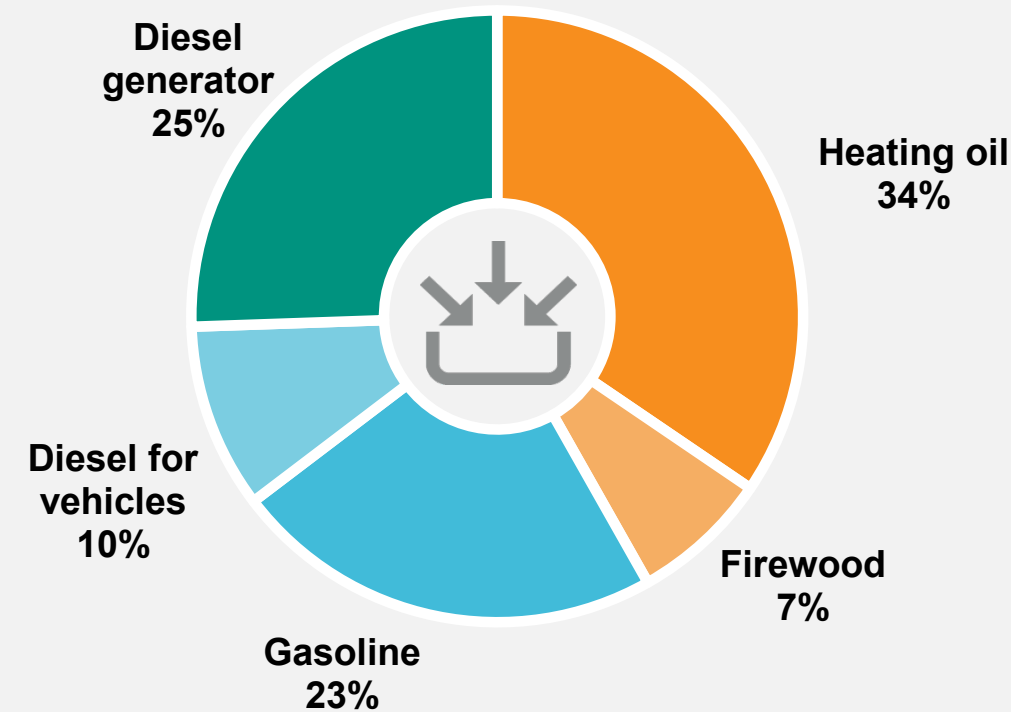


## Energy Sources – 1 Year



### Diesel generator produces

**33%** electricity  
**66%** waste heat  
**1%** recovered heat



### Energy cost

**Total: \$3,650,000**  
**Cost per person: \$6,700**

**44%** diesel generator  
**25%** heating oil  
**2%** firewood  
**20%** gasoline  
**8%** diesel for vehicles



### Renewable energy

**7%** of total energy  
**7%** of total from firewood  
**0.3%** 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 LIARD 2018

