



ENERGY EFFICIENCY IN THE NWT

2012

Investments in energy efficiency reduce the total energy required for a particular service such as providing lighting or heating a building. The Government of the Northwest Territories (GNWT) recognizes that energy efficiency reduces energy costs and greenhouse gas emissions. The GNWT encourages efficiency through several programs that are listed below.

Energy Efficiency Incentive Program (EEIP)

This program was designed to provide rebates to people who purchase new, more energy efficient models of products that they use every day. Assistance is currently provided for Energy Star washing machines and refrigerators, Energy Star rated heat recovery ventilators, high efficiency furnaces and boilers, high efficiency water heaters, insulation for homes, Energy Star Zone D rated doors and windows, and drain water heat recovery systems.

EnerGuide for Houses Program (EGH)

This program offers home energy evaluations at a subsidized cost. The evaluation is undertaken according to the standards of Natural Resources Canada's EnerGuide Rating System and provides an assessment of a home's energy efficiency through heat loss calculations, appliance assessment and a blower door test. The evaluation includes a report which outlines potential energy efficiency upgrades, their estimated savings, and the funding potential. The evaluations allow homeowners to make informed decisions about which actions are most suitable for reducing their energy use and costs.

Energy efficiency saves energy and money and reduces green-house gas emissions. It can be considered a green energy source just like solar and wind.

Energy Conservation Program (ECP)

This program supports projects which reduce the use of electricity, heating energy and water, and is available to community governments, boards or agencies and non-profit organisations. Funding of 50% of total costs is available to a maximum of \$50,000 per project.

Commercial Energy Conservation and Efficiency Program (CECEP)

This program helps businesses to reduce energy use and costs by providing free energy audits and partial funding for any recommendations that are implemented. Yardstick energy audits are completed as a first step in the audit process to accurately evaluate energy use and compare energy use to other similar facilities. Energy saving measures are eligible for 25% funding to a maximum of \$10,000 per business per year.

Capital Asset Retrofit Fund (CARF)

This is a revolving fund that is managed by the Department of Public Works and Services (PWS) GNWT. The fund applies only to GNWT buildings and is used for energy-saving projects. Financial savings from the projects are returned to the fund in order to implement more projects.

Common Efficiency Measures for Buildings

Some of the measures listed below are applicable to all buildings while others are applicable only to large buildings, and not all measures are suitable for any specific building due to variations in occupancy, energy use and costs, and project costs.

- Installing new energy star Zone D-rated windows and doors
- Installing additional exterior insulation
- Improving lighting efficiency through replacement of old light fixtures and bulbs with new models, or by using controls such as occupancy sensors and daylight sensors
- Replacing old appliances with new Energy Star models
- Reducing hot water energy demand through low-flow fixtures and drain water heat recovery
- Replacing water heaters, furnaces, and boilers with high efficiency models
- Reducing air leakage through walls, doors, and windows
- Installing CO² sensing, timing controls, and/or heat recovery on ventilation systems
- Installing boiler controls
- Installing programmable thermostats or building automation systems to reduce space temperatures during unoccupied periods
- Installing parking lot controllers to reduce electricity requirements for vehicle block heaters

Energy consumption at Rockhill Apartments in Yellowknife dropped by 13% following the installation of new, more energy-efficient washing machines, as well as programmable thermostats.



Timeclocks such as this one from the Tuktoyaktuk Hamlet Office are used to turn equipment such as lights and ventilation on and off according to specific schedules. This provides dramatic energy savings for customers.

The GNWT achieved a 36% reduction in energy costs at the Deh Gah School in Fort Providence by implementing a lighting retrofit and optimizing how the boilers are controlled.

Case Study: Schools in the NWT

The Department of PWS completed a study in 2008 that showed that the most efficient school in the NWT with regards to heating used 3.6 times less heating energy—adjusted for size—than the least efficient school. Likewise, the most efficient school with regards to electricity used 2.7 times less energy—again adjusted for size—than the least efficient school. These differences are due to a few factors, such as occupancy and weather, building management, maintenance, and the type of systems being installed. If the schools with above average energy consumptions could be made more efficient and brought to a level 10% lower than the average in 2008, the report stated that the GNWT would save \$850,000 per year and reduce greenhouse gas emissions by 1,500 tonnes per year.