



# NEVADA

DIVISION OF

# MINERALS

Nevada Division of Minerals

Rob Ghiglieri, Administrator, January 28, 2026

Joint Interim Standing Committee on Natural Resources

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## **Nevada's Mining, Geothermal, and DMRE Production and Permitting Update**

# Presentation Outline



**Mining**



**Geothermal**



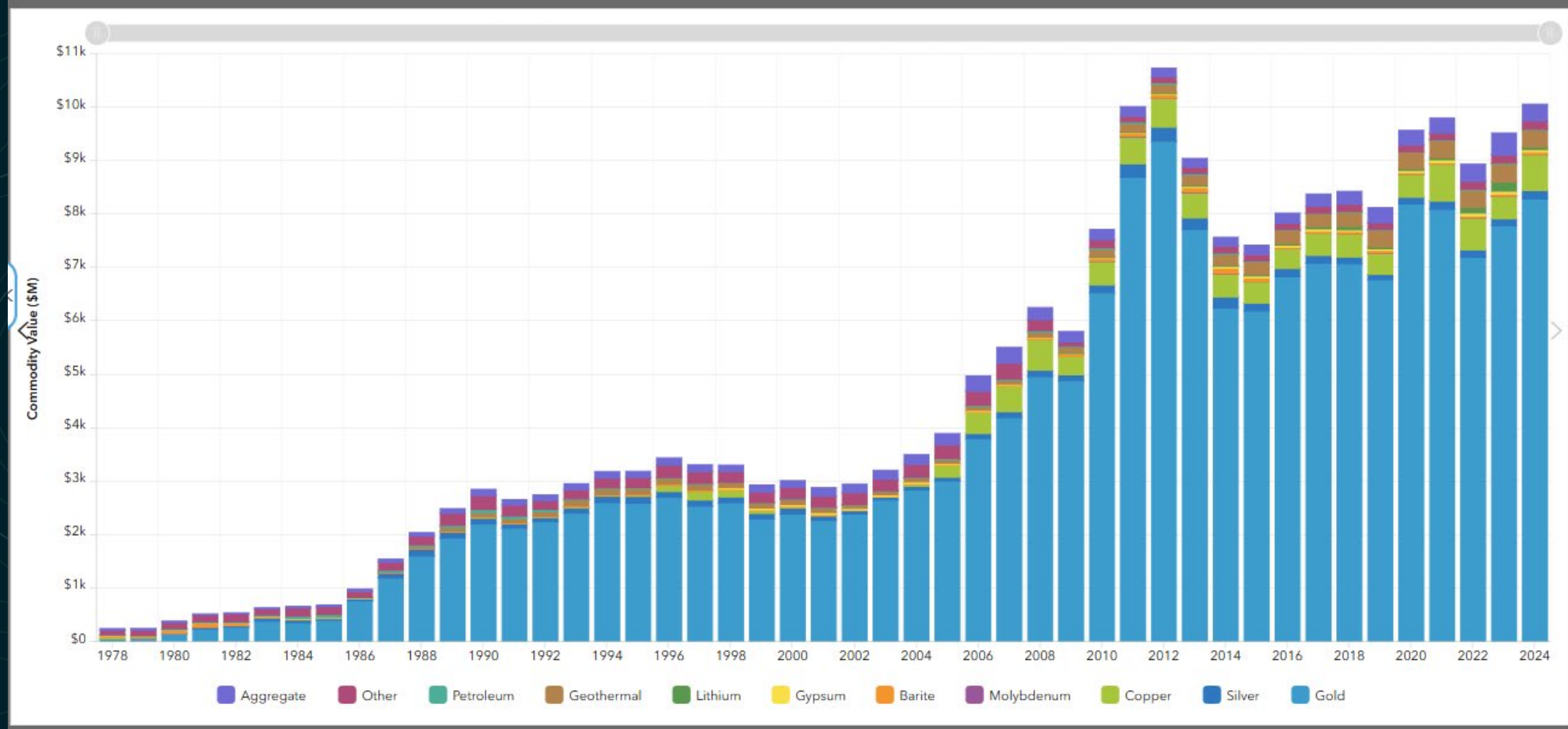
**Dissolved Mineral  
Resource  
Exploration  
(DMRE)**



