis carried out by LaboratoRI and the analysis carried out independently by the companies. This figure is calculated.

RESOURCES USED – ENERGY SECTOR

Item No	explanation – comment
103 = 104 + 105	Total quantity of natural gas used for the generation of electricity and heat at the Acea Produzione and A.R.I.A. production plants. The item, expressed in normal cubic metres (volume at 0°C and 1 Atm), is measured with uncertainty of ± 0.5%. The figure is estimated.
106	Total quantity of coal used for the generation of electricity at the Acea Produzione Montemartini (turbogas) plant. This item is measured with uncertainty of ± 2%.
107	Quantity of RDF (Refuse Derived Fuel) sent to the waste to energy process at the San Vittore plant in Lazio. The item is measured with uncertainty of ± 1%.
108	Quantity of pulper sent to the waste to energy process at the Terni plant. The item is measured with uncertainty of ± 1%.
109	Total cooling water in the thermoelectric plants. This item is estimated.
110	Total water taken from surface resources and from aqueducts (Salisano hydroelectric plant) for the production of hydroelectricity. This figure is calculated.
111	Total quantity of water used in the industrial processes. The various contributions were due to: - Replenishment of the losses in the thermal cycles at the Acea Produzione plants. This is drinking water; - Replenishment of losses on the district heating network. This is drinking water; - Various uses in the San Vittore and Terni waste to energy plants. This figure is calculated.
112	Quantity of drinking water used by the companies included in the energy sector for civil/sanitary use. The item, calculated, refers to billed consumption.
113	This represents the total quantity of new dielectric mineral oil introduced into the distribution substations (only from 2013 the Acea Distribution data include, in addition to the primary substations, even secondary ones). This item is estimated. The total amount of new dielectric mineral oil entered into the production circuit (transformers, capacitors, storage depots etc.) includes both the figure for Acea Distribuzione and Acea Produzione. This item is estimated.
114	The item represents the total quantity of gaseous insulator (SF_6) in the systems of Acea Distribuzione. The item is estimated. The total quantity of new gaseous insulator (SF_6) added to the production circuit represents the amount of replenishments and substitutions of Acea Distribuzione in primary substations. This item is estimated.
115	Quantity of refrigerating fluids used during maintenance of air-conditioning equipment, when the old gas is recovered and replaced with new gas. Note that the R22 gas, still present as refrigerating fluid, can no longer be purchased (European Regulation No. 2037/2000 concerning hazardous substances for the ozone stratosphere) but is still recycled (until 31st December 2014); the replenishments are made using a different gas, R422 D. The item is calculated allocating the total gases purveyed by the Parent Company in equal parts (50%) to the energy area and the water area. This item coincides with item 135.
116	Total chemicals used in the electricity and heat generation process at the plants of Acea Produzione and A.R.I.A. (waste to energy plants). This figure is calculated.
117	Amount of oils and lubricating greases used by Acea Produzione. The data is measured with an uncertainty of ± 0.5%.
118	This item coincides with item 25.
119	Coincides with the difference between the items 1 and 2.
120	Electricity consumed by the processes not directly linked with the production phases (offices). The item is calculated to an extent equating to 50% of the overall electricity consumed by the Parent Company. The remaining portion of 50% is assigned to the water sector as consumption.
121	Other uses of electricity in the energy sector. This figure is calculated.
122	Total electricity consumed by the product systems included in the energy sector. This figure is calculated.
123	Total electricity consumed for public lighting in the Municipality of Rome. This figure is calculated.

RESOURCES USED – ENVIRONMENT

Item No	explanation – comment
SAO	
124	Quantity of water consumed at the plant SAO. It should be noted that the resource comes in part from the marquises (rain water) and partly from the riverbed (river water). The figure is estimated.
125	Total chemicals used at the plant SAO. The figure is calculated.
126	Electricity consumed in SAO. The data is measured with an uncertainty of ± 1%.
127	Total amount of gas oil consumed at the plant of SAO. The data is measured with an uncertainty of ± 2%.
Production of compost	
128	Quantity of water consumed at the plants Kyklos and Solemme. The figure is close to zero as at the two plants, almost all of the water used comes from recycling, after purification with reverse osmosis technology. Water consumption not from recycling are negligible.
129	Total chemicals used at the plants Kyklos and Solemme. The figure is calculated.
130	Electricity consumed at Kyklos and Solemme. The data is measured with an uncertainty of ± 1%.
131	The total amount of fuesl consumed at Kyklos and Solemme. The data is measured with an uncertainty of ± 2%.

