

KPI LIST (post issue) GREEN BOND ISSUED 2019 - MATURITY 2029 (ISIN XS2065601937)

Business Unit	n.	Project Description	Eligible Green Category	Eligible Category (DNV)	KPI	UM	2006/2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017 FINAL	2018 FINAL	2019 FINAL	2020 FINAL	2021 FINAL	2022	2023	2024	2025	2026	2027	2028	2029					
WASTE MANAGEMENT	1	Waste to energy plant for heat production in Parma	Energy efficiency	Cogeneration facilities	PES Primary Energy Saving Indicator per operating year	%									11	17	17	13	26	28	28	28	28	28	28	28	28	28						
					Renewable energy share in percent on total	%												27	49	50	49	49	49	50	50	50	50	50	50	50	50	50		
					Thermal energy recovered from waste to Parma DH network in MWh per operating year	GWh													103	130	131	133	141	146	150	143	143	143	143	146	143	143	143	
	2	Waste to energy plant for heat production in Piacenza	Energy efficiency	Cogeneration facilities	PES Primary Energy Saving Indicator per operating year	%																25	25	25	25	25	25	25	25	25				
					Renewable energy share in percent on total	%																			43	43	43	43	43	43	43	43	43	
					Thermal energy recovered from waste to Piacenza DH network in MWh per operating year	GWh																			13	39	40	41	41	41	41	55	55	55
	3	Development of separate waste collection services	Waste management efficiency and recycling	Waste collection and sorting upgrades	Total sorted waste collection	t							635.724	644.444	675.610	721.788	737.163	711.911	788.313	813.804	825.674	856.682	879.685	880.955	887.734	888.132	888.542	888.999	892.737	894.675				
					Total of non sorted waste disposed	t										550.903	528.100	503.896	484.128	488.426	464.837	445.411	415.905	371.735	366.570	361.792	323.616	318.309	309.268	300.252	291.184	285.322	281.347	
					Sorted waste collection %	%										54%	55%	57%	60%	60%	60%	64%	66%	69%	70%	71%	73%	74%	74%	75%	75%	76%	76%	
	4	Biowaste recovery to produce compost and biomethane - Ferrania (SV)	Waste management efficiency and recycling	Waste collection and sorting upgrades	Production of compost (% on organic fraction in input)	%															11%	6%	15%	15%	15%	15%	15%	15%	15%	15%				
					Production of biomethane	Msm3																			1,7	5,6	5,6	5,6	5,6	5,6	5,6	5,6	5,6	
					Avoided CO ₂ emissions from fossil sources per operating year	t																				3,458	11,134	11,134	11,134	11,134	11,134	11,134	11,134	11,134
					Primary energy saving per operating year	Toe																				1,458	4,692	4,692	4,692	4,692	4,692	4,692	4,692	4,692
	5	Biowaste recovery to produce compost and biomethane - Santhià (TO)	Waste management efficiency and recycling	Waste collection and sorting upgrades	Production of compost (% on organic fraction in input)	%															13%	11%	15%	15%	15%	15%	15%	15%	15%	15%				
					Production of biomethane	Msm3																			0,34	2,9	5,3	5,3	5,3	5,3	5,3	5,3	5,3	
Avoided CO ₂ emissions from fossil sources per operating year					t																				68	5,840	10,434	10,434	10,434	10,434	10,434	10,434	10,434	
Primary energy saving per operating year					Toe																				29	2,461	4,396	4,396	4,396	4,396	4,396	4,396	4,396	
ENERGY	6	Cogeneration plant Torino Nord	Energy efficiency	Cogeneration facilities	Electrical energy produced per operating year	MWhe						1.432.728	1.894.130	1.080.072	2.200.788	2.133.545	2.002.201	2.079.471	2.041.630	2.085.836	2.190.200	1.979.835	1.996.752	2.045.593	2.077.530	2.092.186	2.092.572	2.100.752	2.094.083					