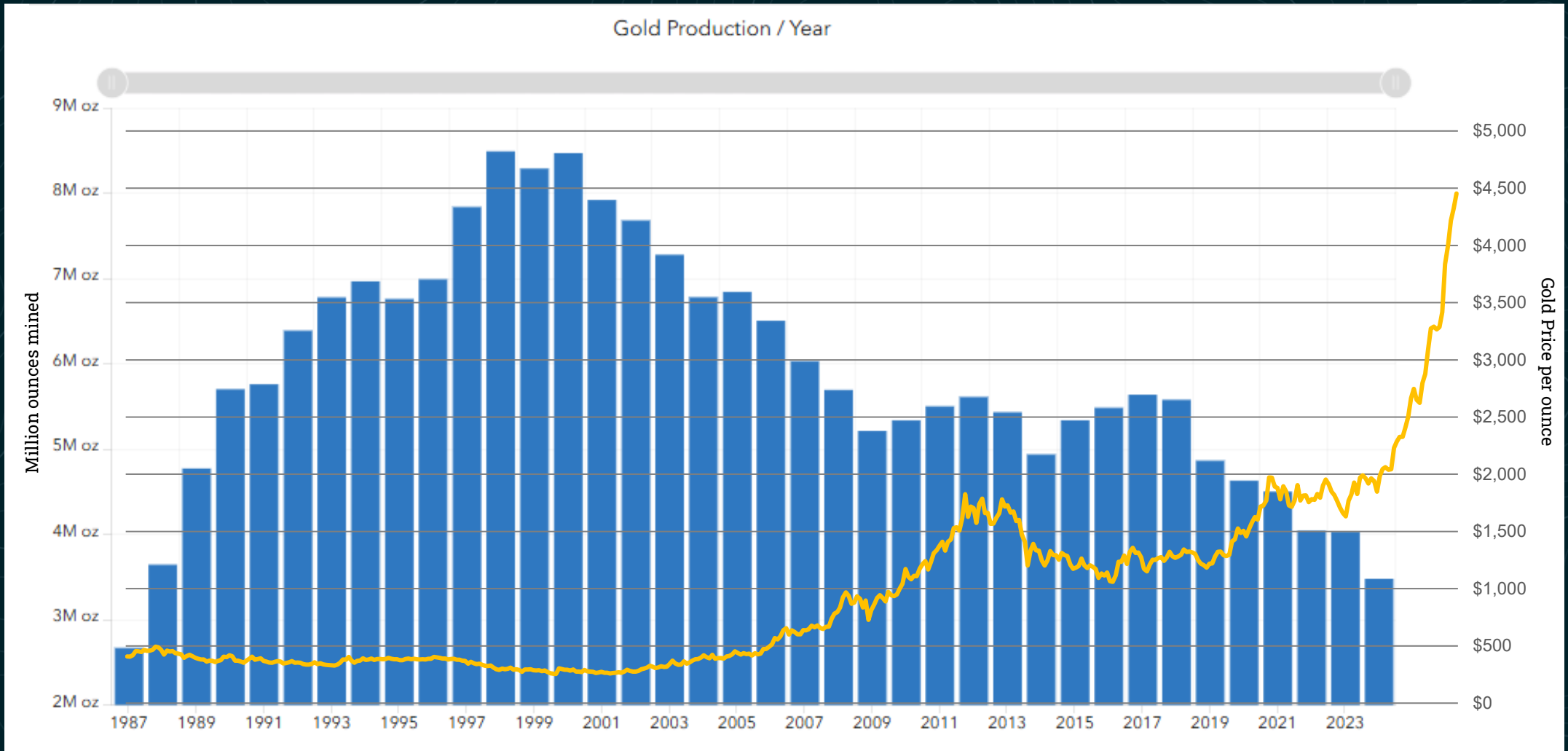
**Mining Law Nexis**

# Nevada Mineral Production

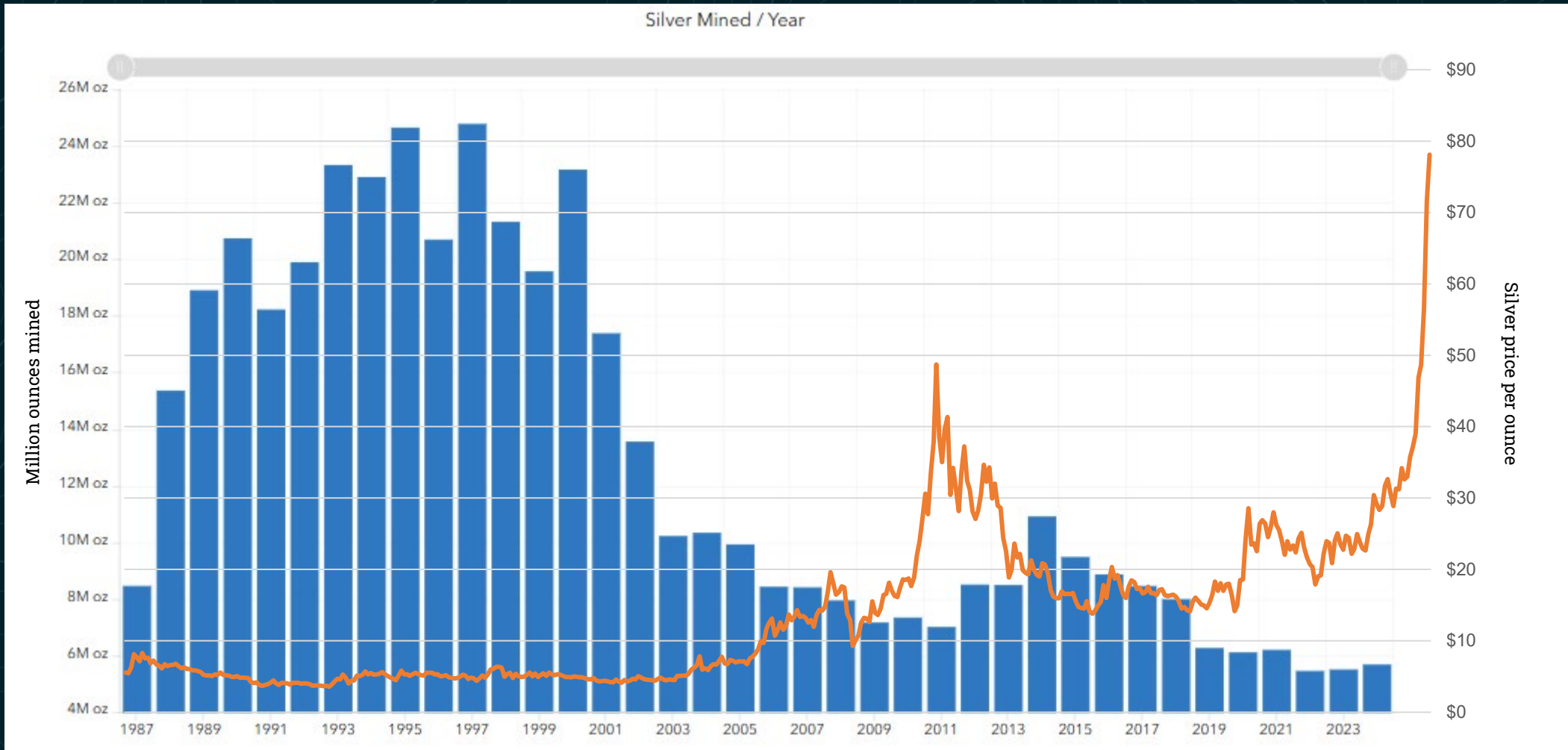
Gold, Silver, Copper, and Moly values calculated from production amounts reported to NDOM\*Average Monthly Value for Year.  
Nonmetal values derived from the Nevada Department of Taxation.



