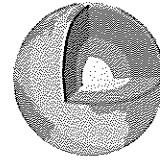
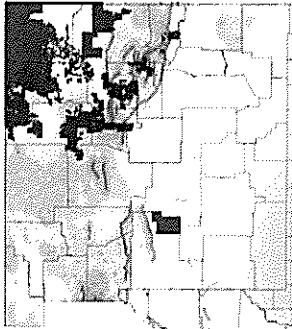


New Mexico Geothermal Tribal Opportunities



Geothermal Opportunities in New Mexico



August 12, 2026

NM Geothermal
Working Group
for the
Indian Affairs Committee

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Agenda



- **NM geothermal overview & 2027 leg preview**
 - Tom Solomon (NM geothermal working group)
- **Geothermal geology on NM tribal lands**
 - Shari Kelley PhD (NM Bureau of Geology)
- **Future of Geothermal in NM, tribal opportunities**
 - Jeff Atencio (Rainstorm Consulting)
 - Darien Cabral (San Ildefonso)
- **Q & A**

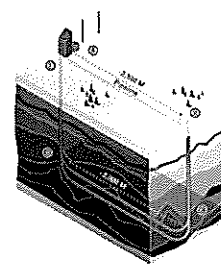
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Geothermal Benefits

Tom Solomon, NMGWG



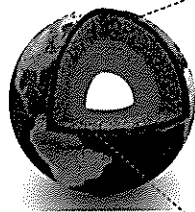
- New Mexico's world-class 24x7 power source
- Clean, zero emissions - both heat & electricity
- May provide "last 10%" of clean energy transition
- Jobs: sustainable economic development for NM
- Transition for oil industry skills & rigs - drill for heat

3

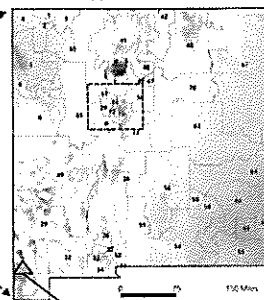
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NM is #6 in US Geothermal Potential

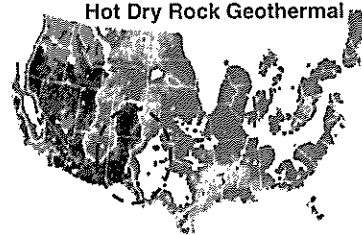


Geothermal Opportunities in New Mexico



Lightning Dock

(b) Deep EGS (Enhanced Geothermal System)
70.1 TW in 41,034 sites
Hot Dry Rock Geothermal

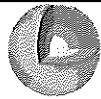


- New Mexico is rated #6 in the US for geothermal energy potential (US EIA).
- Both hydrothermal & deep EGS (hot/dry rock).
- New Mexico has one geothermal electric power plant, Lightning Dock near Lordsburg

<https://www.nature.com/articles/s41435-023-00019-9>

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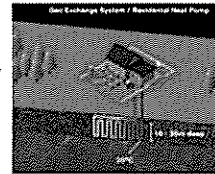
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Types of Geothermal Vary by Depth

Geothermal today:

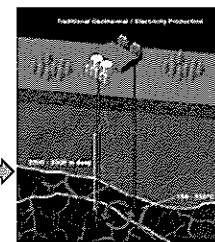
- **Ground source heat pumps**
HVAC for buildings: 10 to 300 feet deep.



- **Hot Springs* & direct use**
Depths to ~1000 ft.

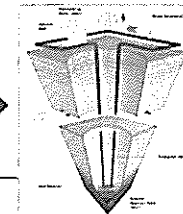


- **Traditional geothermal electricity** from a hot water aquifer > 6000 ft. (Lightning Dock)



Geothermal near future:

- **Next Gen geothermal electricity:**
closed loop in deep hot dry rock: > 15,000 ft.



