Water for civil uses

The Group companies' environmental analyses, prepared in accordance with standard UNI EN ISO 14001, showed that use of water resources is not a significant environmental aspect. However, the safeguarding of resources and their rational use is envisaged by the HSEQ Policy and this is why the Group is committed to reducing limited water consumption. The withdrawal of fresh water from the aqueduct, used for hygiene/sanitary purposes in the changing rooms and offices and for the fire-fighting system, came to 76,025 cubic metres (-23.6%): the reduction is mainly attributable to the closure of the changing rooms (and showers) at the operations offices and the greater use of smart working. As regard civil drains, most waste water is conveyed, considering its nature, to the drains without any treatment.

This differs for Italgas Acqua, the Group company that manages the distribution of water under concession in five municipalities of Campania. For this company, managing water consumption means collecting the water, making it suitable for drinking and distributing it to the city, guaranteeing quality standards and continuity and regularity of service.

DNF Main Key Performance Indicators

GRI 302-1 Energy consumed within the organization	U.o.m.	2019[61]	2020	2021
FUEL ENERGY CONSUMPTION				
Fuel energy consumption from non-renewable sources				
Fuel energy consumption for civil and industrial use	**TJ**	**367.7**	**368.0**	**366.0**
of which natural gas for civil use	TJ	45.3	45.3	46.4
of which natural gas for industrial use	TJ	313.6	310.2	306.4
LPG and propane air for civil and industrial use	TJ	8.8	12.6[62]	13.2
Fuel energy consumption for vehicles [62]	**TJ**	**122.0**	**123.0**	**137.2**
of which diesel	TJ	17.9	11.0	12.1
of which petrol	TJ	25.5	18.1	16.2
of which natural gas	TJ	78.7	93.9[64]	109.0
Fuel energy consumption from renewable sources				
Fuel energy consumption from renewable sources	TJ	0	0	0
Total fuel energy consumption				
Total fuel energy consumption	TJ	**489.7**	**491.0**	**503.2**

[61] The data relative to the consumption of natural gas energy by vehicles has been restated with respect to the 2019 Non-Financial Statement.
For the value shown in the 2019 Consolidated Non-Financial Statement, please refer to the document published on the Group's website at https://www.italgas.it/wp-content/uploads/sites/2/2021/07/Non-Financial-Statement-2019.pdf

[62] Please note that as compared with 2019, propane air has been considered separately from LPG.

[63] For more details on the trend of consumption linked to vehicles, refer to the specific graphs and the information given in the section "Emissions and action taken to reduce them" of this document.

[64] The trend of energy consumption is consistent with the change in the fuel mix used by the vehicle fleet. For more details on the trend of consumption linked to vehicles, refer to the specific graphs and the information given in the section "Emissions and action taken to reduce them" of this document.

GRI 302-1 Energy consumed within the organization	U.o.m.	2019[61]	2020	2021
CONSUMPTION OF PURCHASED ENERGY				
Consumption of purchased energy from non-renewable sources				
of witch electricity	TJ	100.0	1.5	1.9
Heating energy	TJ	0	0.3	0.3
Consumption of purchased energy from renewable sources				
Consumption of purchased energy from renewable sources	TJ	0	99.3	91.8
Total consumption of purchased energy				
Total consumption of purchased energy	TJ	**100.1**	**101.1**	**94.0**
TOTAL ENERGY CONSUMED WITHIN THE ORGANISATION				
Total energy consumed within the organization	TJ	**589.8**	**592.1**	**597.2**

GRI 302-3 ENERGY INTENSITY

Below are some energy intensity values in respect of different reference parameters:

1. Energy intensity calculated by comparing the total Group energy consumption with the gas distributed. This parameter offers an indication of the quantity of energy used to supply $10^6 Sm^3$ of gas

Energy intensity	U.o.m.	2019*	2020	2021
Global energy intensity	$TJ/10^6Sm^3$	0.074	0.070	0.067
Total energy consumed within the organization	TJ	589.78	592.15	597.2
Gas distributed	10^6Sm^3	8,001	8,477	8,887

* In 2019, 3 months of Toscana Energia are considered.