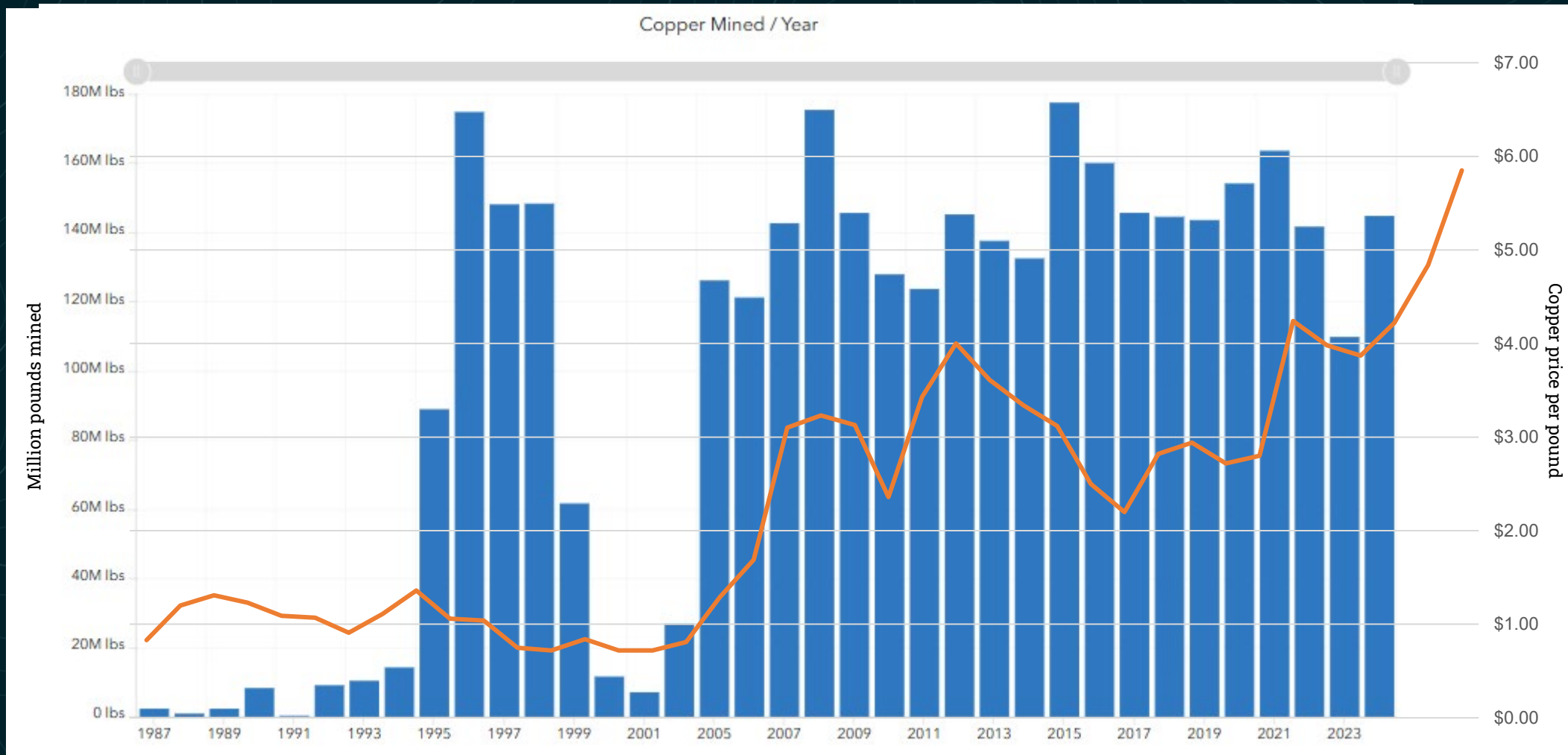
# Nevada Gold Production



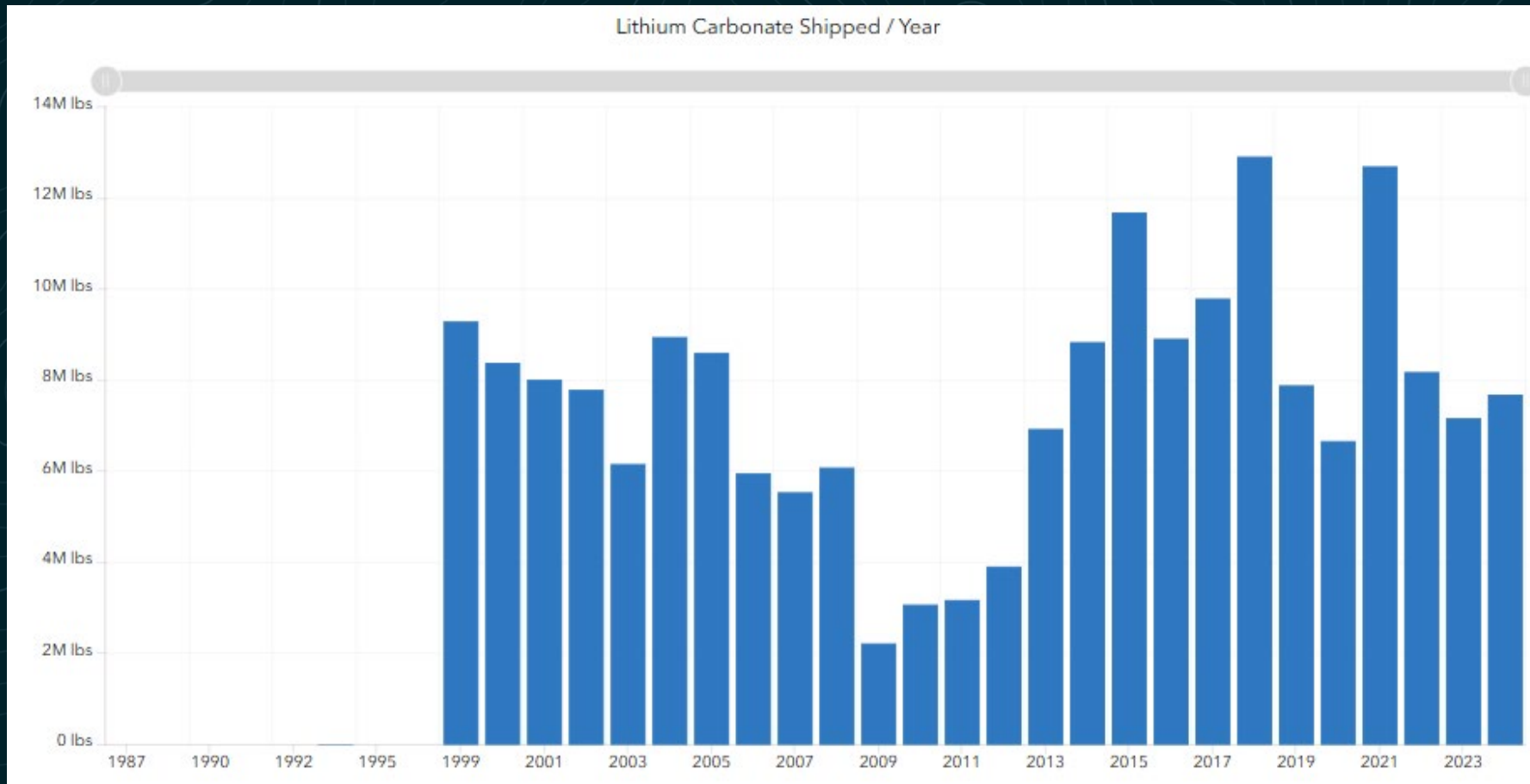
# Nevada Silver Production



# Nevada Copper Production



# Nevada Lithium Carbonate Production

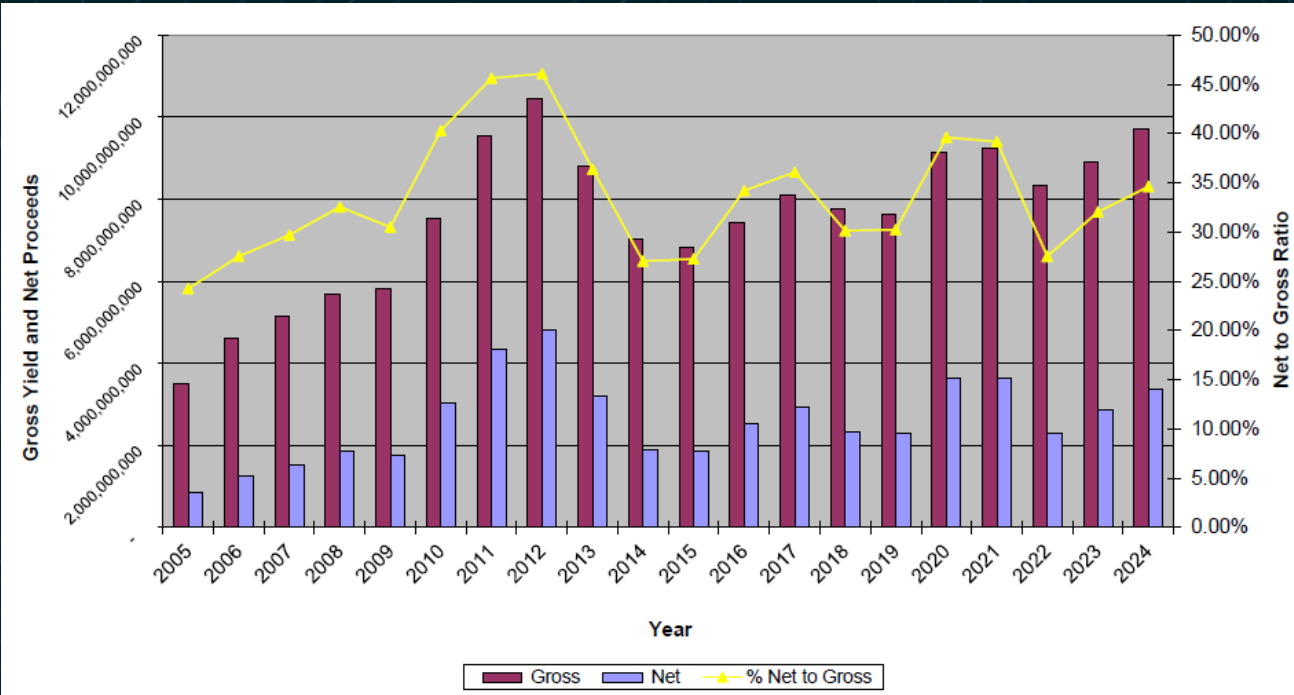




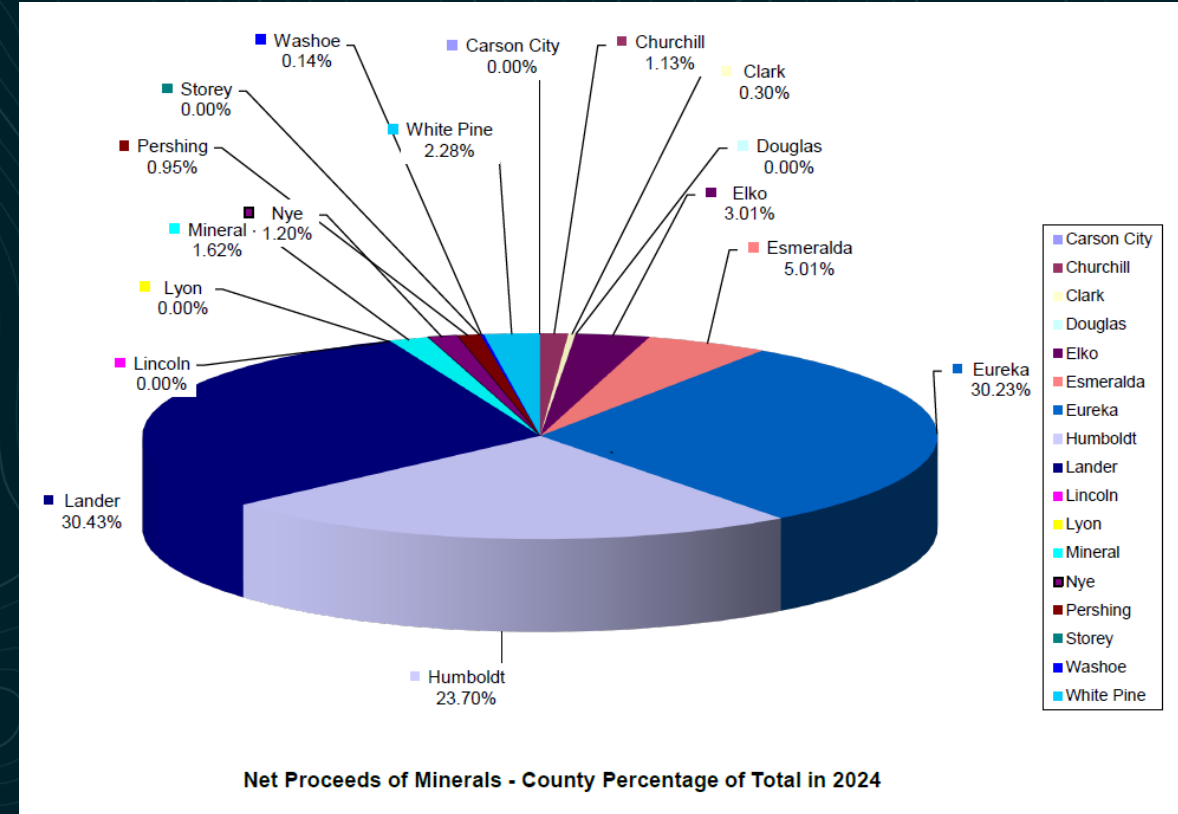


# Net Proceeds of Minerals Tax

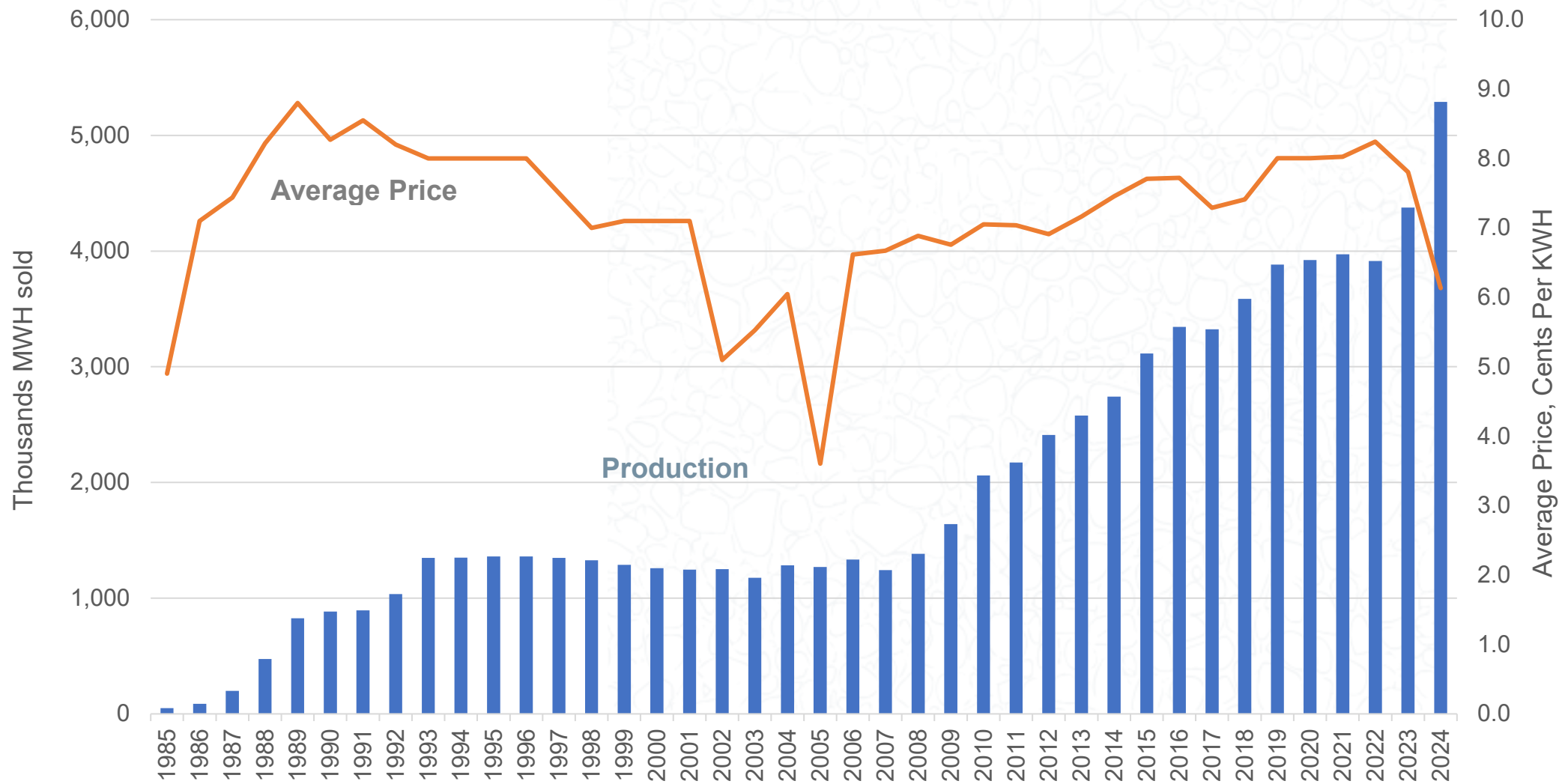
## 20 Year History of Gross vs. Net



## 2024 Net Proceeds by County



Net Proceeds of Minerals - County Percentage of Total in 2024



# Geothermal Permitting Oversight

## Federal:

- Geothermal Steam Act
- Federal Land Policy and Management Act
- NEPA
- Energy Policy Act
- Safe Drinking Water Act ( EPA Class V wells)
- Multiple Mineral Development Act
- National Historic Preservation Act
- Clean Water Act
- Endangered Species Act
  
- BLM regulations and policy

## State:

### Division of Minerals

- NRS/NAC 534A – Well Drilling & Production Statistics

### Division of Environmental Protection

- NRS/NAC 445A – Water Pollution Controls (UIC)
- NRS/NAC 445B – Air Pollution Control

