

Energy from Waste – a safe alternative

BROMELTON
ENERGY & RESOURCE
CENTRE Powered by CLEANAWAY

Energy from Waste (EfW) has been used as a method for thermally treating waste to recover energy and other resources for many years around the world. Modern EfW facilities meet strict standards in pollution control.

The technology in combustion control, flue gas treatment and emissions monitoring in EfW facilities ensure emissions are minimal to protect public health and the environment.

The Bromelton Energy & Resource Centre (BERC) will use modern technology that is classified as Best Available Techniques (BAT) under European Union legislation and is used in numerous countries throughout Europe, the UK, the USA, China and Japan. Many EfW facilities using similar technology meet stringent emission limits and are located within large population centres such as Tokyo, Singapore, London, Paris and other major cities around Europe.

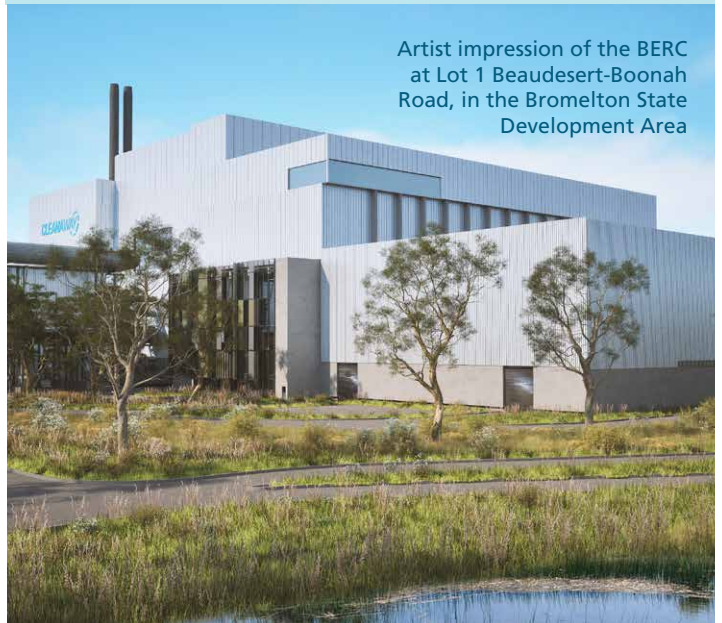
Combustion at over 850°C destroys many potentially harmful compounds, while emission control and flue gas treatment processes remove pollutants. This means 99.9% of what comes out of the stack are gases that occur naturally in our air including oxygen, nitrogen, carbon dioxide and water vapour. Air pollution control residue (a solid residue from the gas treatment process) is treated on site before disposal.

The BERC facility will not significantly change local air quality. Air emissions from the BERC facility will meet international best practice concentration levels, such that ground level concentrations will be within national and Queensland ambient air quality standards established to protect human and environmental health.

We need to change the way we manage waste – we need to recover more, recycle more, reuse more and send less to landfill.

EfW is safe, diverts thousands of tonnes of waste from landfill, recovers valuable resource and generates electricity.

Artist impression of the BERC at Lot 1 Beaudesert-Boonah Road, in the Bromelton State Development Area



Have questions or require translation support?

Phone: 0438 887 569

Email: efw.bromelton@cleanaway.com.au

For more facts about the Bromelton Energy and Resource Centre proposal and EfW visit our website.

