

Submission  
No 291

## INQUIRY INTO 'ENERGY FROM WASTE' TECHNOLOGY

**Organisation:** Outotec  
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5<sup>th</sup> June 2017

The Hon. Paul Green MLC  
Parliament House  
6 Macquarie Street  
Sydney, NSW, 2000

Dear Sir,

**Re: Portfolio Committee No. 6 - Inquiry into 'Energy from Waste' technology**

Outotec Pty. Ltd. welcomes the opportunity to make this submission to the inquiry into matters relating to the waste disposal industry in New South Wales, with particular reference to 'energy from waste' (EfW) technology.

In relation to items b) and c) of the terms of reference of this inquiry, Outotec would like to inform the Committee in relation to the current situation in the European Union. Specifically regarding contracts recently placed in the United Kingdom for the construction and operation of energy from waste facilities based on Refuse Derived Fuel and utilising Outotec's 'Advanced Staged Gasification' technology to produce steam for electrical power generation.

**Outotec background**

Outotec is a Finnish based global technology and services company supporting the minerals, metals and non-conventional energy industries with state of the art process technologies and has had a presence in Australia since the mid-1960s.

Part of our portfolio includes industrial water treatment, waste gas cleaning and waste to energy technologies, all targeting sustainable solutions for our customers.

Some past and present examples of plants provided by Outotec in Australia are:

- Gas cleaning plants for many of Australia's coal fired power stations since the 1970s.
- Liquid Waste Treatment Plant, Homebush Bay for the then Waste Management Authority, commissioned in 1989 and still operating today.
- Introduction of closed circuit water treatment technology for all three (now just two) blast furnace gas-cleaning plants in the Australian steel industry.
- Provision of state of the art 'Ausmelt' smelting technology to the Nyrstar Port Pirie Transformation Project supported by the South Australian Government.

Outotec has supplied technology to over 100 EfW plants worldwide utilising a wide variety of wastes and biomass materials as fuels to generate thermal and/or electrical energy.

**Energy from waste projects now under construction in Europe**

There are many energy from waste projects based on thermal oxidation of Refuse Derived Fuel (RDF) currently underway worldwide including in the European Union.

Even in countries that have well established waste avoidance, reduction and recycling protocols, there is an increasing trend to utilise thermal oxidation of the residual waste stream to generate electrical energy.

The European Union has clear rules on waste avoidance ( <http://ec.europa.eu/environment/waste/framework/> ) where it is also important that for waste that can't be prevented, reused or recycled, at least energy is recovered. Outotec's EfW solution enables plants to meet efficiency levels considered as 'Recovery' in the waste management hierarchy, unlike some "all in" waste incineration facilities.

Some countries in the EU, like Germany, have no active landfill sites. Refer to the following links:

<https://www.eea.europa.eu/media/newsreleases/highest-recycling-rates-in-austria>

<https://wefuturecycle.com/2015/07/15/waste-management-in-germany-87-recycling-rate/>

For example, in 2015, seven projects for energy from waste (RDF and waste wood) facilities commenced in the United Kingdom utilising Outotec's Advanced Staged Gasification technology. These plants are due to go into operation in late 2017 and 2018.

Outotec's fluidised bed gasification technology was selected on the basis of being commercially proven, meeting 'Best Available Technology' criteria, and specifically suited to utilisation of RDF as fuel for power generation.

These projects include:

- Levenseat Power Plant, in Scotland producing 12.5 MW of electrical power and utilising just over 100,000 tonne per annum of RDF ( <http://lrel.levenseat.co.uk/power-plant-2/> )
- Energy Works in Hull, England producing 28 MW of electrical power and utilising approximately 240,000 tonne per annum of RDF ( <http://energyworkshull.co.uk/> )

The seven UK the projects utilising Outotec's technology have electrical power outputs in the range from 6 MWe up to 28 MWe.

In addition, further such energy from waste projects are currently in the active development stage in the UK and other parts of the European Union.

All these plants are designed and will be operated to European Standards, specifically in relation to waste gas emissions: Directive 2010/75/EU of the European Parliament (provisions according Annex VI).

In summary, Outotec believes that EfW technology generally, and modern thermal oxidation technologies in particular, play an important part in the overall waste hierarchy and we support the utilisation of such technologies in New South Wales and Australia.

We trust that the above and associated links assist to inform the committee regarding the role played by energy from waste technology in achieving waste management targets in New South Wales.

Yours sincerely,

**ROGER BLIGH**

Director, Sales, Metals Energy and Water  
Outotec South East Asia Pacific