RESOURCES USED – WATER SECTOR

Item No	explanation – comment
132	The figure represents the sum of the consumption of reagents for drinking water and disinfection of the water in Group water companies. In detail this includes: sodium hypochlorite - used as a disinfectant upon the request of the Health Authorities -, aluminium polychloride, caustic soda and ozone. This figure is calculated.
133	Total quantity of chemical reagents used by LaboratoRI for the performance of its duties, in other words the performance of analytical checks benefiting Acea Group companies. The item is measured.
134	Total volume of pure gas for analyses used by LaboratoRI. The item is measured.
135	Quantity of refrigerating fluids used during maintenance of air-conditioning equipment, when the old gas is recovered and replaced with new gas. The item is calculated allocating the total gases purveyed by the Parent Company in equal parts (50%) to the energy area and the water area. This item coincides with item 106.
136	Electricity used for the drinking and non-drinking water pumping plants. The item is measured with uncertainty of ± 1%.
137	Electricity consumed by the processes not directly linked with the production phases (offices). The figure, equal to item 120, is calculated to an extent equating to 50% of the total electricity consumed by the Parent Company.
138	Electricity used by LaboratoRI. It includes all the energy relating to the various fields of activities of LaboratoRI, not only the laboratory analysis activities. This item is measured with uncertainty of ± 0.5%, with the exclusion of 2011 when consumption was estimated.
139	Total electricity consumed in the water sector. This figure is calculated.
140	Quantity of drinking water used by the companies included in the water sector for civil/sanitary use. The item, calculated, refers to billed consumption.
141	Quantity of water consumed for civil/sanitary uses within the installations not directly linked with the production phases (offices). The item is calculated to an extent equating to 50% of the overall water consumed by the Parent Company.
142	Total drinking water consumed by the companies included in the water sector. The item, calculated, refers to billed consumption.
143	Total quantity of chemicals used in the waste water treatment process. This is obtained from the sum of the consumption registered for the following substances: polyelectrolytes, sodium hypochlorite, ferric chloride, lime. This figure is calculated.
144	Total quantity of lubricant oil and grease used for the apparatus of the water sector (pumps, centrifuges, engines, etc). This figure is calculated.
145	Electricity used for the running of the waste water treatment plants and for the running of the sewage network. The item is measured with uncertainty of ± 1%.

FUELS USED BY THE GROUP (VEHICLE FLEET AND CONDITIONING)

Item No	explanation – comment
146	Total quantity of petrol used for the Acea Group's vehicle pool. A density value of 0.735 kg/l was used to convert from volume (litres) to mass (kg). This item is measured with uncertainty of ± 0.5%.
147	Total quantity of diesel used by Acea Group's vehicle fleet. A density value of 0.835 kg/l was used to convert from volume (litres) to mass (kg). This item is measured with uncertainty of ± 0.5%.
148	Total quantity of gas oil used to heat Acea and Acea Ato 2 workplaces and to power generators. A density value of 0.835 kg/l was used to convert from volume (litres) to mass (kg). This item is measured with uncertainty of ± 0.5%.
149	Total quantity of natural gas used for heating working environments. In November 2013 (impacting on winter season) the boiler of the piazzale Ostiense has been replaced with a condensing boiler that, thanks to its efficiency, contributed to the reduction of fuel consumption. This item is measured with uncertainty of ± 0.5%.
150	Total quantity of LPG (liquid petroleum gas) used for heating working environments. A density value of 0.550 kg/l was used to convert from volume (litres) to mass (kg). This item is measured with uncertainty of ± 0.5%

