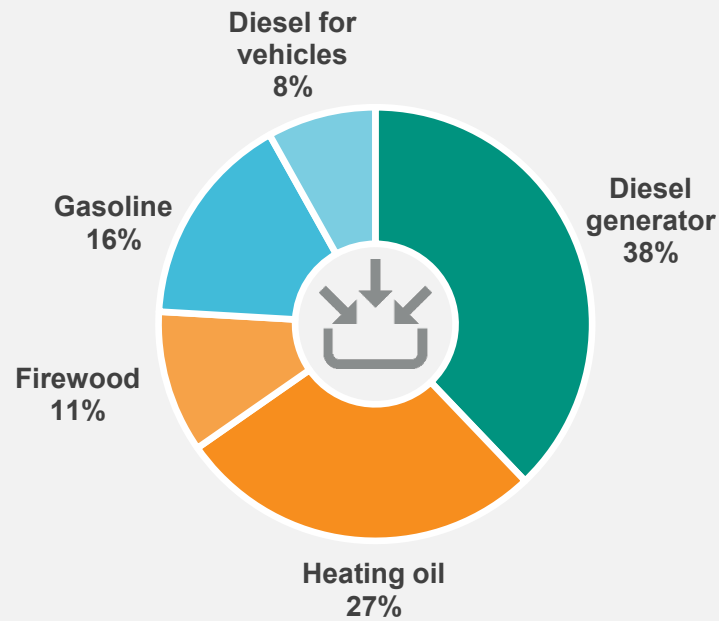


Energy Sources – 1 Year



Diesel generator produces electricity and heat

26% electricity
74% waste heat



Energy cost

Total: \$1,100,000
Cost per person: \$13,000
59% diesel generator
19% heating oil
4% firewood
13% gasoline
6% diesel for vehicles



Renewable energy

11% of total energy
11% of total from firewood
0.1% 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

NAHANNI BUTTE 2023

Population: 87

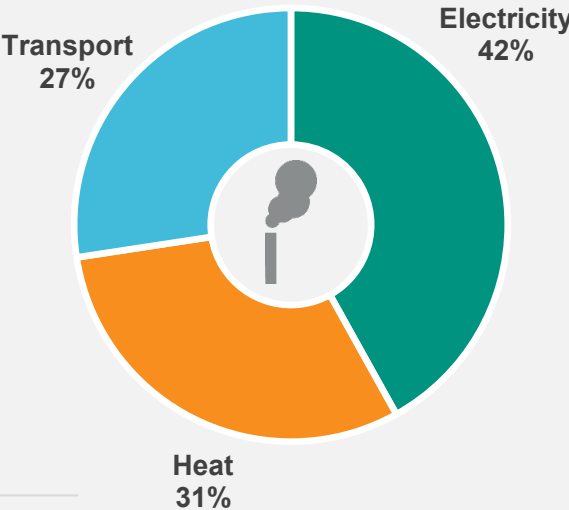
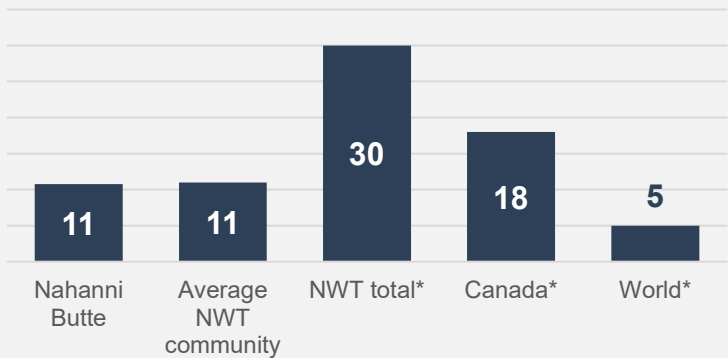


Greenhouse Gas (GHG) Emissions – 1 Year

Community total GHG emissions per year

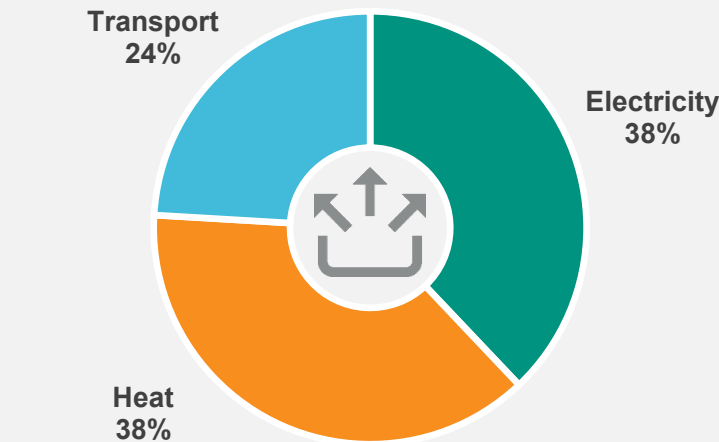
900 tonnes
11 tonnes/person

Average tonnes of GHGs per person per year



* Includes emissions from industry and commercial transport.

Energy Use – 1 Year



Energy use in homes

22% of total energy use
48% of total electricity
44% of total heating oil
100% of total firewood



Energy use in other buildings

Store, school, church, office, arena, library, etc.
17% of total energy use
52% of total electricity
56% of total heating oil



Transport (local – no air transport)

Cars, trucks, boats, ATVs, skidoos, etc.
24% of total energy use
Fuel purchased in the community.



Waste energy

From electricity production and heating
37% of total energy use

ENERGY PROFILE

NAHANNI BUTTE 2023

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
- 1 barrel of oil = 6,100 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



Diesel generator

- 38% of total energy
- Cost: \$660,000
- Amount: 146,000 Litres
- GHGs: 392 tonnes
- Energy: 5,600,000 MJ



Heating oil

- 27% of total energy
- Cost: \$209,000
- Amount: 106,000 Litres
- GHGs: 284 tonnes
- Energy: 4,060,000 MJ



Gasoline

- 16% of total energy
- Cost: \$142,000
- Amount: 70,100 Litres
- GHGs: 172 tonnes
- Energy: 2,360,000 MJ



Firewood

- 11% of total energy
- Cost: \$50,300
- Amount: 84 Cords
- GHGs: 3 tonnes
- Energy: 1,570,000 MJ



Diesel for vehicles

- 8% of total energy
- Cost: \$66,200
- Amount: 31,200 Litres
- GHGs: 84 tonnes
- Energy: 1,200,000 MJ



Solar PV

- 0.1% of total energy
- Cost: \$0
- Amount: 3,910 kWh
- GHGs: 0 tonnes
- Energy: 14,000 MJ

Community GHG emissions

- Homes: 18%
- Other buildings: 13%
- Transport: 27%
- Diesel generator: 42%

Total community energy use

- 14,800,000 MJ
- 170,000 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 (2020)

Total: 17.5 billion MJ/year

