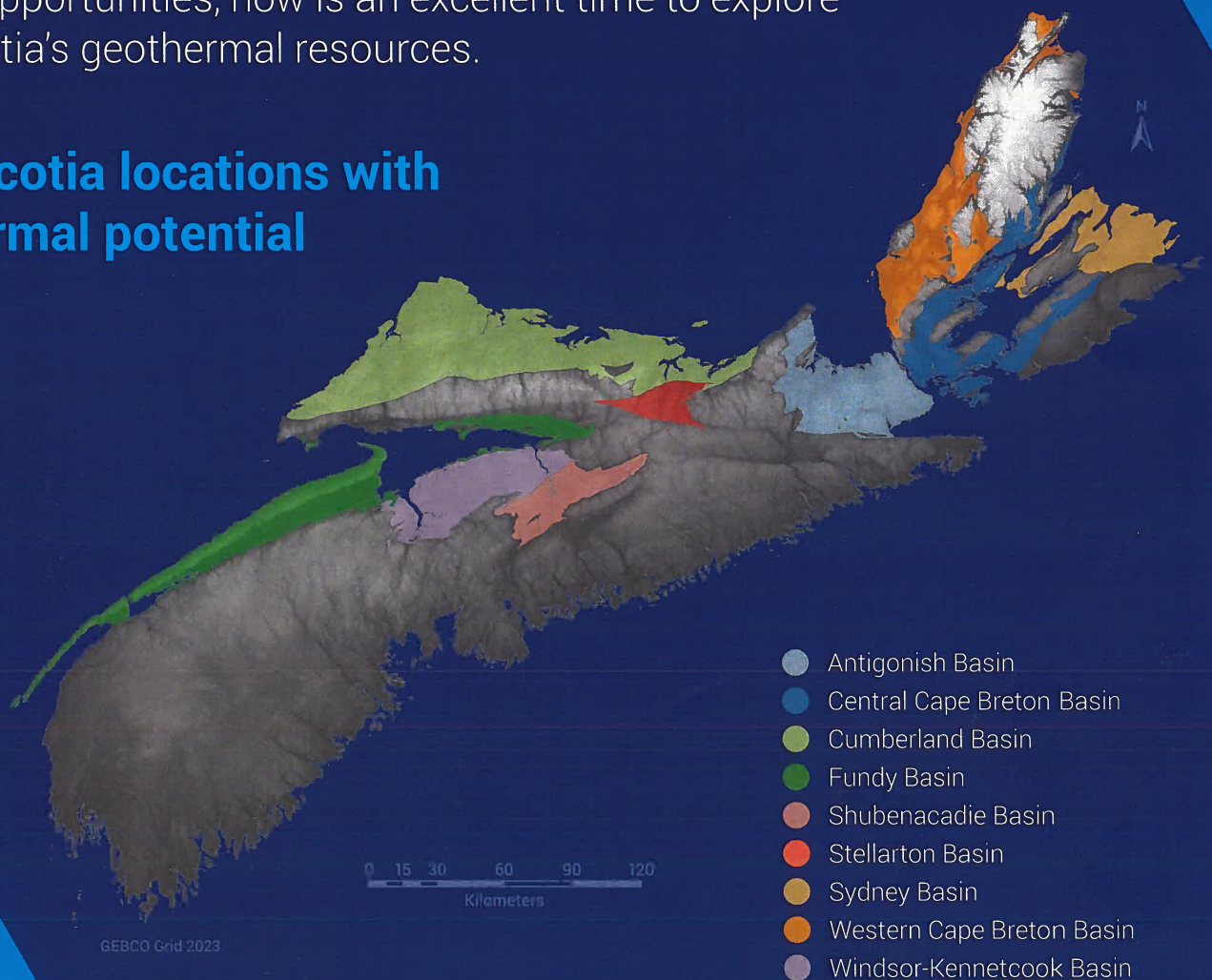


Discover Nova Scotia's Geothermal Opportunity

Geothermal for clean energy goals

Geothermal energy has potential to play an important role in reaching Nova Scotia's goal of net zero by 2050. It can help reduce energy costs and greenhouse gas emissions. With advances in technology and emerging funding opportunities, now is an excellent time to explore Nova Scotia's geothermal resources.

Nova Scotia locations with geothermal potential



Research initiatives

Nova Scotia has conducted several geothermal studies. They include a preliminary resource evaluation and economic modelling comparing fiscal challenges, feasibility and constraints of various case studies in different geologic basins depths around the province.

The research focused on preliminary geotechnical analysis of local geology. It includes fundamental geothermal data and preliminary analysis of the potential for mid-depth geothermal wells to deliver heat for agricultural, aquaculture, and other district heating applications.

Government is now working with research partners on a roadmap to develop mid-depth and mine water geothermal projects.

These studies show the geothermal resource types in the province include:

- Shallow geoexchange opportunities (up to 200–300 metres depth) for both heating and cooling
- Water within abandoned mines that can be used for both heating and cooling
- Mid-depth aquifers (up to about 3 kilometres deep with subsurface temperatures less than 90°C) that can be developed for direct heating
- Deep aquifers that can be developed for electricity generation (deeper than 4 kilometres with subsurface temperatures greater than 90–100°C)
- Preliminary results of the 3D geomodelling indicate areas of interest with prospective temperatures greater than 150°C

Abandoned mines

Abandoned mines contain large volumes of water that can be used for heating and cooling industrial, educational and community-use buildings.

The town of Springhill, Nova Scotia was the original world leader in the use of groundwater from flooded mine workings (Jessop et al., 1995) with geothermal research and pilot projects dating back to the mid 1980s.

The town has some of the deepest coal mines in North America with depths beyond 1,200 metres. The mines closed decades ago and have since naturally filled with groundwater. The low enthalpy geothermal energy of these mines has huge potential and is still in use today with its technical and economic parameters continuing to be actively studied (Comeau et al, 2020).

We welcome discussions with potential research and development partners.

► Please contact: Nova Scotia
Department of Natural
Resources and Renewables
Mark.Tekamp@novascotia.ca
www.energy.novascotia.ca