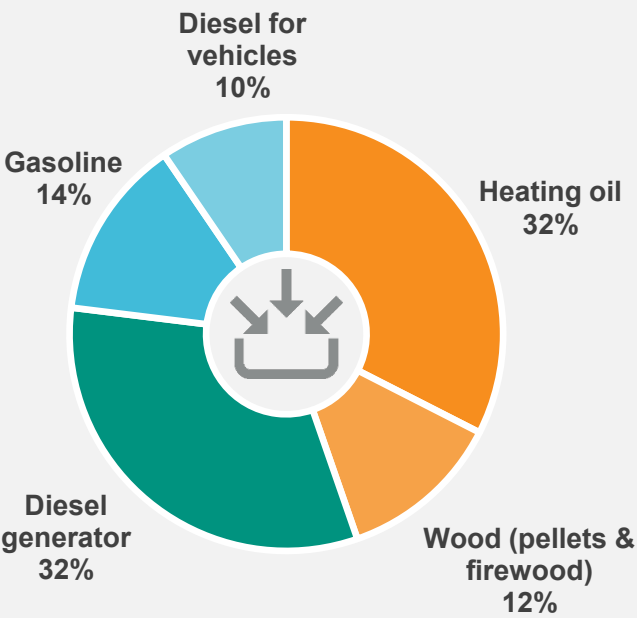


Energy Sources – 1 Year



Diesel generator produces electricity and heat

30% electricity
70% waste heat



Energy cost

Total: \$3,100,000
Cost per person: \$11,000

52% diesel generator 1% wood pellets
24% heating oil 12% gasoline
3% firewood 8% diesel for vehicles



Renewable energy

12% of total energy
9% of total from firewood
3% of total from wood pellets
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

GAMETI 2023

Population: 282

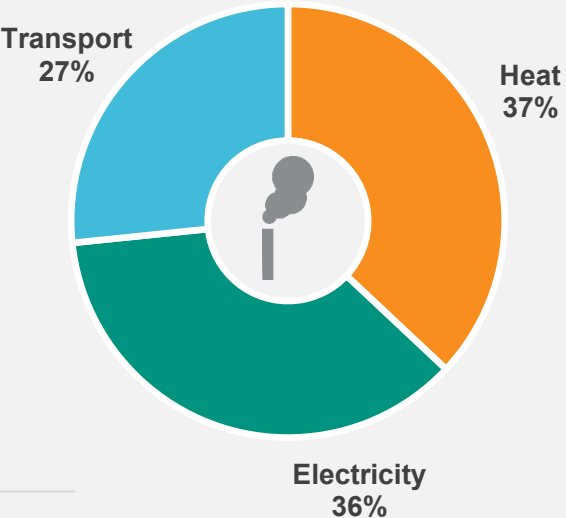
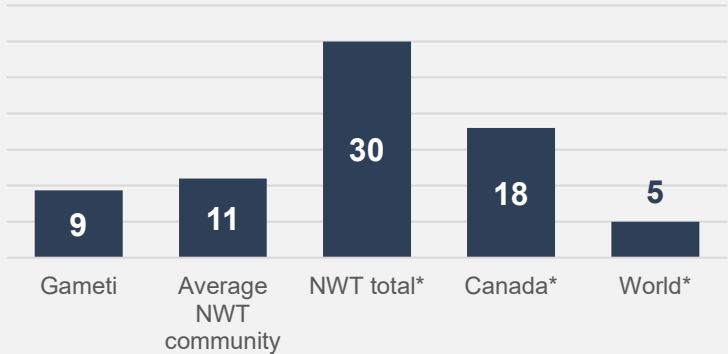


Greenhouse Gas (GHG) Emissions – 1 Year

Community total GHG emissions per year

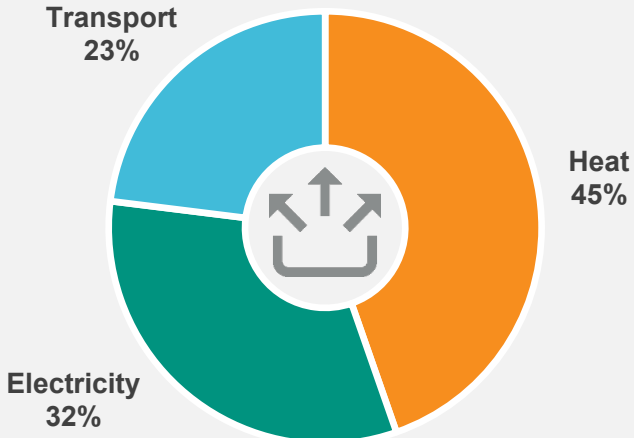
2,600 tonnes
9 tonnes/person

Average tonnes of GHGs per person per year



* Includes emissions from industry and commercial transport.

Energy Use – 1 Year



Energy use in homes

23% of total energy use
53% of total electricity
42% of total heating oil
100% of total firewood



Energy use in other buildings

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

22% of total energy use
47% of total electricity
58% of total heating oil
100% of total wood pellets



Transport (local – no air transport)

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

23% of total energy use
Fuel purchased in the community.



Waste energy

From electricity production and heating

32% of total energy use

ENERGY PROFILE

GAMETI 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

- 32% of total energy
- Cost: \$1,620,000
- Amount: 356,000 Litres
- GHGs: 956 tonnes
- Energy: 13,700,000 MJ



Heating oil

- 32% of total energy
- Cost: \$752,000
- Amount: 358,000 Litres
- GHGs: 963 tonnes
- Energy: 13,800,000 MJ



Gasoline

- 14% of total energy
- Cost: \$365,000
- Amount: 170,000 Litres
- GHGs: 418 tonnes
- Energy: 5,720,000 MJ



Diesel for vehicles

- 10% of total energy
- Cost: \$235,000
- Amount: 105,000 Litres
- GHGs: 282 tonnes
- Energy: 4,030,000 MJ



Firewood

- 9% of total energy
- Cost: \$107,000
- Amount: 214 Cords
- GHGs: 7 tonnes
- Energy: 4,010,000 MJ



Wood pellets (commercial)

- 3% of total energy
- Cost: \$26,400
- Amount: 60 tonnes
- GHGs: 0 tonnes
- Energy: 1,150,000 MJ



Solar PV

- 0.1% of total energy
- Cost: \$0
- Amount: 8,000 kWh
- GHGs: 0 tonnes
- Energy: 28,800 MJ

Community GHG emissions

- Homes: 19%
- Other buildings: 18%
- Transport: 27%
- Diesel generator: 36%

Total community energy use

- 42,300,000 MJ
- 150,000 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