### Division of Water Resources

- NRS/NAC 533 & 534

### Public Utilities Commission

- NRS 703

### State Fire Marshal

### NDOT

### B&I

## County/Local:

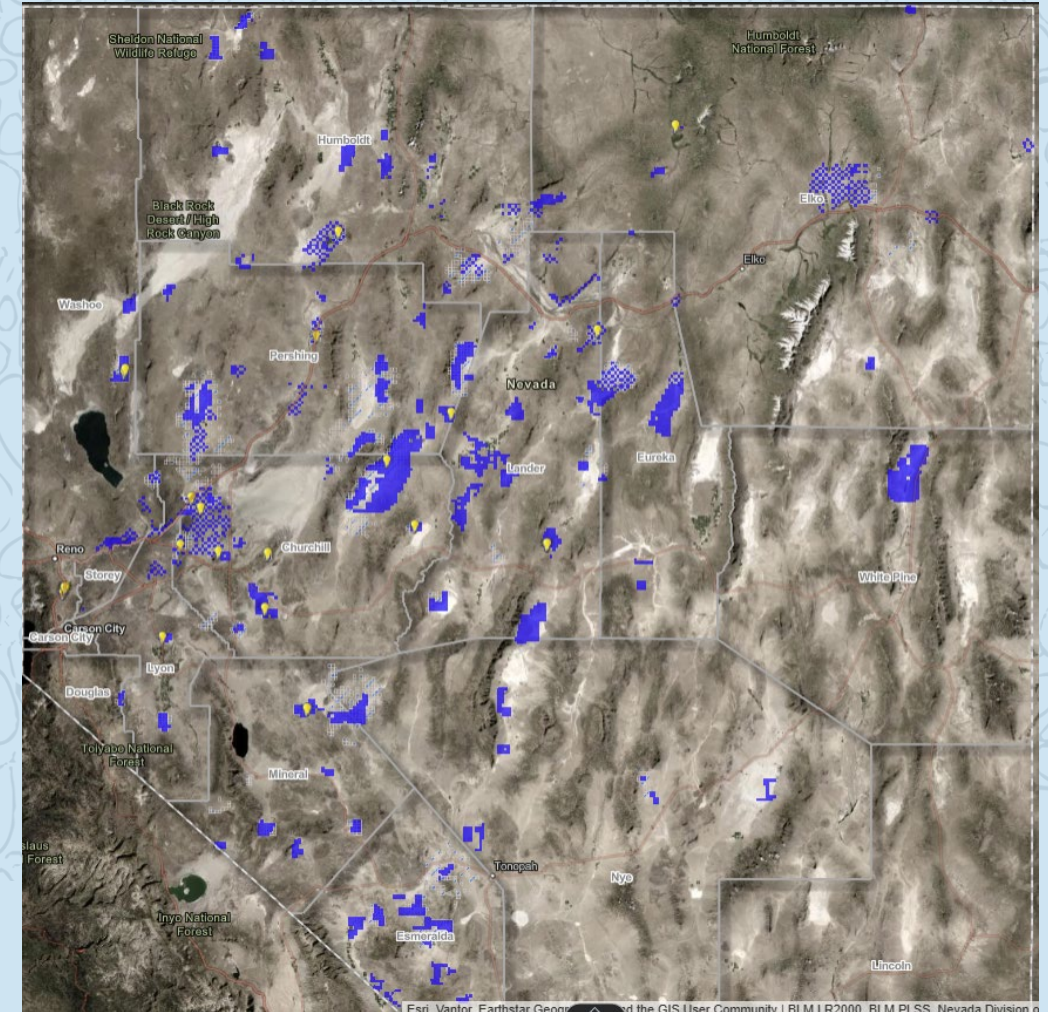
- SUP, SWPPP, SPCC, CAPP

# Geothermal Leasing and Royalty Process

## 43 CFR 3200

- Nomination of Leases
- Each lease nominated must have an EA or DNA completed with a list of stipulations before being offered in a sale. (includes a 15–30-day public comment period).
- Posting of Notice of Competitive Lease sale.
- Public Sale – Payment of winning bid and down payment of next year annual lease payment.
- Annual lease payment of \$2 per acre for first year, then \$3 per acre up to 10 years. After 10 years, annual fee is \$5 per acre.
- Royalty payments once selling electricity at 1.75% of the gross proceeds for first 10 years, and not 3.5% after 10 years.

Existing Leases in NV



# Revenue From Leases and Royalties

## October 21, 2025, Geothermal Lease Sale<sup>1</sup>

- 113 parcels available with 377,679 acres included
- 86 parcels comprising of 280,558 acres receiving bids
- High bid was \$410 per acre for a total \$2,098,380
- Total receipt from sale was \$9,446,442

## Revenue From Leases and Royalties

- Split of Revenue (50% State, 25% County, 25% U.S. Treasury)
- >1,000,000 acres under active lease
- Annual lease payment in Federal FY24 to the state of Nevada was \$2.25 million according to the Department of the Interior<sup>2</sup>
- Total of \$7,619,192 was received by the Department of Education from in FY25 under “Fed Mineral Leasing Act Rev” according to [openbudget.nv.gov](https://openbudget.nv.gov)<sup>3</sup>

<sup>1</sup> [https://www.blm.gov/sites/default/files/docs/2025-10/NV\\_Geot\\_20251021\\_Comp\\_Sale\\_Results.pdf](https://www.blm.gov/sites/default/files/docs/2025-10/NV_Geot_20251021_Comp_Sale_Results.pdf)

<sup>2</sup> <https://revenue.data.doi.gov/explore/?dataType=Revenue&period=Calendar+Year&mapLevel=County&offshoreRegions=false&commodity=Geothermal&location=NF%20CNV&year=2024>

<sup>3</sup> <https://openbudget.nv.gov/OpenGov/ViewActualDetail.aep?fiscalYear=2025&filter=null&type=Rev&view=Function&objectCode=3536&objectTypeCode=FF>

# Geothermal Regulations

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.

# NDOM Permits

## Permit Requirements

- Location
- Subsurface
- Well type
  - Thermal Gradient
  - Observation
  - Production
  - Injection
- Depth
- Temperature
- Mineral Rights
- Geologic Formation

## NRS 534A.070

2. Upon receipt of an application for a permit to drill or operate a geothermal well, the Administrator of the Division of Minerals shall transmit copies of the application to the State Engineer, the Administrator of the Division of Environmental Protection of the State Department of Conservation and Natural Resources, and the Director of the Department of Wildlife. After consultation with the State Engineer, the Administrator of the Division of Environmental Protection, and the Director of the Department of Wildlife, the Administrator of the Division of Minerals may issue a permit to drill or operate a geothermal well if it is determined that issuance of a permit is consistent with:

- (a) The policies specified in NRS 445A.305 and 445B.100;
- (b) The purposes of chapters 533 and 534 of NRS; and
- (c) The purposes specified in chapter 501 of NRS.

