

Trump administration's policies support rapid growth of geothermal power in the United States with 1.2 GW planned by end of term

Geothermal power may have an increasing pace of rollouts, but the U.S. requires wind and utility-scale solar in order to meet 2030 projected electrical demand

Key points

- Policies from both the Biden and Trump administrations as well as bipartisan support have created a quicker path to construction for geothermal energy, benefitting more than 4 GW of units in development and aligning with the 2030 Project Liftoff goal of 5GW.
- Robust energy policy in the U.S. necessitates the rapid rollout of the 218.4 GW of prospective capacity for wind and utility-scale solar with geothermal playing a peaker plant role, particularly with heavy energy users like artificial intelligence data centers.
- Enhanced Geothermal Systems (EGS) technology is becoming increasingly affordable and construction time is decreasing, making it a competitive alternative to the oil and gas industry. There are currently more than 2 GW of EGS power plants in development in the U.S.

Introduction

While the Trump administration has pushed aside renewables like solar and wind, jeopardizing the status of projects in development, geothermal has managed to escape green energy criticism, and now finds itself primed for explosive growth. Technological advances in geothermal technology — particularly with Enhanced Geothermal Systems (EGS) — have also lowered the cost and construction time of geothermal projects. Bipartisan support for the technology, rapid technological advancements, and increasing investments have put geothermal energy into a position to grow rapidly during the next four years, with 1.16 gigawatts (GW) anticipated to come online by 2028, according to Global Energy Monitor's [Global Geothermal Power Tracker](#).

Chris Wright, the new U.S. Secretary of Energy under the Trump administration, signed his [first Secretarial Order](#) in early February 2025 calling to “[Unleash \[the\] Golden Era of American Energy Dominance](#),” which explicitly states support for geothermal energy and heating. Geothermal is on the path to become an important renewable energy source in the U.S.'s energy mix, especially during an artificial intelligence arms race that necessitates 24/7 power availability. Under a Trump 2.0 administration where renewable energy has been pushed to the wayside, geothermal energy has managed to fly under the radar and may actually benefit from a “drill, baby, drill” attitude if it's not merely an excuse to subsidize the [oil and gas industry](#).

However, a truly robust energy policy focused on energy independence and security would include the most dominant renewable technologies in the industry today — wind and solar — which could add an additional 122 GW to the U.S. energy matrix by the end of President Trump's term if these technologies receive adequate support instead of being stonewalled.

The growth of geothermal gains bipartisan support

Geothermal is an industry known for its slow growth, with only 382 megawatts (MW) coming onto the grid worldwide in 2024. As of 2025, the United States accounts for 23% of global geothermal capacity and is the leader in global operating capacity with 3.7 GW. The 2025 update of the Global Geothermal Power Tracker shows 223 units in development, totalling more than 15 GW of capacity, nearly doubling the current global geothermal operating capacity of 16 GW across 480 units.

Research and development funded by the U.S. Department of Energy (DOE) has worked to prove market opportunity for geothermal power, and DOE aims to reach 5 GW of capacity by 2030 in the first stage of its [Liftoff program](#)¹, followed by a 2050 goal of 90 GW of geothermal power. The DOE also aims to slash geothermal's cost per megawatt hour by 90% by 2035 through the [Enhanced Geothermal Shot](#)² initiative.

