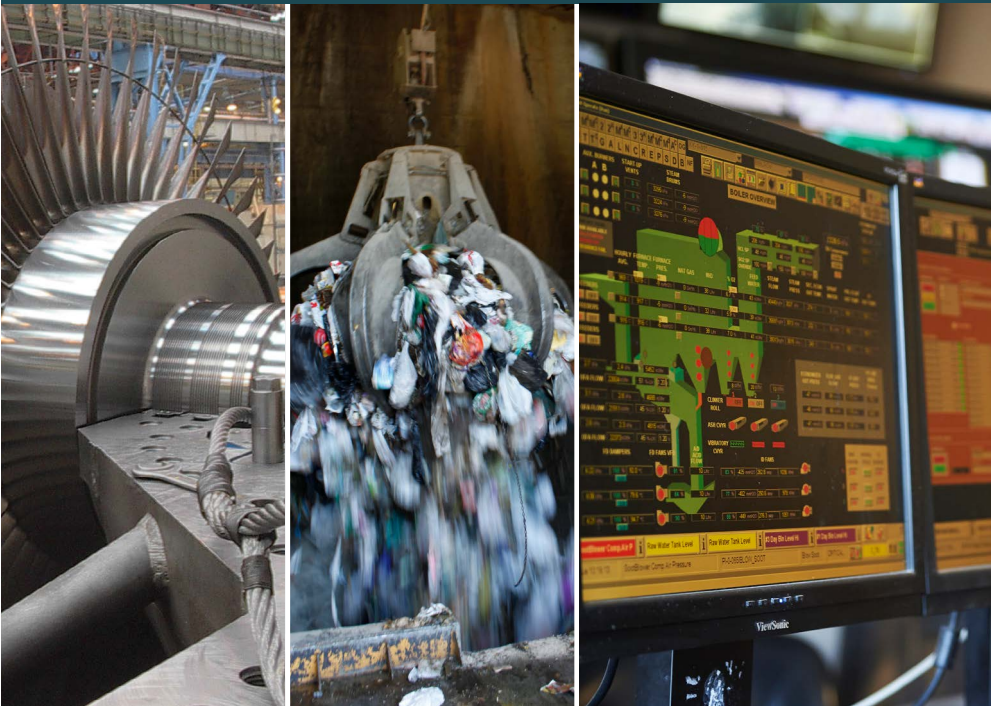


Metro Vancouver's Waste-to-Energy Facility



Owned by Metro Vancouver, the Waste-to-Energy Facility, located in Burnaby, is operated and maintained by a private contractor.

Since its opening in 1988, the facility has been responsible for the environmentally safe disposal of over 25% (around 240,000 tonnes per year) of the region's garbage. Steam produced from the combustion of garbage generates electricity.

The facility receives its waste primarily from the cities of Burnaby, and New Westminster, and the North Shore.



Waste-to-Energy Facility District Energy System

Metro Vancouver is developing a district energy system to supply heat and hot water to up to 50,000 homes in Vancouver and Burnaby. This project will reduce greenhouse gas emissions by up to 70,000 tonnes per year and aligns with Metro Vancouver's goals for a resilient region.

The Waste-to-Energy Facility District Energy System project will triple the energy recovery of the Waste-to-Energy Facility by using some of the steam generated through the combustion of garbage to heat water and deliver it through an underground piping network to nearby neighborhoods.

CONTACT US

For more information about the Waste-to-Energy Facility or to book a tour:

Information Centre:
604.432.6200
icentre@metrovancover.org

metrovancover.org
(search "Waste-to-Energy Facility")