					Thermal energy produced per operating year	MWht									453.069	474.766	419.311	1.092.632	1.030.891	958.458	1.013.481	907.646	963.023	1.119.539	971.436	1.051.812	960.945	885.378	934.232	968.879	973.035	966.421		
					Primary energy saving per operating year	MWh										574.353	796.823	471.970	1.396.716	1.308.017	1.226.699	1.263.239	987.121	906.802	1.088.494	988.668	1.048.294	991.387	959.240	983.960	991.533	993.307	985.734	
					Avoided CO ₂ emissions from fossil sources per operating year	t										211.482	289.447	169.483	426.318	413.253	397.432	361.382	331.455	288.678	310.702	249.932	247.085	220.707	198.843	188.048	174.024	159.053	142.755	
	7	VDE hydroelectric plant (Chiomonte-Susa) Repowering project	Renewable energy	Mini hydro power	Electrical energy produced from renewable non-fossil sources per operating year	MWhe						56.140	72.690	62.690	62.831	60.034	59.818	57.263	903	23.501	24.019	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000	42.000				
					Avoided CO ₂ emissions from fossil sources per operating year	t										27.643	36.882	32.407	33.198	30.760	29.418	27.384	433	10.741	10.863	19.401	18.178	17.882	17.530	17.214	16.904	16.600	16.301	
	8	Cogeneration plant Moncalieri-GT2 RPW	Energy efficiency	Cogeneration facilities	Electrical energy produced per operating year	MWhe							1.669.146	2.028.560	1.585.195	1.292.799	1.515.332	1.882.310	1.807.728	1.792.325	1.400.952	1.657.462	1.415.254	1.273.574	1.304.215	1.314.065	1.322.211	1.323.836	1.333.217	1.325.245				
					Thermal energy produced per operating year	MWht									659.604	751.435	817.637	477.307	612.983	680.375	538.323	543.157	517.001	591.558	513.968	702.984	682.580	652.940	682.963	698.457	700.619	690.043		
					Primary energy saving per operating year	MWh										84.092	97.341	84.700	58.099	871.249	1.026.936	905.088	730.886	540.591	640.544	602.777	711.107	702.141	683.436	705.478	734.065	737.641	728.363	
					Avoided CO ₂ emissions from fossil sources per operating year	t										310.931	400.332	349.098	265.512	303.862	321.873	269.818	263.595	177.513	218.196	157.921	166.052	154.687	141.012	135.509	131.548	122.501	111.363	
	9	Torino LED (I and II phases)	Energy efficiency	Energy distribution and management	Primary energy saving per operating year	MWh											23.700	45.300	45.300	51.498	55.008	55.008	55.000	55.000	55.000	55.000	55.000	55.000	55.000	55.000				
					Avoided CO ₂ emissions from fossil sources per operating year	t														5.600	10.300	10.000	11.347	11.565	11.444	11.688	10.952	10.755	10.561	10.371	10.184	10.001	9.821	
10	Smart solutions	Energy efficiency	Energy distribution and management	Avoided CO ₂ emissions from fossil sources per operating year	t													1.119	3.096	2.545	3.856	2.500	2.500	2.500	2.500	2.500	2.500	2.500	2.500					
				Primary energy saving per operating year	Toe															648	1.282	1.067	1.617	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
NETWORKS	11	Improvement of Genova plants	Waste water treatment	Wastewater treatment plant upgrades	Treated population equivalent (potential)	N						160.000	160.000	196.000	196.000	196.000	236.000	236.000	236.000	326.000	326.000	421.000	421.000	421.000	461.000	511.000	511.000	511.000	511.000					
					Improvement of Parma plants	Waste water treatment	Wastewater treatment plant upgrades	Treated population equivalent (potential)	N						10.400	10.400	11.650	11.650	11.900	11.900	11.900	11.900	14.250	14.250	14.250	14.250	14.500	14.500	14.500	14.500	14.500	14.500		