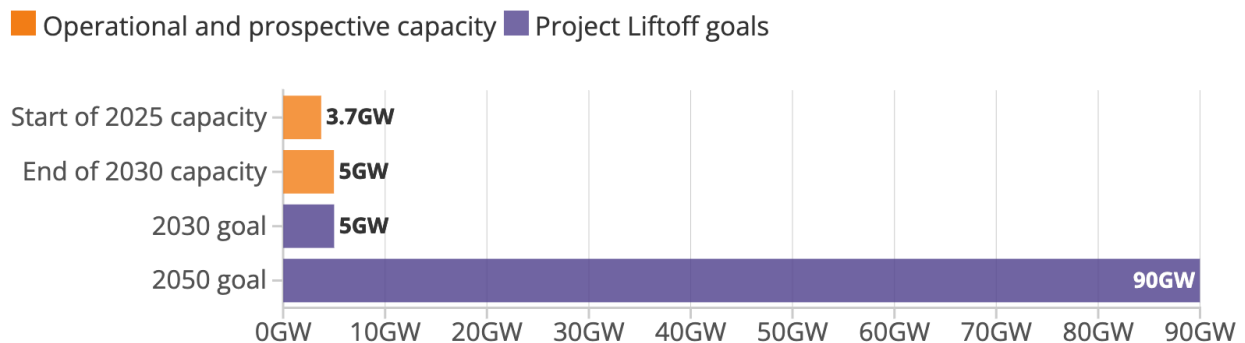
Bipartisan support for geothermal energy has allowed policies to be put in place which expedite the process of getting a geothermal power plant online. In January 2025, the Inflation Reduction Act was expanded to cover geothermal power through [investment](#) and [production](#) tax credits. Also in January 2025, the Bureau of Land Management (BLM) [authorized the new categorical exclusion](#) that simplifies the permitting of geothermal projects in the United States, potentially saving up to a year of time for a project in development. As of February 2025, the Department of the Interior is proposing to [revise the National Environmental Policy Act \(NEPA\)](#) to obtain an additional categorical exclusion for geothermal energy.

¹ Launched in 2022, the U.S. Department of Energy began the Liftoff initiative to accelerate the commercialization of geothermal power and heating technologies through collaborative work with the private sector to understand challenges and opportunities whilst outlining the path to large-scale geothermal deployment.

² Part of the DOE's large Energy Earthshots initiative, the Enhanced Geothermal Shot focuses on bringing Enhanced Geothermal Systems to the entirety of the U.S. while lowering costs per megawatt hour, creating jobs, and putting flexible clean electricity into the grid.

It remains unclear how the culling of federal employees undertaken by the Department of Government Efficiency (DOGE) will impact the process of getting geothermal power plants online. The erratic nature of the Trump administration makes long-term geothermal plans hard to guarantee, as the goals of the DOGE team change daily. Investors may also be scared off by a volatile economy, social unrest, and rising international tension.

Geothermal is on track to meet 2030 Lifftoff program goals but will have a lot of ground to cover to meet 2050 goal of 90 GW



Source: Global Geothermal Power Tracker (March 2025)



Figure 1

Bipartisan support will continue to be a key element of the exponential growth of geothermal energy in the coming years. President Trump stated in a [January 2025 energy emergency declaration](#) that geothermal is important for the diversification of the U.S. energy supply and the administration's official view — [despite it being false](#) — is that geothermal is more "economically viable than wind or solar." Geothermal energy is not mentioned in [Project 2025](#), which could be interpreted as further evidence of support by the Trump administration. Conversely, the nearly 1,300 prospective wind and utility-scale solar phases are specifically threatened in Project 2025. According to GEM's March 2025 data release, 1.16 GW of geothermal capacity could come online by the end of Trump's current term in office. There are also eight geothermal units which

are inferred to be cancelled (based on a lack of updates) that could be revived by the friendliness of the administration.