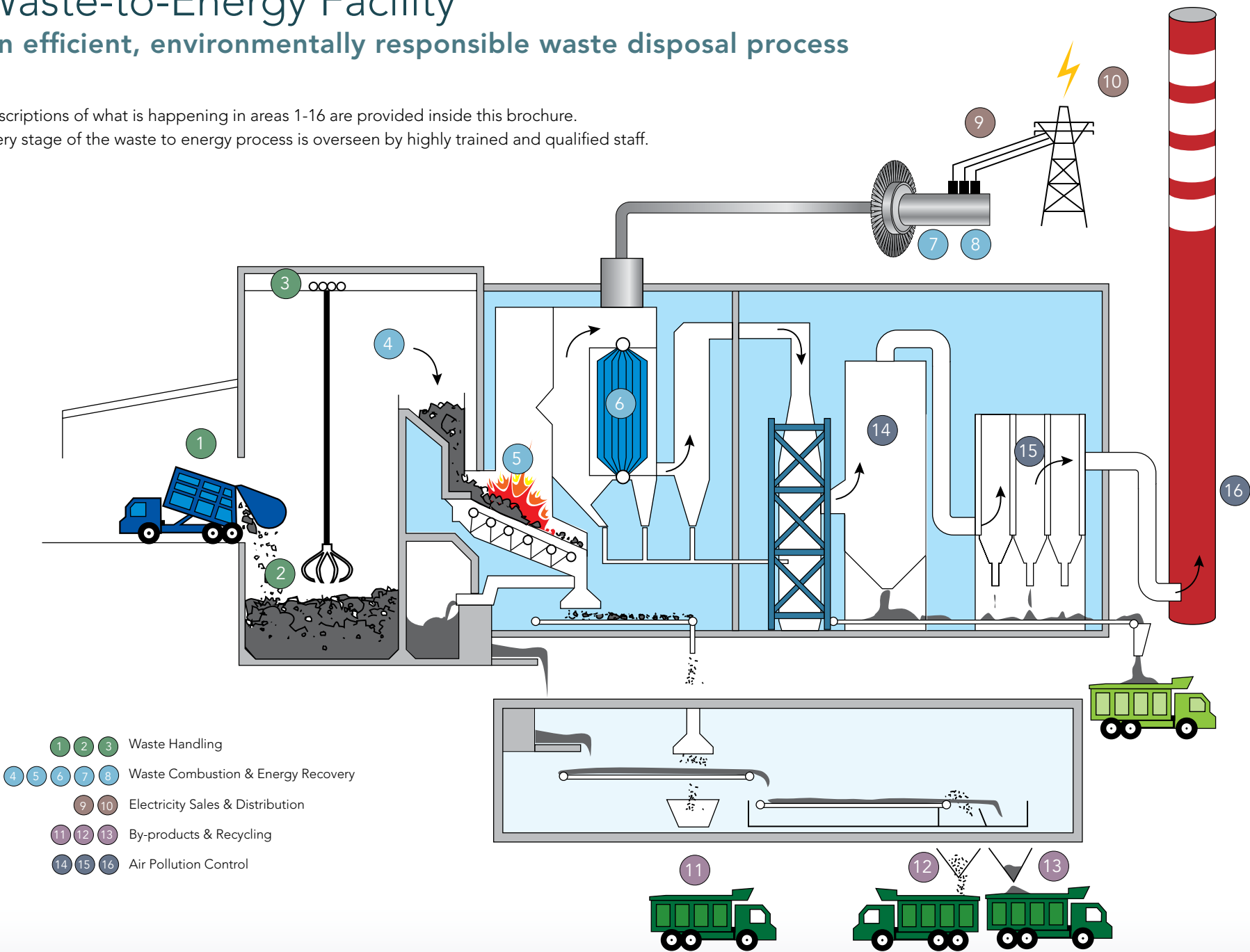
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Apr 2025

Waste-to-Energy Facility

An efficient, environmentally responsible waste disposal process

Descriptions of what is happening in areas 1-16 are provided inside this brochure. Every stage of the waste to energy process is overseen by highly trained and qualified staff.



For more information on waste to energy recovery, visit metrovancover.org (search "waste-to-energy facility").

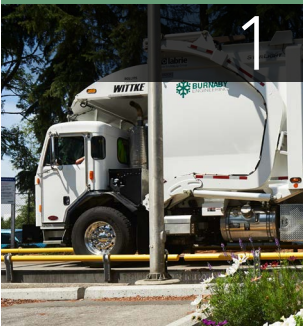
Industry Leading Safety & Emissions Controls



All staff working at the Waste-to-Energy Facility are highly trained and qualified. Operations staff are Certified Power Engineers and the maintenance staff is comprised of certified electricians, instrument mechanics and certified millwrights. The qualification requirements for operations and electrical staff are regulated by the BC Safety Authority.