* 29 hot springs in NM

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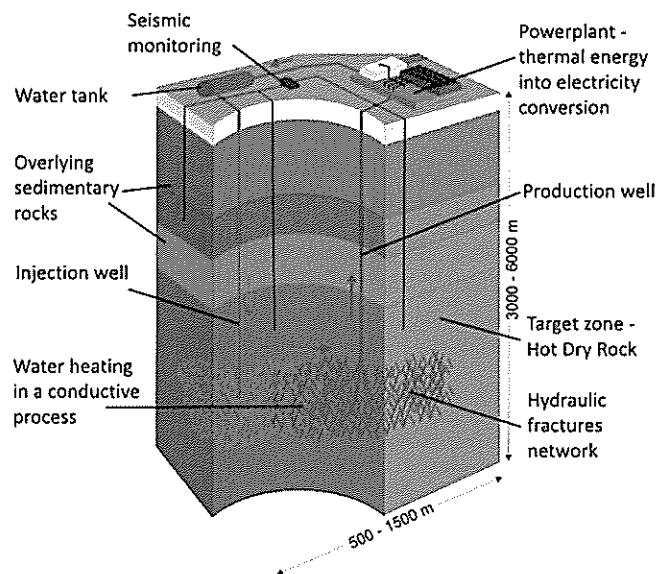


Hot Dry Rock Geothermal Energy

Use the earth's heat for electric power.

- Zero emissions
- Recirculating
- Energy storage

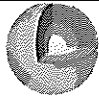
EGS = Enhanced geothermal system.



<https://www.mdpi.com/1996-1073/14/18/5725> Poland 2021

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NM's Lightning Dock Record-Breaking Hydrothermal Well Maxes Plant Output

- Feb 3, 2025: (Zanskar) announced its new well is the **most productive pumped geothermal well operating in the USA**, producing around 5000 GPM at 330 °F (165 °C). In Hidalgo County, SW NM.
- The large diameter directional well was drilled into a fracture zone at 7500-8000 feet (2286 – 2438 m), more than enough heat to run the PNM 15 MWe **Lightning Dock** power plant.
- The Governor at ribbon cutting for the **newly repowered Lightning Dock** plant on July 18, 2025.
- Lightning Dock may have capacity to expand further.

Zanskar reports exceptional results of new geothermal well at Lightning Dock, NM



link <https://www.trankenergy.com/zanskar-reports-exceptional-results-of-new-geothermal-well-at-lightning-dock-nm/>

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NM 150MW XGS-Meta Geothermal Plant

- Plan announced June 12, 2025
- Developer: XGS Energy, "supporting Meta's data center operations in NM"
- Output: 150MW using XGS closed loop 'thermal reach enhancement' tech
- Grid: Will connect to PNM electric grid
- Project value: up to \$1.2B
- Jobs: up to 3000 **trade workers** at construction peak and up to 100 long term jobs.
- Timing: smaller phase 1 in 2028, larger phase 2, operational **by 2030**.
- Location: "Northwestern New Mexico" (not yet sited)
- Water usage: **zero operating water use** due to closed loop recirculation

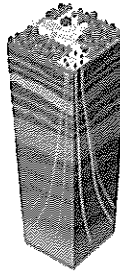
Meta, XGS Energy announce plans to build geothermal site in New Mexico

By [Natalie F. Johnson](#) Staff Writer | [Published 6/12/2025](#) | [3 min to read](#)



[XGS press release](#), [Story in Abq Journal](#), [Source NM](#)

June 12, 2025, "XGS Energy and Meta Platforms Inc. announced Thursday plans to build a geothermal power plant in northwestern New Mexico, aiming to jumpstart the state's geothermal industry as tech companies seek new energy sources for data centers and artificial intelligence growth." XGS Energy CEO Josh Prueher, Meta global head of energy Urvi Parekh



link <https://www.abqjournal.com/business/article-cf320eca-85cc-4b3a-86d2-049b241f0f41.html#pnms-source:abqj>

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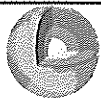


NM Geothermal Project Activity

- *XGS/Meta's announcement*
- *Zanskar Lightning Dock repowered*
- White Sands development w/Teverra
- BLM June lease sales to 11 companies
- EMNRD Geothermal grants issued in 2026