SPILLS AND WASTE – ENERGY SECTOR

Item No	explanation – comment
151	Total quantity of carbon dioxide emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels and from the waste to energy treatment of RDF and pulper. This is a "physiological" product deriving from combustion. The item is calculated as the sum of the items 152 and 153.
152	Quantity of carbon dioxide emitted into the atmosphere by the Acea Produzione plants. This item is calculated according to current legislation.
153	Quantity of carbon dioxide emitted into the atmosphere by the A.R.I.A. waste to energy plants. The doubling in the amount of 2013 quantities compared to 2012 depends on the restart of the plant in Terni, which wasn't working until December 2012. This figure is calculated.
154	Total quantity of nitric oxides ($NO+NO_2$) emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels and from the waste to energy treatment of RDF and pulper. Their presence in trace form in the emissions is due to the secondary undesirable reactions which take place at a high temperature between the nitrogen and the oxygen in the air. This figure is calculated.
155	Quantity of nitric oxides ($NO+NO_2$) emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels in the Acea Produzione plants. This figure is calculated.
156	Quantity of nitric oxides ($NO + NO_2$) emitted into the atmosphere by the A.R.I.A. waste-to-energy plants. The considerable increase in 2013 is due to the restart of the plant in Terni, which wasn't working for two years prior to revamping. This figure is calculated.
157	Total quantity of carbon monoxide (CO) emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels and waste to energy process. The presence of this pollutant in the emissions is due to incomplete combustion reactions and represents a symptom of decline in the combustion reaction efficiency. This figure is calculated.
158	Total quantity of carbon monoxide (CO) emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels in the Acea Produzione plants. This figure is calculated.
159	Quantity of carbon monoxide (CO) emitted into the atmosphere by the A.R.I.A. waste-to-energy plants. This figure is calculated.
160	Total quantity of sulphur dioxide (SO_2) emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels and from the waste to energy treatment of RDF and pulper. However, the substantial increase of 2013 is due to restart of the plant in Terni, that wasn't working for two years, prior to revamping. The use of natural gas and gas oil with a low sulphur content in the plants made it possible to sharply contain this type of emission. This figure is calculated.
161	Quantity of sulphur dioxide (SO_2) emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels in the Acea Produzione plants. This figure is calculated.
162	Quantity of sulphur dioxide (SO_2) emitted into the atmosphere by the A.R.I.A. waste to energy plants. The substantial increase of 2013 is due to restart of the plant in Terni, that wasn't working for two years, prior to revamping. This figure is calculated.
163	Total quantity of dust (microscopic particles with an average aerodynamic diameter equal to or less than 10 thousandths of a millimetre) emitted into the air as a consequence of the generation of thermoelectric energy using fossil fuels and from the waste to energy treatment of RDF and pulper. This mainly involves unburnt amorphous carbon, with traces of other compounds of a mixed composition obtained as a by-product of the combustion when this does not take place completely.
164	Quantity of dust emitted into the atmosphere as a consequence of the generation of thermoelectric energy from fossil fuels in the Acea Produzione plants. This figure is calculated.

SPILLS AND WASTE – ENERGY SECTOR (SEGUE)

Item No	explanation – comment
165	Quantity of dust emitted into the atmosphere by the A.R.I.A. waste-to-energy plants. This figure is calculated.
166	Total quantity of waste water treated, deriving from thermoelectric production activities. This item is gauged with uncertainty of ± 2%.
167	This item coincides with item 109.
168	Total quantity of hazardous waste (pursuant to Italian Legislative Decree No. 152/06) disposed of by Acea Group companies with the exclusion of the waste to energy sector. The item is measured with uncertainty of ± 2%.
169	Hazardous waste (pursuant to Italian Legislative Decree No. 152/06) disposed of from the waste to energy sector. This basically involves light ash and slag deriving from incineration. The considerable increase in 2011 was due to the change in the CER code of the slag following the amendments introduced to the environmental consolidation act, as well as the activation of the two new lines. The item is measured with uncertainty of ± 2%.
170	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree 152/06) disposed of by the Acea Group companies with the exclusion of the waste to energy sector. The item is measured with uncertainty of ± 2%.
171	Non-hazardous waste (pursuant to Italian Legislative Decree No. 152/06) disposed of from the waste to energy sector. This is essentially heavy ash and slag, deriving from incineration. The item is measured with uncertainty of ± 2%.

