UTAH OFFICE OF
ENERGY DEVELOPMENT

Geothermal Energy: Sleeping Giant? – Harnessing the Earth's Heat for Buildings, Communities, and the Grid

October 17, 2023 | NASEO Annual Meeting

Gregory Todd | Governor's Energy Advisor, Director

energy.utah.gov

Welcome & Introductions

Greg Todd

Director of the Utah Office of Energy Development

Governor's Energy Advisor

Joseph Moore

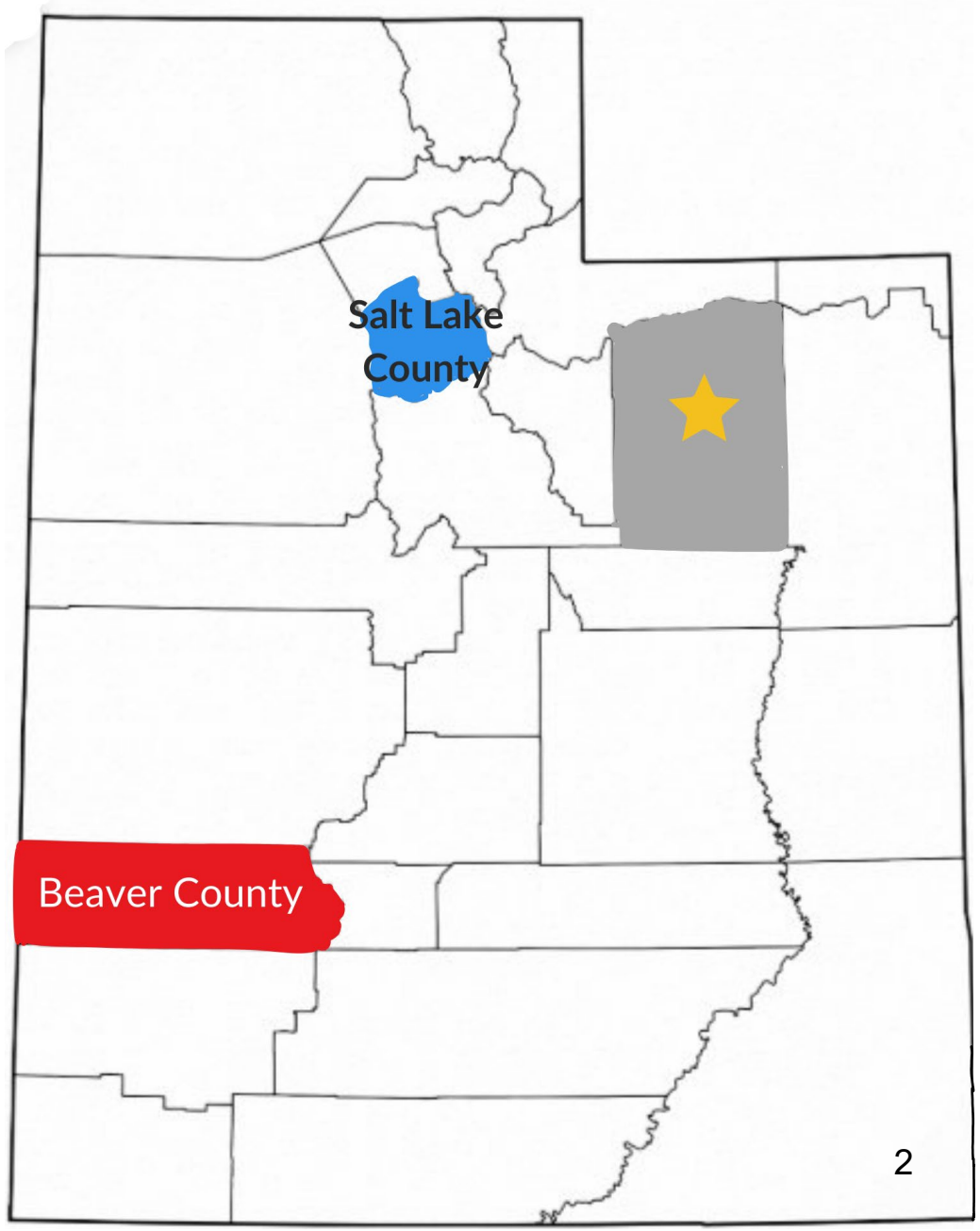
Managing PI of Utah FORGE

Research Professor in the University of Utah Department of Civil and Environmental Engineering

Will Toor

Executive Director of the Colorado Energy Office

- Utah: Traditional + Innovation
- Any of the above
- Vast tracts of land & natural resources
- Geothermal:
  - **4th** largest share of utility-scale renewable energy
  - 3 geothermal plants produced **10% of the total** utility-scale renewable generation
  - **45,000 homes**
- Beaver County has 5 renewable energy projects within a 50-mile radius
  - 1 Hydropower plant
  - 2 Wind Farms
  - 9 solar projects
  - 3 geothermal plants
- 3 Geothermal Plants
  - Blundell
  - Enel – Sulphurdale
  - CYRQ



