Executive Summary

Unlocking New Mexico's Geothermal Potential

New Mexico's combination of abundant subsurface heat, technical expertise from the oil and gas and geothermal industries, and support from political leaders make the state well suited to exponentially grow its geothermal development. It has the potential to produce 163 gigawatts of geothermal power, more than 15 times the state's installed capacity in 2023.

The Land of Enchantment is beautifully and geographically diverse. Across its nearly 78 million acres are wide deserts, broken mesas, high peaks, and forested wilderness. Beneath the surface—oil, gas, minerals, and heat. Lots of heat. At the top of the state lies a chain of Cenozoic volcanic fields called the Jemez Lineament. Cutting through the state's middle is the Rio Grande rift, a geologic zone that separates the Colorado Plateau from an old, stable part of the Earth's continental lithosphere.

In large part because of those two ancient geologic formations, New Mexico and its Tribal lands are also a place of extraordinary geothermal potential—sixth in the nation, in fact.[1] So much of that potential lies in traditional hydrothermal power generation. But the state also has rich potential for next-generation geothermal energy—accessing the Earth's heat in locations without subsurface water via advanced drilling and other technologies. Taken all together—the geologic attributes and the technologies—it is possible to develop one or another kind of geothermal energy solution in every location across all of New Mexico.

In late 2024, the International Energy Agency published an analysis of the technical heat energy provided by geothermal resources around the world (using data calculations from Project InnerSpace's GeoMap tool). The report calculated the recoverable quantities of

GEOTHERMAL OPPORTUNITIES IN NEW MEXICO

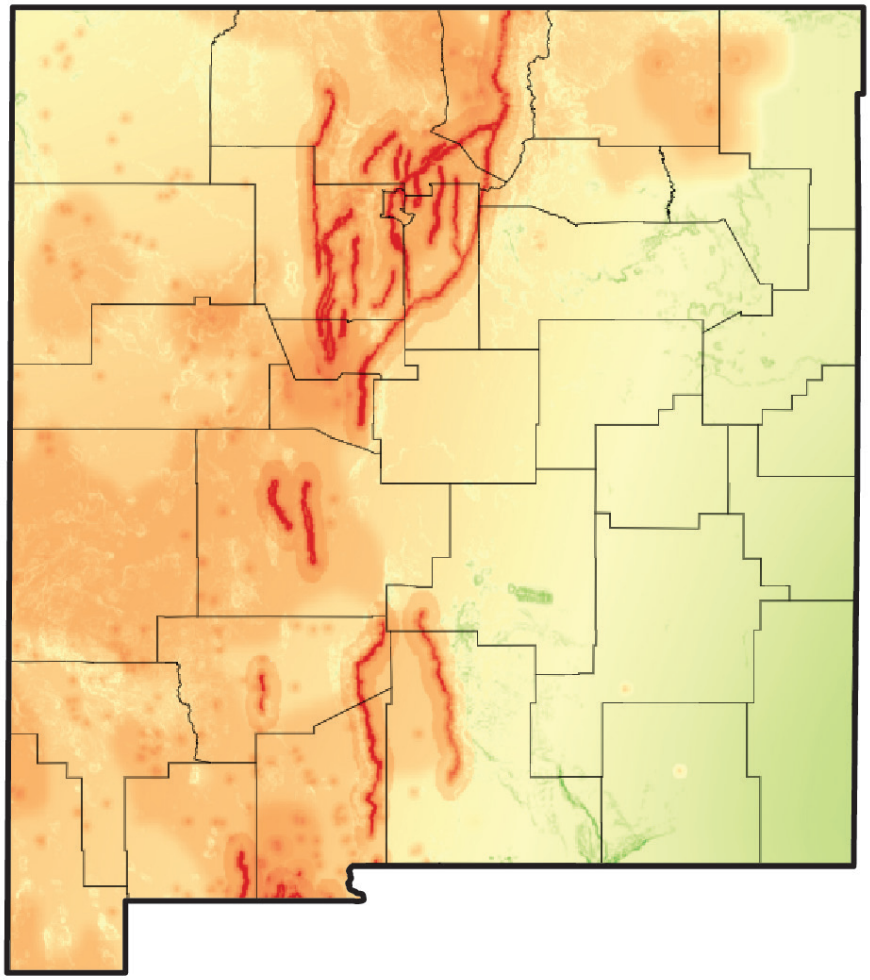

Figure ES.1: Geothermal opportunities in New Mexico.Source: *The Geothermal Exploration Opportunities Map Beta (GeoMap).* https://geomap.projectinnerspace.org/map-selection/.

geothermal energy at various price points given today's technology.[2] Assuming that New Mexico developed all available geothermal resources within the first 16,400 feet of subsurface, the state would have a geothermal potential of 163.32 gigawatts, or more than 15 times its installed capacity in 2023.[3]

No other state combines such favorable geology, oil and gas expertise, political will, and raw potential as does the Land of Enchantment.

