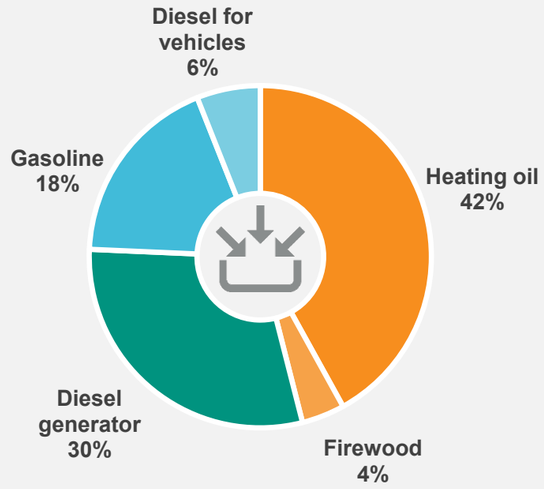
ENERGY PROFILE

Where we get energy and how we use it

TSIIGHETCHIC 2023

Population: 192

Energy Sources – 1 Year



Diesel generator produces electricity and heat

30% electricity
70% waste heat

Energy cost

Total: $2,100,000
Cost per person: $11,000

42% diesel generator
34% heating oil
2% firewood
17% gasoline
5% diesel for vehicles

Renewable energy

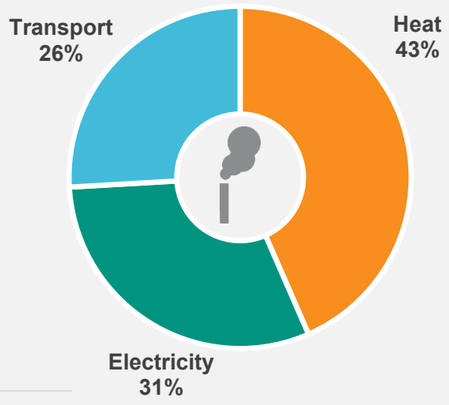
4% of total energy
4% of total from firewood
0.1% of total from solar PV

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.

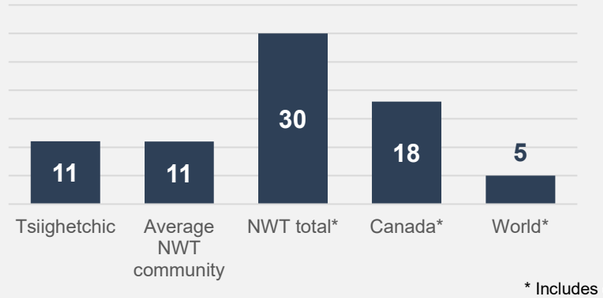
Greenhouse Gas (GHG) Emissions – 1 Year

Community total GHG emissions per year

2,100 tonnes
11 tonnes/person

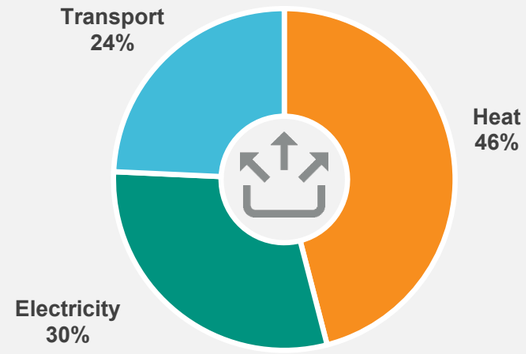


Average tonnes of GHGs per person per year



* Includes emissions from industry and commercial transport.

Energy Use – 1 Year



Energy use in homes

19% of total energy use
50% of total electricity
34% of total heating oil
100% of total firewood

Energy use in other buildings

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

27% of total energy use
50% of total electricity
66% 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

30% of total energy use

Arctic Energy Alliance

Revised January 2025

ENERGY PROFILE

TSIIGHETCHIC 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

Heating oil

- 42% of total energy
- Cost: $727,000
- Amount: 341,000 Litres
- GHGs: 918 tonnes
- Energy: 13,100,000 MJ

Diesel generator

- 30% of total energy
- Cost: $886,000
- Amount: 241,000 Litres
- GHGs: 649 tonnes
- Energy: 9,260,000 MJ

Gasoline

- 18% of total energy
- Cost: $361,000
- Amount: 170,000 Litres
- GHGs: 417 tonnes
- Energy: 5,710,000 MJ

Diesel for vehicles

- 6% of total energy
- Cost: $108,000
- Amount: 48,900 Litres
- GHGs: 131 tonnes
- Energy: 1,880,000 MJ

Firewood

- 4% of total energy
- Cost: $40,700
- Amount: 68 Cords
- GHGs: 0 tonnes
- Energy: 1,270,000 MJ

Solar PV

- 0.1% of total energy
- Cost: $0
- Amount: 12,200 kWh
- GHGs: 0 tonnes
- Energy: 43,900 MJ

Community GHG emissions

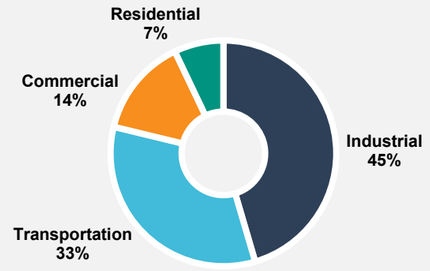
- Homes: 17%
- Other buildings: 27%
- Transport: 26%
- Diesel generator: 31%

Total community energy use

- **31,300,000 MJ**
- 163,000 MJ/person

Total NWT energy use (2020)

Total: 17.5 billion MJ/year



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