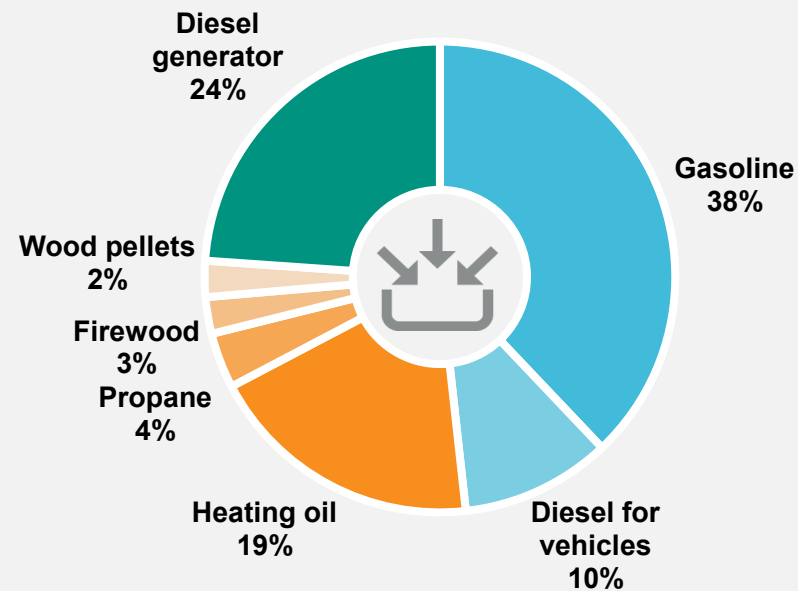


Energy Sources – 1 Year



Diesel generator produces

33% electricity
67% waste heat



Energy cost

Total: \$7,540,000

Cost per person: \$10,400

37% gasoline
9% diesel for vehicles
35% diesel generator
14% heating oil
3% propane
1% firewood
1% wood pellets



Renewable energy

5% of total energy
3% of total from firewood
2% of total from wood pellets
0.03% of total from solar PV

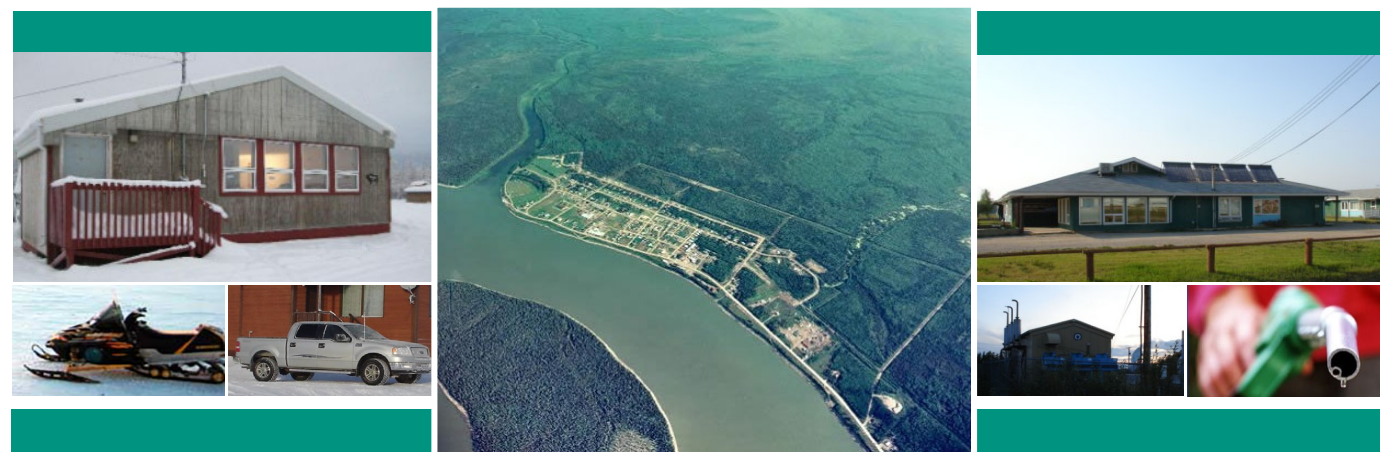
Unless otherwise noted, numbers reflect energy sources purchased or sourced in the community, and do not include industry or commercial transport. Percentages may not add to 100% due to rounding.