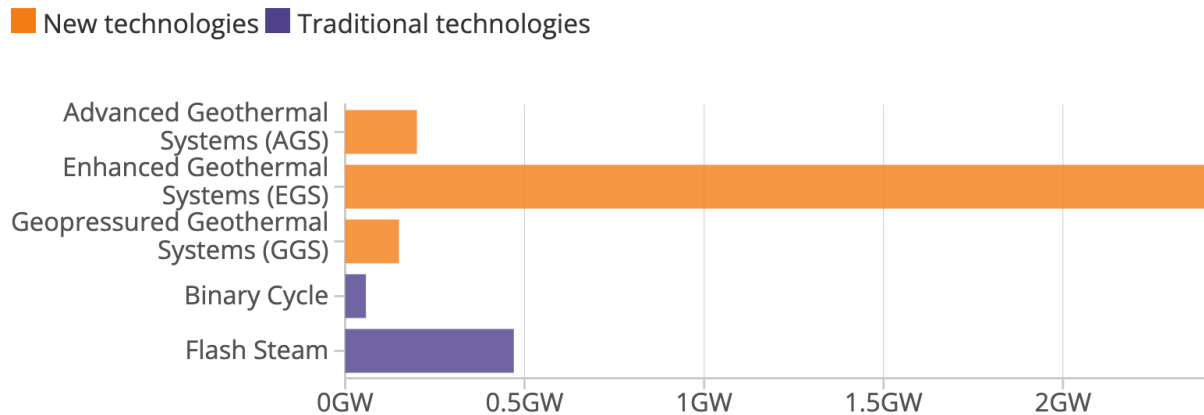
Technological advancements in the geothermal industry

Geothermal [can be](#) a viable alternative to gas peaker plants, thereby increasing grid integration of wind and solar's intermittent power to further bring down emissions. Having geothermal as a dispatchable power source could take the place of costly gas peaker plants and would be a supplement to batteries.

A key player in Enhanced Geothermal Systems (EGS) is Fervo Energy, which has a successful pilot project operating in Nevada and 2.1 GW of projects in development; the company is also demonstrating how its wells can be used as [giant underground batteries](#). Fervo has received funding from the U.S. Department of Energy through its [Renewable Energy Research and Development](#) program and was notably [invested in by Secretary Wright's company](#), Liberty Energy, while he was CEO. Fervo Energy is tied for the most prospective megawatts of geothermal capacity worldwide as of March 2025 and accounts for half of the 4.3 GW of U.S. geothermal in development. With a [70% reduction](#) in drilling time per well and a savings of US\$5 million per well gained from fine-tuning its technologies, it is likely that Fervo will continue to rapidly expand its portfolio in the United States. If investments in the [85 GW](#) of oil- and gas-fired capacity in development in the United States were shifted to support geothermal development, investors would be funding projects better for the planet.

Geothermal developments in the United States are showing an uptick within new technologies, notably Enhanced Geothermal Systems (EGS)

Prospective gigawatts (GW) of geothermal by technology type



Source: Global Geothermal Power Tracker (March 2025) • An additional 975 MW across 15 units of "unknown type" are not shown here



Figure 2

If geothermal continues to receive support from the Trump administration, stakeholders in the United States can use resources such as the [Geothermal Exploration Opportunities Map tool](#) from Project Innerspace to understand where the best opportunities for geothermal development in their area of interest are. As resources for understanding geothermal are made more readily available to the public and green energy investors take note of the friendliness towards geothermal, EGS is likely to see increased investment and rapid deployment.

With exclusions for geothermal energy already being made by the federal government and the Department of Energy granting [six \\$5 million grants](#) to tackle barriers to geothermal development, it is likely the geothermal lease auctions by the BLM taking place during 2025 in [Alaska](#), [Nevada](#), and [Utah](#) will see lots of interest. In December 2024, seven parcels were sold during a geothermal lease sale in [New Mexico](#). The U.S.

[Department of Defense has pre-approved](#) companies to develop utility-scale geothermal projects at DoD installations.

Geothermal energy also stands out as a green energy source to assist the United States in its goal of competing in the AI arms race, which presently has electrical demand rising to meet data centers' [large electricity needs](#). The continuous energy that geothermal provides makes it a key asset. The support of green geothermal power to meet data center demands in lieu of gas-fired power plants, which are becoming [more expensive and slower to deploy](#), could protect the United States from increased emissions while still providing a constant source of scalable power.

