

Alberta:

Clean Electricity Snapshot

2022-2024



In 2023, 92% of Canada's growth in **renewable electricity generation** came from Alberta. The province's solar and wind generation plays an important part in reducing the need for natural gas electricity generation in the years ahead. Other options of interest include emerging technologies, such as next generation small modular reactors (SMRs) and carbon capture and storage (CCS).

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 supported 49 projects with over \$660 million in Alberta.

In 2024, the Government of Canada announced up to [\\$152 million](#) in investments through SREPs. Key projects include:

- \$25 million investment to support the AECG Forty Mile Wind Farm.
- \$25 million investment to support the Big Sky Solar Power Project.

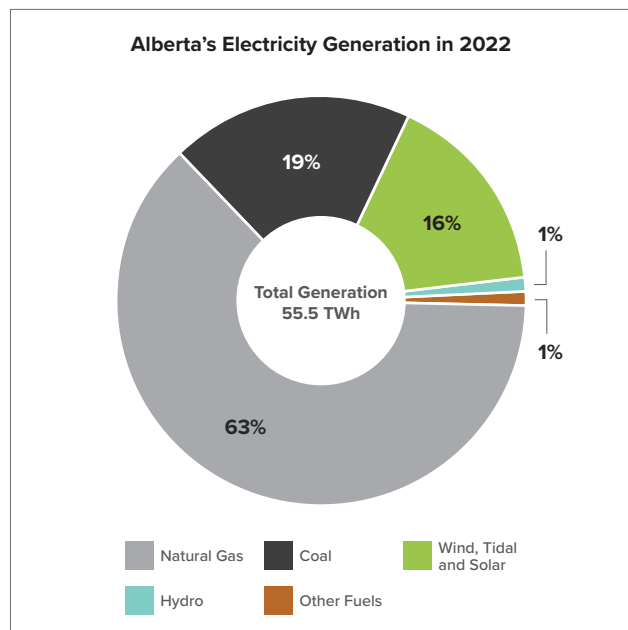
In September 2023, the Government of Canada announced over [\\$175 million in federal investments](#) for 12 Alberta-based clean energy projects. They are expected to create an estimated total of up to 3,915 jobs.

Emissions and Electricity Generation

According to the [National Inventory Report](#), in 2022, over 80% of Alberta's electricity was generated from coal and natural gas, while 17% was generated from renewable resources. In 2024, Alberta successfully met its off-coal target years ahead of schedule.

Small Modular Reactors (SMRs)

In 2024, the Governments of Alberta and Saskatchewan signed a [Memorandum of Understanding](#) to advance the development of nuclear power generation to support both provinces' need for affordable, reliable and sustainable electricity grids by 2050.



Solar Power

Alberta has some of the highest solar power production potential in North America and is home to hundreds of innovative solar power projects – including many led by Indigenous peoples.

One of North America's largest solar power projects, the [Travers Solar Project in Vulcan County](#), can produce 465 megawatts (MW) of electricity. This is enough to [power 150,000 Alberta homes](#).

In July 2023, the Government of Canada provided over \$160 million in funding for [nine Indigenous-led solar energy projects](#) in Alberta. All nine projects are expected to have created an estimated 1,535 jobs.

Wind Power

In 2024, Canada's largest onshore wind farm, the 494 MW [Buffalo Plains Wind Farm](#), began delivering power to the Alberta grid. The facility is able to power around 140,000 Alberta homes.

In 2024, the 190 MW [Paintearth Wind facility](#) reached commercial operation. It has a 15-year power purchase agreement with Microsoft for 543 gigawatt hours of power a year.

Economic Opportunities

In addition to cleaner air and lower greenhouse gas emissions, a clean electricity grid can enable competitiveness, stimulating 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. Alberta is projected to see some of the greatest growth rates in clean energy jobs by 2050. For instance, independent experts [from Clean Energy Canada](#) forecast that there will be around 419,000 clean energy jobs added in Alberta between 2025 and 2050. This represents three jobs for every worker employed in Alberta's upstream energy sector as of 2022.

Alberta's geography puts the province in an excellent position to explore using CCS technology with natural gas-fired electricity. The [Moraine Power Generating Project](#) is a planned 465 MW natural gas-fired electricity facility that would include carbon capture and a pipeline to a storage facility. The project is still in the planning phase and is undergoing regulatory approval. However, if built, it would provide baseload power to Alberta's grid and is expected to create approximately over 700 construction jobs.

In 2022, the [Government of Canada announced approximately \\$475 million in project funding for Air Products](#) landmark clean hydrogen energy complex in Alberta. The liquid hydrogen facility will make Alberta a leading supplier of liquid hydrogen to western Canada and Pacific Northwest. The facility is expected to create around 2,500 construction and engineering jobs.

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