Yukon Bureau of Statistics



Yukon Energy Facts 2021

Highlights:

- In 2020, Yukon generated 532,078 mega-watt hours (MWh) of electricity, of which 440,580 MWh was from hydro (82.8%), 47,714 MWh from natural gas (9.0%), and 43,784 MWh from diesel (8.2%).
- Of the 450,041 MWh of electricity sold in Yukon in 2020, sales to non-residential customers accounted for 55.0% and sales to residential customers accounted for 45.0%.
- In 2021, 4,038 dwellings used electricity-based heating, an increase of 7.9% from 2020 (3,777).

Installed Electricity Generating Capacity, Yukon, 2021

Generating Capacity by Location of Facilities, Yukon, 2021

_ ,			Installed
Type of			Capacity,
Generation	Location	Ownership	2021 (MW)
	Whitehorse	YEC	40.0
Hydro plants	Aishihik	YEC	37.0
riyuro piarits	Mayo	YEC	15.1
	Fish Lake	ATCO	1.4
LNG facilities	Whitehorse	YEC	13.2
	Whitehorse	YEC	10.8
	Faro	YEC	7.5
	Dawson	YEC	6.2
	Watson Lake	ATCO	6.2
	Mayo	YEC	2.5
	Old Crow	ATCO	2.1
	Destruction Bay	ATCO	1.9
Diesel facilities	Haines Junction	ATCO	1.8
Diesei iacilities	Carmacks	ATCO	1.6
	Teslin	ATCO	1.5
	Beaver Creek	ATCO	1.4
	Pelly Crossing	ATCO	1.2
	Ross River	ATCO	1.0
	Swift River	ATCO	0.3
	Stewart Crossing	ATCO	0.2
	Keno	ATCO	0.2
Total			153.1

Sources: Yukon Energy Corporation and ATCO Electric Yukon.

- In 2021, Yukon had a total installed generating capacity of 153.1 megawatts (MW) Yukon Energy Corporation had an installed capacity of 132.3 MW, or 86.4% of the total; and ATCO Electric Yukon had a generating capacity of 20.8 MW, or 13.6% of the total.
- Of the total generation capacity of 153.1 MW, hydro plants had an installed capacity of 93.5 MW, or 61.1%; LNG plants had an installed capacity of 13.2 MW, or 8.6%; and diesel plants had an installed capacity of 46.4 MW, or 30.3%.
- In 2021, installed electricity generating capacity has increased by 2.7 MWh, or 1.8%, compared to installed electricity generating capacity in 2020 (150.4 MWh).
- The generation capacity of the hydro plants reduces substantially in the winter when the water flow is decreased. The winter generation capacity of the thermal plants (LNG and diesel) also reduces as temperature falls.

Did you know?

- In 2021, the energy sector contributed \$66.1 million (chained (2012) dollars) towards Yukon's overall Gross Domestic Product (GDP) (\$2,931.2 million), an increase of \$2.4 million, or 3.8%, compared to 2020.
- In 2021, Yukon's energy sector jobs (85) accounted for 0.3% of all jobs (26,020).

(Jobs in electric power generation, transmission and distribution made up the total number of jobs in the 2021 Energy sector.)

Sources: Statistics Canada, data tables 36-10-0402-01 and 36-10-0489-01.

Did you know?

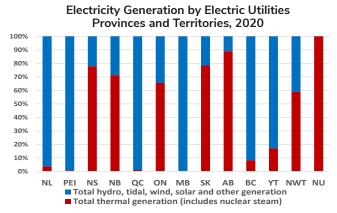
- In the last 10 years, annual changes in the energy aggregate price index ranged from a decrease of 14.4% in 2015 to an increase of 12.6% in 2021.
- Comparing 2021 to 2012, the energy aggregate price index increased by 14.3% in Whitehorse.

(Special aggregate of energy (CPI) includes: electricity; natural gas; fuel oil and other fuels; gasoline; and fuel, parts and accessories for recreational vehicles)

Source: Statistics Canada, data table 18-10-0005-01.

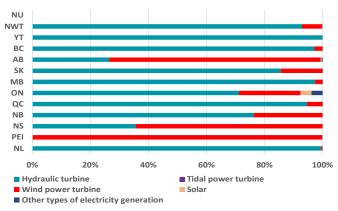
Electric Utilities Generation by Type, Provinces and Territories, 2020

Note: Electricity generation by industry is not included.