Because of its vast hydrothermal resources, New Mexico is one of just seven states in the United States that has an active geothermal plant—the Lightning Dock plant in Hidalgo County—supplying electricity to its grid.[4] That the plant exists gives New Mexico a head start on expanding the development of this firm, secure, clean energy: The state already has a set of regulations and laws—new and old—to help govern the industry. **In fact, New Mexico is the only state in the nation that includes the word *geothermal* in its constitution and directly works to facilitate its development.**

Today, with this framework, and thanks to the advancement of technologies that unlock next-generation geothermal power, heat, and energy storage potential, policymakers could do so much more to expand the industry and help New Mexico meet its energy and climate goals.

As explored in this report, New Mexico is on the cusp of a geothermal boom—one that could create environmental and economic benefits in cities and rural communities; leverage the state's oil and gas industry know-how; and

GEOTHERMAL POLICY RECOMMENDATIONS FOR NEW MEXICO

Create clear pathways and legal and regulatory certainty for industry

- Clarify heat ownership
- Streamline and simplify legal definitions of *geothermal energy*
- Further enable geothermal reuse of depleted or abandoned oil and gas wells
- Identify priority leasing areas and create geothermal Special Economic Zones at the State Land Office
- Proactively plan for and prepare transmission for geothermal electricity projects
- Produce and maintain a "developer tool kit," a one-stop shop for geothermal project development

Create the conditions that will accelerate geothermal production in New Mexico

- Set a regulatory goal of 5 gigawatts of geothermal energy on the New Mexico grid by 2035
- Work with the federal government to catalyze geothermal deployment on federal lands

Expand state geothermal incentives

- Expand the grant and revolving fund to include commercial and private sector projects on state lands
- Establish targeted grants and loans for geothermal power and industrial process heat
- Incentivize geothermal-powered data centers

Catalyze the development of geothermal heating and cooling

- Allow utilities to build, own, and operate Thermal Energy Networks (TENs)
- Improve utility efficiency with expanded geothermal heating and cooling (GSHP)

Expand educational programs for energy workers and the public

- Expand geothermal-specific apprenticeships and workforce trainings
- Update public education materials and improve outreach for funding opportunities

establish clean, secure, always-on power sources with the smallest footprint of any energy source across the Land of Enchantment.

LEGISLATION, REGULATION, AND RECOMMENDED POLICIES TO EXPAND NEW MEXICO'S GEOTHERMAL INDUSTRY

About 20 years ago, New Mexico adopted an ambitious renewable portfolio standard that has since been updated to ensure that 40% of the state's electricity comes from clean energy sources by 2025 and 80% comes from these sources by 2040; by 2045, 100% of electricity should come from zero-carbon resources.

Over the past decade, as the state has worked toward those goals, the New Mexico Legislature has made a number of changes to enhance and improve the use of geothermal across the state, including several bills that create geothermal incentives for implementing geothermal power generation and using ground source heat pumps.[5] In its 2025 session, the legislature took action on two more geothermal-related bills: HB 2 increased the money available for the Geothermal Projects Development Fund from $5 million to $15 million for studies on the costs and benefits of a proposed geothermal project, and HB 361 allows for the conversion of oil or gas wells into facilities that develop geothermal energy or provide energy storage. Combined with the significant production of wind and solar in New Mexico, HB 361 makes geothermal storage is an exciting opportunity in the state.

However, there is more work that can be done.

As explained in detail in Chapter 7, "Policy and Regulatory Pathways to Catalyze Geothermal in New Mexico," this report identifies 15 policies across five categories that, if enacted, would catalyze the expansion of New Mexico's clean and abundant geothermal resources. Taken together, these policies can help New Mexico meet its climate targets, increase economic development, and create jobs. In fact, **by implementing a 5 gigawatt goal, New Mexico would create nearly 2,000 construction jobs, 750 indirect and induced jobs, and more than 125 permanent operations and maintenance jobs and would help ensure the state meets its climate targets.**

15 Recommendations to Improve Geothermal Development in New Mexico

Create Clear Pathways and Legal and Regulatory Certainty for Industry.

1. Clarify heat ownership in the state's legal and regulatory language.
2. Streamline and simplify legal definitions of *geothermal energy*.
3. Further enable geothermal reuse of depleted or abandoned oil and gas wells.
4. Identify priority leasing areas and create geothermal Special Economic Zones at the State Land Office.
5. Proactively plan for and prepare transmission for geothermal electricity projects.
6. Produce and maintain a "developer tool kit," a one-stop shop for geothermal project development.

Create the Conditions That Will Accelerate Geothermal Production in New Mexico.

7. Set a regulatory goal of 5 gigawatts of geothermal energy on the New Mexico grid by 2035.
8. Work with the federal government to catalyze geothermal deployment on federal lands.

Some of these recommendations are based on actions that other states have successfully implemented, and some are built off policies that New Mexico already has in place for other sectors—in other words, the geothermal wheel does not need to be reinvented.

Expand State Geothermal Incentives.

9. Expand the grant and revolving fund to include commercial and private sector projects on state lands.
10. Establish targeted grants and loans for geothermal power and industrial process heat.
11. Incentivize geothermal-powered data centers.

Catalyze the Development of Geothermal Heating and Cooling.

