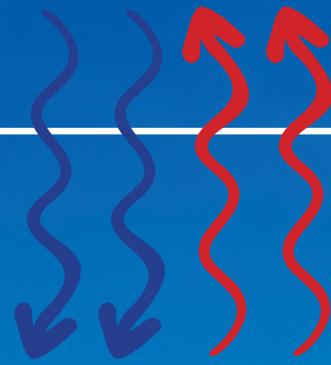


Geothermal Heating

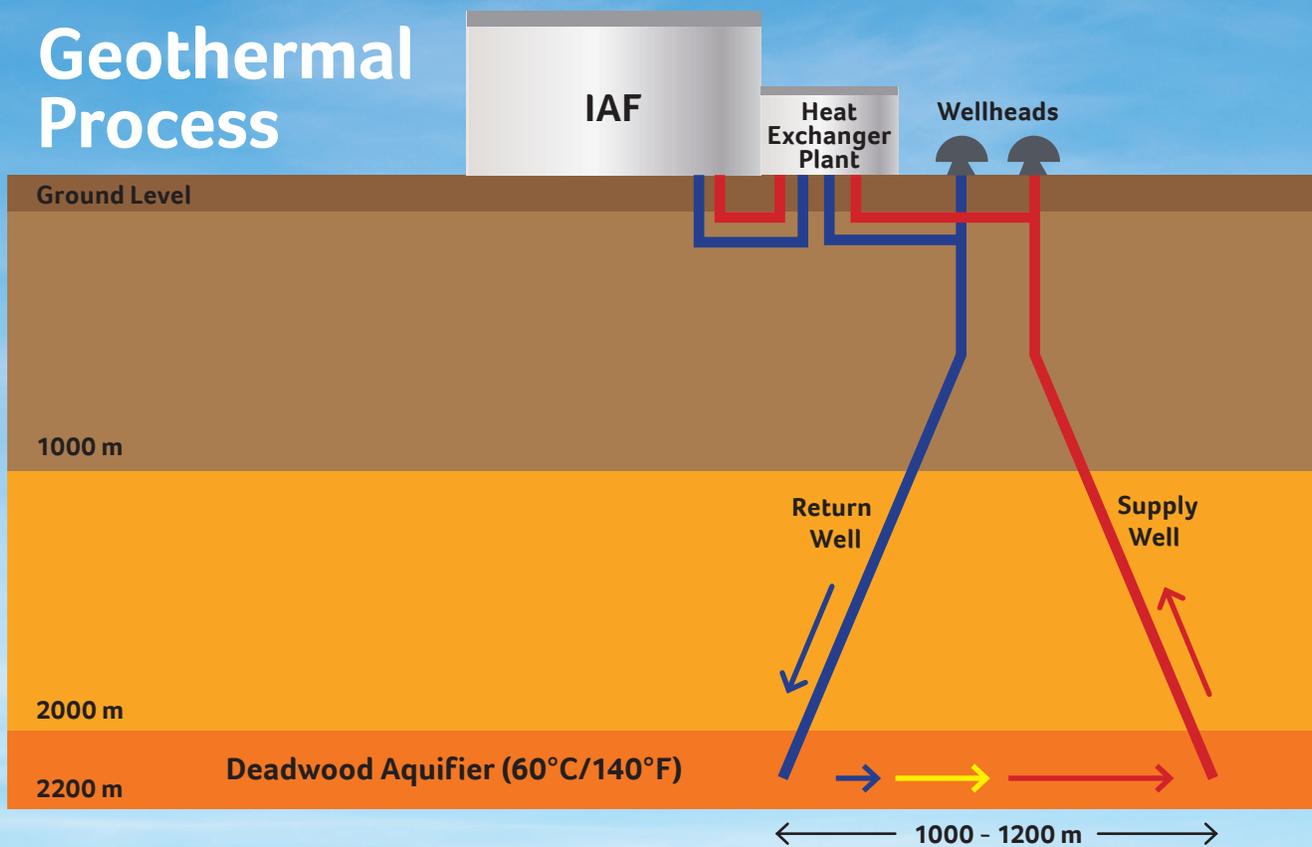


What is deep geothermal heating?

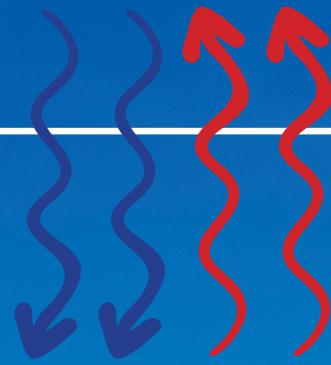
Deep geothermal heating works by pumping naturally occurring hot brine water found deep below the earth's surface to the surface and transferring the energy from the hot brine water to the pool water and ventilation systems in the new indoor aquatics facility (IAF). After the heat is extracted from the brine water, the cool water is returned deep below the earth's surface where it can naturally be reheated. This provides a cleaner source of energy than a traditional natural gas energy source.

The geothermal feasibility study completed by the City in 2023 confirmed with a high-level of confidence that the geothermal resource is sustainable for a minimum of 70 years.

Geothermal Process



Geothermal Heating



How does a Geothermal System Contribute to Regina's Energy & Sustainability Framework?

- 1 Improves energy efficiency**
Replacing natural gas boilers with low temperature radiant systems will improve efficiencies
- 2 Contributes to net-zero new construction**
Help new-builds to reach net-zero emission targets as per the Renewable Regina 2050 goal
- 3 Switching to renewable or low carbon energy sources**
Using geothermal is a clean energy source compared to traditional fossil fuels
As provincial electrical grid becomes more renewable, the geothermal system utilizes cleaner energy to access the geothermal energy
Project has opportunity to include solar generation, which will further offset operational electrical loads and incorporate renewable energy sources.

Geothermal development supports the City of Regina's sustainable development goals while advancing Environmental, Social, and Governance (ESG) growth opportunities

Annual net GHG emission reduction is

8,670 tonnes CO₂e
(equivalent to removing 1,880 gas cars off the road)

Project Cost for Geothermal is approximately

\$28.5M

Over 50-year time frame, savings of going geothermal vs traditional natural gas is projected at around

\$57.5M

Payback for geothermal is reached at approximately **15 years**