ELENCO KPI (pre issue) GREEN BOND ISSUED 2017-MATURITY 2027 (ISIN: XS1704789590)

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
BU AMBIENTE	1	Termovalorizzatore per produzione calore per tlr – Comune di Parma	Energy Efficiency	Cogeneration Facilities	PES Primary Energy Saving Indicator per operating year [%]	%									11	17	17	17	17			
					Renewable energy share in percent on total	%									27	49	49	49	49			
					Thermal energy recovered from waste to Parma DH network in MWh per operating year	MWh									103	130	133	150	151			
	2	Termovalorizzatore per produzione calore per tlr – Comune di Piacenza	Energy Efficiency	Cogeneration Facilities	PES Primary Energy Saving Indicator per operating year [%]	%													25	25	25	25
					Renewable energy share in percent on total	%													35	15	15	15
					Thermal energy recovered from waste to Piacenza DH network in MWh per operating year	MWh													55	55	55	55
	3	Raccolta differenziata Torino + Emilia	Waste Management Efficiency and Recycling	Waste Collection and Sorting Upgrades	Total sorted waste collection (t)	t						635.724	644.444	675.610	721.788	737.163						
					Total of non sorted waste disposed (t)	t						550.903	528.100	503.896	484.128	488.426						
					Number of bins for sorted waste	N						661.961	648.491	648.709	663.268	699.065						
					Volumes of bins for sorted waste (m^3)	mc						105.278	111.322	120.371	145.345	155.114						
					Door to door collection system (n)	N						687.215	833.069	998.080	1.061.847	1.139.228						
					Sorted waste collection hubs (n)	N						112	112	112	117	117						
					Volumes of waste collected in the collection hubs (t)	t						161.937	174.639	186.210	208.544	205.719						
BU ENERGIA	4	Accumulatori teleriscaldamento del Bit (TO)	Energy Efficiency	Energy Distribution and Management	Primary energy saving per operating year [MWh]	MWh										3.855	8.220	10.079	12.181	14.372	12.395	11.488
					Avoided CO_2 emissions from fossil sources per operating year [t]	t										758	1.616	1.981	2.395	2.826	2.437	2.259
	5	Accumulatori teleriscaldamento del Martinetto (TO)	Energy Efficiency	Energy Distribution and Management	Primary energy saving per operating year [MWh]	MWh										19.261	20.563	20.157	24.363	28.744	24.790	22.977
					Avoided CO_2 emissions from fossil sources per operating year [t]	t										3.787	4.043	3.963	4.790	5.651	4.874	4.517
	6	Accumulatori teleriscaldamento di Mirafiori Nord (TO)	Energy Efficiency	Energy Distribution and Management	Primary energy saving per operating year [MWh]	MWh													5.846	14.372	12.395	11.488
					Electrical energy produced from renewable non-fossil sources per operating year [MWhe]	MWh													45,75	45,75	45,75	45,75
					Thermal energy produced from renewable non-fossil sources per operating year [MWht]	MWh													350	350	350	350
					Avoided CO_2 emissions from fossil sources per operating year [t]	t													1.149	2.826	2.437	2.259
	7	Sottostazione scambio termico e pompaggio Lucento	Energy Efficiency	Energy Distribution and Management	Electrical energy produced from renewable non-fossil sources per operating year [MWhe]	MWh											18,3	18,3	18,3	18,3	18,3	18,3
					Avoided CO_2 emissions from fossil sources per operating year [t]	t											9,37	9,37	9,37	9,37	9,37	9,37
	8	Scambio termico e pompaggio TRM Grugliasco e interconnessione con Grugliasco e Beinasco	Energy Efficiency	Energy Distribution and Management	Avoided CO_2 emissions from fossil sources per operating year [t]	t													31.280	31.280	31.280	31.280
					Distributed thermal energy per operating year [MWh]	MWh													145.000	145.000	145.000	145.000
	9	Rete di teleriscaldamento di Piacenza, collegamento e stazione di pompaggio Tecnoborgo (PC)	Renewable Energy	Energy Network Development	Avoided CO_2 emissions from fossil sources per operating year [t]	t						2.384	2.506	2.104	2.504	2.738	3.205	4.232	4.643	4.883	5.002	5.122
					Distributed thermal energy per operating year [MWh]	MWh						32.706	34.389	28.873	34.361	37.568	43.978	58.066	63.701	66.988	68.632	70.276
	10	Rete di teleriscaldamento di Parma (PR)	Renewable Energy	Energy Network Development	Primary energy saving per operating year [MWh]	MWh						12.813	13.260	127.896	179.722	199.900	199.900	202.519	204.243	205.966	207.689	207.689
					Avoided CO_2 emissions from fossil sources per operating year [t]	t						4.326	1.551	16.856	23.614	29.523	29.523	29.909	30.164	30.418	30.673	30.673
					Distributed thermal energy per operating year [MWh]	MWh						176.797	176.815	159.146	188.688	196.691	196.691	199.268	200.964	202.660	204.355	204.355