# NDOM Permits

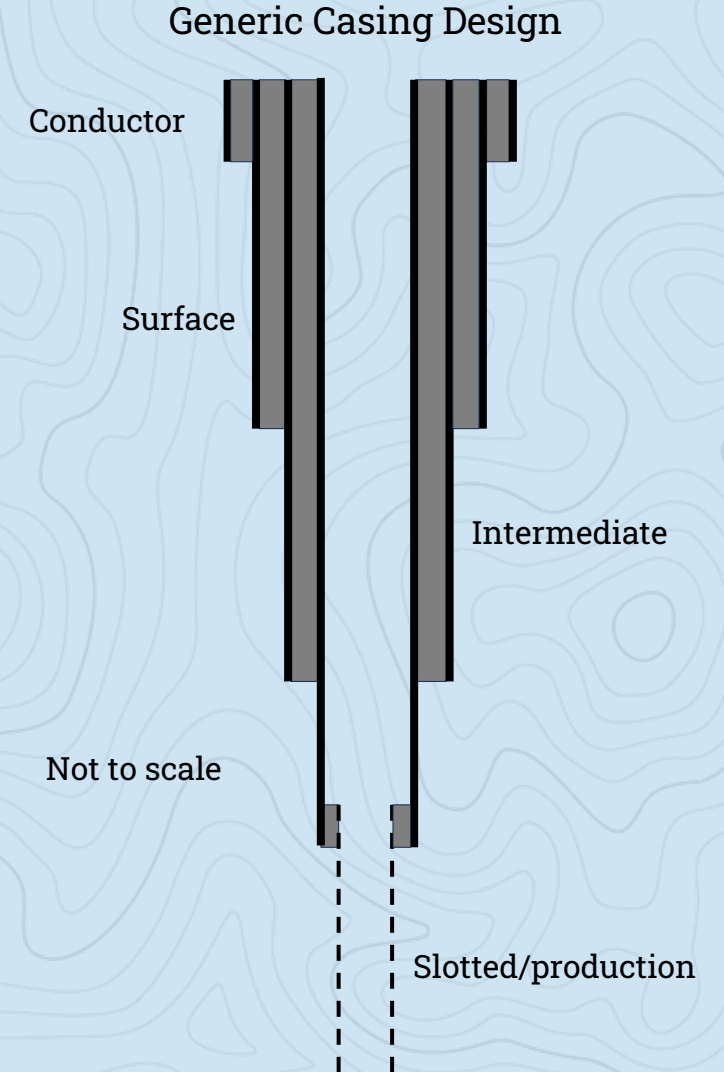
## Key Focus

- Casings
- Cement/annular space
- Blowout Prevention (BOP)
- Bonding
- Cuttings & Logs
- Monthly Production & Injection reports

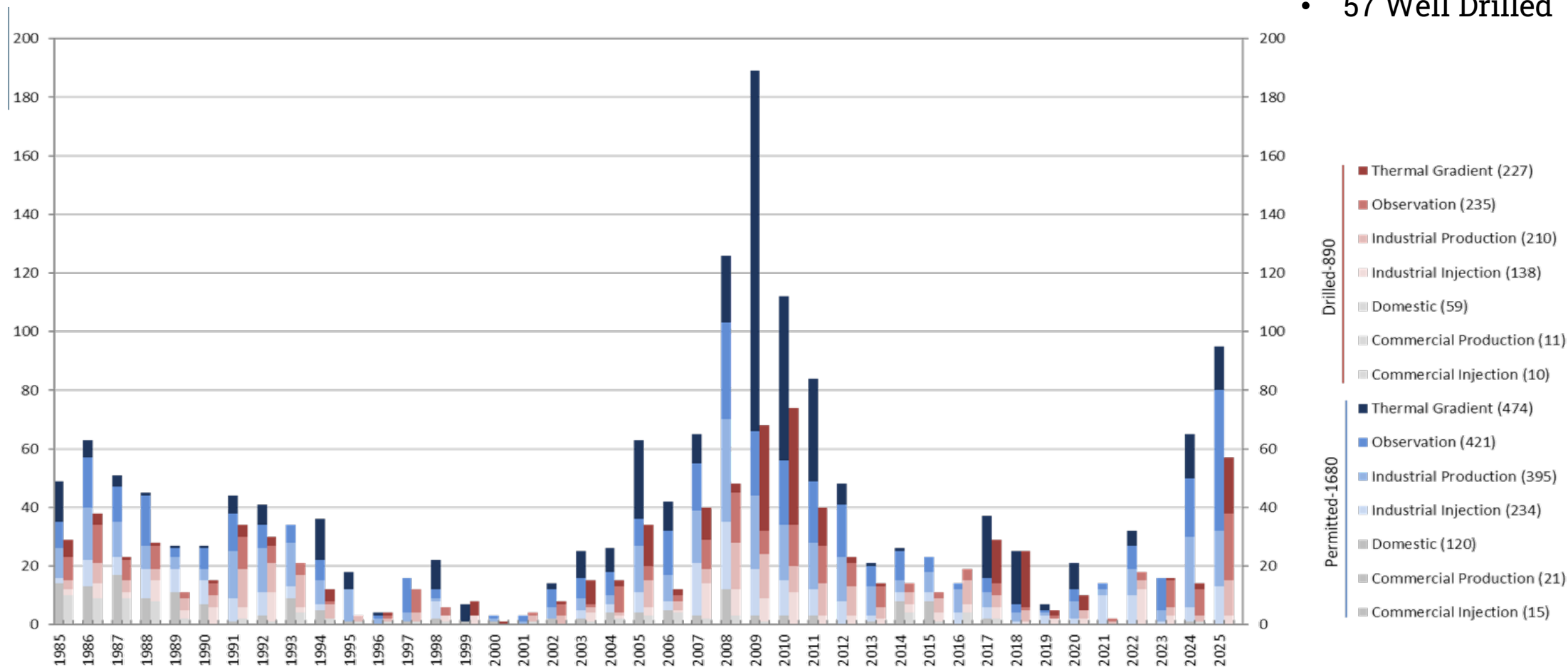
## NAC 534A.260 Requirements for casing

### Surface casing must

- Provide for control of formation fluids and protection of fresh water
- Be cemented. Cement must be circulated up the annulus to the surface.
- Be cemented at least 10% of total depth
- Subsequent strings must overlap by 100 ft and be cemented.



### Permitted & Drilled Geothermal Wells

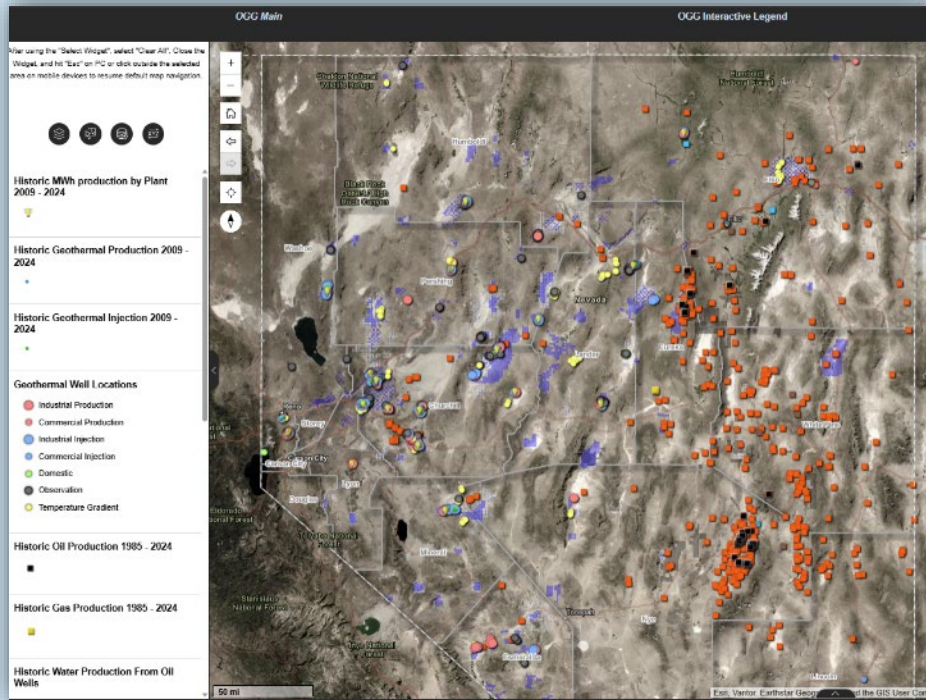


- 2025:
- 95 Permits Issued
  - 57 Well Drilled

# Available Geothermal Information and Data

NDOM Open Data Website  
NDOMDATA.com  
OGG application

NDOM Website  
Geothermal Permit Page



The screenshot shows the NVDOM Website Geothermal Permit Page. The page has a blue header with navigation links: Home, About Us, Commission, Programs, Data & Presentations, FAQs, and Contact Us. The main content area is titled "Geothermal Permits" and includes a "Permits and Permit Notices" section. Below this section, there is a list of permits with their respective IDs and names, such as "GEO 1701 11-24-2025 Opus 7 Geothermal LLC Lyon ARG1 TG" and "GEO 1700 11-20-2025 Zanskar Geothermal and Minerals Inc Humboldt Pumpnickel PKL-57-04". The page also includes a sidebar with a "Programs" menu and a "Geothermal" section with sub-links for "Forms and Reports", "Permits", "Renewable Energy", and "Links".

