Premium Calculation Project
BiogasWorld
Graton Bob
info@biogaworld.com
The client, BiogasWorld, have performed a premium estimation to evaluate the feasibility of developing a biogas plant to process 75,200 t/yr of feedstock and to use the produced biogas in CHP (combined heat and power) application. The client is expecting to process the following feedstock:

<table>
<thead>
<tr>
<th>Description</th>
<th>Tonnes/year</th>
<th>Total solids (%TS)</th>
<th>Volatile solids (%VS)</th>
<th>Contaminants (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable waste</td>
<td>15,200</td>
<td>25.00</td>
<td>90.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Unsorted Waste</td>
<td>35,000</td>
<td>40.00</td>
<td>85.00</td>
<td>5.00</td>
</tr>
<tr>
<td>Custom Feedstock</td>
<td>25,000</td>
<td>25.00</td>
<td>75.00</td>
<td>5.00</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>75,200</strong></td>
<td><strong>31.98</strong></td>
<td><strong>83.19</strong></td>
<td><strong>5.00</strong></td>
</tr>
</tbody>
</table>

The proposed Municipal plant will treat 75,200 t/yr of feedstock to produce an average of 736 m³/hr of biogas and 179,290 t/yr of digestate. The project biogas production will vary over the months and the years as illustrated in the following graph:

The biogas sold in the form of CHP (combined heat and power) could generate approximately 551,518 USD/yr in revenue.
# Project Summary

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Client Name</strong></td>
<td>BiogasWorld</td>
</tr>
<tr>
<td><strong>Project Name</strong></td>
<td>Premium Calculation Project</td>
</tr>
<tr>
<td><strong>Project Location</strong></td>
<td>Ottawa</td>
</tr>
<tr>
<td><strong>Feedstock Inflation</strong></td>
<td>0.60 %</td>
</tr>
<tr>
<td><strong>Biogas Usage</strong></td>
<td>CHP (combined heat and power)</td>
</tr>
<tr>
<td><strong>Plant Type</strong></td>
<td>Municipal</td>
</tr>
<tr>
<td><strong>Digestate Usage</strong></td>
<td>Directly to land</td>
</tr>
<tr>
<td><strong>Digester Type</strong></td>
<td>Wet</td>
</tr>
</tbody>
</table>

This graph shows the increase of feedstock related to the inflation.

![Graph showing feedstock evolution](image)
Electricity Revenue

This table represents the possible income generated by Electricity sales:

<table>
<thead>
<tr>
<th>Feedstock</th>
<th>Year1</th>
<th>Year5</th>
<th>Year20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable waste</td>
<td>379 722</td>
<td>388 918</td>
<td>425 430</td>
</tr>
<tr>
<td>Unsorted Waste</td>
<td>581 353</td>
<td>595 431</td>
<td>651 330</td>
</tr>
<tr>
<td>Custom Feedstock</td>
<td>316 609</td>
<td>324 276</td>
<td>354 719</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1 277 684</strong></td>
<td><strong>1 308 625</strong></td>
<td><strong>1 431 479</strong></td>
</tr>
</tbody>
</table>

Heat Revenue

This table represents the possible Heat Revenue:

<table>
<thead>
<tr>
<th>Feedstock</th>
<th>Year1</th>
<th>Year5</th>
<th>Year20</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable waste</td>
<td>163 909</td>
<td>167 878</td>
<td>183 639</td>
</tr>
<tr>
<td>Unsorted Waste</td>
<td>250 944</td>
<td>257 021</td>
<td>281 150</td>
</tr>
<tr>
<td>Custom Feedstock</td>
<td>136 666</td>
<td>139 975</td>
<td>153 116</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>551 518</strong></td>
<td><strong>564 874</strong></td>
<td><strong>617 905</strong></td>
</tr>
</tbody>
</table>

Sizing Parameters

This table represents the main value for the project sizing:

<table>
<thead>
<tr>
<th>OLR (kgVS/m3/day)</th>
<th>HRT (days)</th>
<th>Digester Volume (m3)</th>
<th>Feedstocks flow (m3/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.6</td>
<td>22</td>
<td>23 310</td>
<td>21</td>
</tr>
</tbody>
</table>
Contact Informations

Laboratories and Scientific Services Category

CNETE

🌐 http://www.cnete.qc.ca
✉️ jcharbonneau@collegeshawinigan.qc.ca
📞 +1-819-539-8508

CRIQ

🌐 http://www.criq.qc.ca
✉️ frederic.otis@criq.qc.ca
📞 418 659-1550

Englobe

🌐 http://englobecorp.com/canada/en
✉️ serge.loubier@englobecorp.com
📞 +1-866-981-0191

Anaergia

🌐 http://www.anaergia.com
✉️ info@anaergia.com

Digester Doc

🌐 http://www.digesterdoc.com
✉️ willcharlton74@gmail.com
📞 +1-208-731-3234

Biogas Suppliers Category

Element Markets

🌐 http://www.elementmarkets.com/
✉️ tmoffett@elementmarkets.com

The Energy Authority (TEA)

🌐 http://www3.teainc.org
✉️ jmahne@teainc.org

Organics Ltd

🌐 http://organics.co.uk/en/
PlanET Biogas Solutions Inc.

- [醚] D.Hundert@planet-biogas.com

West Salem Machinery

- [醚] info@westsalem.com

Biogas CHP Category

Force Energy

- [醚] etienne.patenaude@force-energy.com

MTU Onsite Energy

- [醚] info@mtu-online.com

TTcogen LLC

- [醚] Stanislav.Soucek@TTcogen.com

TEDOM

- [醚] tedom@tedom.com

SES Energie

- [醚] https://www.ses-energiesysteme.com
- [醚] info@ses-energiesysteme.com

LNG Category

Praxair Inc

- [醚] phil_davis@praxair.com
- [醚] 1-716-879-4077

Cryostar
Chart Industries

http://www.chartindustries.com/
email: lngfueling@chartindustries.com

Heat Exchangers Category

Walker Process Equipment

http://www.walker-process.com
email: walker.process@walker-process.com

Westcome Heat Exchangers A/S

http://www.westcome.com
email: pj@westcome.com

CSO Technik

http://www.csotechnik.com
email: sales@csotechnik.com

Therma-Flite

http://www.therma-flite.com/
email: info@therma-flite.com

HRS Heat Exchangers

http://www.hrs-heatexchangers.com
email: info@hrs-he.com
phone: +1 623 915 4328
Get support from our team and partners to evaluate further your project. Schedule a call with us.

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Find projects that are already operating and check out their project data

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