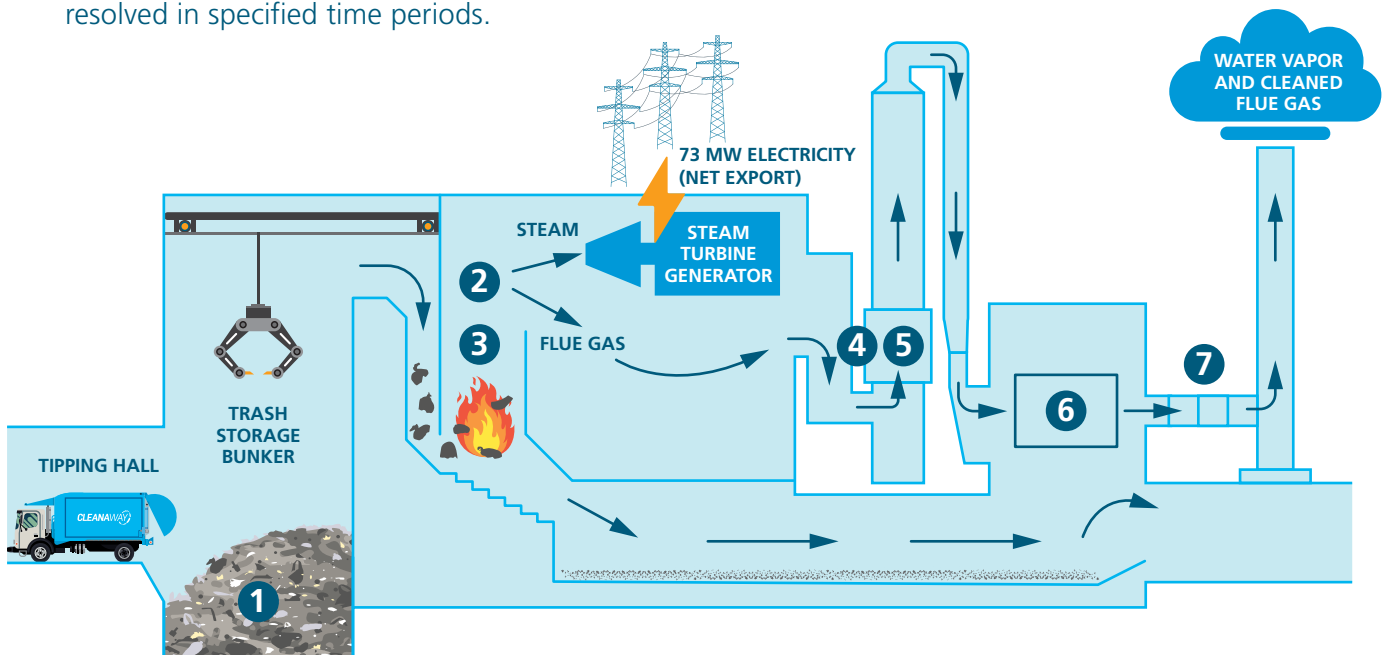
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How EfW pollution control systems work:

- 1 Waste delivered to the facility is mixed in the waste bunker before combustion. This ensures the waste burns consistently and efficiently, reducing the formation of pollutants.
- 2 The amount of air used in the combustion process is carefully controlled to minimise nitrogen oxide (NO_x) formation while preventing excessive carbon monoxide (CO). The system maintains flue gas temperatures above 850°C for at least two seconds, which destroys harmful compounds such as volatile organic compounds (VOCs), dioxins and furans.
- 3 A chemical solution of ammonia or urea is injected into the hot flue gas, converting the majority of NO_x that may be present into nitrogen and water.
- 4 Lime injection neutralises acid gases such as hydrogen chloride (HCl), hydrogen fluoride (HF), and sulphur dioxide (SO₂).
- 5 Activated carbon adsorbs heavy metals (e.g., mercury) and dioxins and furans.
- 6 The baghouse filter, which consists of a series of fabric bags with very small pores, captures particulate matter, acid gas neutralisation reaction products and adsorbed pollutants from the flue gas before it is released from the stack.
- 7 Continuous emissions monitoring systems (CEMS) measure pollutant concentrations directly in stacks in real time including NO_x, CO, particulates, total organic carbon (TOC), HCl, HF, NH₃ and SO₂. The CEMS provide alerts about spikes (that can happen when combusting different types of waste) and action is immediately taken to rectify. There are strict shutdown procedures for issues that cannot be resolved in specified time periods.



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