

Waste-to-Energy Facility Virtual Tour

Duration **3:15**

STEAM Curriculum Lesson Extension:
In the 'Zone, Grade 6

Produced by [Metro Vancouver](https://www.metrovancover.com)

Goal

Students will learn of an alternate source of energy that is created from the transition of waste to electricity.

Overview

Students will be taken on a virtual tour of the Waste-to-Energy Facility in Metro Vancouver. They will view the process from the start with the arrival of trash, through the transition of the trash to steam and ultimately how it is changed to electricity.

Connections to EarthX STEAM Curriculum Lesson: *In the 'Zone*

There are many energy resources in use today, some renewable and some not. In addition, the different energy sources negatively impact the environment to different degrees. The waste-to-energy facilities plant toured in the video attempts to create an alternative source of energy that has a low negative impact on air quality while at the same time lessening the impact of solid waste.

Guiding Questions

- Do you think the Waste-to-Energy Facility has a greater impact on landfills or on energy production? Why?
- The video opens with the phrase, “Resilient Resource Recovery” that could act as a hashtag for the beginning of the video. Can you create other tags or anchors for the video at the following time stamps: :56; 1:16; 1:43; 3:00?
- The waste-to-energy production process is a closed loop system. Can you think of other closed loop processes in your own life? (i.e. temperature control through thermostat, riding a bike, obtaining a good water temperature in a bath)

Vocabulary

- Refuse
- Negative air pressure
- Turbine generator
- Closed loop system
- Ferrous metals
- Non-hazardous
- Activated carbon
- Heavy metals
- Bag house
- Regulatory limits
- Real-time

Standards

Next Generation Science

- 5-ESS3-1
- MS-PS3-5
- MS-ESS3-3
- MS-ESS3-4

TEKS Science Objectives

- 5.b.5A
- 5.b.5C
- 5.b.6A
- 6.b.5C
- 6.b.6
- 6.b.7
- 7.b.6