

KPI LIST (pre 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	2021	2022						
	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	189	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	PAI Parma: plastics, paper and cardboard selection plant	Waste management efficiency and recycling	Waste collection and sorting upgrades	Plastics treated	t																		35.000				
					Paper and cardboard treated	t																				100.000		
					Ratio of unsorted plastics (% of plastics treated)	%																					< 15%	
					Ratio of unsorted paper (% of paper treated)	%																						< 5%
					Ratio of unsorted cardboard (% of cardboard treated)	%																						
	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%	15%	15%				
					Production of biomethane	Msm <sup>3</sup>																			4	4		
Avoided CO <sub>2</sub> emissions from fossil sources per operating year					t																				7.888	7.888		
Primary energy saving per operating year					Toe																				6.270	6.270		
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%	15%	15%				
				Production of biomethane	Msm <sup>3</sup>																				3	3		
				Avoided CO <sub>2</sub> emissions from fossil sources per operating year	t																					5.127	5.127	
				Primary energy saving per operating year	Toe																					2.173	2.173	
ENERGY	7	Accumulators district heating in San Salvario (TO)	Energy efficiency	Energy distribution and management	Primary energy saving per operating year	MWh																12.395	11.488					
					Electrical energy produced from renewable non-fossil sources per operating year	MWh																				18,30	18,30	
					Avoided CO <sub>2</sub> emissions from fossil sources per operating year	t																					2.437	2.259
					Avoided CO <sub>2</sub> emissions from fossil sources per operating year by photovoltaic plant	t																					9,37	9,37
	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	18			
					Avoided CO <sub>2</sub> emissions from fossil sources per operating year	t																					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	3.479.000						
					Avoided CO <sub>2</sub> 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	1.191.843			
					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	2.559.000			
	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	1.474.560	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 <sub>2</sub> 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			
11	Smart solutions	Energy efficiency	Energy distribution and management	Avoided CO <sub>2</sub> emissions from fossil sources per operating year	t														1.119	3.096	2.545	2.516	2.516					
				Primary energy saving per operating year	Toe																648	1.282	1.067	1.033	1.033			
NETWORKS	12	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	247.000	257.000						
	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	738.500	748.800						
					Percentage of smart meters on the total	%						0,3%	0,4%	1%	1%	5%	13%	33%	61%	78%	84	95%	97%					
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	590	552	514	289	≤ 530								
MARKET	15	E-mobility initiatives in the Iren offices	Transport	Electric vehicle	Avoided CO <sub>2</sub> emissions from fossil sources per operating year	t												52	789	1.091	871	1.063						