

Regulating advanced waste processing facilities



Overview

Advanced waste processing facilities are regulated by Environment Protection Authority Victoria (EPA) and councils. Facilities must be appropriately located, constructed and operated according to strict regulations.

EPA regulates the operations of industries to prevent harm to the environment and people—industries such as petrol refineries, landfills, abattoirs, chemical manufacturers, power stations and sewage treatment plants. Advanced waste processing facilities are also regulated by other agencies, such as WorkSafe and the councils to ensure all permits are complied with.

As at 1 July 2021, EPA has new regulatory powers that strengthen its ability to regulate advanced waste processing facilities and place an even stronger focus on the prevention of harm, including through a new general environmental duty.

Advanced waste processing solutions are proven technologies that process household rubbish and put it to good use.

Advanced waste processing technologies can include:

- advanced sorting to extract valuable materials (e.g. metals) plus treatment of food and garden waste to reduce the amount of organic material that is sent to landfill
- technologies that transform waste to energy and produce electricity, heat or gas.

EPA approval to build advanced waste processing facilities

Most advanced waste processing facilities will require a Development Licence from EPA before they can be built. This process is designed to ensure that new facilities don't adversely impact the environment and community.

To obtain the Development Licence, the proposal must show that the design, construction and operation of the facility will be able to meet all legislative and policy requirements, including the use of best available techniques to protect the surrounding environment. Protection of public health is also an essential requirement for Development Licence approval.

New proposals must:

- demonstrate that the proposed technology is proven, well understood and best practice
- show how emissions will be avoided, minimised and/or managed (including pollutants, odour and noise) and meet environmental policy objectives
- be on appropriately zoned industrial land, meet local planning requirements, and have a buffer distance around the facility that minimises impacts on communities, the environment and public health.



Licensing and ongoing monitoring

An EPA Operating Licence will set conditions such as emissions limits, reporting requirements and how waste must be accepted, stored and treated.

Once built, most advanced waste processing facilities will need an EPA Operating Licence to operate. Penalties apply if licence conditions are breached.

A licenced facility must develop a risk management and monitoring program which identifies the risks to human health and the environment which may arise from the activity and must also report on compliance with conditions of the operating licence through the Permission Information and Performance Statement (PIPS) process. There are severe penalties for providing false or misleading information.

EPA will also conduct regular compliance inspections of facilities to ensure licence conditions are being met.

How overseas facilities meet standards

Advanced waste processing facilities are being used safely and reliably around the world.

Here's three ways waste to energy facilities overseas maintain the highest environmental and health standards.

Minimising emissions

Waste to energy facilities minimise emissions by using extensive pollution control systems that capture particles, absorb heavy metals and other pollutants, and neutralise gases. Computer systems constantly monitor pollution levels to make sure the facility is meeting strict air quality standards.

In Victoria, facilities will need to be designed, built and operated to world's best practice, which includes meeting the European Union Industrial Emission Directive limits. Facilities will need to publicly report monitoring results.

Disposing of ash or digestate

Anything left over from a waste to energy process such as ash (from combustion or gasification facilities) or digestate (from anaerobic digestion) must be tested before disposal or reuse. If it is contaminated, then it must be sent to a landfill or treatment facility that is specially designed and licenced to receive hazardous waste.

Controlling odour

To manage the smell of waste, most facilities have an enclosed area that stores rubbish under a negative pressure—this can prevent unpleasant smells from escaping into the surrounding environment.

Waste to energy safety record

International experience has shown that well run, modern facilities (in the European Union) are capable of preventing impacts to human health and the environment. In Victoria, an independent literature review commissioned by EPA found that exposure to air emissions from modern facilities posed little potential health impacts or risk, noting there are few studies available. The objective of the literature review was to determine possible impacts on the health of residents living close to waste to energy facilities.

Similarly, in the UK, the Health Protection Agency (now Public Health England) produced a report in 2010 on the impact on health of air emissions

from combustion facilities.¹ The report states that modern, well-managed combustion facilities make only a very small contribution to local concentrations of air pollutants, and that "It is possible that such small additions could have an impact on health but such effects, if they exist, are likely to be very small and not detectable."

A recent study by Public Health England², found that particle levels caused by combustion facilities are extremely low, and could often not be distinguished from other background sources such as traffic.

¹ Maynard, R L et al. The impact on health of emissions to air from municipal waste incinerators. Health Protection Agency. 2010. [PDF file]

² Douglas, P et al. Estimating particulate exposure from modern municipal waste incinerators. 2017

More information

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Please contact us if you would like this information in an accessible format.
Published by the Metropolitan Waste and Resource Recovery Group.
September 2021.