

Waste Wizard

We harness the power of waste to make energy.



“

**Ensure access to affordable,
reliable, sustainable and modern
energy for all.**

”

7 AFFORDABLE AND
CLEAN ENERGY



Root cause

Problem

There is slow or no transition to renewable energy



Root Cause

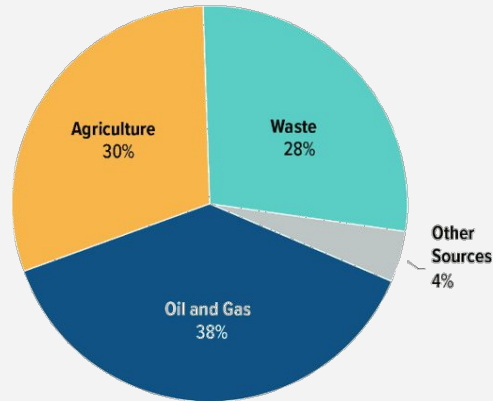
Changing current model is expensive.



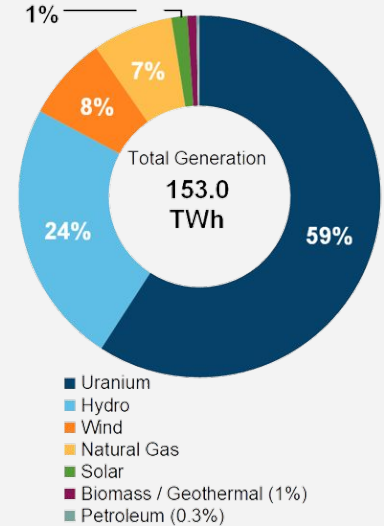
What is the Problem?

- Current energy model at campus prioritizes **Short-Term savings** than **Long-Term**.
- Existing Sustainable sources are expensive to implement.
- Bio-waste dumped in landfills, emission of methane, unused.

Canada's Total Methane Emissions
92 Mt CO₂e



<https://dieselnet.com/news/2022/09eccc.php>



<https://bit.ly/provincial-territorial-energy-profiles>

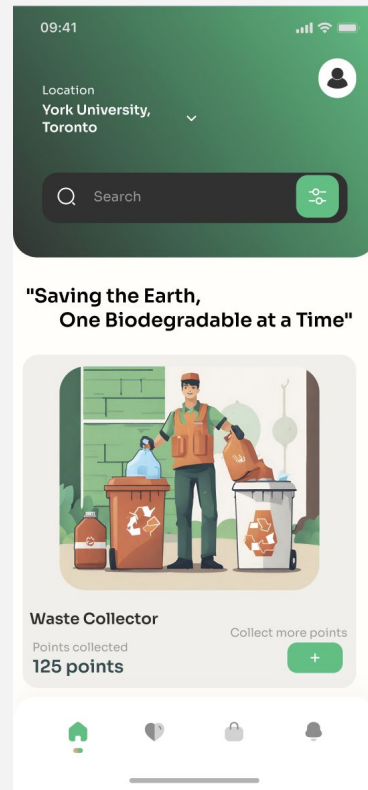
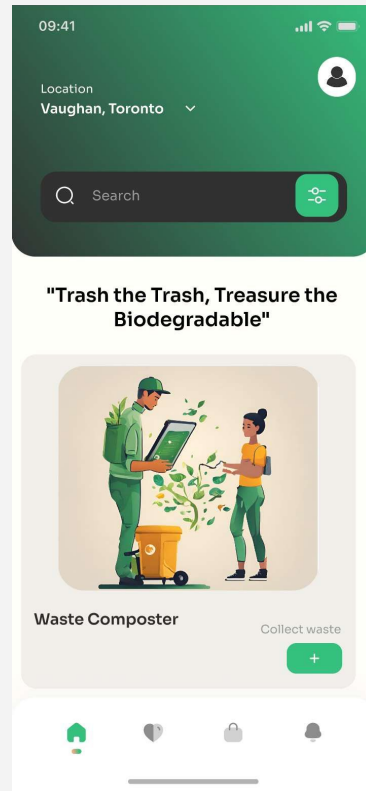
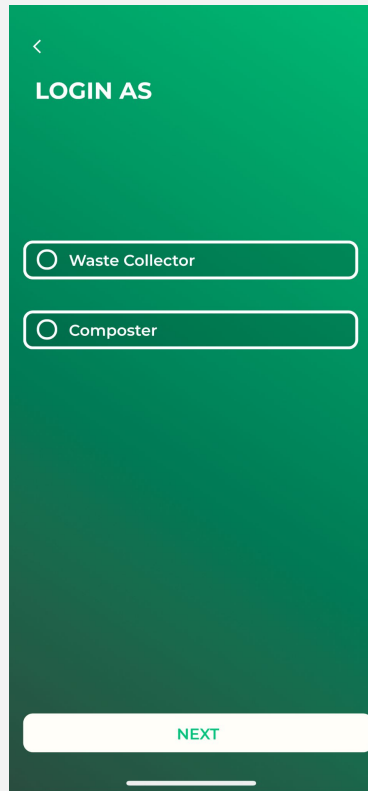
User Needs