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Potential Geothermal Legislation 2027

Requests for support

- **Three geothermal bills being drafted for 2027**
 - Geothermal investment tax credit
 - ✦ Convert PTC to a more useful investment tax credit
 - Statutory language clean-up
 - ✦ So all 13 statutes refer to one definition in one statute. Remove conflicts.
 - Thermal Energy Networks
 - ✦ To let projects sell the heat they produce
- **Budget & funding**
 - Support continued funding for NM Tech's geothermal research. Currently \$0.5M per year through FY2027.
 - Support 2-4 FTE's at EMNRD for effective geothermal regulation.

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Geology of NM Tribal Lands

Shari Kelley, PhD

- Recent DOE Office of Indian Energy Policy and Programs, funding opportunity:

“Unleashing Tribal Energy Development” ([DOE link](#))

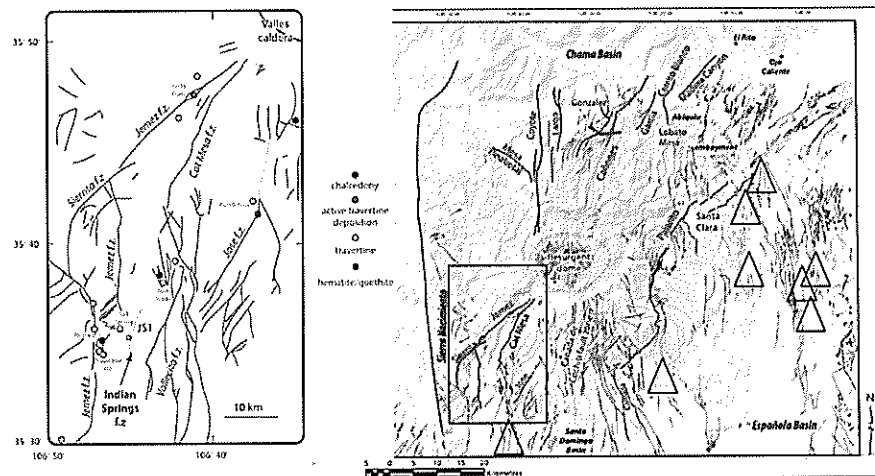
- Navajo Nation (PRRC, NMBGMR, LANL, AZGS)
- Pueblo of Jemez (TLS, NMT)
- San Ildefonso

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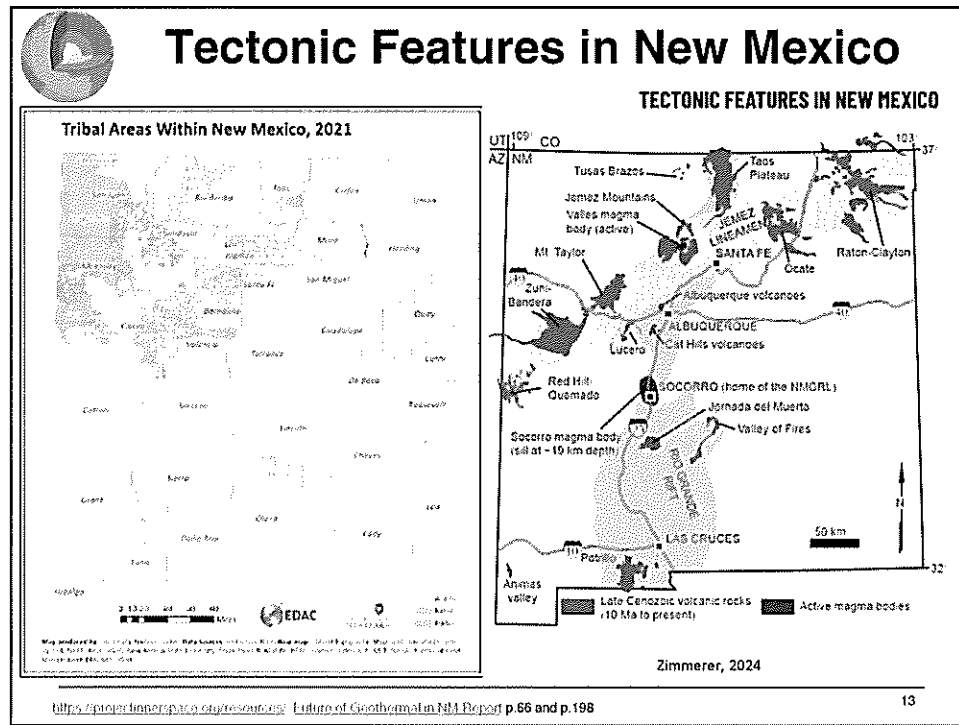
Indigenous Communities and geologic mapping



