

In February 2000 Alberta Infrastructure selected Ameresco to conduct a Feasibility Study which included: 25 facilities in order to identify measures that would result in energy savings and facility enhancement.

CoGeneration Program

The resulting cogeneration project at Vegreville Agriculture Research Council (ARC) undertaken by Ameresco Canada was one element of a \$4.8 million energy Performance Contract with Alberta Infrastructure.

In addition to the cogeneration project, Ameresco also installed efficiency measures in 24 other Alberta Government buildings in the North East quadrant of the province. The measures were completed by Ameresco.

The cogeneration project was implemented under a turnkey, design-build model, and along with the rest of the project, was being financed out of the savings stream over seven and a half years.

Project Highlights

- Project Value: \$1.6 million (Design-build)
- 27% reduction in utility savings
- 37% reduction in Greenhouse Gas emissions
- 850KW natural gas fired reciprocating engine/generator (12 cylinders)
- Simultaneous production of electricity and heat
- Unique complexity demonstrates engineering expertise
 - electrical integration with multiple emergency generators and dual utility feed
 - hot water extracted and fed into four separate heating loads
 - steam from exhaust injected into steam plant header
 - more than 70% of waste heat recovered to offset gas consumption
- Demonstration project for Alberta Provincial Government



Vegreville Agriculture Research Council, Alberta

Project Benefits

The net result is that the facility's gas consumption increased incrementally (the net effect after using the gas to run the engine), however, the electricity costs showed a significant reduction with net savings of \$230,000 per year (27% reduction).

Since Alberta's electrical grid is predominantly coal fired (i.e; it has high greenhouse gas content) using cleaner natural gas to generate power and offset grid power while recovering the waste heat has a dramatic impact on greenhouse gas emissions.

For more information about Ameresco and Better Facilities™ please contact Craig Piercey at 1-888-483-7267. Visit us online at www.ameresco.ca.