SPILLS AND WASTE – ENVIRONMENT

Item No	explanation – comment
172	Hazardous waste (Italian Legislative Decree No. 152/06) disposed from the Kyklos and Solemme plants. The figure is calculated as a sum of contributions from the two plants.
173	Non-hazardous waste (Italian Legislative Decree No. 152/06) disposed from the Kyklos and Solemme plants. The figure is calculated as a sum of contributions from the two plants.
174	Hazardous waste (Italian Legislative Decree No. 152/06) disposed of by the plant of SAO. It is the waste excluded from "Waste product". The data is measured with an uncertainty of ± 2%.
175	Leachate derived from activities at the composting plants and at SAO. The leachate produced at Kyklos is completely sent to external treatment or retrieved internally for industrial uses, not downloaded on receiving bodies. The data is measured with an uncertainty of ± 2%.
176, 177, 178, 179	Among the emissions in Environment, the following are described: dust, Volatile Organic Compounds, ammonia, volatile inorganic acids. The data refer only to the plant of Kyklos. In 2013 emissions have increased because the plant has started running a new emission point that means an in-flow biofilter with authorized flow of 60,000 Nm^3/h, that in the preceding year could not be considered as at start-up.

SPILLS AND WASTE –WATER SECTOR

Item No	explanation – comment
180	Total quantity of sludge disposed of by Acea Ato 2. This sludge is non-hazardous waste. The item is measured with uncertainty of ± 2%.
181	Total quantity of sand and sediment disposed of by Acea Ato 2. The item is measured with uncertainty of ± 2%.
182	Total quantity of hazardous waste (pursuant to Italian Legislative Decree No. 152/06) disposed of by Acea Ato 2 plus a portion produced by the Parent Company ascribed in equal parts to the two areas of activities, energy and water. The figure is measured with uncertainty of less than ± 2%.
183	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree 152/06) disposed of plus a portion produced by the Parent Company ascribed in equal parts to the two areas of activities, energy and water. The item is measured with uncertainty of ± 2%.
184	Total quantity of sludge disposed of by all the water companies in the Acea Group, excluding Acea Ato 2. This sludge is non-hazardous waste. This figure is calculated.
185	Total quantity of sand and sediment disposed of by all the water companies in the Acea Group, excluding Acea Ato 2. This figure is calculated.
186	Total quantity of hazardous waste (pursuant to Italian Legislative Decree No. 152/06) disposed of by all the water companies in the Acea Group, excluding Acea Ato 2. This figure is calculated.
187	Total quantity of non-hazardous waste (pursuant to Italian Legislative Decree 152/06) disposed of by all the water companies in the Acea Group, excluding Acea Ato 2. Inert material is also included. This figure is calculated.

ACEA GROUP SPILLS AND WASTE - EMISSIONS FROM VEHICLES

Item No	explanation – comment
188	Total quantity of carbon dioxide emitted by the Acea Group vehicle fleet. The item was calculated, from 2012, using Sinanet emission factors (www.sinanet.isprambiente.it). In previous years the item was calculated using the COPERT IV programme. The increase in 2012 compared with 2011 depends on an expanding perimeter.
189	Total quantity of nitric oxides emitted by the Acea Group vehicle fleet. The item was calculated, from 2012, using Sinanet emission factors (www.sinanet.isprambiente.it). In previous years the item was calculated using the COPERT IV programme. The increase in 2012 compared with 2011 depends on an expanding perimeter.
190	Total quantity of carbon monoxide emitted by the Acea Group vehicle fleet. The item was calculated, from 2012, using Sinanet emission factors (www.sinanet.isprambiente.it). In previous years the item was calculated using the COPERT IV programme. The increase in 2012 compared with 2011 depends on an expanding perimeter.
191	Sulphur dioxide emissions by vehicles were not calculated, as they were extremely small amounts deriving from combustion of modest quantities of sulphur found in latest-generation fuels.
192	Total quantity of carbon dioxide emitted by the air-conditioning systems in the work environments. In 2013 the item decreased due to new condensing boiler that has determined lower natural gas consumption. This item is calculated under the assumption that each toe of fuel used creates 3 tons of CO_2.