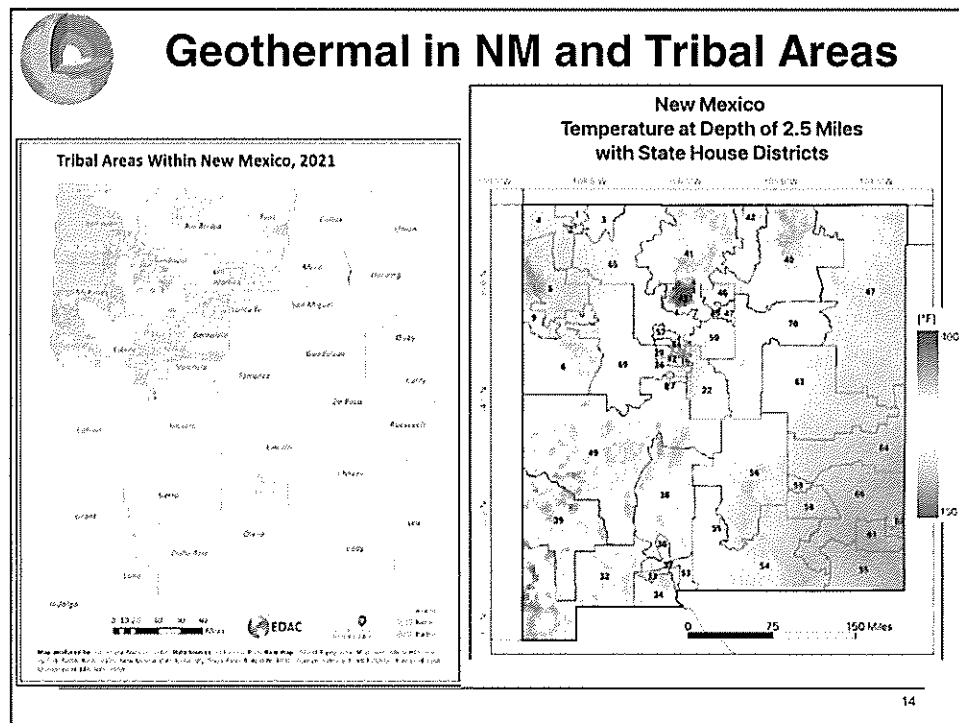
Geologic structures control the geothermal system in the SW Jemez Mountains. The box on the right shows the outline of the geothermal feature map on the left. The purple triangles on the map on the right show the general positions of the pueblos in the Rio Grande valley

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Opportunities on Tribal Lands

- Future of Geothermal in NM, tribal opportunities
 - Darien Cabral, San Ildefonso
 - Jeff Atencio, Rainstorm Consulting

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San Ildefonso

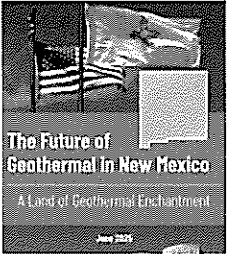
- Brief history of Indian Energy development including the contributions of CERT.
- How to use utility rights of way contracts on Indian lands to benefit tribal projects.
- Tribal financing of energy projects - including stacking ITC and New Market Tax credits along with rural tax credits.
- Report on the San I. Geothermal project.
- TEDO's and regulations on Tribal land.
- SLB Energy
- Geothermal Indigenous Peoples' Declaration (October 2024)