Source: Statistics Canada, data table 25-10-0020-01.

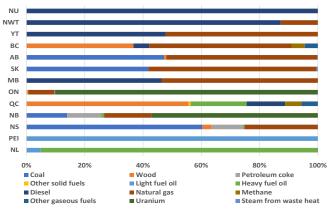
Renewable Energy Generation of Electric Utilities by Type, Provinces and Territories, 2020



Source: Statistics Canada, data table 25-10-0020-01.

- In 2020, Yukon ranked the sixth-lowest in the country in thermal generation as a percentage of total electricity generated by electric utilities (17.2%).
- Between 2011 and 2020 (inclusive), the percentage of Yukon's thermal generation has fluctuated from a low of 5.2% in 2013 and 2014, to a high of 19.6% in 2019.
- Compared to 2019, total electricity production in 2020 increased by 64,442 MWh, or 13.8%.
- Compared to 2011, electricity produced from thermal generation in 2020 increased by 54,630 MWh, or 148.2%.

Thermal Plant Generation of Electric Utilities by Principal Fuel, Provinces and Territories, 2020

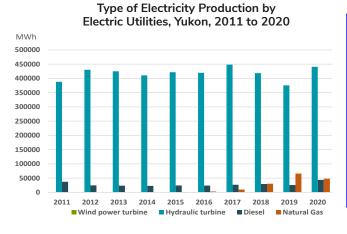


Source: Statistics Canada, data table 25-10-0019-01.

Electric Utilities Generation by Type, Yukon, 2011 to 2020

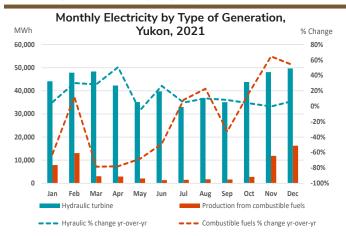
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
				Me	gawatt hour	S				
Total all types of electricity generation	425,336	455,004	448,558	433,686	447,879	446,998	484,818	477,850	467,636	532,078
Hydraulic turbine	388,066	430,194	424,990	410,668	421,696	419,461	448,151	418,510	375,783	440,580
Wind power turbine	402	445	277	334	650	509	33	0	0	0
Thermal combustion generation	36,868	24,365	23,291	22,684	25,533	27,028	36,634	59,340	91,704	91,498
Diesel	36,868	24,365	23,291	22,684	24,238	23,777	26,778	29,210	25,639	43,784
Natural gas				0	1,295	3,251	9,856	30,130	66,065	47,714

Sources: Statistics Canada, data tables 25-10-0019-01 and 25-10-0020-01.



- In 2020, total electricity production grew by 64,442 MWh, or 13.8%, which was the largest yearly growth by both output and percentage increase in the period between 2011 and 2020.
- The percentage of total electricity generated from LNG increased from 0.3% in 2016 to 9.0% in 2020.
 Total electricity from diesel grew from 5.3% in 2016 to 8.2% in 2020.
- Comparing 2020 to 2019, hydro generation increased by 64,797 MWh, or 17.2%; diesel generation decreased by 18,145 MWh, or 70.8%; and LNG generation decreased by 18351 MWh, or 27.8%.

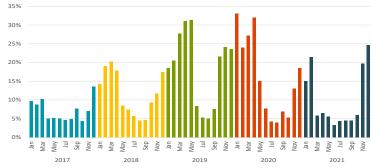
Monthly Electricity by Type of Generation, Yukon, 2021



- Source: Statistics Canada, data table 25-10-0015-01.
- The average monthly percentage of total electricity generation from combustible fuels during the months of January, February, November and December grew from 9.8% in 2017 to 22.2% in 2021.
- In 2021, the largest percentage of total electricity generated from combustible fuels occurred in December at 24.7%, followed by February at 21.4%.

