

Ground Source Heat Pump Installations, Canada

Offsetters has secured the offset rights from a number of ground-source heat pump installations in affordable housing facilities, community centres, and First Nations administrative buildings in Canada.

For example, the Semiamhoo House Society provides a facility for the acquisition of life skills needed for semi-independent living. A ground-source heat pump (GSHP) system was installed in 2002. Since then, it has reduced the operational cost of heating the facility by 75% relative to conventional approaches to heating and cooling service provision.

However, given historically low energy prices in British Columbia and high capital costs for GSHP installation, the payback period for a project like this is still over 12 years, making it unfeasible for a not-for-profit entity such as Semiahmoo House. As such, this ground-source heat pump would not have been installed without the financial contribution from carbon credits.

In addition to reducing the operating cost burden of this valuable not-for-profit society, the ground-source heat pump system has prevented the release of 463 tonnes of CO₂ per year relative to the traditional heating system that would have been installed otherwise. This results in a stream of high quality carbon offsets that are:

1. **Real** (the installation took place and expected emissions reductions relative to baseline are being achieved);
2. **Additional** (the project would not have taken place without the presence of funds from carbon offset credits, meeting the technology, investment, timing, and common practice tests);
3. **Permanent** (in replacing a conventional, high GHG-intensity heat source with a low GHG-intensity one, the system has achieved permanent reductions in emissions since it was installed).

Third Party Validation

This project was assessed by third party auditor A.D. Williams Engineering Inc. as generating high quality carbon offsets.