Yukon:

Clean Electricity Snapshot

2022-2024

Yukon's electricity system is currently operating separately from Canada's broader electricity grid. However, the province is exploring the long-term potential to connect its electricity system with British Columbia's, a connection the **Government of Canada financially supported in September 2024**.

Yukon primarily uses hydropower to generate electricity on its main grid, called the Yukon Integrated System (YIS). The five remaining remote communities rely heavily on diesel, although all four grids have a community scale renewable energy system operational or in development. There is an ongoing effort to enhance local, renewable energy resources in these communities for a more resilient, affordable future.

Powering Canada's Future is the Government of Canada's strategy for clean electricity. It combines historic investments and balanced, fair regulations to lay out the path forward to build grids that will provide power that is reliable, affordable and clean and serve as the backbone of our economy.

Federal Investments

As of November 2024, the Smart Renewables and Electrification Pathways Program (SREPs) has approved funding of approximately $1.5 million for the Optimization of microgrids in Remote Yukon Thermal Communities using Smart Grid infrastructure with ATCO Electric Yukon.

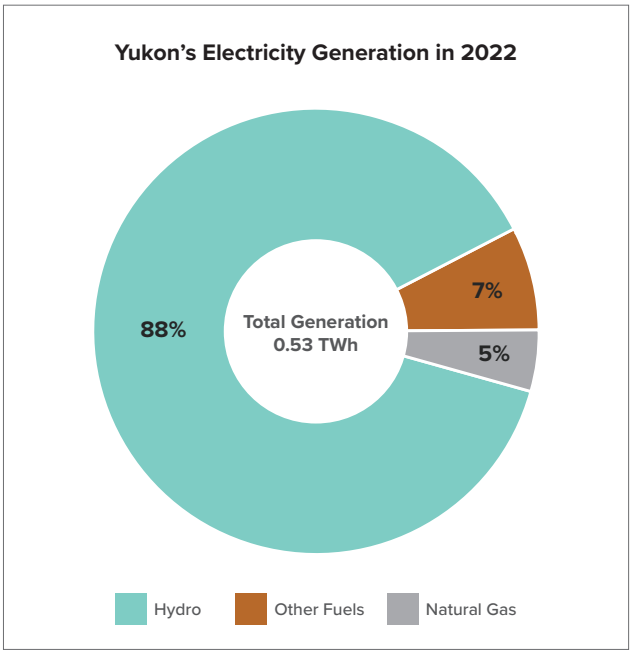
Emissions and Electricity Generation

According to the National Inventory Report, in 2022, about 88% of Yukon's electricity was generated from hydroelectricity and other renewables while the rest was generated from natural gas and other fuels, such as diesel.

Hydro Power

The Whitehorse hydro plant has been generating electricity to Yukoners since 1958. The plant can produce 40 megawatts (MW) of power in the summertime and 25 MW of power in the winter.

The Aishihik Hydro Plant is able to produce up to 37 MW of renewable power. That is enough to supply electricity to around 12,500 non-electrically heated homes. Aishihik plays a crucial role in Yukon's energy operations as it is the only hydroelectric facility in Yukon that can store energy in the summer and use it in the winter when demand is high.



Wind and Solar

The Haeckel Hill-Thay T'äw Wind Energy Project received around $26 million in federal funding. It is the first 100% Indigenous-owned wind energy project in northern Canada. The project began operations in March 2024 and will be able to produce enough clean energy to power over 650 Yukon homes per year for the next 25 years.

In 2022, the 1.9 MW Beaver Creek Solar Project received an investment of $15.5 million from the Government of Canada. The project includes 3.5 MWh of battery energy storage and will reduce White River First Nation's reliance on diesel for electricity generation.

The Vuntut Gwitchin Government built a solar and battery energy storage system project in the Old Crow. The project received an investment of over $400,000 through the Northern REACHE Program. In the first year of operation, the project replaced 190,000 liters of diesel with clean energy and generated over $200,000 in profit for the community that has been reinvested in other projects.

Economic Opportunities

In addition to cleaner air and lower greenhouse gas emissions, a clean electricity grid can stimulate investment in innovation, provide economic opportunities, and create good jobs.

New Jobs

Electrification and the transition to cleaner forms of electricity generation is expected to create good jobs across Canada. For instance, independent experts from Clean Energy Canada forecast that there will be 6,800 clean energy jobs added in Northern Canada between 2025 and 2050.

The Yukon Government's strategy for climate change, energy, and a green economy, Our Clean Future, includes commitments to have independent power production projects in all off-grid communities by 2030. This will reduce diesel use for electricity generation and help Yukon First Nations, municipalities, and community organizations develop community-led renewable energy projects.

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