# Enhanced Geothermal

USGS science for a changing world

SCIENCE PRODUCTS NEWS CONNECT ABOUT

Frequently Asked Questions

**NEVADA**

**EXPLANATION**

**Power density above 6-kilometer depth**

Low  
Moderate  
High  
Very high

**NATIONAL NEWS RELEASE**

**Enhanced geothermal systems in the Great Basin could supply 10% of U.S. electricity demand**

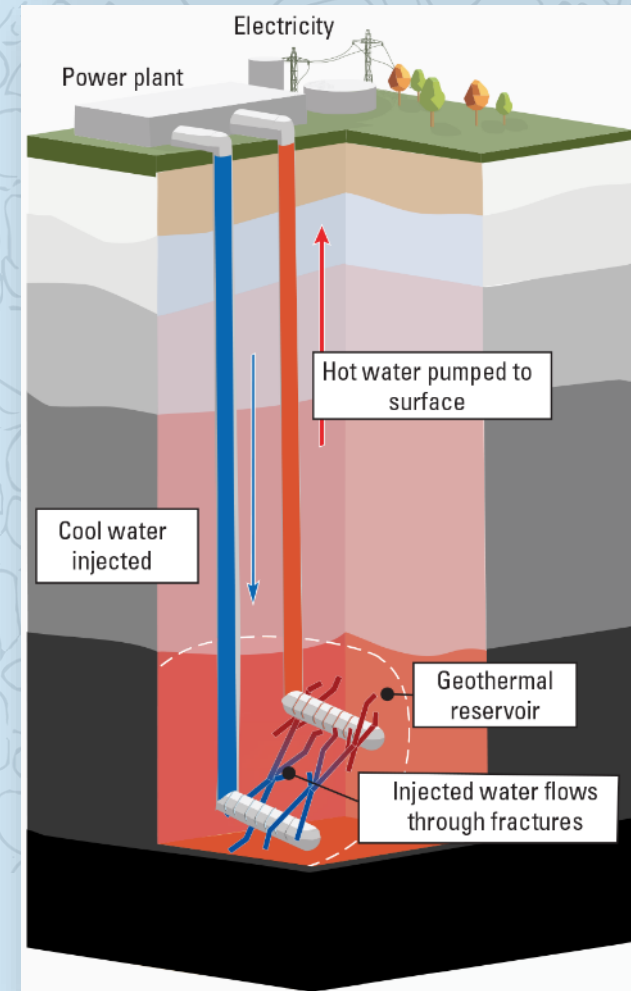
Provisional assessment shows potential for 135 gigawatts of baseload power – if current technology works at scale in Nevada and 5 adjoining states

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.

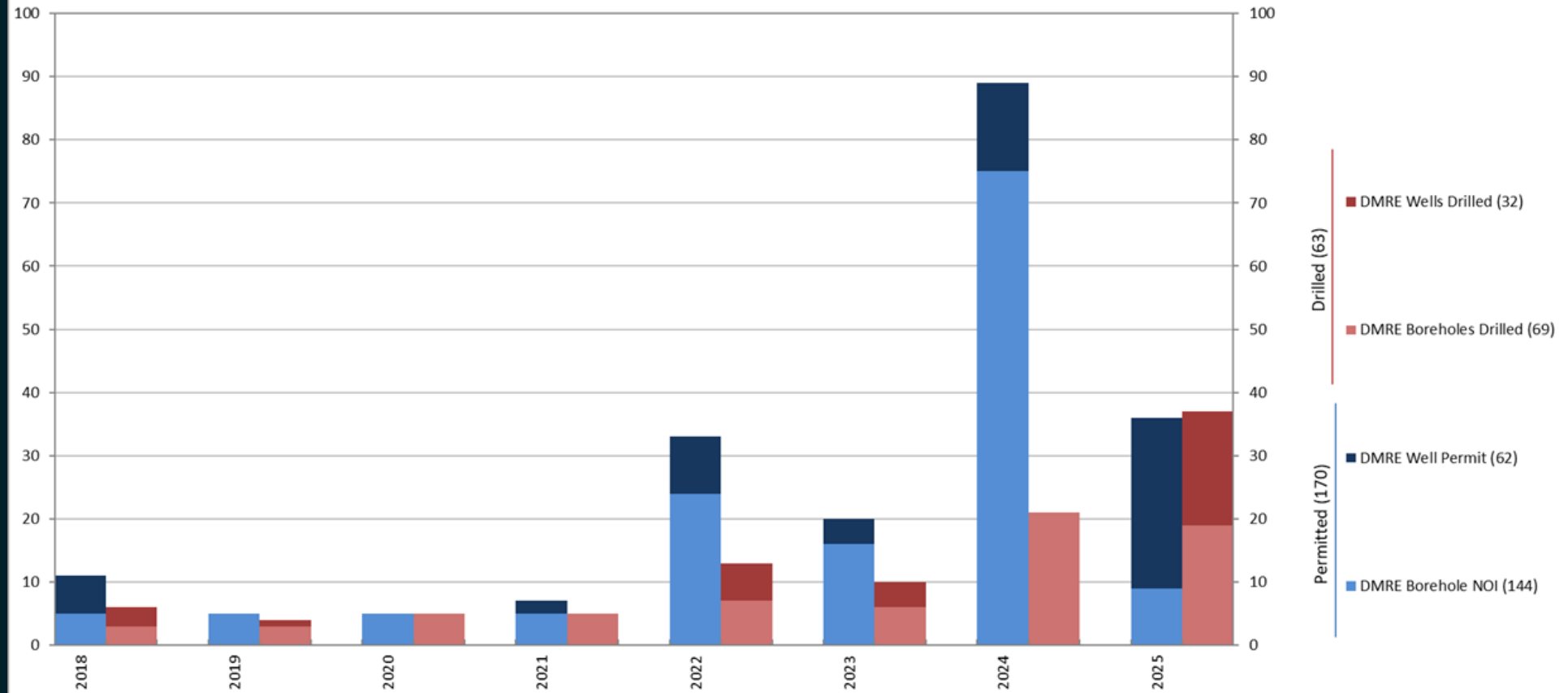
[Read the fact sheet on Great Basin enhanced geothermal here.](#)

“The projected 10 percent would be a major increase, as geothermal energy currently generates less than 1 percent of the nation’s power supply.”<sup>1</sup>



<sup>1</sup> <https://www.usgs.gov/news/national-news-release/enhanced-geothermal-systems-great-basin-could-supply-10-us-electricity>

### Nevada Division of Minerals Permitted & Drilled DMRE Wells





# Dissolved Mineral Resource Exploration

NRS 534B Created in 2017 Session

NAC 534B codified in 2018

62 wells permitted since 2018

31 wells drilled since 2018

- 10 Wells have been plugged
- 10 Wells have been pumped
  - 7 Wells are currently reporting

A total of 4.75-acre feet have been pumped since 2018 from all DMRE wells



# SLB's Direct Lithium Extraction (DLE)

September 10, 2024, SLB Press Release:

- Produced lithium from DLE at scale.
- “The proprietary integrated solution.... produces lithium 500 times faster than conventional methods while using only 10 percent of the land. Operating at approximately one tenth the size of a commercial-scale facility, the plant reached a verified recovery rate<sup>1</sup> of 96% lithium from brine.”
- “The entire SLB solution, from extracting lithium from brine to converting it to lithium carbonate, takes just hours. Traditional evaporation methods can take up to 18 months and have a much lower recovery rate of 50 percent or less.”
- Uses resin that selectively absorbs lithium ions while rejecting most undesired ions.
- Uses less water and returns the spent brine, or the brine with a reduced lithium concentration, back to its source after the lithium is processed and separated.

