



Nevada Geothermal

IOGCC

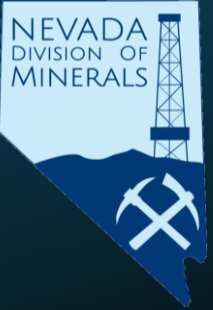
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Overview



- Brief History
- Permitting regime
- Key water and geothermal laws
- Nevada production
- New technologies
- Clarification between statutes
 - DMRE vs. geothermal

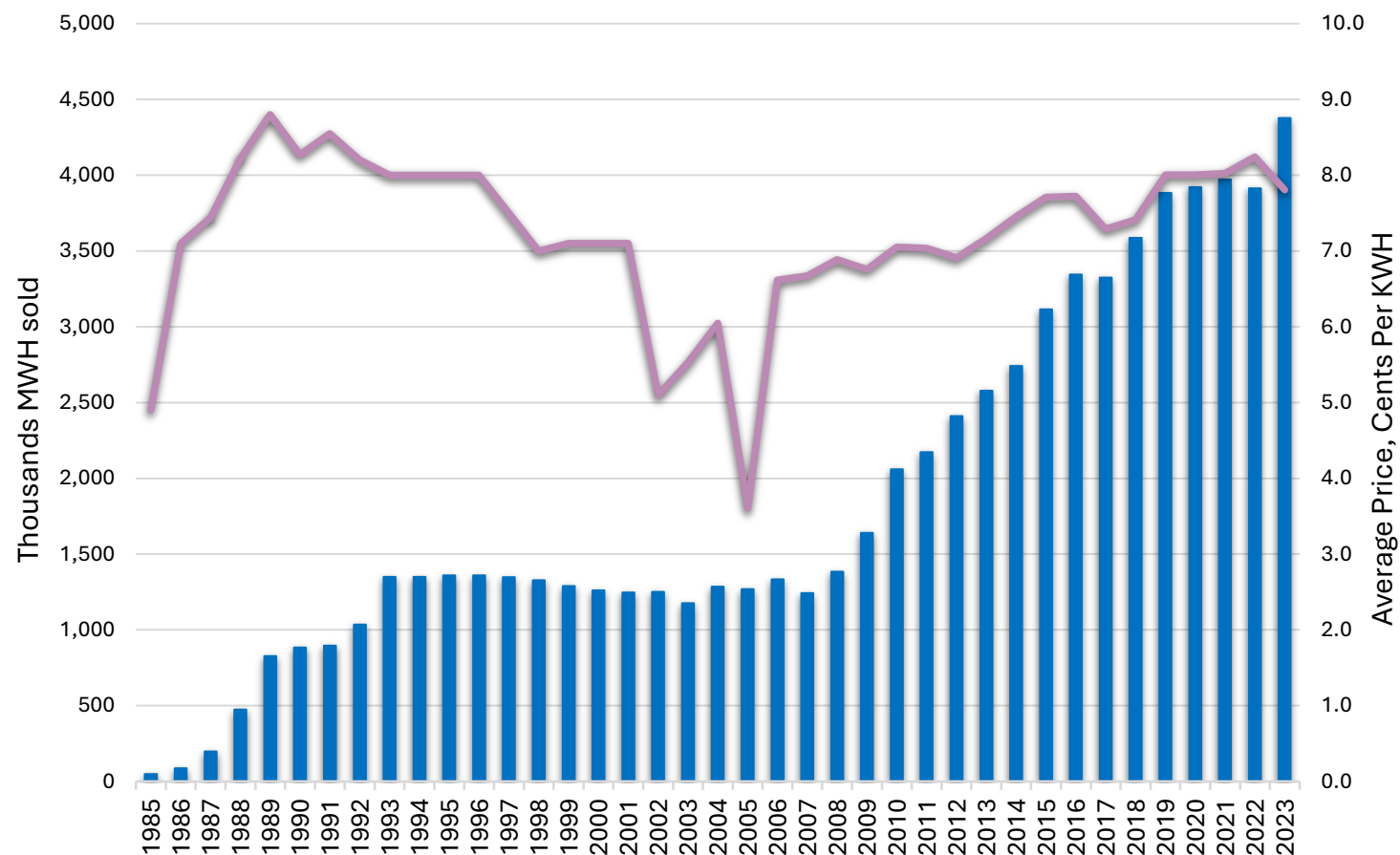




Geothermal History

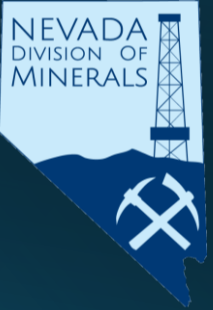


- 1975 NRS 534A Created and defined geothermal
- 1983 Geothermal moved from Water Resources to Division of Minerals
- 1985 Majority of administrative code codified and first geothermal commercial energy sold
- 1992 was the first year to surpass 1 million megawatt hours sold
- 2008-2024 saw exponential growth in geothermal energy
- 2023 first EGS wells drilled and operated in Nevada





Permitting Regime



Three State Geothermal Permitting Agencies

- Division of Minerals – All Drilling Permits
- Division of Environmental Protection – UIC Program
- Division of Water Resources – Consumptive Water Rights
- Must also Permit with Federal Agencies if on Federal Lands
 - Mainly BLM but now some USFS

Water Law:

NRS 534.020 Underground waters belong to public and are subject to appropriation for beneficial use...

NAC 445A.825 “Groundwater” defined. (NRS 445A.425) “Groundwater” means water below the surface of the land which is in a zone of saturation.

