



Challenge: LCBA Canada- Aquatera – Municipal Solid Waste to Energy

Challenge Statement/Synopsis:

Aquatera Utilities inc., a water, wastewater, and Municipal Solid Waste (MSW) company, is seeking solutions to convert municipal solid waste (MSW), including organics and possibly sludge, into revenue generation or cost-reducing end-products. Aquatera manages and recovers over 70,000 tonnes of MSW annually. Through their existing operations, Aquatera already leverages landfill gas fields to power and heat their adjacent water & wastewater treatment plant and is looking to expand its ability to leverage its own and possibly other partners' MSW in an economically beneficial and socially responsible manner.

Context for the Challenge:

Aquatera expects the solutions to have real world testing, no novel technologies, as Aquatera is interested in pursuing and commissioning their first WTE solutions within 1-2 years.

Two distinct approaches are being considered.

1) **Aquatera landfill solution:**

Aquatera's landfill is uniquely located adjacent to their water and wastewater treatment plant which currently has on-site expandable combined heat and power. With excess land space, and > 70,000 tonnes of MSW / year this site could provide synergies not found with typical landfills.

2) **Regional solution:**

Aquatera has and is considering a regional approach where > 250,000 tonnes MSW /year could be available. In addition to MSW partnerships, industrial companies, who require the "end product" have expressed interest in WtE partnerships.

Existing WtE projects in Alberta and the rest of Canada have seen challenges with waste sorting being cited as a main driver to cost overruns and operational issues. With this in mind, waste sorting will be a key focal point when evaluating potential solutions and submission should be tailored accordingly.

Response Criteria:

Please provide the following information as part of your application submission:

Technical Solution:



- Based on our outlined challenge, please elaborate on why your solution/technology is a strong fit for Aquatera's deployment needs
- Technology readiness level (TRL) of your solution
- Required procurement lead time and construction duration
- Scalability and repeatability, including any modularity aspects of your solution
- Safety, environment, and regulatory considerations: Is your solution approved for operation in Canada? What additional regulatory approvals are required?

Project Economics:

- Data to run an economic assessment of your solution: Including, but not limited to: Feedstock requirements, operational/input data, output data
- Engineering & design requirements: Interconnections, land space, etc.

The Opportunity:

As part of the LCBA Canada program you may have the opportunity to:

Partner with a growing regional private utility who has a proven track record at deploying innovative strategies. WtE is gaining traction in Canada, and Aquatera is looking for a company who can provide solutions into the long term.

Further information can be made available upon request for innovators interested in applying to this Challenge, including:

- Site data, layout, infrastructure
- Breakdown of MSW
- Regional description & potential partnerships (i.e., off-takers)
- More detailed facility description, co-generation expansion capacity (1.4 MW), site heat and power load, available land space/footprint

About Aquatera Utilities Inc.:

Aquatera is a full-service utility corporation – a regional provider of water, wastewater, and solid waste services. Aquatera owns and operates a Waste Management Facility (WMF), responsible for managing approximately 70,000 tonnes of solid waste in the City of Grande Prairie (Alberta), per year. This facility includes bioreactor cells that collect landfill gas for conversion into energy to heat and power Aquatera's adjacent Water and Wastewater Treatment Plant. Additionally, Aquatera operates an ECO Centre, and curbside recycling program for City residents to encourage diversion of materials such as cardboard, mixed paper, plastic, tin, styrofoam, bottles/can etc.