12. Allow utilities to build, own, and operate thermal energy networks.
13. Improve utility efficiency with expanded geothermal heating and cooling.

Expand Educational Programs for Energy Workers and the Public.

14. Expand geothermal-specific apprenticeships and workforce training.
15. Update public education materials and improve outreach for funding opportunities.

Some recommendations can be undertaken quickly; indeed, two of them dovetail with recently passed laws. Others require government-initiated changes. Acting on these policies will help the state deliver on the promise it set up when it included "for the development and operation of geothermal" in its constitution in 1967.

WHERE AND WHAT TO BUILD

As mentioned, the Rio Grande rift slices north to south, almost straight through the state, and the Jemez Lineament cuts across the top of the state, east to west. These two formations have helped create a subsurface landscape with temperatures that exceed 212°F (100°C)—at 3,000 meters deep—in almost every county in the state and on Tribal lands. Some counties also have temperatures above 482°F (250°C). Put simply, there's enough heat in the rocks for *some* use of geothermal energy across *nearly all* of New Mexico. (See **Figure ES.1**.)

Just north of Santa Fe, the Rio Grande rift and the Jemez Lineament intersect.[6] At this intersection, you'll find Valles Caldera in Sandoval County, a supervolcano that formed 1.2 million years ago, leaving active, classic geothermal systems such as hot springs and fumaroles throughout the region. As the Jemez Lineament travels south into Santa Fe County, Sierra County (particularly around the city of Truth or Consequences),[7] the Hondo Valley in Lincoln County, and the Tularosa Basin in Otero County, it offers up plenty of other locations with classic hydrothermal energy.

And thanks to advances from the oil and gas sector, much of New Mexico's heat outside of these hydrothermal areas can now also be tapped for power and heat.

Almost all of the western half of the state has enough heat potential for power generation. These areas also have potential for direct-use heat and geothermal energy storage for excess production of solar and wind, which can then be put back on the grid when demand is higher.

Tribal and Pueblo Land

Native American Tribes and Pueblos are significant landholders in New Mexico and essential stakeholders in the development of energy resources. A significant amount of Tribal land sits on top of some of the best subsurface heat in the region (see **Figure ES.2**). Developing geothermal energy could offer Tribes new revenue streams through royalties, land leases, and generated electricity for Native-owned utilities.[8,9] It could also offer employment opportunities during the exploration, construction, and operation phases of a project[10,11,12] and enhanced energy sovereignty from external generating stations and utilities.[13]

A number of Tribes and Pueblos have explored or are currently exploring the use and expansion of geothermal energy. Working with Tribes and Pueblos must be approached with the recognition that each Tribe may pose a distinct set of questions and will offer unique perspectives on energy development, reflecting these communities' cultural, historical, and political heterogeneity.[14] (See Chapter 8, "New Mexican Stakeholders," for more details.)

KNOWN TRIBAL AREAS IN NEW MEXICO AND GEOTHERMAL OPPORTUNITIES

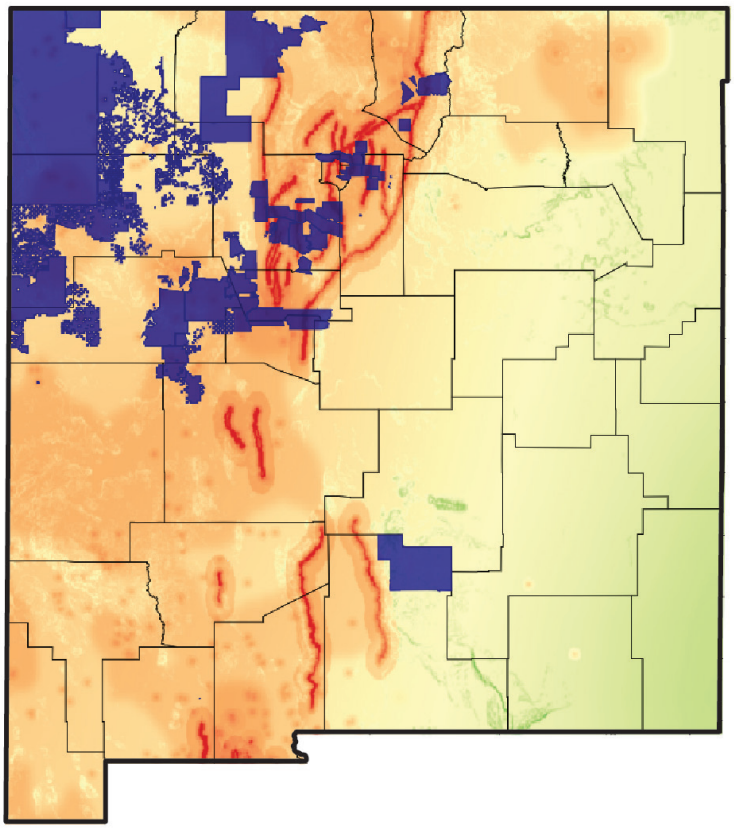

Figure ES.2: Map of known Tribal areas in New Mexico, including 19 Pueblos, 3 Apache Tribes, and part of the Navajo Nation, and the subsurface potential in the region. Source: GeoMap

New Mexico's Federal Lands

New Mexico is home to a vast swath of federal land with some of the state's—and nation's— highest potential geothermal resources. On those lands are a number of energy-intensive federal facilities, including research centers such as Sandia and Los Alamos National Laboratories and U.S. Department of Defense bases (e.g., Fort Bliss, White Sands Missile Range, and Kirtland and Holloman Air Force Bases).[15]

Geothermal works 24/7/365—it's nearly always on, unlike other renewables. It also enjoys capacity factors far above intermittent wind and solar—as high as 90%.

