

# 2020 Ontario Envirothon Presentation

## Challenge Scenario

Theme: Waste Diversion

Waste diversion is the process of preventing waste from being sent to landfills and incineration facilities. In order of priority, waste diversion can be implemented through:

1. **Source reduction** to eliminate waste before it is created
2. **Reuse** of materials for the original or an alternative purpose
3. **Recycling** residual materials to be broken down and reprocessed into new products and **composting** organic waste.

Waste diversion efforts can be measured through calculating the **waste diversion rate**, with the goal of achieving the highest rate possible. Expressed as a percentage, the waste diversion rate is calculated using the below equation:

$$\frac{\text{Weight of Recycled Material} + \text{Weight of Composted Material}}{\text{Total Weight of Recycled, Composted, and Landfilled Material}} \times 100$$

In the wake of the global climate emergency, waste diversion is a crucial practice to adopt in order to protect our planet and encourage responsible consumption and production. Along with economic and social benefits, waste diversion has the potential to greatly contribute to environmental protection. Diverting waste from landfills supports the conservation of finite resources, reduces negative impact from manufacturing new products, and reduces greenhouse gas emissions, as landfills are responsible for 20% of Canadian methane emissions. This is important as methane is a greenhouse gas with 25 times more **global warming potential** than carbon dioxide. Methane is produced through the decomposition of organic waste in a landfill environment (Government of Canada, 2017).

Creating a **waste reduction plan** is one way that businesses, governments, and educational institutions can minimize the amount of waste ending up in landfills and maximize their waste diversion rate. A waste reduction plan allows you to outline specific strategies to be taken in order to reduce the amount of waste sent to landfills.

This is where we need your help!



## Explanation

Your school currently has an inconsistent waste and recycling collection program. All functional areas within the school have waste containers, but only about half are paired with recycling containers. In addition to this, only some waste and recycling containers are labelled. When the recycling program was first introduced at your school 20 years ago, the diversion rate increased to 40%, but it has not improved since then. Your school does not currently have a compost program.

## Some Facts About Your School:

**Student Population:** 1524

**Teacher & Administration Population:** 70

**Number of Classrooms:** 63

**Other Facilities:** Cafeteria, Library, Gym, Outdoor Football Field, Teachers Lunchroom, 15 Teacher offices & 1 Administration Office

School administration is looking to improve their waste diversion rate by implementing a waste reduction plan. A majority of the school's waste management is currently focused on the collection of waste, with a few recycling bins. Your Envirothon Team is a group of passionate, intelligent individuals from the school who make up the **Sustainability Committee**. You have been tasked with spearheading the waste reduction plan.

The school administration has heard the latest buzz surrounding **zero waste facilities** and waste reduction efforts. They agree with the importance of reducing the amount of waste the school sends to landfill but are looking for advice on how to achieve this. The job of the Sustainability Committee is to advise on the best strategies the school should pursue to increase the school's **waste diversion rate**. The Sustainability Committee has been tasked with keeping recommendations within a \$35,000 Budget over the next three years.

A high school in a bordering county, was recently featured in a local newspaper for achieving an 85% waste diversion rate after implementing a waste reduction plan throughout 2019. Some key strategies included:

- All waste, recycling, and organics bins within the school follow standardized colours, signage, placement, and style
- All classrooms have recycling and waste bins
- Cafeteria, staff room, and hallways have collection receptacles for waste, recycling, and organics
- Washrooms have hand dryers instead of paper towel
- Cafeteria provides only reusable service ware
- Has written school purchasing and operational policies supporting zero waste
- Partnered with a local stationery store to recycle school supplies

- All printers set to double-sided, single-sided paper is recovered through “Good on one Side” (GOOS) reuse program
- Program updates and progress communicated through announcements, school assemblies, and posters
- The Sustainability Committee works closely with the waste management team
- Internal tracking of waste diversion rate, contamination rate, and capture rate with waste auditing services

## Your Presentation Challenge:

Create a presentation to the Principal, Vice Principal and waste management team. The purpose of your presentation is to inform them on the importance of a waste reduction plan and how it can help increase waste diversion rate.

The principal and vice principal have heard of other schools implementing waste reduction plans, but they want to hear more details on how it will benefit the school and the planet. It is recommended that you take this time to explain some of the basics of waste diversion.

School administration wants the Sustainability Committee’s opinion on what strategies to include in the waste reduction plan. Consider the key takeaways from the example school’s waste reduction plan and advise the stakeholders on what strategies should be applied at your school. Don't forget your principals may not have the same knowledge as you do on this topic, so be sure to take some time to explain.

It's up to you what strategies you would like to recommend in your waste reduction plan. Be sure to be specific on how you plan to implement each strategy you choose and remember you are working with a budget! It is recommended you present a detailed budget on how you will spend your \$35,000 on your specific strategies in the waste reduction plan.

Examples might include:

- a. Source reduction
- b. Education and engagement to increase knowledge and participation
- c. Implement best practices for collections bins
- d. Creative reuse programs
- e. School-wide policies and curriculum
- f. Compost programs

And don’t forget, your presentation must be between 12-15 minutes long!

## Important Definitions

**Capture Rate:** The percentage of items that are placed correctly in recycling and compost streams and are actually recoverable.

**Contamination Rate:** The percentage of items that are incorrectly placed in the recycling and compost streams, resulting in contamination of the recyclable items.

**Global Warming Potential:** A measurement used to compare the warming impact of different gases. The larger the global warming potential the more said gas warms the earth compared to carbon dioxide over the same time period.

**Source Reduction:** The elimination of waste before it is created. Achieved through the design, manufacturing, and purchasing of materials and products to reduce what is disposed of after use. (i.e. only using what you need and choosing products that are reusable, recyclable, or compostable)

**Waste Diversion Rate:** The percentage of waste materials that are being diverted from landfill through recycling, composting, and reusing. (i.e. an 85% diversion rate means that 85% of materials are diverted from landfill through waste reduction practices)

**Zero Waste Facility:** A facility that has a 90% or greater overall waste diversion rate and under a 10% contamination rate for over 12 months. All materials that are diverted must be reduced, reused, recycled, composted or recovered. (TRUE Zero Waste, 2020)

## Some resources to help you with your waste reduction plan!

[Waste Diversion in Schools Handbook, North Vancouver School District](#)

[Resource Recycling Lesson Plan](#)

[Waste Reduction Action Plan Worksheet](#)

## References

[Municipal Solid Waste & Greenhouse Gases, Government of Canada](#)

[TRUE Zero Waste Certification Program, GBCI](#)

