KPI LIST (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 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 | GWh | | | | | | | | | 103 | 130 | 133 | 150 | 151 | | | |
| | 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 |
| | | | | | 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 | GWh | | | | | | | | | | | | | 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 | | | | | | |
| | | | | | Total of non sorted waste disposed | 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 | mc | | | | | | 105.278 | 111.322 | 120.371 | 145.345 | 155.114 | | | | | | |
| | | | | | Door to door collection system | N | | | | | | 687.215 | 833.069 | 998.080 | 1.061.847 | 1.139.228 | | | | | | |
| | | | | | Sorted waste collection hubs | N | | | | | | 112 | 112 | 112 | 117 | 117 | | | | | | |
| | | | | | Volumes of waste collected in the collection hubs | t | | | | | | 161.937 | 174.639 | 186.210 | 208.544 | 205.719 | | | | | | |
| ENERGY | 4 | Accumulators district heating Bit (TO) | Energy efficiency | Energy distribution and management | Primary energy saving per operating year | MWh | | | | | | | | | | 3.855 | 8.220 | 10.079 | 12.181 | 14.372 | 12.395 | 11.488 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | 758 | 1.616 | 1.981 | 2.395 | 2.826 | 2.437 | 2.259 |
| | 5 | Accumulators district heating Martinetto (TO) | Energy efficiency | Energy distribution and management | Primary energy saving per operating year | MWh | | | | | | | | | | 19.261 | 20.563 | 20.157 | 24.363 | 28.744 | 24.790 | 22.977 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | 3.787 | 4.043 | 3.963 | 4.790 | 5.651 | 4.874 | 4.517 |
| | 6 | Accumulators district heating Mirafiori Nord (TO) | Energy efficiency | Energy distribution and management | Primary energy saving per operating year | MWh | | | | | | | | | | | | | 5.846 | 14.372 | 12.395 | 11.488 |
| | | | | | Electrical energy produced from renewable non-fossil sources per operating year | MWh | | | | | | | | | | | | | 45,75 | 45,75 | 45,75 | 45,75 |
| | | | | | Thermal energy produced from renewable non-fossil sources per operating year | MWh | | | | | | | | | | | | | 350 | 350 | 350 | 350 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | | | | 1.149 | 2.826 | 2.437 | 2.259 |
| | 7 | 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 | | | | | | | | | | | 18,3 | 18,3 | 18,3 | 18,3 | 18,3 | 18,3 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | | 9,37 | 9,37 | 9,37 | 9,37 | 9,37 | 9,37 |
| | 8 | Heat exchange and pumping TRM in Grugliasco and interconnection with Grugliasco and Beinasco | Energy efficiency | Energy distribution and management | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | | | | 31.280 | 31.280 | 31.280 | 31.280 |
| | | | | | Distributed thermal energy per operating year | MWh | | | | | | | | | | | | | 145.000 | 145.000 | 145.000 | 145.000 |
| | 9 | Piacenza district heating network, connection and pumping station at WTE | Renewable energy | Energy network development | Avoided CO2 emissions from fossil sources per operating year | 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 | | | | | | 32.706 | 34.389 | 28.873 | 34.361 | 37.568 | 43.978 | 58.066 | 63.701 | 66.988 | 68.632 | 70.276 |
| | 10 | Parma district heating network | Renewable energy | Energy network development | Primary energy saving per operating year | MWh | | | | | | 12.813 | 13.260 | 127.896 | 179.722 | 199.900 | 199.900 | 202.519 | 204.243 | 205.966 | 207.689 | 207.689 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | 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 | | | | | | 176.797 | 176.815 | 159.146 | 188.688 | 196.691 | 196.691 | 199.268 | 200.964 | 202.660 | 204.355 | 204.355 |
| | 11 | 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 | 3.125.000 | 3.176.000 | 3.330.000 | 3.416.000 | 3.479.000 | |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | 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 | MWh | | | | | | 2.192.000 | 2.312.000 | 1.990.000 | 2.109.000 | 2.205.000 | 2.299.000 | 2.336.000 | 2.450.000 | 2.513.000 | 2.559.000 | |
| | 12 | District heating networks development in Reggio Emilia | Renewable energy | Energy network development | Primary energy saving per operating year | MWh | | | | | | 91.780 | 92.595 | 93.365 | 93.883 | 94.065 | 94.986 | 95.553 | 96.191 | 96.758 | 98.175 | 98.175 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | 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 | | | | | | 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 (TO) | Renewable energy | Mini Hydro Power | Electrical energy produced from renewable non-fossil sources per operating year | MWh | | | | | | | | | 3.536 | 3.536 | 3.536 | 3.536 | 3.536 | 3.536 | 3.536 | 3.536 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | 1.810 | 1.810 | 1.810 | 1.810 | 1.810 | 1.810 | 1.810 | 1.810 |
| | 14 | Mini Hydro Pianchette - Noasca (TO) | Renewable energy | Mini Hydro Power | Electrical energy produced from renewable non-fossil sources per operating year | MWh | | | | | | | | | | | | | 2.020 | 2.020 | 2.020 | |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | | | | 1.034 | 1.034 | 1.034 | |
| | 15 | Mini Hydro Giffoni plant repowering | Renewable energy | Mini Hydro Power | Electrical energy produced from renewable non-fossil sources per operating year | MWh | | | | | | | | | | | | | 1.837 | 1.837 | 1.837 | |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | | | | 940 | 940 | 940 | |
| | 16 | Enìa Solaris photovoltaic plants near Brindisi | Renewable energy | Solar PV energy generation | Net produced electricity from renewable non-fossil sources per operating year | kWh | | | | | | 6.813.750 | 6.290.625 | 6.721.427 | 7.051.488 | 6.826.286 | | | | | | |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | 3.491 | 3.223 | 3.444 | 3.613 | 3.498 | | | | | | |
| NETWORKS | 17 | Improvement of Genova plants | Waste water treatment | Waste water treatment plant upgrades | Treated population equivalent (potential) | 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 | Improvement of Reggio Emilia plants | 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 | | | | | | 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 | Improvement of Piacenza plants | Waste water treatment | Waste water treatment plant upgrades | Treated population equivalent (potential) | 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 | Improvement of Parma plants | Waste water treatment | Waste water treatment plant upgrades | Treated population equivalent (potential) | 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 | Cogeneration turboexpansion plant "Celsius" | Energy efficiency | Cogeneration facilities | Net produced electricity from renewable non-fossil sources per operating year | kWh | | | | | | | | | | | | 5.100.000 | 5.100.000 | 5.100.000 | 5.100.000 | 5.100.000 |
| | | | | | Avoided CO2 emissions from fossil sources per operating year | t | | | | | | | | | | | | 1.200 | 1.200 | 1.200 | 1.200 | 1.200 |
| | 22 | Hydroelectric investments | Renewable energy | Mini Hydro Power | Net produced electricity from renewable non-fossil sources per operating year | 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 CO2 emissions from fossil sources per operating year | t | 11.930 | 11.930 | 11.930 | 12.680 | 13.305 | 16.763 | 17.662 | 18.714 | 18.714 | 18.714 | | | | | | |