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	Final 2017	Final 2018	Final 2019	Final 2020	2021	2022
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	13	13
					Renewable energy share in percent on total	%									27	49	50	49	49	49	49	49
					Thermal energy recovered from waste to Parma DH network in MWh per operating year	GWh									103	130	196	196	194	216	132	132
	2	Waste to energy plant for heat production in Piacenza	Energy efficiency	Cogeneration facilities	PES Primary Energy Saving Indicator per operating year	%															25	25
					Renewable energy share in percent on total	%															15	15
					Thermal energy recovered from waste to Piacenza DH network in MWh per operating year	GWh											23	30	27	31	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	809.000	828.000
					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	354.000	335.400
					Number of bins for sorted waste	N						661.961	648.491	648.709	663.268	699.065	615.681	839.269	886.715	856.108	910.775	918.896
					Volumes of bins for sorted waste	mc						105.278	111.322	120.371	145.345	155.114	163.037	224.759	236.033	214.253	245.807	248.395
					Door to door collection system	N						687.215	833.069	998.080	1.061.847	1.139.228	1.391.087	1.473.268	1.590.536	1.656.415	1.859.322	1.925.170
					Sorted waste collection hubs	N						112	112	112	117	117	113	113	117	117	117	117
					Volumes of waste collected in the collection hubs	t						161.937	174.639	186.210	208.544	205.719	193.308	211.396	228.358	219.801	228.625	230.224
	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%	15%	15%
					Production of biomethane	SMm3															4	4
					Avoided CO_2 emissions from fossil sources per operating year	t															7.888	7.888
					Primary energy saving per operating year	Tep															6.270	6.270
	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%	15%	15%
					Production of biomethane	SMm3															3	3
					Avoided CO_2 emissions from fossil sources per operating year	t															5.127	5.127
					Primary energy saving per operating year	Tep															2.173	2.173
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	1.820.532	1.820.931
					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	1.088.406	1.102.496
					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	1.348.095	1.363.535
					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	363.262	366.492
	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	19.030	19.030
					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	9.359	9.359
	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	1.474.560	1.474.560
					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	432.117	432.117
					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	820.670	840.349
					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	257.175	265.655
	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	65.500	67.700
					Avoided CO_2 emissions from fossil sources per operating year	t										5.600	10.300	10.000	11.347	11.565	14.400	14.900
	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	2.516	2.516
					Primary energy saving per operating year	tep												648	1.282	1.067	1.033	1.033
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	231.000	231.000	231.000	231.000	423.000	423.000
					Analytic parameters (Abb % BOD, Abb % COD, Abb % SST, Abb % Ntot, Abb % Ptot)	%																
	12	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	14.000	14.000	14.000
					Analytic parameters (Abb % BOD, Abb % COD, Abb % SST, Abb % Ntot, Abb % Ptot)	%																
	13	Cogeneration turboexpansion plant "Celsius"	Energy efficiency	Cogeneration facilities	Net produced electricity from renewable non-fossil sources per operating year	kWh											45.000	75.000	848.329		5.100.000	5.100.000
					Avoided CO_2 emissions from fossil sources per operating year	t											12	22	315		1.200	1.200
	14	Investiments 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	1.299	1.299
					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	10.803	10.803
	15	Investiment 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	247.000	257.000
	16	Electricity distribution investments	Energy efficiency	Energy distribution and management	Network leaks	%					5%	5%	7%	6%	6%	5%	4%	4%	4%		4%	4%
					Network leaks	GWh					220	244	315	249	246	204	173	167	169	108	173	173
					Electricity fed into the network	GWh					4.484	4.485	4.451	4.097	4.191	4.387	4.420	4.002	3.987	3.695	4.420	4.420
	17	Water distribution Smart Metering (Emilia, Liguria and Piemonte)	Adaptation	Water efficiency	Smart meters installed	n													51.742	96.965	130.000	170.000
					Percentage of smart meters on the total	%													5%	10%	14%	18%
	18	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	738.500	748.800
					Percentage of smart meters on the total	%				0%	0,3%	0,4%	1%	1%	5%	13%	33%	61%	78%	84	95%	97%
	19	Electricity distribution Smart Metering 1G (Torino and Parma)	Energy efficiency	Energy distribution and management	Smart meters installed	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	719.000	719.000
					Percentage of smart meters on the total	%	11%	39%	71%	82%	86%	88%	90%	92%	93%	95%	96%	98%	96%	96%	98%	98%
	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	590	552	514	289	≤ 530	
MARKET	21	E-mobility initiatives in the Iren offices	Transport	Electric vehicle	Avoided CO_2 emissions from fossil sources per operating year	t												52	789	1.091	871	1.063