ZooShare Biogas Project Goes Live, First of its Kind in Canada

Innovative Project turns zoo manure and food waste into energy fit for the grid

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Toronto, Ontario – Today, the ZooShare Biogas Cooperative, in partnership with the Toronto Zoo, Loblaw Companies Ltd. (Loblaw) and EnerFORGE announced that its most recent project has gone live. The ZooShare Biogas Project is the first of its kind in Canada and an example of the circular economy in action. It converts 2,000 tonnes of Zoo manure and 15,000 tonnes of food waste from grocery stores, restaurants and other businesses around the Greater Toronto Area into enough renewable power for approximately 250 homes while reducing greenhouse gas (GHG) emissions by as much as 20,000 tonnes per year. Additionally, after the incoming material has been processed it can be spread on nearby farm fields to support the growth of food the following season.

The media are invited to take a virtual tour of the ZooShare biogas project to see how this unique site functions and hear comments from the partners.

For ZooShare and the Toronto Zoo, the project represents a chance to raise their game in the fight against climate change. Reducing GHG emissions, through the diversion of food waste and generation of renewable energy, is just one of the things the Zoo is doing to fight extinction, as climate change negatively impacts ecosystems critical for species survival. The two organizations are also working together to educate students and the general public on the value of biogas and the importance of properly managing organic waste.

The project is also a natural fit for Loblaw, Canada's largest food retailer and industry leader in the fight to eliminate food waste. Keenly aware of the role the Canadian grocery industry plays in the issue, the company has reduced the amount of food waste sent to landfill from its corporate retail operations by more than eighty per cent since 2016. Loblaw credits innovative thinking and strategic partnerships, such as these, with their success to date.

For EnerFORGE, the project's critical energy infrastructure partner, the ZooShare biogas plant will add to their strategic portfolio of low carbon energy projects and allow them to build new value propositions in

the production of renewable natural gas, hydrogen fuel cells and carbon offset projects. Growing these types of projects will be critical to Canada's goal of achieving net zero emissions by 2050.

This project was also made possible by a Low Carbon Economy Fund grant from the Government of Canada, and support from other contributing organizations including Bullfrog Power, Octaform and Walker Industries.

Quotes from the Collaborators

"ZooShare's launch represents a huge milestone for the 807 co-op members who invested in the project and supported its development. We're proud to show what can be achieved through cooperation and collaboration with organizations committed to implementing solutions that make a positive impact on our environment and community."

Daniel Bida, Executive Director, ZooShare Biogas Cooperative

"The mission of your Zoo is connecting people, animals and conservation science to fight extinction," said Dolf DeJong, CEO, Your Toronto Zoo. "New initiatives and technologies like the ZooShare Biogas plant are important tools in that fight to save species. Conservation is a team sport and we need more players, I am so grateful for partners like ZooShare for joining us on this journey to fight climate change and ensure a brighter future where wildlife and wild spaces thrive," he added.

Dolf DeJong, CEO, Toronto Zoo

"As food retailers, we know that the grocery industry plays a significant role in the creation of food waste and that's why it's incredibly important to us to be a part of the solution," said Tonya Lagrasta, Senior Director Corporate Social Responsibility, Loblaw Companies Ltd. "Our priority is to make sure food ends up where it's supposed to be – on people's plates. But when that's not possible, we're proud to work with partners like ZooShare to find new and innovative opportunities for food that may have otherwise ended up in the landfill."

Tonya Lagrasta, Senior Director Corporate Social Responsibility, Loblaw Companies Ltd

"Canada's Net Zero goals will be achieved through advanced energy collaborations run by leading organizations committed to fighting climate change. We're excited to be demonstrating this principle through our partnership with ZooShare, Toronto Zoo and Loblaws."

Scott Barker, VP Business Development, EnerFORGE

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ZooShare Biogas - Fact Sheet

Location

The ZooShare Biogas plant is located across from the Toronto Zoo, adjacent to the Rouge National Urban Park.