- More electricity was generated during the winter months from both hydraulic turbines and combustible fuels.
- Generation from hydraulic turbines varied from a low of 33,020 MWh in July 2021, to a high of 49,712 MWh in December 2021.
- Generation from combustible fuels varied from a low of 1,336 MWh in June 2021, to a high of 16,265 MWh in December 2021.
- Of the total generation, the percentage of electricity generated by hydro peaked in June at 96.8% of the total, while that from combustible fuels peaked in December at 24.7%.

Percentage of Total Electricity Generated from Combustible Fuels, Yukon 2017 to 2020

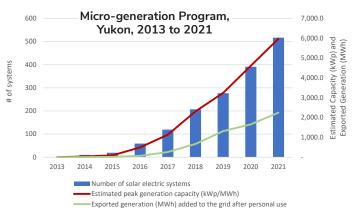


Source: Statistics Canada, data table 25-10-0015-01.

Micro-generation Program, Yukon, 2013 to 2021

	Number of solar electric systems	Estimated peak generation capacity (kW _p)	Exported generation (MWh) added to grid after personal use
2013	1	5	
2014	10	37	6
2015	19	93	20
2016	59	498	70
2017	119	1,138	263
2018	207	2,317	668
2019	277	3,246	1,317
2020	391	4,614	1,659
2021	517	5,977	2,251

Source: Yukon Government, Department of Energy, Mines and Resources, Energy Branch, Energy Solutions Centre.



Note: Photovoltaic (PV) panel systems with a generating capacity of 0.38 kilowatts-peak (kWp), when working at maximum capacity for one hour, can generate up to 0.38 kWh (kilowatt-hours) or 0.00038 MWh (megawatt-hours) of electricity.

- In 2021, there were 517 solar electric systems operating in Yukon under the Micro-generation Program with a peak generating capacity of 5,977.3 kWp, or the approximate equivalent of 5,977.3 MWh per year.
- Although actual total generation from these solar energy systems is unavailable, the systems added a total of 2,250.8 MWh of surplus energy to Yukon's electrical grid in 2021; 1,659.5 KWh was added in 2020.
- Exported solar energy added to Yukon's electrical grids, including diesel mini-grid communities, from the Micro-generation Program, represented about 0.4% of the total electricity generated in Yukon in 2021.

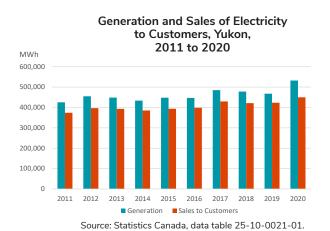
Did you know?

• In the 2021 Census of Agriculture, of the 34 Yukon farms that reported using renewable energy producing systems, 33 farms (97.1%) used solar panels and 2 farms (5.9%) used wind turbines.

**Source: Statistics Canada, 2021 Census of Agriculture, data table 32-10-0380-01.

Electricity Generation and Sales to Ultimate Customers, Yukon, 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
					(MW	/h)				
Total generation of electricity	425,336	455,004	448,558	433,686	447,879	446,998	484,818	477,850	467,636	532,078
Total Sales of Electricity to ultimate customers	374,037	396,435	393,278	385,400	393,483	398,724	429,806	421,373	423,121	450,041



of all electricity generated (includes generation by industry) was sold to customers. • The number of MWh sold over the past ten years, fluctuated from a low of 374,037 MWh in 2011, to a high of 450,041 MWh in 2020.

Between 2011 to 2020 (inclusive), an average of

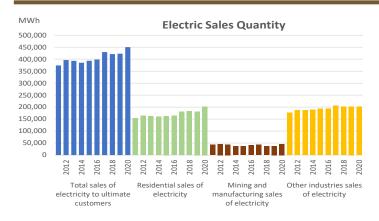
88.1% of all electricity generated in Yukon was sold

to ultimate Yukon customers; the percentage was

84.6% in 2021. Nationally, an average of 76.4%

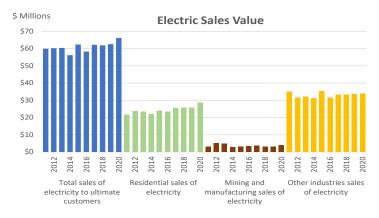
• Comparing 2020 to 2019, the total sales of electricity to ultimate customers, increased by 26,920 MWh, or 6.4%; compared to 2011, the 2020 total sales increased by 76,004 MWh, or 20.3%.