A March 2025 report details how data center electrical demands [could largely be met "economically"](#) by geothermal power in the 2030s if such power plants are constructed strategically near data centers. While big tech companies are rarely the outright owners of geothermal power plants, power purchasing agreements (PPAs) between companies to help power data centers — such as by [Meta](#) (partnering with Sage Geosystems) and [Google](#) — will likely drive demand for these plants to be built, particularly if tech CEOs continue to have President Trump's ear. With wind and solar threatened, companies striving to meet consumer demands that their data centers be run on green energy will still have geothermal power to turn to and may feel secure upon seeing the success of pilot projects such as Fervo's [Project Red geothermal power plant](#), which serves [Google-owned data centers in Nevada](#). Energy Secretary Wright [stated in March 2025](#) that a strong geothermal industry "could better energize our country, [and] improve the quality of life for everyone. It could help enable AI, manufacturing, reshoring and stop the rise of our electricity prices."

It's unclear how the Trump administration (and Elon Musk's influence through DOGE) will impact the workflow of new geothermal energy projects seeking authorization. If critical linchpins in the permitting process have been fired, it won't matter how much investment begins to pour into geothermal projects or how many exclusions these

projects receive to speed up processing. This dismantling has the potential to stunt the growth needed by states like Texas that are increasing data centers and cryptocurrency mining and predict a [doubling of energy demand](#) by 2030.

Technological breakthroughs in the geothermal industry continue to happen, notably with [EGS technology](#) which has undergone exponential growth in recent years, despite being studied since the 1970s. The advancements are largely due to the [hydraulic fracturing](#) techniques which have been fine tuned by the oil and gas industry. This “human-made” geothermal removes the geological restrictions confining conventional geothermal to permeable rocks with water sources and allows for expansive growth throughout the United States. There are [risks associated with EGS](#), such as earthquakes, air and water pollution, and land subsidence. Because the technology’s success is dependent on managing associated risks, EGS technology has benefited from the lessons learned by oil and gas drilling. The oil and gas industries [have many synergies](#) with geothermal in both their workforce and the technologies that can be utilized for the geothermal energy rollout. By accessing deeper heat reservoirs through EGS to create geothermal energy, developers can look outside of traditional geographic areas, with underground heat close to the surface, to develop geothermal power plants [across the United States](#).

The advancements of EGS technology are good news for the clean energy movement in the United States, and by 2030, the cost per megawatt-hour (MWh) [could be competitive](#) with conventional power sources. While not under the scope of the Global Geothermal Power Tracker, heating through [networked geothermal](#), [domestic lithium production](#) through geothermal brines, and [direct use applications](#) are also likely to garner bipartisan support and investment. These additional uses of geothermal would address Chris Wright’s unfounded concerns about losing the [“myriad”](#) uses of gas.

Geothermal as a complement to wind and solar

Geothermal is an exciting technology and will play an important role in U.S. energy, but it's naive to think the technology can usurp wind and solar in the coming years, since U.S. electrical demand is projected to rise by [128 GW by 2030](#). The United States should aim for a country [powered largely by wind and solar](#) with the role of geothermal replacing oil- and gas-fired power plants as it scales up to meet Liftoff program goals. Geothermal can also fill the role of non-weather-dependent baseload clean energy required in some mandates, such as the [Cape Station geothermal power plant's power purchase agreement](#) to satisfy the [2021 California Clean Power Alliance](#).