In its first few months, the Trump administration has made it clear that next-generation geothermal is a priority.[16] The Department of Defense is already pursuing the development of geothermal at some military installations to improve the security, reliability, and resilience of energy consumed on the properties.[17]

New Mexico and the Coming AI Data Center Boom

Earlier in 2025, research from Goldman Sachs projected that there would be a staggering 165% growth in demand for data center power by 2030.[18] Driving that demand is the rapid advancement of artificial intelligence (AI). The U.S. Department of Energy (DOE) estimated that the amount of energy that data centers use in the United States could more than double in five years, from just below 5% of the total electricity used in the country to up to 12%.[19,20]

The opportunity is clear: With its 163 gigawatts of potential, New Mexico is ranked as one of the best states for geothermal data centers (**Figure ES.3**).[21] (A study by RAND projected that a single data center could need 1

GEOTHERMAL-POWERED DATA CENTER POTENTIAL

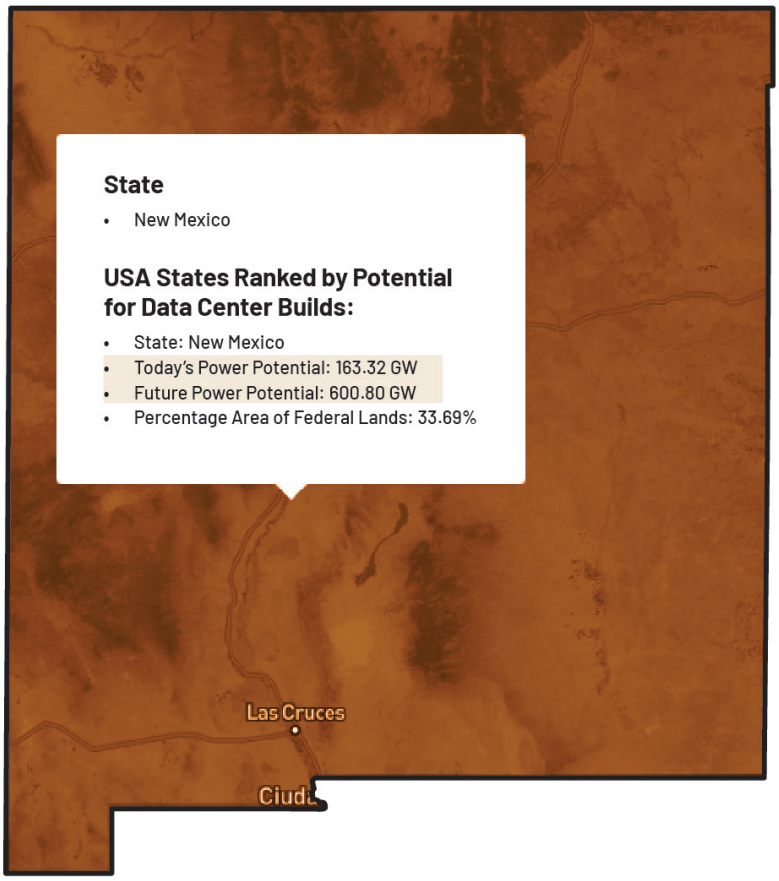

Figure ES.3: According to data from GeoMap, New Mexico is one of the top states in the country for geothermal data center potential, with 163 gigawatts of power potential down to 5,000 meters. Source: GeoMap.

gigawatt in just a few years.[22]) The state is also centrally located between major markets in the Pacific, Mountain, and Central regions. And it has competitive electricity costs and it has a low risk of natural disasters.[23,24]

The Trump administration recently issued a Request for Information for building AI infrastructure on DOE land and included a list of 16 federal sites that it deems a priority for this development, including New Mexico's Los Alamos and Sandia National Laboratories.[25,26]

HOW TO BUILD IT

Here is another auspicious benefit from New Mexico's rich geology: The state is the second-largest producer of oil and gas in the nation. This means that both the technology and expertise needed to develop everything required for next-generation geothermal energy—from geoscientists to drillers to service providers to legislators—are already there. These potential contributors are invested residents, and their oil and gas skills are driving down geothermal's costs.