Sales of Electricity, Yukon, 2011 to 2020



Source: Statistics Canada, data table 25-10-0021-01.

- A total of 450,041 MWh of electricity was sold in Yukon in 2020 — sales to non-residential customers accounted for 55.0% (247,475 MWh) and sales to residential customers accounted for 45.0% (202,566 MWh).
- Compared to 2019, the 2020 sales to nonresidential customers (247,475 MWh) increased by 6,193 MWh, or 2.6%, while sales to residential customers (202,566 MWh) decreased by 20,727 MWh, or 11.4%.
- Sales to non-residential customers in 2020 increased by 27,844 MWh, or 12.7% compared to 2011 sales (219,631 MWh), while sales to residential customers in 2020 increased by 48,160 MWh, or 31.2%, compared to 2011 sales (154,406 MWh).



 Compared to 2019, the 2020 sales to nonresidential customers (\$37.7 million) increased by \$918,000, or 2.5%, while sales to residential

The value of electricity sales to ultimate

customers in 2020 totalled \$66.2 million; an

increase of \$3.6 million, or 5,8%, compared

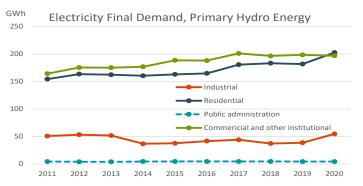
customers (\$28.5 million) increased by 10.5%.

Source: Statistics Canada, data table 25-10-0021-01.

Energy Use, Supply and Demand by Type of Fuel (in natural units), Yukon, 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
				(megaliti	res unless o	therwise no	ted)			
Energy Supply										
Primary electricity production, hydro (GWh)	388.5	430.6	425.3	411.0	422.3	420.0	448.2	418.5	375.8	440.0
Secondary electricity production, thermal (GWh)	36.9	24.4	23.3	22.7	25.5	27.0	36.6	59.3	91.9	91.5
Natural gas transformed to electricity by utilities										
(gigalitres)	**			0.0	0.4	0.9	1.9	6.0	15.0	10.8
Diesel transformed to electricity by utilities	x	Х	Х	6.1	6.5	6.5	7.4	7.9	6.8	12.0
Final Use Energy Demand										
Gas plant natural gas liquids (NGLs)	17.1	14.4	13.2	11.2	10.8	9.9	12.4	15.2	19.6	18.
Primary electricity, hydro (GWh)	374.1	396.5	393.3	378.7	394.0	399.3	430.5	421.8	423.6	458.6
Total refined petroleum products	217.4	213.3	193.2	159.3	171.2	174.7	175.6	211.1	215.7	178.
Motor gasoline	х	х	х	х	х	х	х	х	98.8	85.:
Kerosene and stove oil	18.4	20.6	17.4	6.5	6.6	х	х	х	4.9	2.
Diesel fuel oil	х	х	х	х	х	х	х	х	86.4	73.8
Light fuel oil	14.2	13.5	13.0	6.5	6.2	6.4	6.7	6.8	6.8	7.:
Heavy fuel oil	0.4	Os	0s	0s	0s	Os	Os	Os	0s	0
Aviation gasoline	1.4	0.9	1.1	0.6	0.5	1.0	Х	х	1.1	0.
Aviation turbo fuel	16.2	14.8	13.4	13.8	13.6	16.4	х	х	17.6	9.
Os = value rounded to O (zero) where there is a meaningful distir	nction between t	rue zero and	the value tha	it was rounde	ed					
Source: Statistics Canada, data table 25-10-0030-01										

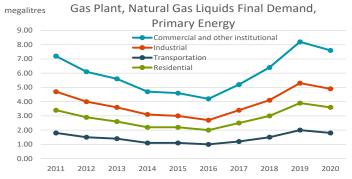
• Compared to 2019, the final demand for: natural gas liquids, (generally representing propane) decreased by 1.5 megalitres (7.7%); hydro electricity increased by 35.0 gigawatt hours (8.3%); and refined petroleum products decreased by 37.0 megalitres (17.2%) in 2020.



• The final demand for electricity in 2020 (458.6 GWh) consisted of 54.7 GWh (11.9%) used by the industrial sector; 202.6 GWh (44.2%) by the residential sector; 4.5 GWh (1.0%) by public administration; and 196.8 GWh (42.9%) used by commercial and other institutional sectors.