Population: 548

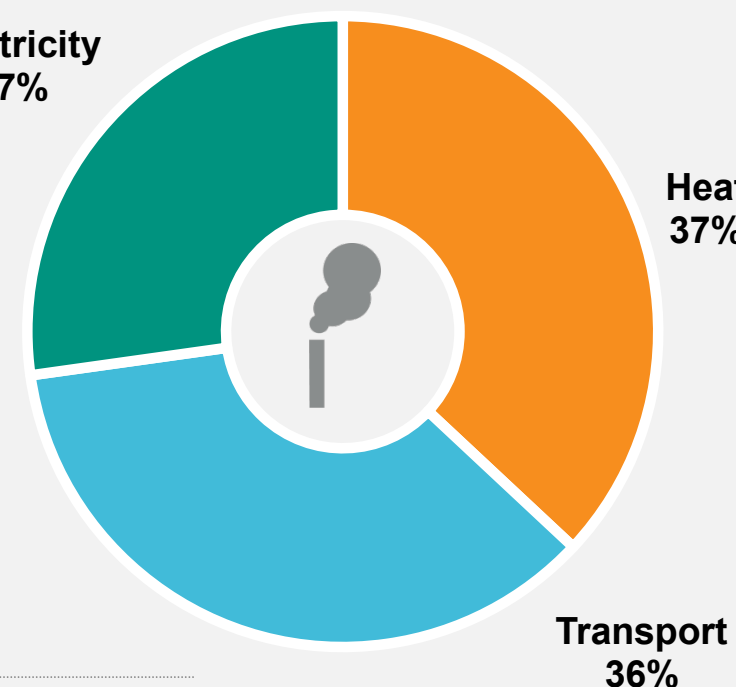


## Greenhouse Gas (GHG) Emissions – 1 Year

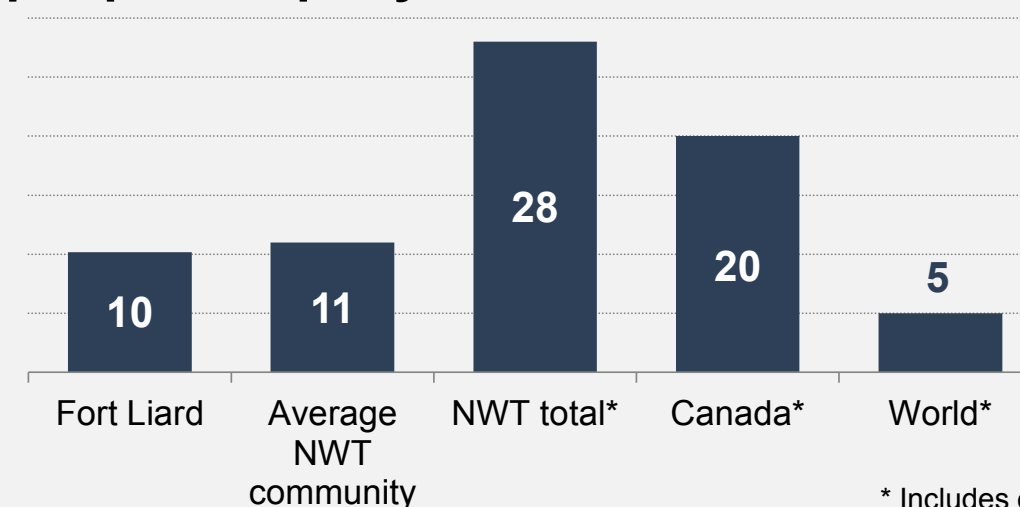
### Community total GHG emissions per year

**6,000 tonnes**  
**10 tonnes/person**

Electricity  
27%

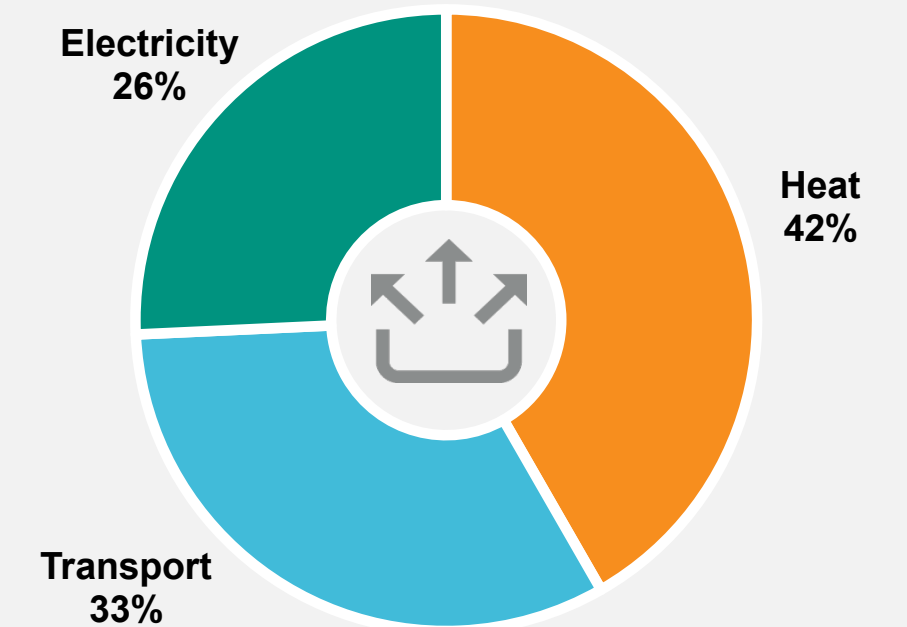


### Average tonnes of GHGs per person per year



\* Includes emissions from industry and commercial transport.

## Energy Use – 1 Year



### Energy use in homes

**21%** of total energy use  
**46%** of total electricity  
**44%** of total heating oil  
**100%** of total firewood



### Energy use in other buildings

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

**20%** of total energy use  
**54%** of total electricity  
**56%** of total heating oil  
**100%** of total waste heat recovery



### Transport (local – no air transport)

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

**33%** of total energy use  
 Fuel purchased in the community.



### Waste energy

From electricity production and heating

**26%** of total energy use

# ENERGY PROFILE

## FORT LIARD 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



### Heating oil

- 34% of total energy
- Cost: \$917,000
- Amount: 762,000 Litres\*
- GHGs: 2,050 tonnes
- Energy: 29,300,000 MJ



### Diesel generator

- 25% of total energy
- Cost: \$1,600,000
- Amount: 564,000 Litres
- GHGs: 1,520 tonnes
- Energy: 21,700,000 MJ



### Gasoline

- 23% of total energy
- Cost: \$742,000
- Amount: 576,000 Litres\*
- GHGs: 1,420 tonnes
- Energy: 19,400,000 MJ



### Diesel for vehicles

- 10% of total energy
- Cost: \$275,000
- Amount: 216,000 Litres\*
- GHGs: 582 tonnes
- Energy: 8,310,000 MJ



### Firewood

- 7% of total energy
- Cost: \$83,000
- Amount: 332 Cords
- GHGs: 11 tonnes
- Energy: 6,200,000 MJ



### Solar PV

- 0.3% of total energy
- Cost: \$0
- Amount: 60,700 kWh
- GHGs: 0 tonnes
- Energy: 219,000 MJ



### Waste heat recovery

- 0% of total energy
- Cost: \$30,000
- Amount: n/a
- GHGs: 0 tonnes
- Energy: 211,000 MJ

\*Estimated due to lack of data

## Community GHG emissions

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

## Total community energy use

- 85,100,000 MJ
- 160,000 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/nrgsstmpfrfs/nt-eng.html>  
[https://ourworldindata.org/grapher/co-emissions-per-capita?tab=chart&country=AUS+CAN+USA+OWID\\_WRL](https://ourworldindata.org/grapher/co-emissions-per-capita?tab=chart&country=AUS+CAN+USA+OWID_WRL)

## Total NWT energy use (2017)

Total: 20 billion MJ/year

