

GIBSONS DISTRICT ENERGY UTILITY (GDEU)



AT A GLANCE

The GDEU is a geothermal utility system that harnesses heat from the earth to supply energy to Gibsons' RCMP station and to 58 homes in the Parkland subdivision in Upper Gibsons.

The Town built the GDEU in order to reduce Gibsons' carbon footprint, reduce energy costs for residents and businesses, and provide a stable source of revenue for the Town.

In connection with this system, the Town owns and operates:

- 1 pumphouse
- 3 energy fields (geo fields)
- 3.7 km of distribution piping and service connections

The Town's segment of the utility links to the private (resident-owned) segment of the system, which includes individual service lines and heat pumps.

GDEU rates are based on calculated heat loss for each home, with calculations provided to the Town by the builder.

COMMUNITY GOALS

- Business plan update
- Ongoing evaluation of options for future expansion

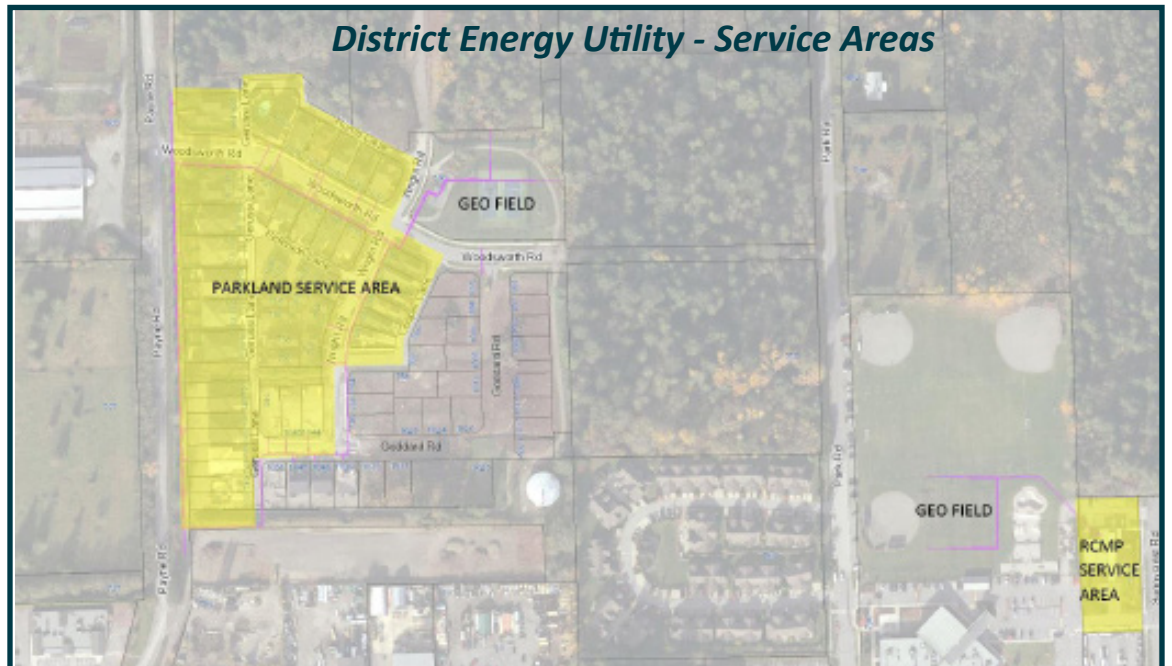
RELIABILITY AND RISKS

Reliable service requires:

- regular monitoring
- preventative maintenance
- adequate staffing

Risks of cutting costs are:

- interruptions to service due to leaks or breakages
- costly reactive maintenance
- delayed response time



Constructed in 2011, the geo field near the Parkland neighbourhood currently serves 58 homes. The RCMP Station (bottom right) is serviced by a smaller field. It was constructed in 2012.

ASSET MANAGEMENT

Historical costs* = \$1,251,000
(Infrastructure installed from 2011 - 2017)
*total \$ spent on infrastructure to date

Operations & Maintenance

Currently, the GDEU is monitored and maintained by Town staff.

Current & Planned Capital Projects

2017

- Installation of 2 gas backup boilers, pump control refinements, system programming: \$133,000

2018

- Strata service connection repairs: \$12,000

While initial plans called for more homes to be connected to the GDEU, the requirement for costly additional infrastructure, has made that plan undesirable in the short term.

Operations & Maintenance Overview

Improvements were made by the Town during 2017 and 2018 to ensure the GDEU will run as efficiently as possible; ongoing monitoring will provide the Town with the information to determine to what degree the efficiencies will steer future expansion of the system.

- Gas boilers were installed to provide a back up heat source for the system
- New pumps were installed which are able to pump fluid at a higher rate. This will translate to more efficient use of the heat around the fields.
- New pump controls allow better control of when pumps turn on and how many pumps are running at any given time. This should provide a savings on electricity use.
- A new monitoring program enables remote monitoring of the system and will enable better response to provide any changes to the system necessary to improve ongoing efficiencies.



Installing slinky in geo-fields



Interior shot of GDEU Pumphouse