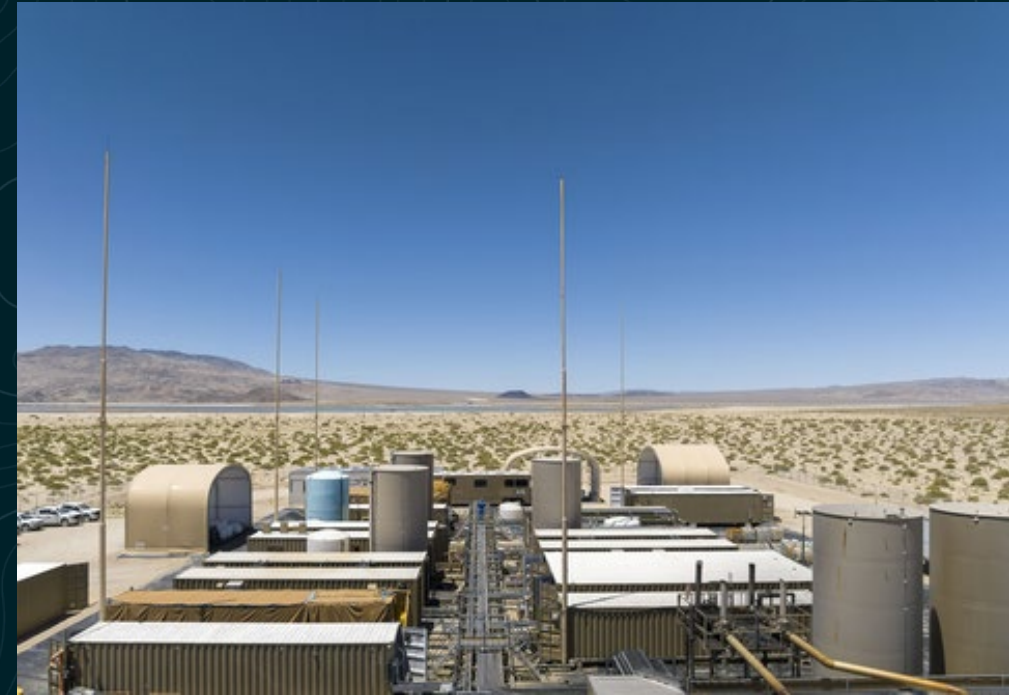


Photo from SLB Press Release: <https://investorcenter.slb.com/news-releases/news-release-details/slb-achieves-breakthrough-results-sustainable-lithium-production>



# World's 2024 Lithium Mining

Australia – 7 operations - 88,000 metric tons - Hardrock

Chile – 2 operations - 49,000 metric tons - Brine

China – 9 operations - 41,000 metric tons – 7 Hardrock 4 Brine

Australia – 7 operations - 88,000 metric tons - Hardrock

Zimbabwe – 4 operations - 22,000 metric tons - Hardrock

Nevada – 1 operation - 2,900 metric tons - Brine

2024  
Worldwide  
Production  
240,000  
Metric Tons



# World Lithium Reserves

- Bolivia, 23 million tons – Primarily Brine
- Argentina, 23 million tons – Primarily Brine
- United States, 19 million tons – Various\*
- Chile, 11 million tons – Primarily Brine
- Australia, 8.9 million tons – Primarily Hardrock
- China, 6.8 million tons - Various
- Germany, 4 million tons - Primarily Hardrock
- Canada, 5 million tons - Primarily Hardrock

*Source: U.S. Geological Survey, Mineral Commodity Summaries, January 2025,*

*\*United States Estimates from continental brines, claystone, geothermal brines, hectorite, oilfield brines, and pegmatites*



# Nevada Lithium Reserves

## NBMG Lithium Report, September 2024 - Table 1

- 17 individual projects
  - 14 clay/sediment
  - 3 brine
- Total Reserves
  - Clay 4.28 million tons
  - Brine 0.36 million tons
- Total Resources
  - Clay 117 million tons
  - Brine 1.52 million tons

## Thacker Pass – December 2024

14.3-million-ton reserve

- Up to 160,000 tons a year

## Rhyolite Ridge – April 2023

3.2 million tons

- 22,000 tons a year

## Clayton Valley (Century Lithium) – April 2024

1.76 million tons

## Silver Peak – December 2023

0.36 million tons

Lithium Price was ~\$16,800 per ton at the end of 2024

Sources: <https://lithiumamericas.com/thacker-pass/overview/default.aspx> <https://rhyolite-ridge.ioneer.com/new-ioneer-mineral-resource-update/#:~:text=The%20updated%20report%2C%20conducted%20by,tonnes%20of%20boric%20acid%20equivalent.Century%20Lithium%20-%20NI%2043-101%20TECHNICAL%20REPORT%20ON%20THE%20FEASIBILITY%20STUDY%20OF%20THE%20CLAYTON%20VALLEY%20LITHIUM%20PROJECT%20Esmeralda%20County%20Nevada%20USA>

[https://s201.q4cdn.com/960975307/files/doc\\_financials/2023/q4/9aefa2f5-78dc-4015-bf20-b71aba0bb593.pdf](https://s201.q4cdn.com/960975307/files/doc_financials/2023/q4/9aefa2f5-78dc-4015-bf20-b71aba0bb593.pdf) Jowitt, S.M., Henry, C.D., Crespo Mena, J., Lindsey, C.R., Darin, M.H., Saftner, D.M., Heintz, K.M., and Hershey, R.L., 2024, Lithium in Nevada—origins, extent, role in the energy transition, and implications for economic development and national security: Nevada Bureau of Mines and Geology Special Publication 40, 48 p.

# Mineral Rights

Mineral Leasing Act – 1920  
Geothermal Steam Act - 1970



## Leasable

Oil, gas, geothermal, potash,  
sodium, and others

Materials Act – 1947



## Saleable

Common varieties, sand, gravel,  
stone, pumice, and others

Mining Law – 1872



## Locatable

Metallic and nonmetallic, gold,  
silver, copper, lithium,  
fluorspar, barite, and others

# Mineral Rights

- Geothermal mineral rights (leasable), locatable mineral rights, and private mineral rights are separate from water rights.
  - Each can be considered real property.
- Water rights does not give access to dissolved minerals because the minerals are either owned by the federal government, privately held or have been withdrawn.
- Water can be used as the medium to transport the dissolved minerals or geothermal resource (heat of the earth) but if the water or geothermal brine is not returned to the same geologic formation, the user would also need a water right.
- Water rights does not equal mineral rights.

# Mineral Rights

## Lithium from Geothermal Brine

Geothermal is a leasable mineral however byproducts could be either locatable or leasable.

CFR 43 part 3200 does allow for the co-production under definitions

“Byproducts are minerals (exclusive of oil, hydrocarbon gas, and helium), found in solution or in association with geothermal steam, that no person would extract and produce by themselves because they are worth less than 75 percent of the value of the geothermal steam or because extraction and production would be too difficult.”

Focus areas:

- Mineral rights would need to be evaluated and potentially regulated under different laws.
  - Locatable mineral on geothermal lease
- Placer claim vs. lode claim.
- Technology advancements
- Associated water rights, consumption, and volume of flow
- Valuation of “byproduct” vs. geothermal value



# Thank you

[Minerals.nv.gov](http://Minerals.nv.gov)  
[NDOMDATA.com](http://NDOMDATA.com)