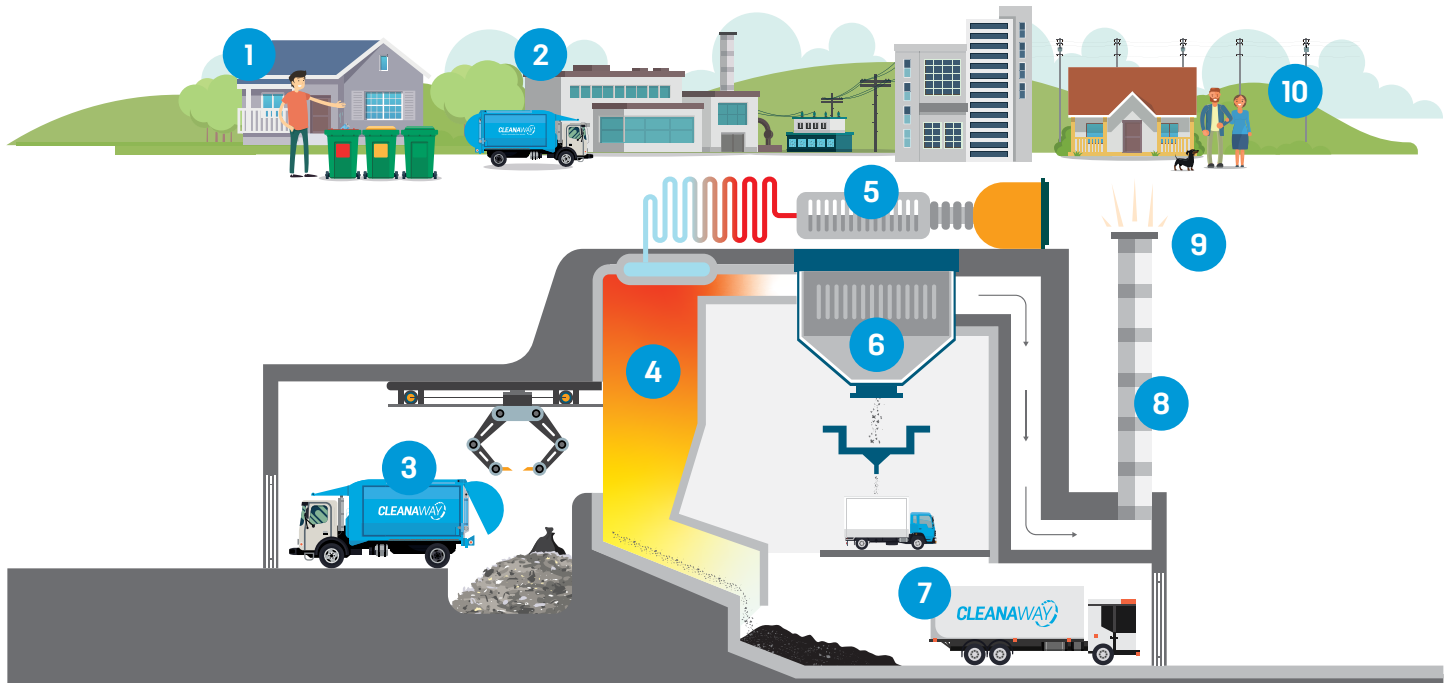


How does the Melbourne Energy & Resource Centre work?



1 Sorting waste

At home and work, we sort waste into recyclable and non-recyclable items. Non-recyclable items in the general waste bins are collected and sent to the MERC.

2 Receiving and storing waste in a sealed bunker

Waste arrives at the MERC and is stored in a sealed bunker. All tipping and storage of waste is done in an enclosed building to prevent odours and dust from escaping.

3 Mixing and preparing the waste

Inside the bunker, waste is mixed by large crane claws to ensure consistency of the waste fed into the combustion chamber and stable operating conditions.

4 Combustion and temperature control

Waste is burned for over an hour as it moves along a grate, ensuring complete combustion. Flue gases are held above 850°C for at least two seconds to destroy organic pollutants and odours. This temperature ensures the effective breakdown of harmful compounds.

5 Energy recovery and steam generation

The heat from the combustion process is transferred to water in a boiler, generating steam. This steam powers a turbine, which produces electricity. The electricity is then sent to the grid to help power local homes and businesses. Heat is also available for industrial users seeking to displace natural gas consumption.

6 Pollutant removal and flue gas treatment

All gases generated during combustion pass through a multi-step flue gas treatment system, where lime and activated carbon are injected to neutralise pollutants. The resulting residues are captured and stored in a sealed system for secure disposal, minimising environmental impact.

7 Bottom ash collection and recycling

Bottom ash from the combustion process is collected, and metals are recovered for recycling. It is intended that the remaining ash is processed to produce aggregates which are intended for use in construction, promoting material reuse.

8 Releasing cleaned gases

The cleaned gases are released high into the atmosphere to disperse effectively and minimise any impact on local air quality. The MERC employs strict air quality controls and 24/7 monitoring, ensuring that emissions meet or exceed health and environmental safety standards.

9 Meeting high environmental and health standards

The MERC follows stringent environmental and health safety standards, regularly monitoring emissions to ensure they remain within safe limits, protecting air quality and public health in the surrounding areas.

10 Benefits for the local community

In the process of treating residual waste, the MERC reduces landfill use and recovers sustainable energy and materials. MERC will also be creating a range of job opportunities directly and indirectly throughout construction and operation. These contributions offer environmental and community benefits, aligning with broader sustainability goals.



Find out more or contact us at: 03 9021 0603

cleanaway.com.au/location/melbourne-energy-and-resource-centre