Source: Statistics Canada, data table 25-10-0030-01.

• In 2020, the final demand for natural gas liquids (18.1 ML) consisted of 4.9 ML (27.1%) used by the industrial sector; 1.8 ML by the transportation sector (9.9%); 3.6 ML by the residential sector (19.9%); and 7.6 ML (42.0%) used by commercial and other institutional sectors.



Source: Statistics Canada, data table 25-10-0030-01.

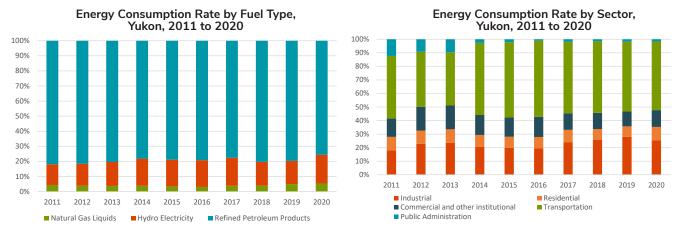
Energy Use, Final Demand by Type of Fuel (in terajoule¹ units), Yukon, 2011 to 2020

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Primary Energy ²					(terrajou	ıles)				
Gas plant natural gas liquids (NGLs)	433	366	334	283	273	252	315	385	495	458
Primary electricity, hydro	1,347	1,427	1,416	1,363	1,419	1,437	1,550	1,518	1,525	1,651
Secondary Energy ³										
Total refined petroleum products	8,067	7,921	7,173	5,874	6,318	6,421	6,462	7,774	7,916	6,553
Motor gasoline	x	Х	Х	х	Х	Х	Х	Х	3,458	2,980
Kerosene and stove oil	693	778	654	244	247	Х	Х	Х	186	104
Diesel fuel oil	х	х	Х	х	х	х	х	Х	3,311	2,827
Light fuel oil	551	523	503	253	239	250	259	264	265	275
Heavy fuel oil	17	1	1	1	1	1	1	1	0	0
Aviation gasoline	47	31	38	20	17	34	х	Х	37	16
Aviation turbo fuel	606	554	501	516	509	613	Х	Х	658	350
Total primary and secondary energy	9,866	9,732	8,941	7,521	8,010	8,110	8,326	9,677	9,938	8,663

¹ Rather than using "natural" units (e.g. volume, weight), energy sources can be measured according to their energy content – this allows comparison between energy sources. Terajoule is unit of measurement of such energy.

3 Secondary fuels are the fuels that are derived from primary fuels or fuels through chemical or physical process.

Source: Statistics Canada, data table 25-10-0029-01.



Source: Statistics Canada, data table 25-10-0029-01.

- Of the 2020 data available on primary and secondary energy consumption in terajoules (TJ): refined petroleum products (6,553 TJ) accounted for 75.6% of the final demand; hydro electricity (1,651 TJ), 19.1%; and NGLs (propane, 458 TJ) accounted for 5.3% of the final demand.
- In 2020, the distribution of final energy demand for all types of fuel by sector was as follows: transportation (4,389 TJ or 50.7%); industrial (2,606 TJ or 25.5%); commercial and other institutional (1,068 TJ or 12.3%); residential (855 TJ or 9.9%); and public administration (141 TJ or 1.6%).
- Within the industrial sector, mining accounted for 85.3% of total industrial energy use; manufacturing for 11.7%; and construction accounted for 2.9% of the total industrial energy use.
- Within the transportation sector, retail pump sales accounted for 60.7% of total transportation sector; road transport and urban transit accounted for 31.9%; and airlines accounted for 7.4% of final energy demand in the transportation sector.

² Primary fuels are the fuels that are found in nature and can be extracted, cleaned or graded, without any sort of energy conversion or transformation process.