Student Antoine Devonte

- 1) Current state
 - a) Throwing out biowaste on a whim
- 2) Functional/Emotional Needs
 - a) Incentives :- Regular Discounts
 - b) Accredited of being Sustainable
 - c) Convenience of disposing wastes.
- 3) Desired Solution
 - a) Encouraged proper waste disposal.
 - b) Efficient waste-to-energy production.

The Waste Wizard



The Magic

- A system to **efficiently collect and convert 100% of bio-waste into clean energy.**
- A smart bin linked with a mobile device app.
- Free waste collection and **incentivizing customers**



Motivating : Our In-App Points System

- Flat Discounts on Fairtrade Restaurants and items
- Vouchers and Gift Cards
- Live Carbon Emissions Saved Tracking
- Streak Bonuses
- Recycling and sorting bonuses
- Referral
- Leaderboards

Business Model

Waste Collection



Electric Shuttles



Received By Biofuel Generator



**Energy Generated, Slurry as
Fertilizer**

Is it Feasible and Viable ?

- Our fuel literally is **“waste”** !!
- Using our own campus **electric shuttles** to transport.
- For fuel generation either have our own underground digester or introduce a stakeholder.
- Either way we get profit in **energy, money, and fertilizers.**

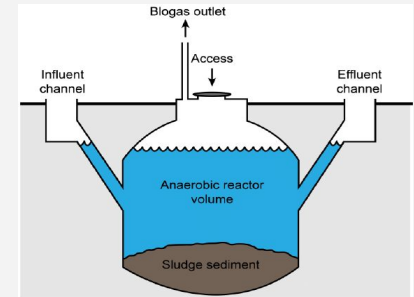


<https://yfile.news.yorku.ca/>

New NUS research has found that over 60 per cent of all university students want to learn more about sustainability, with 87 per cent of all students agreeing that their universities should take sustainability seriously.



<https://www.sos-uk.org/post/two-thirds-of-students-want-to-learn-more-about-sustainability>



Biowaste Digester

Money Matters

- Approximate cost of setting up a Biodigester(1000L) : CAD 1000
- Calorific value of biogas is about 21-23.5 MJ/m³
- Hence, 1 cubic Metre of Biowaste contains 6kWh energy.
- Of which 2kWh is usable, rest is dispersed as heat and can be reused elsewhere.

Installing biogas digesters can save money for industry

Biodigesters can use waste and convert it into electricity or natural gas for use or sale from the farm

Ron Walter
Feb 28, 2021 10:00 AM



<https://www.moosejawtoday.com/local-news/installing-biogas-digesters-can-save-money-for-industry-3460600>

Live Example

- Two generators convert the digested product into a continuous 20 kilowatts of electricity.
- He uses the electricity on the farm and sells the remainder to Ontario Hydro.



**“We won’t let
waste,
waste”**