ENERGY PROFILE

Where we get energy and how we use it

FORT PROVIDENCE 2018

Population: 722

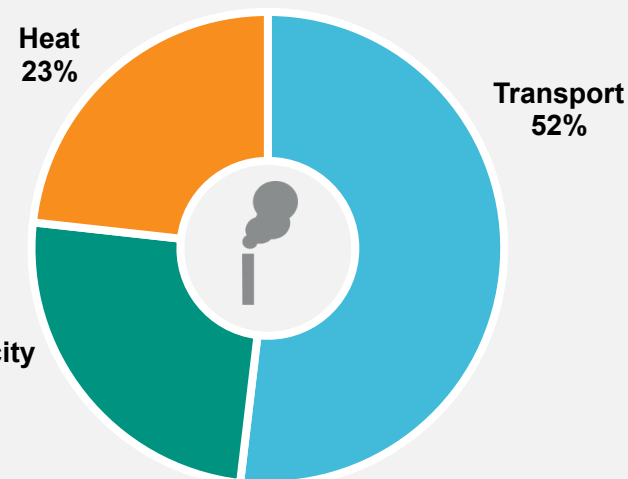
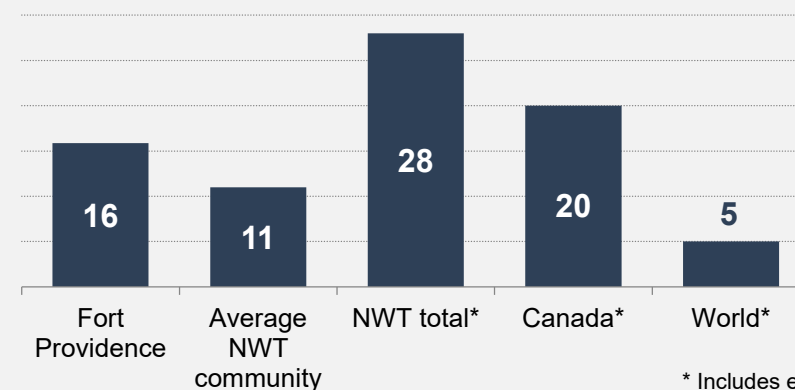


Greenhouse Gas (GHG) Emissions – 1 Year

Community total GHG emissions per year

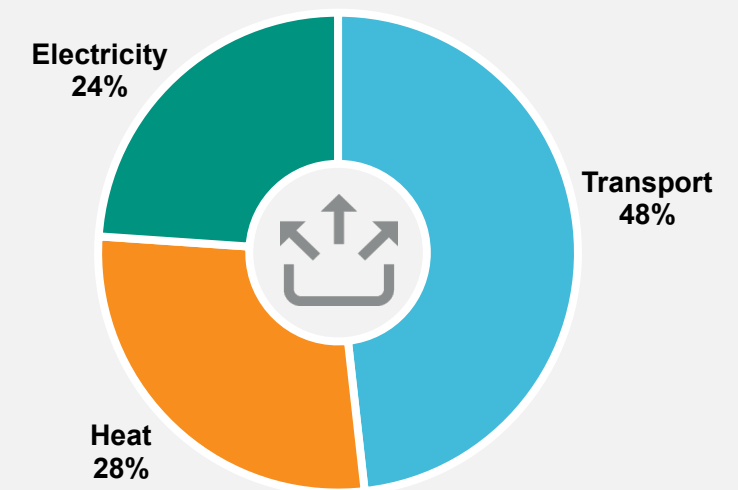
11,000 tonnes
16 tonnes/person

Average tonnes of GHGs



* Includes emissions from industry and commercial transport.