The growth of the geothermal sector will not only offer careers to highly skilled workers but also create vocational training opportunities for in-state workers in plant operations and maintenance, as well as the multitude of sectors that can implement direct-use heat processes. The well-developed supply chain and skilled workforce already create 1,000 new wells per year in the state. Expanding their purview into geothermal energy offers a path to diversify revenue and stabilize communities. As mentioned earlier in this summary, by implementing a 5 gigawatt goal, New Mexico would create nearly 2,000 construction jobs, 750 indirect and induced jobs, and more than 125 permanent operations and maintenance jobs. (See **Figure ES.5.**)

2022 NEW MEXICO ENERGY CONSUMPTION BY END-USE SECTOR

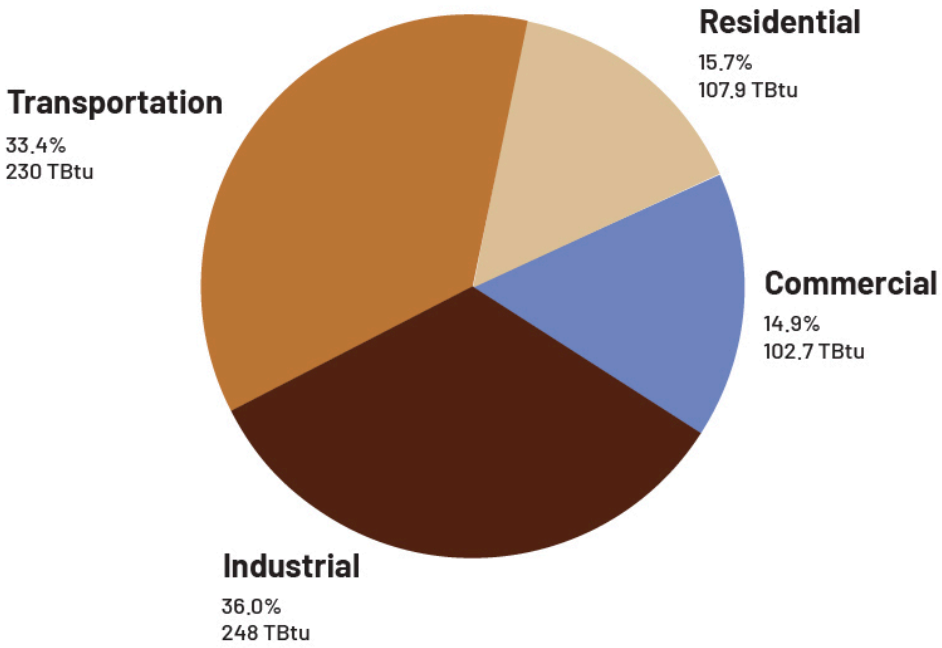

Figure ES.4: Energy consumption in New Mexico by sector. Source: U.S. Energy Information Administration (EIA). *New Mexico state profile and energy estimates: Profile overview*. https://www.eia.gov/state/?sid=NM

By using the skill set from the state's robust oil and gas industry, New Mexico can also accelerate the adoption of geothermal and lower the cost of development. By one estimate, in 10 years, the state could be producing 5 gigawatts of geothermal energy—enough to power millions of homes.[27] (See Chapter 5, "Leveraging Oil and Gas Technologies, Labor, and Workforce to Advance Geothermal in New Mexico.")

DIRECT USE

Through most of the state, there is enough heat to make a major dent in New Mexico's industrial heat demand through direct-use geothermal systems. New Mexico is 18th in the nation for energy consumed per capita.[28] In that amount consumed, though, is a vast amount of energy used by the state's businesses in the manufacturing, agriculture, forestry, mining (including oil and gas extraction), and construction sectors, among others.[29] (See Chapter 4, "Geothermal Heating and Cooling.")

The good news is that many of these activities use temperatures below 300°F (150°C) to produce energy. And that figure aligns with much of the subsurface heat where these businesses—and homes—exist. As shown in **Figure ES.1**, many of New Mexico's counties have subsurface temperatures that can support their industries. Take Chaves County, which is home to the world's largest mozzarella cheese factory and has hot enough subsurface temperatures to use geothermal direct-use heat for all of the facility's needs.

New Mexico's major cities also use a substantial amount of energy for residential and commercial heating and cooling (see **Figure ES.4)**. Established geothermal systems such as ground source heat pumps, geothermal district heating, and thermal energy networks (TENs) can help meet those demands efficiently.[30] TENs are especially well suited for New Mexico's urban areas, including Albuquerque, Las Cruces, Santa Fe, Roswell, Farmington, Hobbs, and Carlsbad. Taken together, these cities comprise about half of New Mexico's population.