NAC 445A.837 “Underground source of drinking water” defined. (NRS 445A.425) “Underground source of drinking water” means all aquifers within this State regardless of the quality of the water, except those exempted pursuant to NAC 445A.850 to 445A.855, inclusive.



Geothermal Law

NRS 534A.010 “Geothermal resource” defined. As used in this chapter, unless the context otherwise requires, “geothermal resource” means the natural heat of the earth and the energy associated with that natural heat, pressure and all dissolved or entrained minerals that may be obtained from the medium used to transfer that heat, but excluding hydrocarbons and helium.

NRS 534A.040 Applicability of procedures for appropriation. A consumptive use of water brought to the surface outside of a geothermal well is subject to the appropriation procedures of [chapters 533](#) and [534](#) of NRS, except for:

1. Water that is removed from an aquifer or geothermal reservoir to develop and obtain geothermal resources if the water is returned to or reinjected into the same aquifer or reservoir; or
2. The reasonable loss of water:
 - (a) During a test of a geothermal well; or
 - (b) From the temporary failure of all or part of a system that removes water from an aquifer or geothermal reservoir, transfers the heat from that water and reinjects that water into the same aquifer or reservoir.

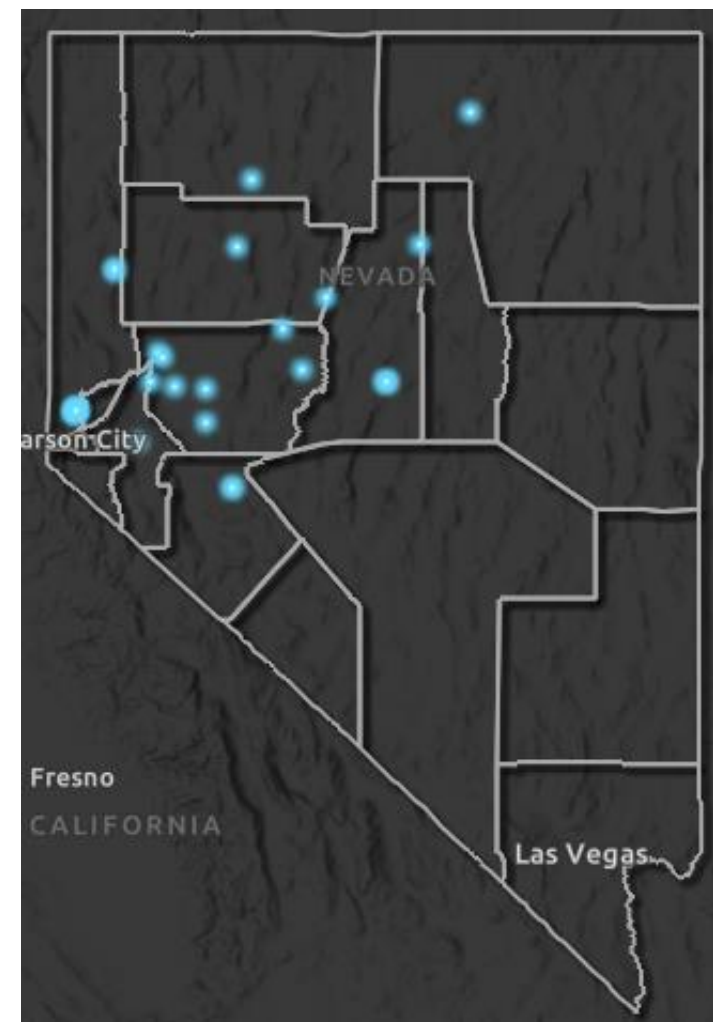
NRS 534A.050 Ownership of geothermal resources. The owner of real property owns the rights to the underlying geothermal resources unless they have been reserved by or conveyed to another person.