Energy Use – 1 Year



Energy use in homes

17% of total energy
41% of total electricity
69% of total heating oil
50% of total propane
100% of total firewood
12% of total wood pellets



Energy use in other buildings

Store, school, church, office, arena, library, etc.

13% of total energy
59% of total electricity
31% of total heating oil
50% of total propane
88% of total wood pellets

Transport (local – no air transport)

Cars, trucks, boats, ATVs, skidoos, etc.

48% of total energy

Fuel purchased in the community.



Waste energy

From electricity production and heating

22% of total energy



ENERGY PROFILE

FORT PROVIDENCE 2018

EXTRA INFO

What's a megajoule (MJ)?

A joule is a unit of energy. A megajoule is 1 million joules.

Some examples:

- 1 BBQ propane tank = 500 MJ
- 1 kWh = 3.6 MJ
- 1 L of heating oil = 38.4 MJ
- 1 L of propane = 26.6 MJ
- 1 tonne of wood pellets = 19,200 MJ
- 1 cord of wood = 18,700 MJ

What's waste energy?

When fuels are burned, some of their energy is released as heat that can't be used. The amount of energy that an appliance or device can use is called its efficiency. For example:

Diesel generators can usually only convert 25–35% of the diesel's energy to electricity, while 65–75% is released as heat.

Furnaces, boilers, wood stoves and other heating appliances can use anywhere from 70% to more than 95% of the heat they produce. The rest is released up the chimney.

Energy sources



Gasoline

- 38% of total energy
- Cost: \$2,810,000
- Amount: 1,920,000 Litres
- GHGs: 4,710 tonnes
- Energy: 64,600,000 MJ



Diesel generator

- 24% of total energy
- Cost: \$2,630,000
- Amount: 1,060,000 Litres
- GHGs: 2,850 tonnes
- Energy: 40,700,000 MJ



Heating oil

- 19% of total energy
- Cost: \$1,060,000
- Amount: 845,000 Litres
- GHGs: 2,270 tonnes
- Energy: 32,500,000 MJ



Diesel for vehicles

- 10% of total energy
- Cost: \$700,000
- Amount: 458,000 Litres
- GHGs: 1,230 tonnes
- Energy: 17,600,000 MJ



Propane

- 4% of total energy
- Cost: \$191,000
- Amount: 244,000 Litres
- GHGs: 376 tonnes
- Energy: 6,500,000 MJ



Firewood

- 3% of total energy
- Cost: \$80,000
- Amount: 229 Cords
- GHGs: 8 tonnes
- Energy: 4,280,000 MJ



Wood pellets (commercial)

- 2% of total energy
- Cost: \$52,000
- Amount: 193 tonnes
- GHGs: 7 tonnes
- Energy: 3,710,000 MJ



Wood pellets (residential)

- 0.3% of total energy
- Cost: \$9,000
- Amount: 27 tonnes
- GHGs: 1 tonne
- Energy: 518,000 MJ



Solar PV

- 0.03% of total energy
- Cost: \$0
- Amount: 15,200 kWh
- GHGs: 0 tonnes
- Energy: 55,000 MJ

Total community energy use

- 170,400,000 MJ
- 240,000 MJ/person

The AEA has tried to ensure our data is as accurate as possible, but there could be mistakes. If something seems incorrect, please contact us to let us know.

References

Energy source and use data: Private suppliers and utilities, and the Government of the Northwest Territories Bureau of Statistics and Department of Infrastructure.

GHG emissions data: <https://www.cer-rec.gc.ca/nrg/ntgrtd/mrkt/nrgsstmprfls/nt-eng.html>

https://ourworldindata.org/grapher/co-emissions-per-capita?tab=chart&country=AUS+CAN+USA+OWID_WRL

Total NWT energy use

Total: 20 billion MJ/year

