

Introduction to Biomass

Re-Energy
Activity
Grade Level 7-12



Main Objectives

In this activity, learners will learn about biomass energy and take a biogas plant virtual tour.

Learning Outcomes

By the end of this activity, learners will:

- Understand what bioenergy is, its sources and what the different kinds are used for
- Understand the different technologies and equipment used at a biogas plant

Curriculum Connections

Alberta

Science 9: Electrical Principles and Technologies
Science 30: Energy and the Environment (D1.4, D1.5k, D1.3s, D2.3k, D2.4k, D2.1sts, D2.3s, D2.4s)

Ontario

Science & Technology 7: Heat in the Environment (1.2)

Environmental Science 11: Scientific Solutions to Contemporary Environmental Challenges (U/C Preparation) (B1.2)

- Conservation of Energy (U/C Preparation) (F1.2)
- Energy Conservation (Workplace Preparation) (D1.2)

Length of Activity

30 – 45 minutes

Materials List

Internet-enabled device
Biomass Energy Backgrounder

Procedure

Step 1

Distribute the Biomass Energy Backgrounder and have the learners read the information. As a class brainstorm answers to the questions in the backgrounder.

Backgrounder Discussion Questions

1. Why is wood considered a form of renewable energy?
2. What are two kinds of bioenergy that can be used as fuels for cars and trucks?
3. Can you think of two environmental problems created by burning wood for heating and cooking?
4. What is the main ingredient in biogas?
5. Methane from landfills is often allowed to escape directly to the atmosphere. Can you think of two reasons why this is bad?

Step 2

Take a [Biogas Plant Virtual Tour](#) (9:53 minutes)

Extension Activity

1. View a [3D model](#) of a biogas generator plant created by a learner in Tinkercad. Take it one step further by building your very own!