2. Energy intensity calculated by comparing the total industrial natural gas energy consumption with the gas distributed. This parameter offers an indication of the quantity of energy used for pre-heating to supply 10^6Sm^3 of gas

Energy intensity	U.o.m.	2019*	2020	2021
Natural gas for industrial use energy intensity	$TJ/10^6Sm^3$	0.039	0.037	0.034
Total natural gas for industrial use energy consumed	TJ	313.62	310.15	306.3
Gas distributed	10^6Sm^3	8,001	8,477	8,887

* In 2019, 3 months of Toscana Energia are considered.

3. Energy intensity calculated by comparing the total Group energy consumption with km of network. This parameter offers an indication of the quantity of energy used to supply the service per km of network

Energy intensity	U.o.m.	2019*	2020	2021
Energy intensity per km of network	GJ/km	8.37	8.32	8.24
Total energy consumed within the organization	GJ	589,782.8	592,147.7	597,233.4
km of network	km	70,502	71,185	72,503

* In 2019, 3 months of Toscana Energia are considered.

4. Energy intensity calculated by comparing industrial electricity consumption with km of network. This parameter offers an indication of the quantity of electricity used to supply the service per km of network

Energy intensity	U.o.m.	2019*	2020	2021
Industrial electricity intensity per km of network*	GJ/km	0.785	0.798	0.777
Industrial electricity consumed within the organisation	GJ	55,374.6	56,824.3	56,350.3
km of network	km	70,502	71,185	72,503

* In 2019, 3 months of Toscana Energia are considered.

5. Energy intensity calculated by comparing the total Group energy consumption with the number of delivery points active. This parameter offers an indication of the quantity of energy used to supply the service per re-delivery point

Energy intensity	U.o.m.	2019*	2020	2021
Energy intensity per delivery point*	GJ/unità	0.078	0.078	0.079
Total energy consumed within the organization	GJ	589,782.89	592,147.77	597,233.41
Active delivery points	unità	$7.573 \cdot 10^6$	$7.595 \cdot 10^6$	$7.604 \cdot 10^6$

* In 2019, 3 months of Toscana Energia are considered.

GRI 303-3 Water withdrawals	U.o.m.	2019	2020	2021
Quarry water, collected from quarries	Ml	0	0	0
Sea water	Ml	0	0	0
Rainwater collected	Ml	0	0	0
Water withdrawn from the aqueduct (municipal drinking water)	Ml	134,1	98,04	75,77
Surface water	Ml	0	0	0
Underground water	Ml	0,41	0,15	0,26
External waste water	Ml	0	0	0
Total water withdrawn	Ml	**138,25**	**99,51**	**76,03**

GRI 303-4 Water discharge	U.o.m.	2019*	2020	2021
Discharged in underground water [65]	Ml	0,33	1,40	0
Discharge to sewers	Ml	137,91	98,01	74,19
Discharged in seawater	Ml	0	0	0
Discharged in surface water	Ml	0	0	1,55
Benefit/other use	Ml	0	0	0,28
Sent to other treatment plants	Ml	NA	0.11	0
Total discharges	Ml	**138,25**	**99,51**	**76,03**

For the Italgas Group, the water drains correspond to the collections; consequently, water consumption is zero (**GRI 303-5 Water consumption**).

[65] Please note that water is drained in the soil after treatment.