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Future of Geothermal in NM



- *New Mexico has the potential to produce 163 gigawatts of geothermal power, more than 15 times the state's total electric generating capacity.*

- Future of Geothermal in NM Report chartered by **Project Innerspace & NMT**
- **Published June 12, 2025.** 15 authors, 238 pages, 9 chapters:
 - 1: Geothermal 101: overview
 - 2: The Geothermal opportunity in New Mexico
 - 3: Where is Geothermal in New Mexico
 - 4: Geothermal heating and cooling for: Industry, Ag, Municipal, Residential
 - 5: Leveraging Oil and Gas technologies, labor and workforce
 - 6: Who Owns Heat? Navigating subsurface rights
 - 7: Policy and Regulatory pathways to catalyze geothermal in NM.
 - ➔ **8: New Mexican Stakeholders: opportunities and implications**
 - 9: Environmental Considerations for responsible geothermal growth

Full report at: geoinfo.nmt.edu/geothermal/Future_of_Geothermal 17

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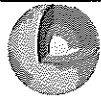
Geothermal at NM Tribes & Pueblos

Past/present inquiries regarding geothermal on tribal and pueblo lands

- **Pueblo of San Ildefonso** investigating geothermal with LANL as customer
 - Janine Bloomfield, Darien Cabral
- **Pueblo of Zia** - 2012 DOE study of sites w/geothermal potential
 - Brad Knipper, Pueblo of Zia, Director, Dept. Environmental Resources
- **Pueblo of Jemez** w/ LANL Scoping Study: Geothermal for Los Alamos Power Pool
 - Clarice.Madalena@jemezpuueblo.org, LAR Story July 2024.
- **Ohkay Owingeh Pueblo** working with MozartDevCo.com on development options
 - Ron Lovato, Tsay Corp
- **Jicarilla Apache Nation** - 2008 DOE study included geothermal (no current activity)
 - Karl R. Rábago (2008), Sabina Kraushaar

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How to Get Started

- Refer to the Future of Geothermal In New Mexico June 2025 report
 - **Chapter 8** *New Mexican Stakeholders: Opportunities and Implications for Geothermal Growth and Development*, by **Jeff Atencio**, Rainstorm Consulting & Travis Broadhurst, UNM
- Tribal internal discussion
 - Local Utility
 - Understand the technology-types of technology
 - Is geothermal an approved community opportunity
- Contact EMNRD/ECAM, they will provide a 'concierge' to help
- Contact NMT, NM Bureau of Geology and Mineral Resources

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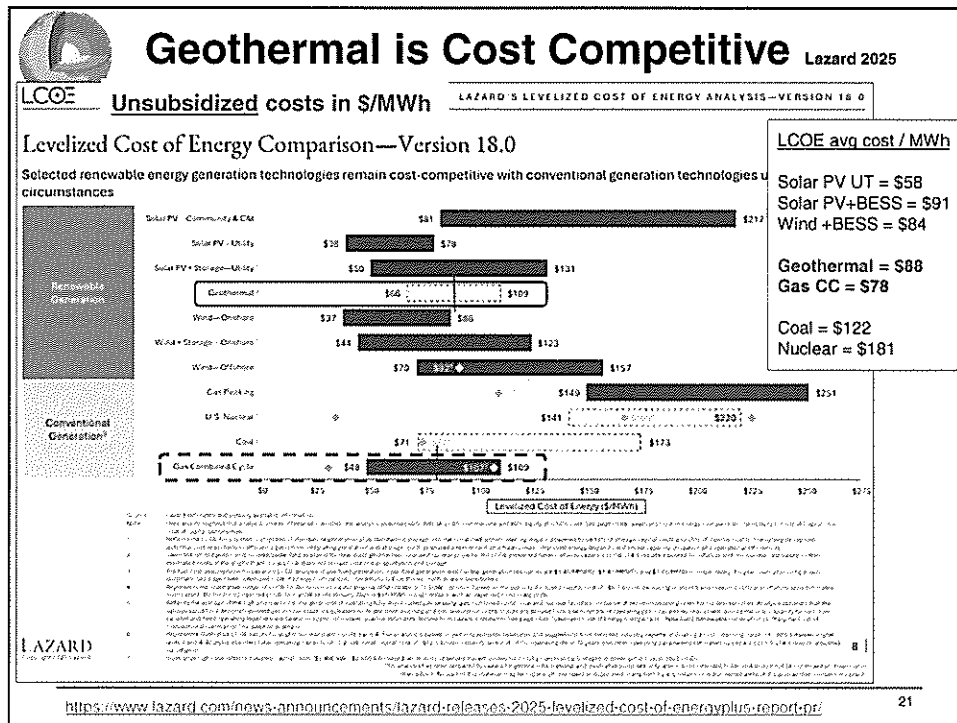
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Questions