Heating City Hall with geothermal has saved the town of Española nearly $42,000 a year in heating and cooling costs. One intensely cold winter, it was the only public building in town that remained heated.[31]

TRANSFERABLE SKILL SETS FROM THE OIL AND GAS INDUSTRY

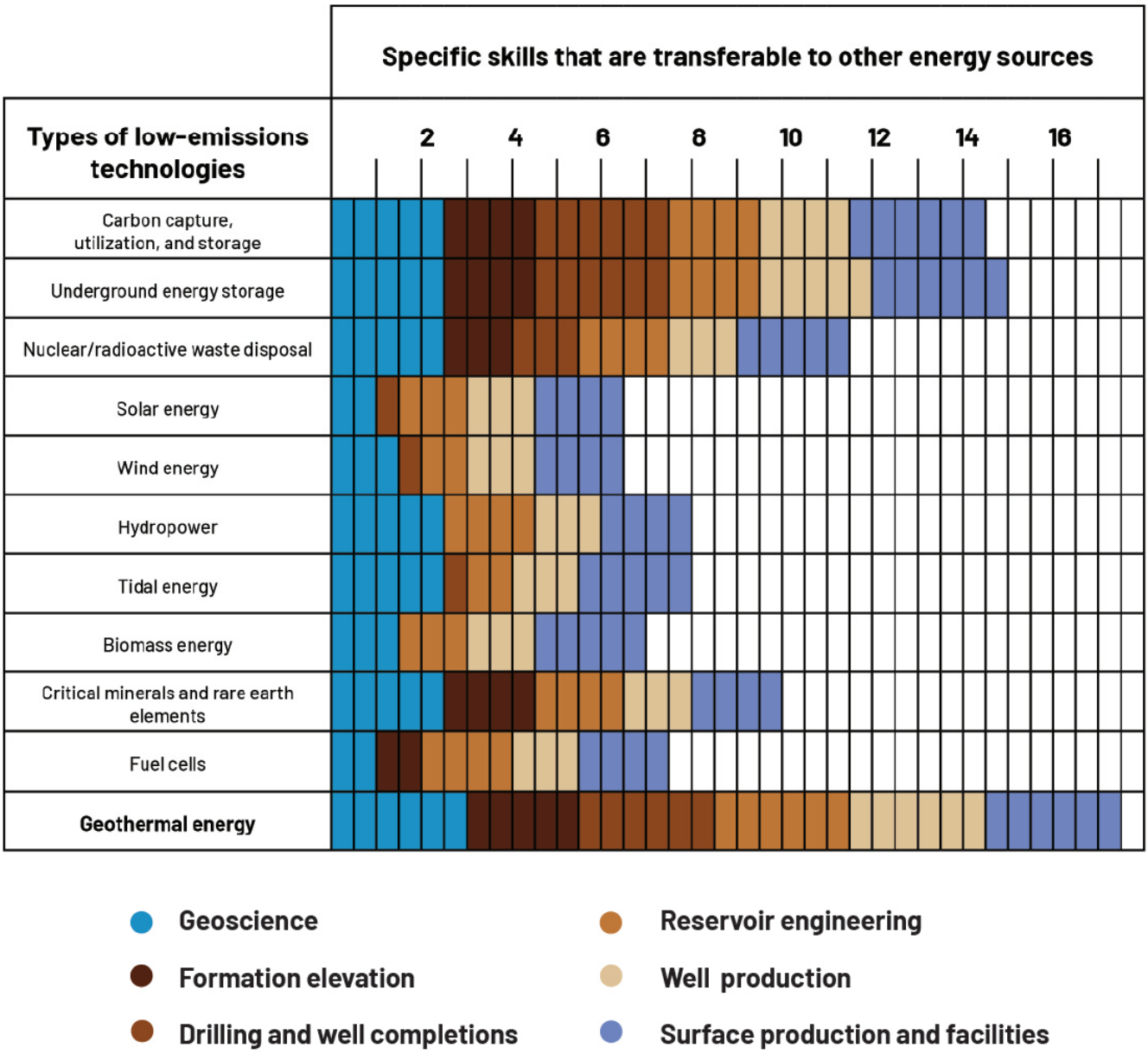

Figure ES.5: Geothermal ranks highest when considering the potential impact of transferring oil and gas skills into other energy transition and low-carbon technologies. Source: Tayyib, D., Ekeoma, P. I., Offor, C. P., Adetula, O., Okoroafor, J., Egbe, T. I., & Okoroafor, E. R. (2023, October). *Oil and gas skills for low-carbon energy technologies* [Paper presentation]. SPE Annual Technical Conference and Exhibition, San Antonio, TX, United States. https://doi.org/10.2118/214815-MS

A 2023 study from Oak Ridge National Laboratory included estimates on the benefit of using more geothermal heat pumps. Applying those national numbers to New Mexico shows the following benefits:[32]

- *Primary energy consumption reduction:* a 2.96 terawatt-hour (TWh) reduction in primary energy consumption annually by 2050.
- *Carbon emissions reduction:* 35 million metric tons of avoided CO_2 emissions by 2050.
- *Electricity generation savings:* approximate savings of 3 TWh annually in electricity generation by 2050.

HELPING NEW MEXICO'S NATURAL ENVIRONMENT

As its nickname—the Land of Enchantment—implies, New Mexico offers incredible beauty and sensitive landscapes. Ambitious renewable portfolio standards are in place, in part, to help protect the state's fragile ecosystems.[33] Achieving these goals will require balancing economic interests with environmental protection while also ensuring reliable and affordable energy access for all who live in the region.