	11	Sviluppo reti teleriscaldamento Torino (TO)	Renewable Energy	Energy Network Development	Primary energy saving per operating year [GWh]	GWh						2.794	2.889	2.270	2.733	2.997	3.125	3.176	3.330	3.416	3.479	
					Avoided CO_2 emissions from fossil sources per operating year [t]	t						1.007.686	1.092.546	795.595	933.086	1.026.775	1.070.460	1.087.995	1.140.770	1.170.222	1.191.843	
					Distributed thermal energy per operating year [GWh]	GWh						2.192	2.312	1.990	2.109	2.205	2.299	2.336	2.450	2.513	2.559	
	12	Sviluppo reti teleriscaldamento Emilia (RE)	Renewable Energy	Energy Network Development	Primary energy saving per operating year [MWh]	MWh						91.780	92.595	93.365	93.883	94.065	94.986	95.553	96.191	96.758	98.175	98.175
					Avoided CO_2 emissions from fossil sources per operating year [t]	t						33.289	33.585	33.864	34.052	34.118	34.452	34.658	34.889	35.095	35.609	35.609
					Distributed thermal energy per operating year [MWh]	MWh						456.566	285.767	384.325	409.932	402.057	405.995	408.418	411.144	413.567	419.625	419.625
	13	Mini Hydro La Loggia	Renewable Energy	Mini Hydro Power	Electrical energy produced from renewable non-fossil sources per operating year [MWhe]	MWh									3.536	3.536	3.536	3.536	3.536	3.536	3.536	3.536
					Avoided CO_2 emissions from fossil sources per operating year [t]	t									1.810	1.810	1.810	1.810	1.810	1.810	1.810	1.810
	14	Mini Hydro Pianchette - Noasca	Renewable Energy	Mini Hydro Power	Electrical energy produced from renewable non-fossil sources per operating year [MWhe]	MWh													2.020	2.020	2.020	
					Avoided CO_2 emissions from fossil sources per operating year [t]	t													1.034	1.034	1.034	
	15	Mini Hydro Giffoni riattivazione impianto Vassi	Renewable Energy	Mini Hydro Power	Electrical energy produced from renewable non-fossil sources per operating year [MWhe]	MWh													1.837	1.837	1.837	
					Avoided CO_2 emissions from fossil sources per operating year [t]	t													940	940	940	
IREN RINNOVABILI	16	Impianti Fotovoltaici Enìa Solaris presso Brindisi	Renewable Energy	Solar PV Energy Generation	Net produced electricity from renewable non-fossil sources per operating year (kWh)	kWh						6.813.750	6.290.625	6.721.427	7.051.488	6.826.286						
					Avoided CO_2 emissions from fossil sources per operating year [t]	t						3.491	3.223	3.444	3.613	3.498						
BU RETI	17	Miglioramento impianti Genova	Waste Water Treatment	Waste Water Treatment Plant Upgrades	Treated population equivalent (potential) (n)	N						160.000	160.000	196.000	196.000	196.000	231.000	231.000	236.000	326.000	423.000	423.000
					Analytic parameters (Abb % BOD, Abb % COD, Abb % SST, Abb % Ntot, Abb % Ptot)	%																
	18	Miglioramento impianti Reggio Emilia	Waste Water Treatment	Waste Water Treatment Plant Upgrades	Volumes of water destined to irrigation re-usage / Volumes of total treated water	%										18%	28%	28%	28%	28%	28%	28%
					Treated population equivalent (potential) (n)	N						19.350	19.350	19.350	20.250	20.250	24.250	24.250	38.850	38.850	38.850	38.850
					Analytic parameters (Abb % BOD, Abb % COD, Abb % SST, Abb % Ntot, Abb % Ptot)																	
	19	Miglioramento impianti Piacenza	Waste Water Treatment	Waste Water Treatment Plant Upgrades	Treated population equivalent (potential) (n)	N						17.360	17.360	17.360	19.500	19.500	23.500	23.500	23.500	23.500	23.500	23.500
					Analytic parameters (Abb % BOD, Abb % COD, Abb % SST, Abb % Ntot, Abb % Ptot)	%																
	20	Miglioramento impianti Parma	Waste Water Treatment	Waste Water Treatment Plant Upgrades	Treated population equivalent (potential) (n)	N						10.400	10.400	11.650	11.650	11.900	11.900	14.000	14.000	14.000	14.000	14.000
					Analytic parameters (Abb % BOD, Abb % COD, Abb % SST, Abb % Ntot, Abb % Ptot)	%																
	21	CELSIUS - Impianto di turboespansione cogenerativa	Energy Efficiency	Cogeneration Facilities	Net produced electricity from renewable non-fossil sources per operating year (kWh)	kWh												5.100.000	5.100.000	5.100.000	5.100.000	5.100.000
					Avoided CO_2 emissions from fossil sources per operating year [t]	t												1.200	1.200	1.200	1.200	1.200
	22	Investimenti idroelettrici	Renewable Energy	Mini Hydro Power	Net produced electricity from renewable non-fossil sources per operating year (kWh)	kWh	23.238.000	23.238.000	23.238.000	24.699.000	25.916.000	32.653.000	34.404.000	36.453.000	36.453.000	36.453.000						
					Avoided CO_2 emissions from fossil sources per operating year [t]	t	11.930	11.930	11.930	12.680	13.305	16.763	17.662	18.714	18.714	18.714						