Solar
Wind
Geothermal
Geothermal
MILFORD
5 within 50
Solar
TRANSWEST
SIGURD-REDBUTTE
IPP
MINERSVILLE
BEAVER
Hydro
Biogas
Geothermal

Snapshot of Renewables in Utah

Renewable Energy Portfolio

Name	Type	MW produced	Year Built
Beaver City	Hydroelectric	3.2	1908
ROCKY MOUNTAIN POWER	Geothermal	37	1984
Cyrq Thermo	Geothermal	11	2006
longroad ENERGY	Wind Farm	306	2008-2010
MONTROSE ENVIRONMENTAL	Biogas	5	2011
Enel Green Power	Geothermal	25	1990, 2012
Dominion Energy / longroad ENERGY	Solar	447	2014-2020
UTAH FORGE U.S. Department of Energy	Geothermal R & D Laboratory		2019
	TOTAL	834	Power for 250,800 Homes (1MW=300homes)

Utah FORGE

- FORGE: **F**rontier **O**bservatory for **R**esearch in **G**eothermal **E**nergy
- Funded by DOE
  - Developing + Testing = Accelerating
  - Close to the Mineral Mountains
- Underground lab
- Multiple stakeholders

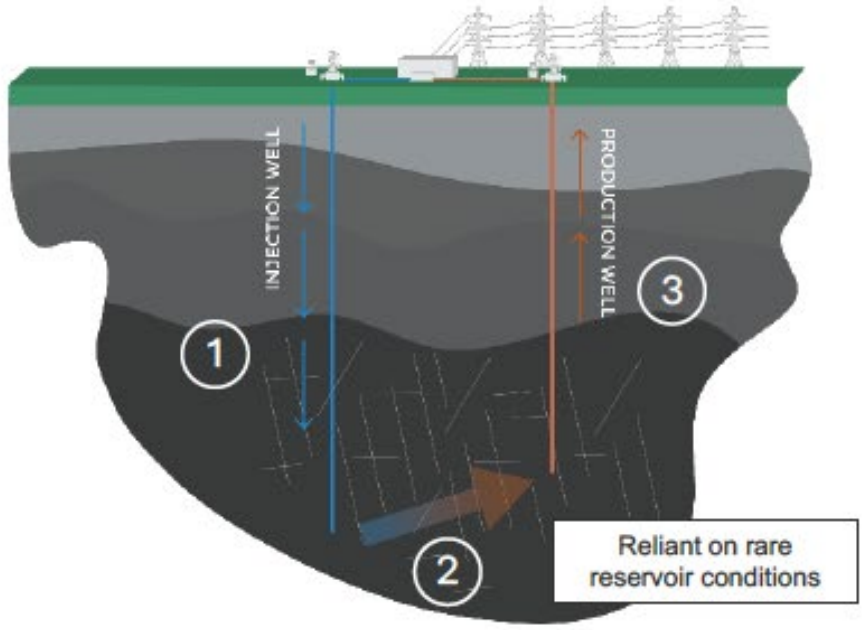
Fervo Energy

- First large scale enhanced geothermal project
- Phase I: 2026 / 90 MW
- Phase II: 2028 / 283 MW
- A collaboration

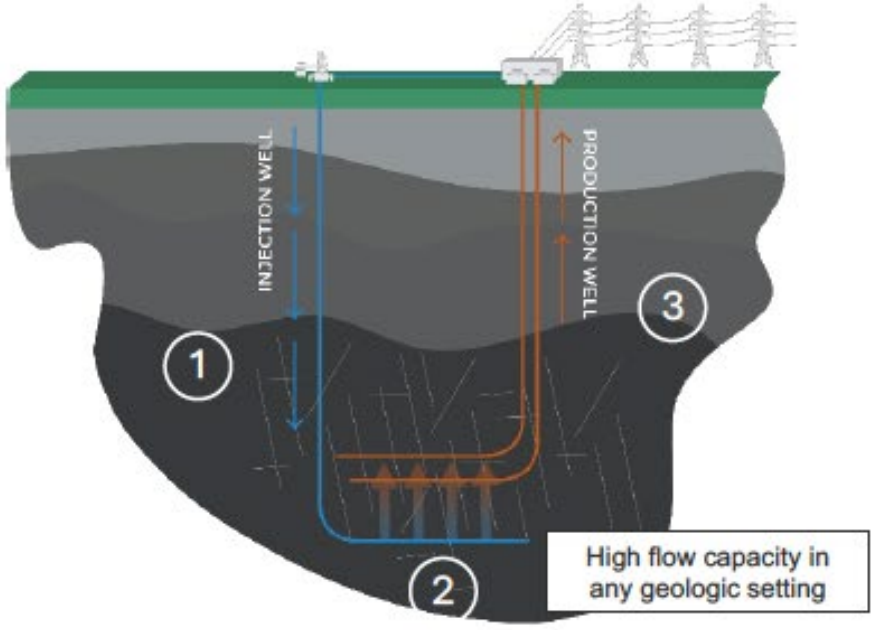
Fervo Innovation

Fervo Energy's Next-Gen Geothermal Approach

Traditional Approach



Next-Gen Approach



THANK YOU

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