Yukon Motor Vehicle Registrations, 2017 to 2021

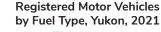
Vehicle Type	2017	2018	2019	2020	2021
Trucks ¹	20,016	20,594	21,097	21,289	22,037
Passenger cars	18,720	19,354	20,060	20,293	20,766
Off-road vehicles ²	1,235	1,330	1,426	1,505	1,559
Motorcycle	1,186	1,226	1,276	1,279	1,322
Snowmobiles	734	773	779	801	836
Bus	302	304	316	243	253
Total ³	42,193	43,581	44,954	45,410	46,773

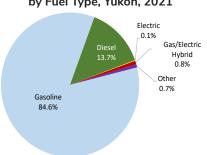
- Trucks include: pickup trucks, motorhomes, dump trucks, platform trucks, etc.
- Off-road vehicles include quads, side-by-sides, dirt bikes, etc.
- ³ Registration counts exclude dealer, rental, and special registrations.
- Government includes federal, first nations, territorial and municipal organizations.

Note: Registration figures represent data as of December 31 for each year.

Source: Yukon Bureau of Statistics.

- In 2021, a total of 46,773 motor vehicles were registered in Yukon — over one vehicle per person.
- Of the total vehicles registered in 2021 in Yukon, private owners registered 80.4% of vehicles (37,607); commercial, farm and society organizations registered 14.7% of vehicles (6,898); and government⁴ organizations registered 4.8% of vehicles (2,268).





- In 2021, the majority of registered vehicles in Yukon used fossil fuels.
- 39,581 vehicles, or 84.6%, used only gasoline; 6,429, or 13.7%, used only diesel; 369, or 0.8%, were gasoline/electric hybrids; 60, or 0.1%, were electric, and 334, or 0.7%, used other or mixed fuel types.
- As of December 31, 2021, there were 12 level 3 (DC fast charging) stations in Yukon.

Yukon Fossil Fuel Consumption by Type of Use, 2011 to 2020

Year	Gasoline for on-road use	Diesel for on-road use	Aviation fuel ¹	Fuel for	Heating fuel ³	Diesel for electricity generation ⁴	LNG for electricity generation ⁴	Total
	on-road use	on-road use		megalitres (litres			generation	
2011	63.6	56.1	21.9	36.0	57.5	10.6	0.0	245.7
2012	64.3	59.5	17.3	38.9	58.0	7.1	0.0	245.1
2013	63.8	54.2	15.2	36.7	53.1	6.7	0.0	229.8
2014	63.5	53.7	16.6	31.4	51.3	6.5	0.0	223.0
2015	67.5	54.9	19.2	20.5	41.8	7.0	0.5	211.6
2016	71.5	54.4	17.4	22.9	45.7	6.8	1.3	220.0
2017	72.5	53.2	18.1	24.3	61.5	7.7	3.8	241.0
2018	72.5	62.4	19.6	28.3	59.4	8.3	11.7	262.1
2019	73.0	60.9	19.3	23.2	53.8	7.3	24.8	262.6
2020	62.4	62.2	6.8	35.5	59.8	12.1	17.9	256.7

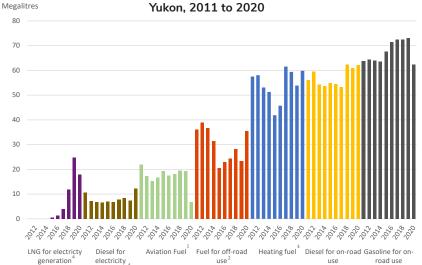
- ¹ Aviation fuel includes aviation gasoline and jet fuel.
- ² Fuel for off-road use includes tax exempt gasoline and diesel (e.g. fuel used for mining, farming and outfitting).
- 3 Heating fuel includes heating oil and liquid petroleum gas (propane)
- petroleum gas (propane).

 ⁴ Diesel and LNG for electricity generation is estimated from public data on electricity generation and exempt fuel permits for electricity generation.

Source: Yukon Bureau of Statistics.

- In the last 10 years, from 2011 to 2020, overall fossil fuel consumption increased by 11.0 megalitres, or 4.5%.
- In 2020, fuels for on-road use accounted for 124.6 megalitres, representing 48.5% of the Yukon's total fossil fuel consumption.
- Comparing 2020 to 2011, there was a 19.5 megalitre, or 184.4%, increase in the use of LNG and diesel for electricity generation.
- Consumption of aviation fuel decreased from 19.3 megalitres in 2019 to 6.8 megalitres in 2020 – due to decreased aviation movements during the COVID-19 pandemic.