	13	Cogeneration turboexpansion plant "Celsius"	Energy efficiency	Cogeneration facilities	Net produced electricity from renewable non-fossil sources per operating year	kWh											25.129	45.618	657.567		878.000	2.381.400	2.381.400	2.381.400	2.381.400	2.381.400	2.381.400	2.381.400	2.381.400					
					Avoided CO ₂ emissions from fossil sources per operating year	t														12	22	315		397	1.100	1.031	1.012	994	976	958	941	924		
	14	Investments in sewage and waste water plants (Emilia and Liguria)	Waste water treatment	Wastewater treatment plant upgrades	Water Treatment plants	N		1.014	1.030	1.035	1.047	1.047	1.056	1.076	1.085	1.102	1.122	1.278	1.293	1.310	1.291	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300	1.300				
					Sewage systems	km		7.689	8.075	8.443	8.772	8.983	9.052	9.164	9.274	9.293	9.924	10.606	10.662	10.739	10.842	10.700	10.700	10.700	10.700	10.700	10.700	10.700	10.700	10.700	10.700	10.700		
	15	Investment in drainage and purification (La Spezia-Liguria)	Waste water treatment	Wastewater treatment plant upgrades	Treated population equivalent (potential)	N													220.000	228.378	230.306	233.378	234.878	236.378	237.878	239.378	240.000	240.000	240.000	240.000				
					Electricity distribution investments	Energy efficiency	Energy distribution and management	Network leaks	%					5%	5%	7%	6%	6%	5%	4%	4%	4%	3%	2%	3%	3%	3%	3%	3%	3%	3%	3%	3%	
	16	Electricity distribution investments	Energy efficiency	Energy distribution and management	Electricity fed into the network	GWh					4.484	4.485	4.451	4.097	4.191	4.387	4.223	3.804	3.790	3.506	3.585	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600	3.600				
					Water distribution Smart Metering (Emilia, Liguria and Piemonte)	Adaptation	Water efficiency	Smart meters installed	n														51.742	96.965	127.046	175.663	190.935	221.080	251.025	280.670	321.575	362.480	403.385	
17	Water distribution Smart Metering (Emilia, Liguria and Piemonte)	Adaptation	Water efficiency	Percentage of smart meters on the total	%														5%	10%	14%	19%	20%	24%	27%	30%	34%	39%	43%					
				Gas distribution Smart Metering (Emilia and Liguria)	Energy efficiency	Energy distribution and management	Smart meters installed	n				278	2.710	2.928	5.104	10.862	39.422	97.034	258.569	469.480	603.171	654.804	687.303	698.377	711.777	724.149	738.247	752.687	756.387	760.087	764.041			
18	Gas distribution Smart Metering (Emilia and Liguria)	Energy efficiency	Energy distribution and management	Percentage of smart meters on the total	%				0%	0,3%	0,4%	1%	1%	5%	13%	33%	61%	77%	84%	88%	89%	91%	93%	94%	96%	97%	97%	98%						
				Electricity distribution Smart Metering 1G+2G (Torino and Parma)	Energy efficiency	Energy distribution and management	1G smart meters installed ⁽¹⁾	n	81.000	284.000	522.000	602.000	632.000	648.000	662.000	675.000	687.000	698.000	708.000	719.000	727.545	730.535	715.249	533.676	356.392	183.508	106.152	74.778	81.405	88.529	93.663			
19	Electricity distribution Smart Metering 1G+2G (Torino and Parma)	Energy efficiency	Energy distribution and management	2G smart meters installed	n																16.402	206.305	387.338	563.972	645.078	681.196	681.284	681.373	681.462					
				Percentage of 1G+2G smart meters on the total	%	11%	39%	71%	82%	86%	88%	90%	92%	93%	95%	96%	96%	98%	96%	96%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%			
20	Replacement of gas distribution networks	Energy efficiency	Energy distribution and management	Average network leaks (underground network measured with planned inspection)	n				1.050	990	886	776	715	665	620	589	548	505	289	269	≤ 530													