

MEMO

Job **TNG Energy from Waste Facility, Eastern Creek,
850°C minimum operating temperature**
Date **2016-09-27**
From **Ahmet Erol**

850°C minimum operating temperature

The design of the proposed Energy from Waste (EfW) facility includes a secondary combustion chamber to optimise flow conditions and temperature profile and reduce CO, VOC and other organic pollutants emissions.

A minimum flue gas temperature of 850°C with a residence time of at least 2 seconds is kept at any time after the last injection of air (in this case the secondary air). The energy contained in the waste, the design of the secondary combustion chamber and the combustion control enable the plant to run at these conditions without any additional fuel or energy input.

Running an EfW facility at a temperature of 1100°C and a residence time of at least 2 seconds after secondary air injection is not possible with only the energy of the waste. The auxiliary burners (fuelled by gas or diesel) have to support the combustion to reach this temperature and residence time. This additional (fossil) energy input reduces the overall energy efficiency of the facility.

The requirement of 1100°C given by the IED is in Europe only applies for hazardous waste treatment facilities where rather small quantities of hazardous/chemical waste are treated and where (due to the limited size of the plant) energy efficiency is not a key issue.

Based on the waste analysis and the mixing described in the Project Definition Brief (chapter 2.3.1) a maximum chlorine content of the mixed waste of 1% can be assumed.

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