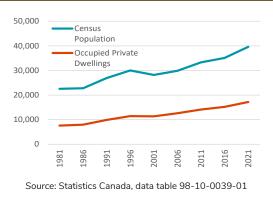
Fossil Fuel Consumption by Type of Use, Yukon, 2011 to 2020



generation

Private Dwellings Occupied by Usual Residents, Yukon, 1961 to 2021 Censuses

	Census	Occupied Private
	Population	Dwellings
1981	22,535	7,600
1986	22,800	7,973
1991	26,895	9,915
1996	30,000	11,460
2001	28,165	11,365
2006	29,860	12,615
2011	33,320	14,120
2016	35,110	15,215
2021	39,585	17,180



- In the 2021 Census, there were 17,180 private dwellings in Yukon, a 12.9% increase compared to the previous census in 2016.
- The intercensal growth between the 2016 and 2021 censuses (12.9%) was preceded by an 7.8% increase between 2016 and 2011: and an 11.9% increase between 2011 and 2006.

Heating Sources in Residential Dwellings, Yukon, 2021

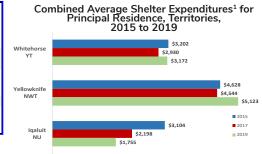
Property Type	Total number	Ele	ctric	C	il	Proj	oane	Multi-s	ources	Oth	ner ¹		nplete nation ²
Troperty Type	of	#	%	#	%	#	%	#	%	#	%	#	%
	dwellings	dwellings	of total	dwellings	of total								
Single detached house	9,823	1,602	16.3%	6,113	62.2%	452	4.6%	81	0.8%	300	3.1%	1,275	13.0%
Semi-detached house	1,202	352	29.3%	813	67.6%	28	2.3%			6	0.5%		
Townhouse/row house	840	724	86.2%	116	13.8%							0	-
Mobile home	832	80	9.6%	598	71.9%	130	15.6%			18	2.2%	6	0.7%
Condo Apartment	512	452	88.3%	60	11.7%								
Single dwelling in mixed-use													
property	61	18	29.5%	16	26.2%	8	13.1%	3	4.9%			16	26.2%
Single dwelling -													
unknown type	103	5	4.9%	30	29.1%	3	2.9%			3	2.9%	62	60.2%
Multiplex (duplex, triplex,													
fourplex, etc.)	738	110	14.9%	542	73.4%	16	2.2%	14	1.9%	2	0.3%	54	7.3%
Apartment building	1,192	524	44.0%	570	47.8%	37	3.1%	61	5.1%				
Multiple detatched/attached													
in a single property	3,169	151	4.8%	836	26.4%	34	1.1%	1,554	49.0%	94	3.0%	500	15.8%
Multiple dwellings -													
unknown type	98	20	20.4%	74	75.5%							4	4.1%
All dwellings	18,570	4,038	21.7%	9,768	52.6%	708	3.8%	1,713	9.2%	423	2.3%	1,920	10.3%

At least 56.4% of residential dwellings used fossil fuels as a heating source in 2021.

Average Expenditure per Household, Selected Energy Components, Territorial Capitals, Survey of Household Spending, 2015 to 2019

	WI	nitehor YT	se	Yellowknife NWT			Iqaluit NU		
	2015	2017	2019	2015	2017 \$	2019	2015	2017	2019
Fuel and Electricity for Prinicpal Residence									
Electricity Other fuels ¹		,		2,430 2,198	,		1,692 1,412	1,240 958	994 761
Transportation Expenditures									
Gas & other fuels (all vehicles and tools)	2,603	1,853	2,837	1,748	1,850	2,569	2,395	2,073	1,743

¹ For heating and cooking (example: oil, propane, wood, other fuels) Source: Statistics Canada, data table 11-10-0233-01.



¹ Includes electricity and fuel used for heating and cooking.





^{...} not applicable
¹ Other includes wood, hot water or steam from undefined sources, and other unspecific sources.

² Incomplete information includes dwellings without specific and/or updated information on heating system.

[•] In 2021, of the 18,570 dwellings in Yukon, 9,768 dwellings (52.6%) used oil-based heating, 4,038 (21.7%) used electricity-based heating and 708 (3.8%) used propane-based heating; 1,713 (9.2%) used multiple