



Bluefish Hydroelectric Dam

Electrical Generation in the NWT

The Northwest Territories uses three main energy sources to generate electricity: water, diesel and natural gas. Eight communities use hydroelectricity. The remaining 23 communities rely on diesel-fired power plants. Inuvik and Norman Wells use natural gas.

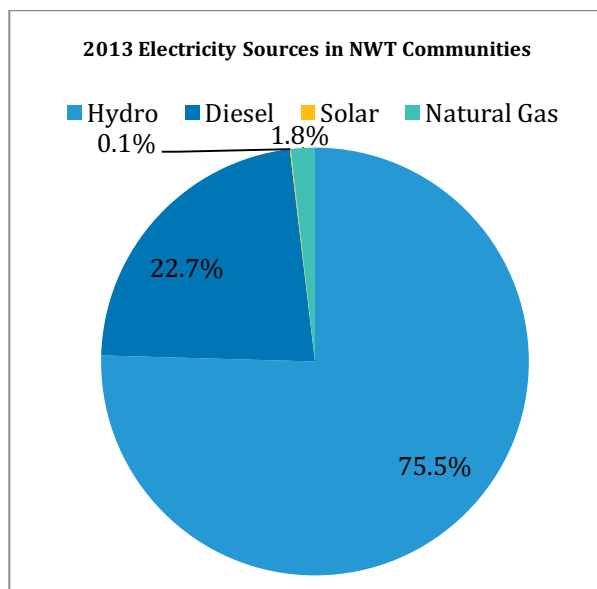


Figure 1 - 2013 representative of generation in the NWT due to unusually low water in 2014-2015.

Electricity Suppliers

There are two major electricity distributors in the NWT.

- The Northwest Territories Power Corporation (NTPC), a GNWT Crown Corporation.
- Northland Utilities Limited (NUL) consists of two companies, NUL Yellowknife and NUL NWT.

How is Electrical Energy Measured?

Electrical power is the rate of energy flow, and is measured in Watts (W). Electrical energy is equal to electrical power multiplied by the time it is used, and is usually measured in Kilowatt-hours (kWh).

A gigawatt hour (GWh) is equal to one billion watt-hours or one million kilowatt-hours. NWT communities used about 370 GWh in 2014-15

NWT Power Plants and Transmission Lines



Figure 2 - Yellow lines are the transmission lines connecting hydroelectric sites to communities

Key Facts

- Liquid Natural Gas (LNG) is used for power generation in Inuvik.
- Imperial Oil in Norman Wells supplies NTPC with natural gas fired electricity.
- Outside of low water years, which happen every eight to ten years, the North Slave region has a 30% surplus in energy available.
- The South Slave hydro electric grid has an 8MW surplus hydroelectric capacity.
- More than 75% of the electricity provided to communities comes from renewable hydroelectricity.

Powers Plants by Location, Installed Capacity, Owner and Type

Diesel Electricity

Location	MW	Owner	Type
25 communities	65	Northwest Territories Power Corporation (NTPC)	Diesel
5 communities	8	NUL (Northland Utilities Limited)	Diesel
4 mines	113	Various	Diesel

Natural Gas Electricity

Location	MW	Owner	Type
Norman Wells	15	Imperial Oil Limited (IOL)	Natural Gas
Inuvik	8	NTPC	Natural Gas

Renewable Electricity

Location	MW	Owner	Type
Snare Group	29	NTPC	Hydroelectric
Bluefish (Yellowknife River)	8	NTPC	Hydroelectric
Taltson	18	NTPC	Hydroelectric
Diavik	9	Mine	Wind
Various Locations	1	Various	Solar

MW value have been rounded



Snare Hydroelectric Plant



Transmission Line on the
Snare System



Diesel-fuelled Electricity Generator