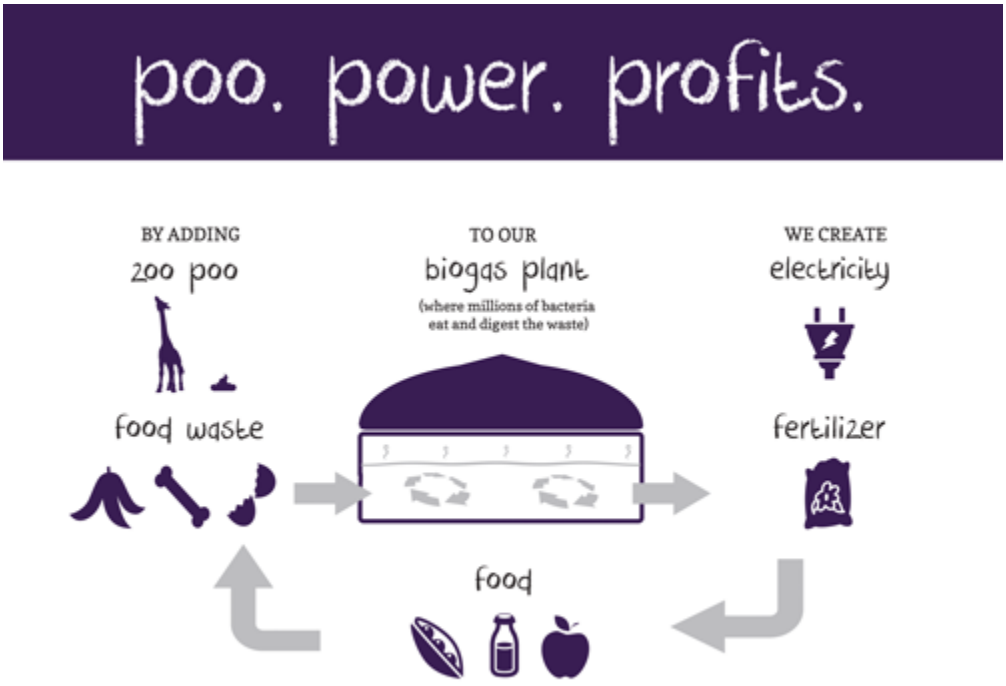
What is Biogas

Biogas is the gas created from the breakdown of organic waste. The gas is formed when bacteria eat organic waste and release methane, carbon dioxide and other gases. Instead of letting these greenhouse gases escape into the atmosphere, we capture the gas and store it until it can be used to create energy. Biogas is a renewable energy source.

Importance of Biogas

At its full potential biogas can deliver a 10% cut in global greenhouse gas emissions by 2030. The UN has said this is the most 'immediate and cost-effective' way to deliver the Paris Agreement target to keep global warming below 2C. In other words, there is no net zero without biogas.

How does the ZooShare Biogas Plant Work



Key Components of the ZooShare Biogas Plant

Waste/Feedstock
Annual feedstock requirements:
Zoo Poo - 2,000 tonnes of zoo material - zoo manure and bedding
Inedible food waste - 15,000 tonnes

Sources of feedstock: Toronto Zoo, restaurants, malls, grocers, food processing companies, and other commercial waste producers.

Power
Rated capacity: 500 kW, which refers to maximum amount of energy generation in an hour
Power produced annually: ≥3.7 million kWh*
*assumption is that the plant will operate at full capacity 85% of the time

Equivalent number of homes that can be fully powered annually: 250 homes
Annual reduction in greenhouse gases (GHG): 20,000 tonnes

End product
Annual output of digestate/fertilizer: 1,080 cubic metres
Digestate/Fertilizer is spread on farm fields twice a year
ZooRenew is high in nitrogen and well-suited for crops like corn, soy, and wheat

Plant
Cost of construction: $7.8 million

Financing: The plant was built by ZooShare Biogas Co-operative and EnerFORGE. The Co-op's investment came from 807 ZooShare members who collectively invested over $4 million, and a Federal government grant through the Low Carbon Economy Fund.

Current Revenue Streams:
1 Producing and selling electricity to the Ontario electric grid
2 Tipping fees for accepting waste
3 Sales of nitrogen rich fertilizer

Plant operator: EnerFORGE
Hours of Operation: 24 hours/day, 7days/week

Can I get electricity from the biogas plant to power my home?
Not directly. The energy produced at the biogas plant is delivered to the main power grid and the electrons are distributed throughout the electricity grid. You may have already used ZooShare-produced electricity without even knowing it!

Can I visit the biogas plant?
ZooShare is planning to host public tours of the biogas plant in the future. Please visit ZooShare.ca and sign up for our newsletter and follow ZooShare on social media to learn more about when tours will begin.