

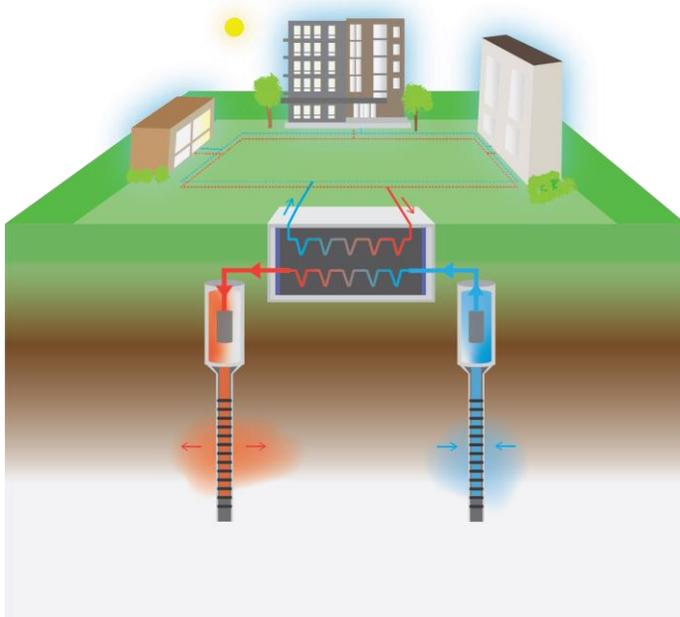
# Groundwater Thermal Exchange Permitting Legislative Preview

March 7, 2024

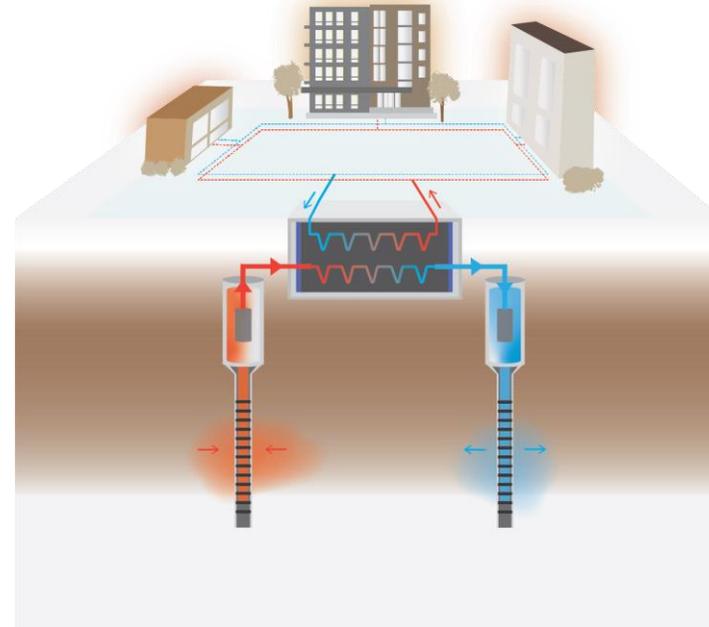
# Aquifer Thermal Energy Storage (ATES)

ATES relies on a series of wells and piping systems that can move heat between buildings and the local aquifer, allowing these buildings to be heated and cooled without on-site natural gas consumption. **Only heat will be extracted from the aquifer, not water.**

## COOLING SEASON



## HEATING SEASON



# Establishing ATEs in Minnesota

- If established here, it will be the first of its kind in the US
- Technology is well-established in Europe for over 20 years
- Smaller footprint than traditional geothermal wellfields
- Potential for significant GHG reductions in both heating and cooling buildings
- Reduces cost variability associated with natural gas curtailments especially in winter months