

# STUDY GUIDE

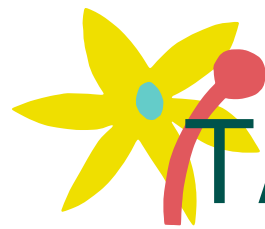
Emerald Youth Grants



**Eco-Growth Environmental Inc.**

**29th Annual Emerald Award Recipient**  
Small Business

**Syncrude**



# TABLE OF CONTENTS

---

04 - Overview

---

06 - Key Terms

---

08 - Conversation Questions

---

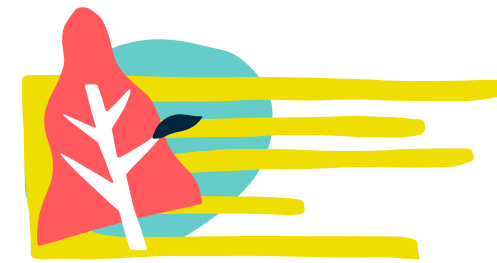
09 - Continuing Work

---

10 - Resources

---

11 - Notes



# THE AEF

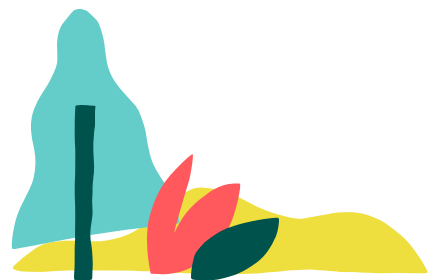
---

Who We Are.

The Alberta Emerald Foundation (AEF) has been the good-news environmental storytellers since 1991. We are a nonprofit organization that showcases and inspires our province's environmental achievements through the annual Emerald Awards. Through our Sharing Stories Communications Strategy, the incredible work of Emerald recipients is highlighted and celebrated year-round. What began as the Emerald Awards has evolved into an ongoing conversation.

The AEF empowers the next generation by providing grants to youth-led and youth-targeted environmental initiatives in our province. The Emerald Educational Engagement Grants Program funds up to 30 groups a year for their dream environmental project inspired by the Emerald Documentary Series, What On EARTH Can We Do? Podcast, and Emerald Speakers Series. After finding inspiration from this content featuring Emerald recipients, submit your pitch to us online. If it's accepted, you will receive \$750, thanks to our sponsor Syncrude Canada Ltd., to make your project a reality.

We encourage you to use this study guide as a resource to help you along in your project's journey. For more information, please visit [emeraldfoundation.ca](http://emeraldfoundation.ca).



# OVERVIEW

## What they're all about.

**Mission:** to provide green initiatives and solutions to environmental challenges through the development of innovative, sustainable technology.

Eco-Growth Environmental Inc.'s Waste to Energy Project, led by Kim Caron, was implemented at the ConocoPhillips plant in Surmount, Alberta.

Eco-Growth designed and installed an **organic**

**reactor** system. This technology is able

to turn 385 kg of **organic waste** into 77 kg of **biomass** every 24 hours.

The product is then used to replace sawdust in industrial processes, greatly reducing the company's **carbon footprint**.



Kim Caron has always been an

**environmentalist** who has committed

to **reduce, reuse, and recycle** all of his life. His team at Eco-Growth

Environmental Inc. strives to prevent and **mitigate** harmful effects on

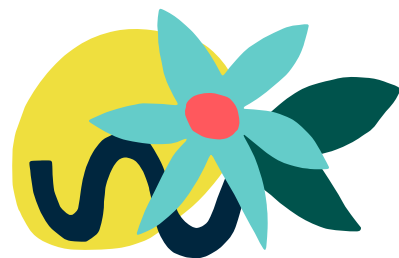
nature and natural resources. The Waste to Energy Project was inspired by



a passion for sustainability and the desire to divert waste from landfills.

When the biomass is burned in the organic reactor system, it creates a direct energy source for other operations: **biofuel**. By using the biofuels created by this machine, it reduces the need for natural gas and lowers the production of **greenhouse gas** emissions. As well, there is 80% less plant waste produced, resulting in a reduction of waste entering landfills.





# KEY TERMS

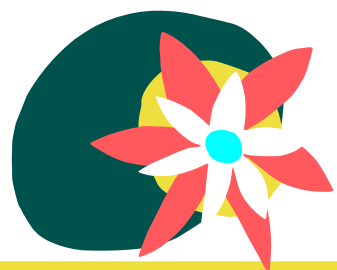
Know your lingo.

