



Renewable energies



## AS AZERIS DO, DON'T WASTE YOUR OIL. USE ENERGY-FROM-WASTE

The DBO (Design, Build, Operate) contract signed between the Ministry of Economic Development of the Azerbaijan Republic and CNIM includes the design and the construction of a Waste-to-Energy plant (W-t-E) of 500,000 tons of municipal waste per year for the capital city of Baku. The contract also provides for CNIM to operate the plant during a period of 20 years.

The recently started plant was designed by CNIM acting as general contractor. It is equipped with two CNIM-Martin reverse-acting grates and integrated boilers manufactured by CNIM. The whole plant implements the Best Available Techniques and comply with the requirements of the most stringent European environmental legislation.

This plant does not reject water at all. Compared to the existing landfill, it is a major benefit for the environment. Odours, one of the major concerns today with waste in this area, are destroyed during the combustion process which is achieved at a temperature as high as 1100°C since the combustion air is drawn-out from above the waste pit.



The energy recovered from the combustion of the waste is turned into electricity. 231,500 MWh are exported to the National grid every year.

Greenhouse gas emissions are significantly reduced as well. Firstly because of the energy savings: the energy recovery by the W-t-E plant avoids to burn fossil fuels and saves the related emissions. Secondly because the W-t-E plant replaces a landfill emitting landfill gas containing about 50% of CH<sub>4</sub> (methane). And the Global Warming Potential of CH<sub>4</sub> is in mass 25 times more than the one of CO<sub>2</sub> which results from combustion.

The 3-stage Flue gas cleaning system is designed by LAB, the dedicated subsidiary of CNIM. It uses the semi-wet process with injection of lime slurry, activated carbon, a SNCR (Selective Non-Catalytic Reduction) de-NO<sub>x</sub> using urea and a baghouse filter.

The GHG emission benefit is above 1 ton of CO2 equivalent avoided by tonne of waste incinerated, i.e. more than 500,000 tonnes of CO2 equivalent avoided every year.



With five other CNIM Waste-to-Energy projects, the Baku project was endorsed when launched by the European union as official partner of the Sustainable energy Europe campaign for its contribution to the implementation of the EU's Energy Policy goals in terms of Renewable Energy, Energy Efficiency and Alternative Fuels.



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