KPI LIST (post issue) - GREEN BOND TAP ISSUED 2021 - MATURITY 2031 (ISN XS2275029085)

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	2018	2019	2020 FINAL	2021 FINAL	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
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	28	28
					Renewable energy share in percent on total	%									27	49	50	49	49	49	50	50	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	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	25	25
					Renewable energy share in percent on total	%															43	15	43	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	55	55	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	896.523	896.523
					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	277.560	277.560
					Sorted waste collection %	%						54%	55%	57%	60%	60%	60%	64%	66%	69%	70%	71%	73%	74%	74%	75%	75%	76%	76%	76%	76%
	4	PAI Parma: plastics, paper and cardboard selection plant	Waste management efficiency and recycling	Waste collection and sorting upgrades	Plastics treated	t																24.470	35.000	35.000	35.000	35.000	35.000	35.000	35.000	35.000	35.000
					Paper and cardboard treated	t																58.155	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000	100.000
					Ratio of unsorted plastics (% of plastics treated)	%																< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%	< 15%
					Ratio of unsorted paper (% of paper treated)	%																< 5 %	< 5 %	< 5 %	< 5 %	< 5 %	< 5 %	< 5 %	< 5 %	< 5 %	< 5 %
					Ratio of unsorted cardboard (% of cardboard treated)	%																< 2 %	< 2 %	< 2 %	< 2 %	< 2 %	< 2 %	< 2 %	< 2 %	< 2 %	< 2 %
	5	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%	15%
					Production of biomethane	Msm^3															1,7	5,6	5,6	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	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	4.692	4.692
	6	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%	15%
					Production of biomethane	Msm^3															0,3	3	5,3	5,3	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	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	4.396	4.396
ENERGY	7	Accumulators district heating in San Salvario (TO)	Energy efficiency	Energy distribution and management	Primary energy saving per operating year	MWh																11.077	12.616	10.623	9.884	12.197	13.091	13.253	12.773	12.815	12.815
					Electrical energy produced from renewable non-fossil sources per operating year	MWh																9	18	18	18	18	18	18	18	18	18
					Avoided CO_2 emissions from fossil sources per operating year	t																2.178	2.480	2.088	1.943	2.398	2.574	2.605	2.511	2.519	2.519
					Avoided CO_2 emissions from fossil sources per operating year by photovoltaic plant	t																4	8	8	8	8	7	7	7	7	7
	8	Heat exchange and pumping substation in Lucento	Energy efficiency	Energy distribution and management	Electrical energy produced from renewable non-fossil sources per operating year	MWh																18	37	37	37	37	37	37	37	37	37
					Avoided CO_2 emissions from fossil sources per operating year	t																9	9	9	9	9	9	9	9	9	9
	9	District heating networks development in Torino	Renewable energy	Energy network development	Primary energy saving per operating year	MWh						2.794.000	2.889.000	2.270.000	2.733.000	2.997.000	3.400.000	2.998.000	2.546.000	1.900.427	2.229.644	2.386.710	2.454.342	2.369.398	2.286.405	2.397.951	2.454.309	2.463.903	2.436.132	2.438.290	2.438.290
					Avoided CO_2 emissions from fossil sources per operating year	t						1.007.686	1.092.546	795.595	933.086	1.026.775	1.046.376	876.667	873.083	670.711	668.674	596.887	574.120	524.000	473.302	459.458	433.901	399.162	358.416	323.918	323.918
					Distributed thermal energy per operating year	MWh						2.192.000	2.312.000	1.990.000	2.109.000	2.205.000	2.307.366	2.168.838	2.132.541	2.242.779	2.418.766	2.345.735	2.439.287	2.296.926	2.142.925	2.255.980	2.324.624	2.335.848	2.305.469	2.310.005	2.310.005
	10	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	1.325.249	1.325.249
					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	690.822	690.822
					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	728.917	728.917
					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	102.215	102.215
	11	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	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	1.000
NETWORKS	12	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	233.378	234.878	236.378	237.878	239.378	240.000	240.000	240.000	240.000	240.000	240.000
	13	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	767.996	767.996
					Percentage of smart meters on the total	%					0,3%	0,4%	1%	1%	5%	13%	33%	61%	77%	84%	88%	89%	91%	93%	94%	96%	97%	97%	98%	98%	98%
	14	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	≤ 530	≤ 530	≤ 530	≤ 530	≤ 530	≤ 530	≤ 530	≤ 530	≤ 530
	16	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	1.291	1.300	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
MARKET	15	E-mobility initiatives in the Iren offices	Transport	Electric vehicle	Avoided CO_2 emissions from fossil sources per operating year	t												52	789	1.069	1.420	1.372	2.691	3.408	4.100	4.747	5.900	7.028	8.154	9.451	9.500