Production



- 6.8 million megawatt hours produced in 2024
- 29 producing plants
- 19 individual geothermal fields
- 5 companies
- 958 wells drilled
- 709 wells in use
 - ~50-50 split of federal and private lands
 - 2 EGS wells
- ~1.1 million acres under Federal Lease
 - ~600K leased in the last 5 years
- ~4,000' depth for NV wells





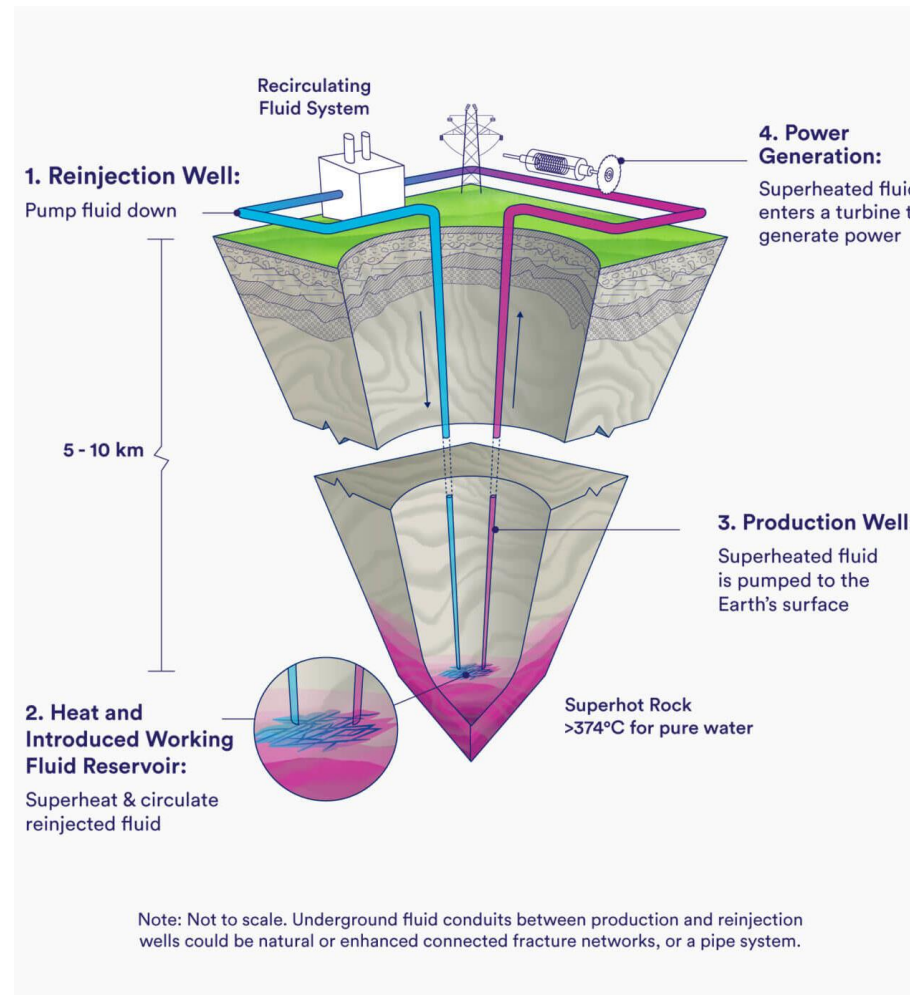
Change in Technology



By [Communications and Publishing](#) May 22, 2025

RESTON, VA. — Geothermal energy in the Great Basin of Nevada and adjoining states could produce electricity equal to one-tenth of the current U.S. power supply, the U.S. Geological Survey assessed in a paper released today.