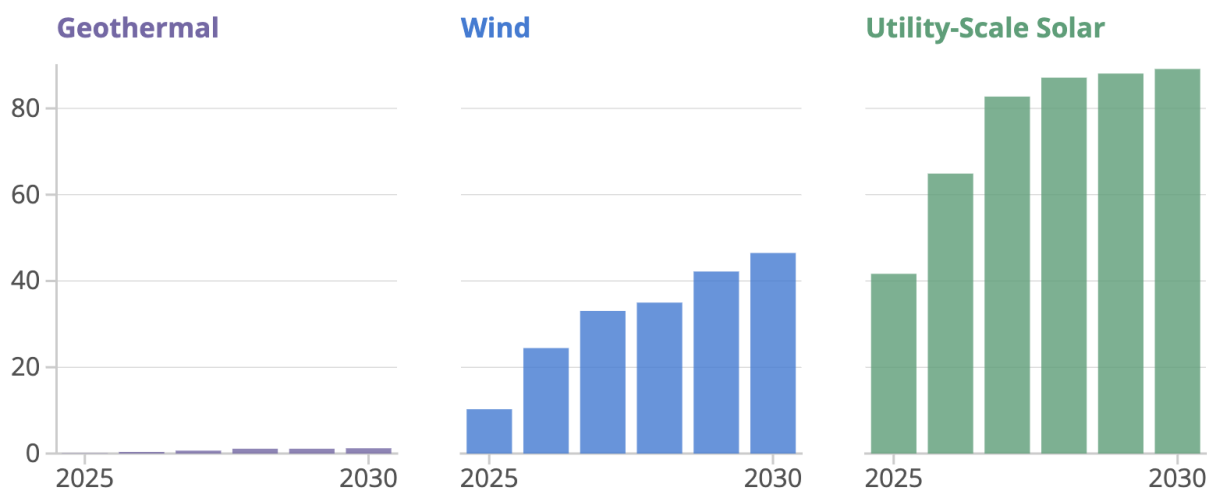
Plans have been drawn for over 162.5 GW of wind and utility-scale solar projects across the U.S. that, should these projects be allowed to progress into operation, would come online by 2030, according to Global Energy Monitor's [Global Wind Power Tracker](#) and [Global Solar Power Tracker](#). With a favorable administration and decreasing costs for geothermal technologies, the United States needs to achieve "energy dominance" with geothermal as an important complement to the wind and solar rollout, as growth is needed in all green energy types to meet growing demand and replace heavy carbon-emitting combustion power plants. However, in areas of the country that are resistant to wind and solar due to negative perceptions, it may be an easier task to pitch a geothermal plant which follows the traditional drilling process that communities find familiar.

As of February 2025, the 218.4 GW of prospective capacity for wind and utility-scale solar projects is a critical aspect of moving the United States into energy security, and Trump administration support of geothermal will help to provide steadiness to available energy throughout the grid. The rapid [uptick of battery storage](#), particularly in California and Texas, will also support wind and solar developments. Wind and solar will avoid higher costs than if those demands were met with gas, coal or nuclear; avoid

carbon emissions; and roll out quickly. Ideally geothermal will support wind and utility-scale solar projects long term through a role as a peaker plant.

Prospective wind and solar are key to U.S. energy ramp up, with geothermal as complement

Prospective geothermal, wind, and utility-scale solar projected to come online by year, in GW



Source: Global Geothermal Power Tracker (March 2025), Global Solar Power Tracker (February 2025), Global Wind Power Tracker (February 2025) • Additional projects after 2030 or with no known start year are not displayed (3GW of Geothermal, 55.28 GW Wind, and 27.4 GW Utility-Scale Solar)
Electrical demand in the USA is expected to increase 128 GW by 2030



Figure 3

About the Global Geothermal Tracker

The Global Geothermal Power Tracker (GGPT) is a worldwide dataset of geothermal power facilities. The GGPT includes geothermal power plant units with capacities of 1 megawatt (MW) or more.

About Global Energy Monitor

Global Energy Monitor (GEM) develops and shares information in support of the worldwide movement for clean energy. By studying the evolving international energy landscape and creating databases, reports, and interactive tools that enhance understanding, GEM seeks to build an open guide to the world's energy system. Follow us at www.globalenergymonitor.org, X [@GlobalEnergyMon](https://twitter.com/GlobalEnergyMon), and Bluesky [@globalenergymon.bsky.social](https://bsky.app/profile/globalenergymon.bsky.social).

MEDIA CONTACT

Sophia Bauer

Project Manager, Global Geothermal Power Tracker
sophia.bauer@globalenergymonitor.org