On balance, having more geothermal in New Mexico would be a good thing for its environment. Because geothermal systems produce little to no carbon dioxide, methane, or pollutants, switching to geothermal energy would significantly reduce New Mexico's harmful emissions and air pollution. Compared to coal-fired power plants of a similar size, geothermal power plants can reduce the release of acid-rain-causing sulfur compounds by up to 97% and carbon dioxide by up to 99%.[34]

Geothermal power plants have a much smaller land footprint than any other energy source, so its use can support the conservation of natural landscapes and wildlife habitats. Geothermal energy also uses significantly less water—a precious resource in the southwestern United States—than oil, gas, or coal. New Mexico's subsurface also means it will have fewer issues with induced seismicity than other states.

When building a geothermal plant of any kind, there are environmental considerations to take into account. Chapter 9 outlines several recommendations for how to support responsible, ethical geothermal development given New Mexico's unique environment.

The data shows that across the board, geothermal is a good choice for safety, security, and the health of both people and the environment.

CONCLUSION

New Mexico clearly has the geology, heat, infrastructure, capacity, and political will to create a boom for geothermal energy. With these factors all taken together—significantly higher capacity factor, minuscule footprint, low emissions, applications across all industrial sectors, an existing skilled workforce—the benefits of geothermal couldn't be more obvious.

In recent years, New Mexico has taken steps along the geothermal path, including enhancements to the Lightning Dock Geothermal plant, the creation of a $15 million geothermal projects fund, the passage of a bill to make it easier to reuse capped and abandoned oil and gas wells for geothermal, and fiscal incentives. With the development of new technologies, and working on the recommendations offered in this report, New Mexico can tap into its vast heat resources, diversify the state's energy portfolio, and meet its climate targets while adding clean, stable energy to the grid.

In the years ahead, the successful integration of geothermal energy into New Mexico's energy mix will depend on continued collaboration among policymakers, researchers, industry leaders, and local communities—as well as investments in policy and regulatory streamlining. This report provides a road map to help make that happen, one that state leaders can use to continue New Mexico's role as an energy leader and help chart the course for the proliferation of geothermal around the globe.

CHAPTER REFERENCES

1 U.S. Energy Information Administration. (n.d.). *New Mexico state energy profile*. Retrieved May 7, 2025, from https://www.eia.gov/state/print.php?sid=NM

2 International Energy Agency (IEA). (2024). *The future of geothermal energy.* https://www.iea.org/reports/the-future-of-geothermal-energy

3 U.S. Energy Information Administration. (2024). *New Mexico state profile and energy estimates: Profile analysis.* https://www.eia.gov/state/analysis.php?sid=NM

4 U.S. Energy Information Administration. (2024). *New Mexico state profile and energy estimates.* https://www.eia.gov/state/analysis.php?sid=NM

5 New Mexico Legislature. (2019). *Senate Bill 489: Energy Transition Act* [54th Legislature, 2019, First Session]. https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.pdf

6 National Park Service. (n.d.). *Caldera chats: An explosive intersection.* https://www.nps.gov/vall/learn/nature/geology.htm

7 Barse, K., McDonald, M. R., & Crowell, A. M. (2012). Evaluation of the geothermal potential in the Rio Grande rift: Truth or Consequences, New Mexico. *GRC Transactions*, *36*, 1315–1320. https://publications.mygeoenergynow.org/grc/1030401.pdf

8 Guedel, W. G., & Viles, P. H., Jr. (2024). Energy sovereignty for Native American nations: The model Tribal energy code. *Tulsa Law Review*, *59*(1), 67–107.

9 Navajo Tribal Utility Authority. https://www.ntua.com/

10 Jennejohn, D. (2010). *Green jobs through geothermal energy.* Geothermal Energy Association. https://geothermal.org/sites/default/files/2021-02/Green_Jobs_Through_Geothermal_Energy.pdf

11 Matek, B., & Gawell, K. (2014). *The economic costs and benefits of geothermal power.* Geothermal Energy Association. https://geothermal.org/sites/default/files/2021-02/Economic_Cost_and%20Benefits_0.pdf

12 Hanna, R., Heptonstall, P., & Gross, R. (2024). Job creation in a low carbon transition to renewables and energy efficiency: A review of international evidence. *Sustainability Science*, *19*(1), 125–150. https://doi.org/10.1007/s11625-023-01440-y

13 Williams, N., Louie, H., Breecker, D., Begay, S., Atcitty, S., & Romine, P. (2024). *Convergent clean energy research in support of sovereign and prosperous Tribal Nations.* Energy Sovereignty Institute. https://energysovereigntyinstitute.org/wp-content/uploads/2024/09/Tribal_Energy_White_Paper_20240902.pdf

14 Curtis, S., Gallagher, D., He, Y., Karplus, V., Kenderdine, M., Nabahe, S., Ulama, D., & Whitney, O. (2022). *The Roosevelt Project: Accelerating an equitable clean energy transition in New Mexico.* Massachusetts Institute of Technology. https://ceepr.mit.edu/wp-content/uploads/2022/12/2022-The-Roosevelt-Project-New-Mexico-Case-Study.pdf

15 Project InnerSpace. (n.d.). *Military base weighted overlay analysis* [Data layer]. MAGMA Analysis Module. GeoMap. https://geomap.projectinnerspace.org/geomap/