All aspects of the waste to energy process are monitored 24 hours a day, seven days a week, 365 days a year from a control room located on site. Facility emissions data and compliance reports are available on Metro Vancouver’s website in real time. The range of emissions monitored is broad, including common air contaminants such as nitrogen oxides (NOx) and particulate matter (PM), as well as acid gases, trace metals, trace organics, and dioxins / furans.

Waste Handling to manage waste for combustion



1 An average of 80 trucks per day arrive at the facility, seven days a week, and empty their loads into a large garbage bunker.



2 An industrial-sized grapple shifts the waste and drops it into one of the facility's three feed chutes.



3 The grapple is controlled by an operator who keeps waste in the bunker at a manageable level and keeps oversized materials out of the feed chutes.

Waste Combustion & Energy Recovery steam produced from the combustion of garbage is used to generate electricity



4 The grapple drops garbage into one of three feed chutes. Every hour, about 11 tonnes of waste are sent down each chute.



5 Garbage moves down the feed chute to a furnace where it is burned at temperatures of more than 1,000° Celsius.



6 The hot gas from the combustion process passes into a boiler area where it heats tubes filled with water. The water boils to become steam while the gas goes through an air pollution control process.

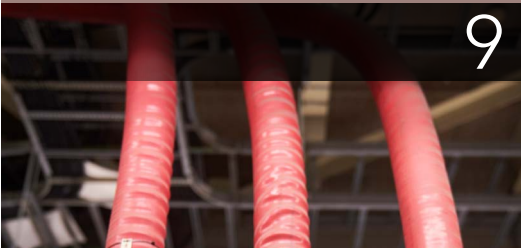


7 The steam produced in the boiler area is used to power a turbine that converts the steam into energy in the form of electricity.



8 Metro Vancouver is developing a district energy system, which uses steam generated in the facility to provide heat to nearby homes.

Electricity Sales & Distribution

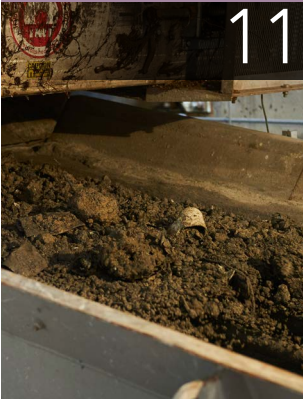


9 The electricity produced at the facility is transported to an on-site substation by a series of cables.

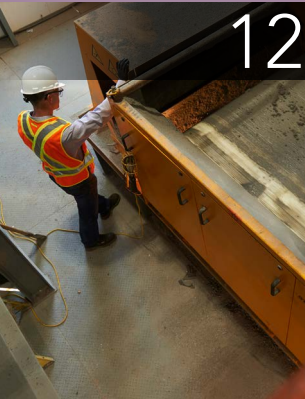


10 The electricity is sold to BC Hydro where it is distributed to end users. The electricity produced at the facility is enough to power about 16,000 homes.

By-products & Recycling secondary materials for beneficial use



11 Every year about 5,000 tonnes of ferrous metal is recovered during the waste-to-energy process. This metal is sold into the recycling market.



12 The facility has a non-ferrous system that utilizes an eddy current separator to recover non ferrous metal (mainly aluminum and copper). The system captures about 500 tonnes of non-ferrous metal per year, and has increased the recovery of ferrous metals by 10%. This metal is sold into the recycling market.



13 Bottom ash is material resembling crushed rock that remains after combustion. It collects at the bottom of the furnace and is tested before being beneficially used as fill or a construction product or disposed in a landfill.

Air Pollution Control On-site equipment is used to continuously monitor emissions for signs of environmental impact. These emissions are verified by independent testing multiple times a year.



14 Lime and carbon are added to the cooled flue gas to react with acid gases and vaporous metals allowing them to be captured. After lime and carbon are added, the flue gas is then passed through a fabric filter baghouse.



15 Fly ash is composed of small particles which contain acids and metals. The fly ash is captured in the fabric filter baghouse. The fly ash is tested before being disposed in a landfill.



16 The filtered flue gas exits the facility through a stack with real time, continuous air emissions monitoring. The monitoring system uses analytical equipment to track specific things such as opacity, total particulate matter, and gaseous compounds. The real time data measured is available on the Metro Vancouver website. Independent manual stack testing is completed multiple times per year.