<b>Organic reactor:</b>	a machine technology system that processes food waste into biofuel, reducing greenhouse gas emissions, and the disposal of organic waste into landfills.
<b>Organic waste:</b>	any biodegradable waste material that comes from plants or animals.
<b>Biomass:</b>	a source of renewable energy that uses plant or animal waste for the production of energy.
<b>Sawdust:</b>	a byproduct or waste product of woodworking operations. It can also be called wood shavings.
<b>Carbon footprint:</b>	the total amount of greenhouse gas emissions produced by an individual, group, or event. It acts as a broad measure of how much carbon dioxide is produced
<b>Environmentalist:</b>	an individual who advocates for the protection and preservation of the natural environment through various forms.
<b>Reduce, reuse, recycle:</b>	decreasing the amount of waste produced, repurposing waste or using it more, and remaking waste into something new. The three R's serve to decrease the total amount of waste we release into the environment.



<b>Mitigate:</b>	to make something less severe than it would have been.
<b>Biofuel:</b>	the fuel that is produced from biomass. This is more sustainable than fossil fuels since biomass is a renewable source of energy.
<b>Greenhouse gas:</b>	any gas in the air that absorbs heat into the earth but does not let it out. It traps this heat on the earth and leads to global warming.





# CONVERSATION QUESTIONS

Let's talk about it.

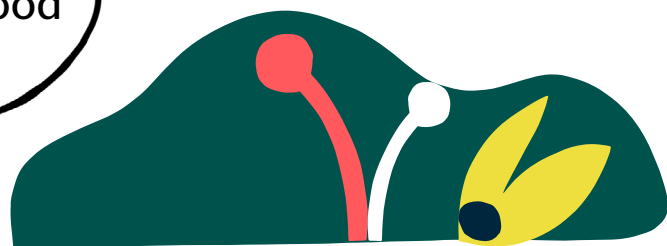
Unfortunately, we can't all have an organic reactor, so what are some other ways to properly dispose of organic waste?

Why do you think improperly disposed organic waste is an issue?

What changes can you make in your daily life to reduce your own carbon footprint?

Make a list of organic waste that is unavoidable (such as banana peels) versus avoidable (such as leftover food). What are some things you can do with the unavoidable waste?

How do you dispose of your organic food waste?



# CONTINUING WORK

Inspiration for your EEG project.

Rather than throwing your organic waste into the garbage, try disposing of it in a different way such as creating your own compost.

Research the environmental impact of organic waste that gets thrown into the landfill versus it being used for composts or creating biofuel and present your findings to your class.

Make a conscious effort to create as little organic waste as possible for a week and track the waste that you do produce. Challenge your friends to do this with you. Discuss your experience and what you noticed.

If your school doesn't have an organic waste program, start one with friends!

Make an educational poster outlining food waste statistics, environmental impacts, and how to avoid it. Print out large copies and put them up around your school.

Come up with an idea for an innovative piece of technology that would address an environmental issue. Create a prototype and presentation for your school.





## RESOURCES

Click to discover.

Eco-Growth Environmental Inc.

## The Impact of Food Waste on The Environment

## A Guide to Starting a Composting Program at Your School

## City of Calgary – What Goes in Your Compost Bin

## Organic Waste in The Landfill

## How to Make an Educational Poster

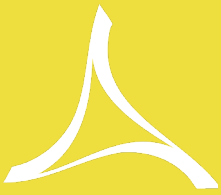
## Intro to Tracking Food Waste

## 5 New Environment-Friendly Technologies



# NOTES

This image shows a blank sheet of white paper designed for writing. It features horizontal light blue lines spaced evenly down the page. A single vertical red line runs parallel to the left edge, creating a margin. Along the bottom edge, there is a decorative border consisting of several stylized tree or plant shapes in various colors: dark green, light blue, yellow, and pink. These shapes are simple, branching forms that look like they might be made of paper or cardstock.



# Emerald Youth Grants

The AEF would like to thank **Syncrude Canada Ltd.** for their sponsorship of the Emerald Youth Grants Program. As well, we'd like to thank **Hoopla Media** and **Studio Hazel** for making our content look so good.

This study guide was written and designed by AEF summer student Leslie Guo.

**Click to apply for an  
Emerald Youth Grant!**

Let's get social!