[Read the fact sheet on Great Basin enhanced geothermal here.](#)





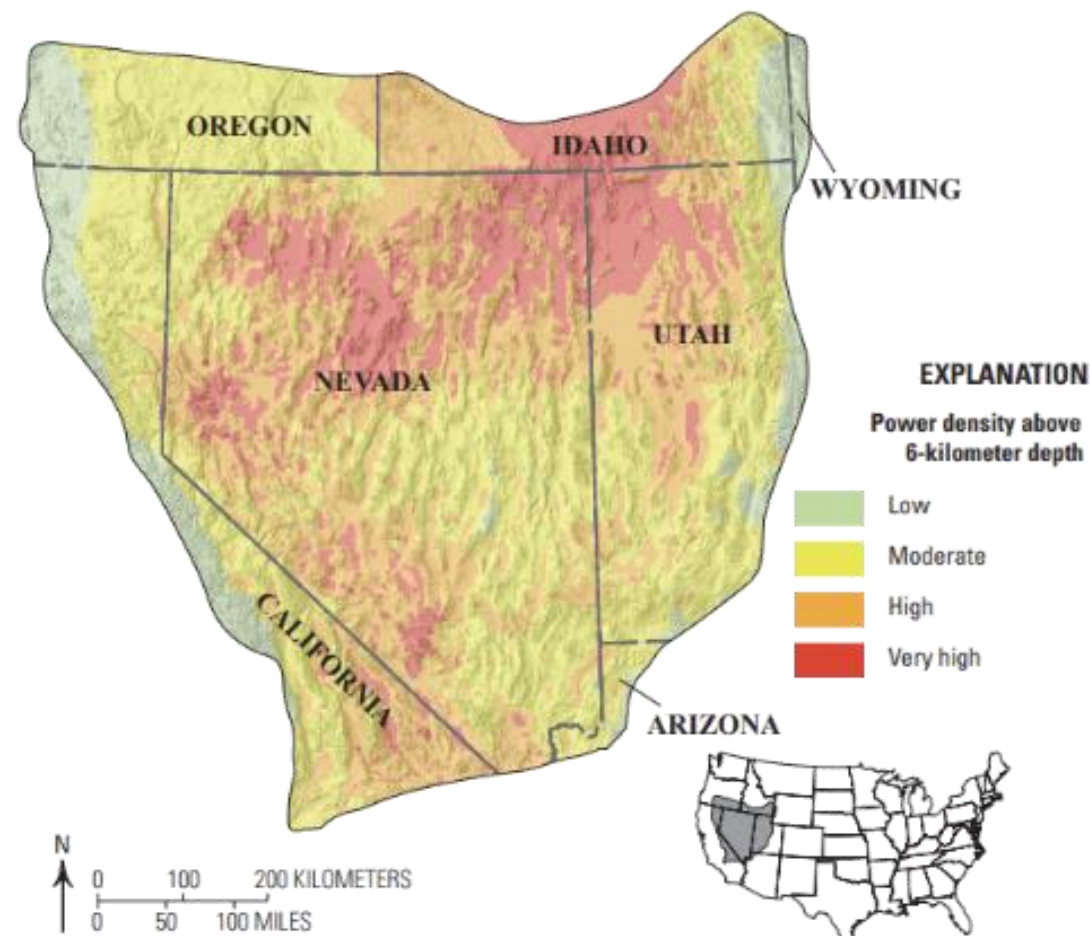
2. Regulation Changes due to Technology



NAC 534A – Geothermal

Changes could include:

- Define non-traditional Geothermal
- Stimulation
- Induced Seismicity
- Water rights with EGS
- Boreholes/Thermal Gradient
- Bonding
- Fees and Fines
- DMRE vs. Geothermal



Shaded relief from National Atlas of the United States, 2012.
<https://purl.stanford.edu/zz186ss2071>
Numeric values for best estimate power density above 6 km
from <https://doi.org/10.5066/P14LU7WD>



Questions