16 U.S. Department of Energy. (2025, February 5). *Secretary Wright acts to "unleash golden era of American energy dominance"* [Press release]. https://www.energy.gov/articles/secretary-wright-acts-unleash-golden-era-american-energy-dominance

17 Defense Innovation Unit. (2023, September 29). *U.S. Air Force, U.S. Army, the Defense Innovation Unit, and industry advance DoD installation energy resilience with geothermal energy solutions.* https://www.diu.mil/latest/u-s-air-force-u-s-army-the-defense-innovation-unit-and-industry-advance-dod

18 Goldman Sachs. (2025, February 4). *AI to drive 165% increase in data center power demand by 2030.* https://www.goldmansachs.com/insights/articles/ai-to-drive-165-increase-in-data-center-power-demand-by-2030

19 U.S. Department of Energy. (2024, December 20). *DOE releases new report evaluating increase in electricity demand from data centers* [Press release]. https://www.energy.gov/articles/doe-releases-new-report-evaluating-increase-electricity-demand-data-centers#:~:text=The%20report%20finds%20that%20data,total%20U.S.%20electricity%20by%202028.

20 Aljbour, J., Wilson, T., & Patel, P. (2024). *Powering intelligence: Analyzing artificial intelligence and data center energy consumption* (EPRI White Paper no. 3002028905). Electric Power Research Institute. https://www.epri.com/research/products/000000003002028905?utm_source=www.chatnrg.com&utm_medium=referral&utm_campaign=powering-intelligence-analyzing-artificial-intelligence-and-data-center-energy-consumption

21 Terrell, M. (2023, November 28). A first-of-its-kind geothermal project is now operational. *Google: The Keyword* (blog). https://blog.google/outreach-initiatives/sustainability/google-fervo-geothermal-energy-partnership/

22 Pilz, K. F., Mahmood, Y., & Heim, L. (2025). *AI's power requirements under exponential growth.* RAND. https://www.rand.org/pubs/research_reports/RRA3572-1.html#:~:text=Exponential%20growth%20in%20AI%20computation%20is%20driving,could%20distribute%20this%20power%20requirement%20across%20locations

23 New Mexico Partnership. (n.d.). *IT & data centers.* Retrieved May 3, 2025, from https://nmpartnership.com/new-mexico-major-industries/it-data-centers/

24 Minnix, J. (2024, April 17). From desert to digital: The rise of the Albuquerque data center market. *Brightlio* (blog). https://brightlio.com/albuquerque-data-center-colocation/

25 Boling, E., & Morton, L. S. (2025, April 7). *Trump administration makes move to build AI infrastructure on federal lands.* Perkins Coie. https://perkinscoie.com/insights/update/trump-administration-makes-move-build-ai-infrastructure-federal-lands

26 Meta. (2025). *Meta's Los Lunas Data Center.* https://datacenters.atmeta.com/wp-content/uploads/2025/02/Meta_s-Los-Lunas-Data-Center.pdf

27 Dellinger, A. J. (2024, March 22). *Gigawatt: The solar energy term you should know about*. CNET. https://www.cnet.com/home/energy-and-utilities/gigawatt-the-solar-energy-term-you-should-know-about/

28 U.S. Energy Information Administration. (n.d.). *Rankings: Total energy consumed per capita, 2022.*. Retrieved May 12, 2025, from https://www.eia.gov/state/rankings/?sid=NM#series/12

29 U.S. Energy Information Administration. (n.d.). *Glossary: Industrial sector.* Retrieved December 19, 2024, from https://www.eia.gov/tools/glossary/index.php?id=Industrial%20sector#:~:text=The%20industrial%20sector%20encompasses%20the,construction%20(NAICS%20code%2023).

30 Geothermal Technologies Office. (n.d.). *Geothermal heat pump case studies*. U.S. Department of Energy. https://www.energy.gov/eere/geothermal/geothermal-heat-pump-case-studies

31 Matlock, S. (2011, February 16). Heating from the ground up: Española City Hall's geothermal system cuts $42K from yearly energy costs. *Santa Fe New Mexican.* https://www.santafenewmexican.com/news/local_news/heating-from-the-ground-up-espa-ola-city-halls-geothermal-system-cuts-42k-from-yearly/article_182452f2-d7dc-537d-b19c-cedc49145a42.html

32 Liu, X., Ho, J., Winick, J., Porse, S., Lian, J., Wang, X., Liu, W., Malhotra, M., Li, Y., & Anand, J. (2023). *Grid cost and total emissions reductions through mass deployment of geothermal heat pumps for building heating and cooling electrification in the United States*. U.S. Department of Energy Office of Scientific and Technical Information. https://www.osti.gov/biblio/2224191

33 New Mexico Legislature. (2019). *Senate Bill 489: Energy Transition Act* [54th Legislature, 2019, First Session]. https://www.nmlegis.gov/Sessions/19%20Regular/bills/senate/SB0489.pdf

34 U.S. Energy Information Administration. (2022). *Geothermal explained: Geothermal energy and the environment.* https://www.eia.gov/energyexplained/geothermal/geothermal-energy-and-the-environment.php