GRI 305-1 Direct (Scope 1) GHG emissions GRI 305-2 Indirect (Scope 2) GHG emissions from energy consumption GRI 305-3 Other indirect (Scope 3) GHG emissions GRI 305-4 Intensity of GHG emissions	GRI Standard	U.o.m.	2019[66]	2020	2021
Total scope 1	305-1	10^3t CO_2e	156.3	173.1	160.5
Total scope 2 [67]	305-2	10^3t CO_2e	7.5	0.2	0.2
Total scope 1 and scope 2		10^3t CO_2e	163.8	173.3	160.7
Total scope 3	305-3	10^3t CO_2e	136.3	153.3	172.5
Total scope 1, scope 2 and scope 3			300.1	326.6	333.3
Carbon intensity [68]	305-4	$tCO_2eq/10^6Sm^3$	20.5	20.4	18.1

GRI 305-7 Nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions	U.o.m.	2019	2020	2021
Civil	tNO_x	1.26	1.26	1.29
Service	tNO_x	17.2	17.2	16.4
Vehicles	tNO_x	5.04	3.11	3.36
Total	tNO_x	23.6[69]	21.7	21.1

GRI 306-4 Waste not for disposal	U.o.m.	2019		2020		2021	
		Hazardous	Non-hazardous	Hazardous	Non-hazardous	Hazardous	Non-hazardous
Recovery/Recycling	t	2.0	637.5	31.5	527.9	12.0	329.1
of which ferrous material	t	0.0	581.6	1.0	424.5	0	287.5
of which other material	t	2.0	55.9	30.5	103.4	12.0	41.6

[66] Data restated with respect to the 2019 Non-Financial Statement. For the value shown in the 2019 Consolidated Non-Financial Statement, please refer to the document published on the Group's website at https://www.italgas.it/wp-content/uploads/sites/2/2021/07/Non-Financial-Statement-2019.pdf

[67] 2019: Scope II location-based, 2020 and 2021: Scope II market-based

[68] Calculated as Scope 1 and Scope 2 emissions / gas distributed.

[69] 2019 NOx emissions were calculated partly using the 2020 calculation method and, where not possible, the 2019 calculation method was applied. For the value shown in the 2019 Consolidated Non-Financial Statement, please refer to the document published on the Group's website at https://www.italgas.it/wp-content/uploads/sites/2/2021/07/Non-Financial-Statement-2019.pdf.

GRI 306-5 Waste by type and disposal method	U.o.m.	2019*		2020		2021	
		Hazardous	Non-hazardous	Hazardous	Non-hazardous	Hazardous	Non-hazardous
Incineration	t	0	0	0	0.1	0	0.3
of which ferrous material	t	n.a.	n.a.	0	0	0	0
of which other material	t	n.a.	n.a.	0	0.1	0	0.3
Waste sent directly to landfill	t	0,3	0	0	0	0	0
of which ferrous material	t	n.a.	n.a.	0	0	0	0
of which other material	t	n.a.	n.a.	0	0	0	0
Other disposal plant	t	3.9	3.3	3.3	67.0	1.5	9.6
of which ferrous material	t	n.a.	n.a.	0.8	0	0	0
of which other material	t	n.a.	n.a.	2.4	67.0	1.5	9.6
Total	t	4.1	3.3	3.2	67.0	1.5	10.0

*In order to standardise the report with the new version of the GRI, the table has been amended in respect of previous versions, hence waste is not available broken down by type of material for 2019.

Waste by type	U.o.m.	2019	2020	2021
Non-hazardous	t	559.1	526.7	318.3
Hazardous	t	7.9	45.0	16.07

Main data on reclamation	2019		2020		2021	
	n	m^2	n	m^2	n	m^2
Sites involved by reclamation works or to be reclaimed	32	1,269,951	32	1,265,551	30	1,206,677
Certified reclamation works	3	15,909	0	0	0	0
Approved characterisation plans	28	1,226,319	28	1,208,348	26	1,143,810
Approved risk analysis (152/2006) or approved preliminary reclamation projects (pursuant to 471/99)	23	1,132,588	23	1,109,240	21	1,049,533
Approved operative reclamation projects (152/2006) or approved final reclamation projects (pursuant to 471/99)	20	1,120,178	19	1,094,760	18	1,036,482
Operative safety measures	1	10805	1	257	1	257
Soil emergency safety measures	0	0	0	0	0	0
Groundwater safety measures	9	0	10	0	11	0