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Fervo Energy Building World's 1st Next-Gen 500 MW Geothermal Plant in Utah

Fervo Newsroom

16-April-2025 NS Energy Biz

Fervo Energy breaks ground on next-generation geothermal plant

Fervo Energy is building their "enhanced geothermal" project in Western Utah, the first utility scale EGS plant in the world. The 500 MW of 24/7 electricity is set for full-scale production in 2028, w/ 100 MW phase 1 in 2026.

- NEPA permitted expansion to 2,000 megawatts.
- Costs reportedly will compete w/ natural gas at \$80/MWh
- PPA's signed with SoCalEd

Fervo Energy power plant at Cape Station (Utah, US) - Phase 1 - unit 1/3 under construction

Construction is underway on a new kind of geothermal plant — one that doesn't require the presence of hot springs or geysers to deliver carbon-free energy to the grid. Instead, the project developed by Fervo Energy is using powerful drills to reach over a mile down and access a more abundant form of subterranean heat.

<https://www.nenergybusiness.com/projects/cape-station-geothermal-project-us/?cf-view>
<https://www.nature.com/articles/s44375-024-00019-0#>

Induction generated electricity 100 MW of Fervo's Gen 2 ORC Power Plants at Cape Station, Utah

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NM's Geothermal Policy Platform

Thank you!








Sen. Ortiz y Pino Rep. Roybal Caballero Rep. Lujan Sen. Soules Sen. Griggs Sen. Woods

Legislation passed in 2024: [HB2](#), [HB 91](#), [SB58](#), [SB40](#):

- NM Tech funded through FY '27 as center of geothermal research
- Geothermal Grant & Loan Program w/ EMNRD, \$15M + \$10M 2026
 - Grants up to \$250k to 'a political subdivision of the state or to a state university... or an indian nation, tribe or pueblo' ([statute](#)). Loans available for private business.
- Geothermal Electricity Production Tax Credit of 1.5¢ /kWh plus a capital equipment gross receipts tax deduction
- Geothermal Heat Pump Tax Credit: 30% of system cost for ground-coupled heat pumps up to \$9000.

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NM Geothermal Working Group

Meets monthly on Zoom as an unofficial body

- Started by **Sen. Ortiz y Pino** Feb 2022; facilitator Tom Solomon
- Members of the (40+) NM Geothermal Working Group include:
 - **Universities** - NM Tech, NMSU, UNM
 - **National Labs** - LANL & Sandia geothermal office heads
 - **State Government** - Office of Gov MLG (Travis K), EMNRD-ECAM energy office, State Lands Office, Econ Dev/EDD, NM legislature
 - **US Sen. Heinrich's office**
 - **Geothermal developer community**: GeoTh Rising, Proj Innerspace.
Companies: XGS, Zanskar, Fervo, TLS, Quaise, Chthonian, SLB
 - **Venture Capital funders**: Dangerous Ventures, Adv Energy United

link

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