2013

ACEA SUSTAINABILITY REPORT

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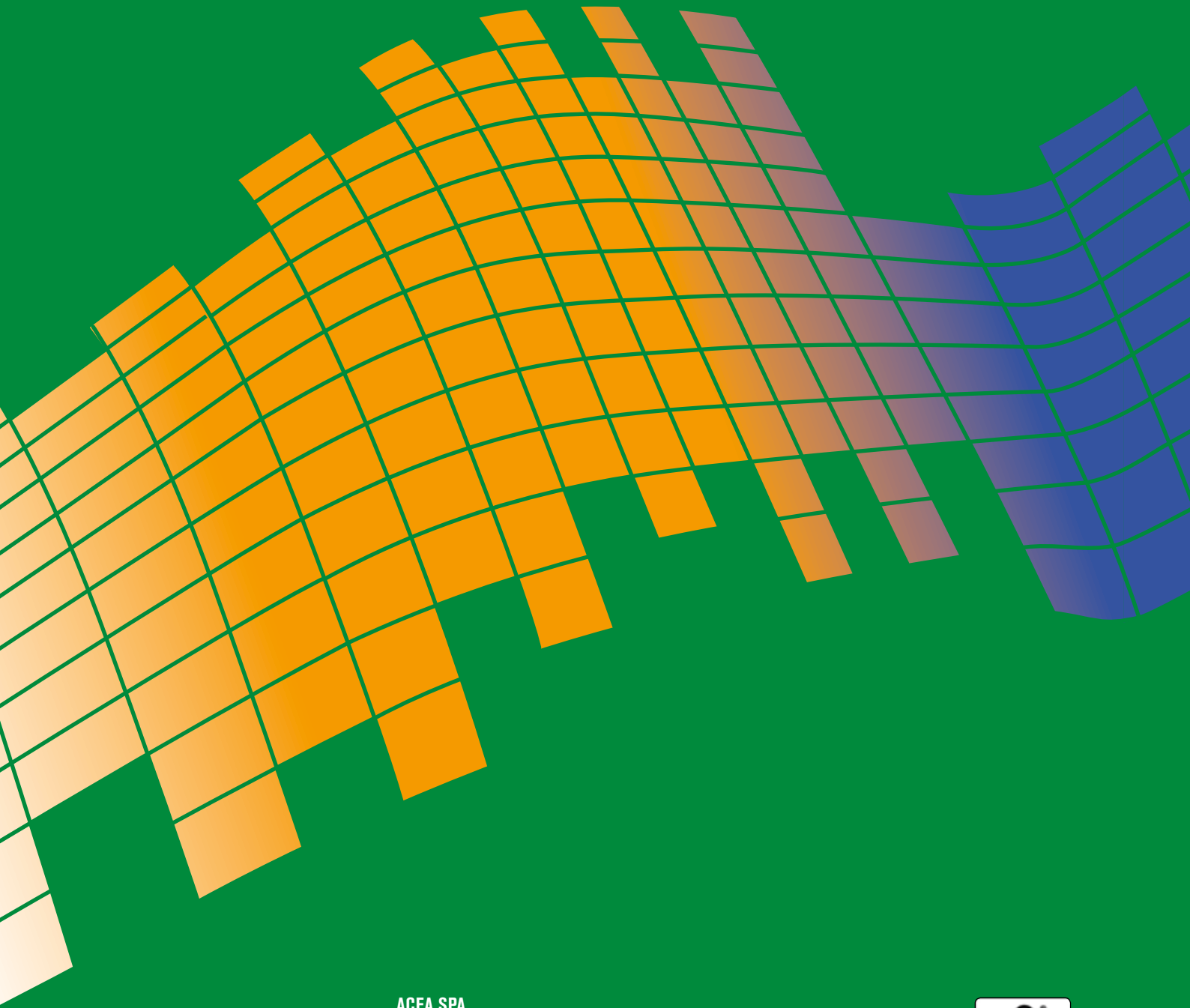
Realized in collaboration with
External Relations and Communication

Photography
Archivio Acea, Fabio Anghelone

Printed by
LitografTodi
on FSC certified paper

Printed in April 2014



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