

Guest column: Yellowknife can become an energy powerhouse through geothermal

 yellowknifer.com/2026/10/15/guest-column-yellowknife-can-become-an-energy-powerhouse-through-geothermal

none

October 15, 2026

Published 6:51 am Thursday, October 15, 2026



1/2

Jax Jacobsen is the strategic communications lead for the Geothermal Energy Office at the Cascade Institute and Emily Smejkal is a policy lead at the Cascade Institute (GUEST COLUMN)

Getting your [Trinity Audio](#) player ready...

Yellowknife is at a crossroads.

The early closure of the Ekati diamond mine requires a substantial reassessment of Yellowknife's economic future. This is an opportunity to reimagine the economy of Yellowknife. The city, previously known as the 'Diamond Capital of Canada,' now has a

tremendous chance to decisively shape its economic future and determine the pathway of success for its residents in the coming decades.

Yellowknife will need to improve labour quality and increase the amount of housing, economists have rightly pointed out. However, in our view, energy – or the current lack of an affordable option for stable, baseload capacity – is the most important obstacle currently blocking substantial economic development in the North. The NWT grid, based mostly on hydropower, is facing significant challenges; severe droughts in the region as a result of accelerating climate change has led to record lows in reservoir levels, with this year's El Nino meteorological event expected to strengthen existing drought conditions.



Droughts have caused outages and forced the NWT Power Corporation (NWTPC) to supplant hydropower with diesel, substantially increasing emissions (and costs) as a result. To attract more industry attention and diversify the local economy, Yellowknife will need to prioritize the development of a stable, low-emission, lower-cost power source.

There is an enormous energy possibility in Yellowknife and the territory. The city is richly endowed with geothermal reserves, which according to recent estimates could heat several hundred homes. Though Yellowknife residents voted against pursuing the project in a 2011 referendum, the real energy opportunity for the city could be on the south side of Great Slave Lake. While the ground beneath Yellowknife is sufficiently warm enough to heat residences, geothermal resources below Hay River and other South Slave communities is hot enough to generate baseload power.

New projects will also benefit from the development of geothermal energy. The Taltson hydro expansion, now referred to the federal government's Major Projects Office for consideration, would link the South Slave grid to the North Slave grid. That means that any geothermal power generated south of Great Slave Lake would be delivered directly to Yellowknife.

Geothermal deposits in the South Slave were previously inaccessible, due to the inability of older technology to extract energy from these sites. These deposits, containing power-grade temperatures of approximately 150 C, require engineered systems, either closed-loop deep borehole heat exchangers, or new commercially-tested technologies such as enhanced geothermal systems (EGS) to generate energy from these deposits.

Fervo Energy's Cape Station in Utah has just generated first power from a utility-scale enhanced geothermal system last month, and numerous geothermal companies are advancing other EGS projects globally.

Geothermal development costs are steadily declining as technological innovations advance. Since 2022, drilling costs for EGS wells have declined by about 70 per cent per foot and are still falling, which means that geothermal heat and power generation is now possible in locations where it wasn't before.

Geothermal energy can have a transformative impact on the Northern economy by providing cheaper, constant power that will allow a variety of industries to flourish. Unlike intermittent wind and solar energy, or diesel-backed microgrids, geothermal energy doesn't require battery storage or backup generation. This makes it even easier to integrate geothermal energy into a grid like the Taltson-Snare system.

The Yellowknife economy has the energy resources required to thrive, and create a Northern industrial base. The development of geothermal energy is all it needs to become a centre of competitive industry.

You Might Like
