MIT Technology Review

Climate Change And Energy
Fervo Energy and its plan to streamline geothermal power

Eshan Raul
781 words
6 October 2026
MIT Technology Review.com
MITCOM
English
Copyright © 2026 MIT Technology Review.com. Provided by ProQuest Information and Learning. All rights reserved.

Fervo Energy wants to expand geothermal power far beyond the handful of places where it has traditionally been practical. The company is looking to work with large data center operators like Google to develop its enhanced geothermal power plants across the US, and drive down costs in the process to compete with fossil fuels.

Fervo Energy is looking to expand the geographic range of geothermal energy. Instead of building power plants in the few places where hot water can readily travel through underground rock and carry heat to the surface to generate electricity, Fervo uses horizontal drilling and hydraulic fracturing to open its own pathways through the rock. This could make geothermal development possible in far more places.

After demonstrating this basic approach in 2023 at its Project Red facility in Nevada, Fervo is now developing Cape Station, a much larger plant in southwestern Utah expected to reach commercial operation in 2028.

But the bigger change at Fervo this year is how much money it has available—and how much electricity demand has grown. The company went public in May, raising roughly $2.2 billion in one of the largest clean-energy IPOs in history. Fervo now plans to invest in accelerating its pipeline of larger geothermal projects.

Key indicators

* Industry: Geothermal energy

* Founded: 2017

* Headquarters: Houston, Texas, US

* Notable fact: Fervo’s recent agreement with Google provides a plan for the companies to pursue as much as 3 gigawatts of enhanced geothermal projects through 2033. That’s equivalent to roughly three-fourths of the total geothermal energy capacity operating across the US today.

Potential for impact

One particularly large new group of potential customers is made up of the companies behind the AI boom, which operate enormous fleets of energy-hungry data centers.

This year Fervo expanded its years-long relationship with Google. In March, the companies signed an agreement to pursue more geothermal plants. Under these terms, Fervo will propose at least 1 gigawatt—roughly the generating capacity of an average nuclear power plant—worth of projects within two years, with Google then deciding which ones it wants to buy power from. In September, the tech giant agreed to purchase at least 396 megawatts of power from Fervo’s Cape Station to fuel a potential data center in Utah.

Fervo believes this buildout will allow it to drive down costs. Rather than engineering an entirely different facility each time, the company wants its engineers to work from a common design that can be refined from project to project. Each unit, which Fervo calls a GeoBlock, is designed as a roughly 50-megawatt power plant; combining several can create projects hundreds of megawatts in size.

The company measures its progress in part by its installed cost per kilowatt; this is, essentially, how much money it needs to spend to build each unit of a power plant's generating capacity. Fervo is targeting about $7,000 per kilowatt for Cape Station's first 100 megawatts and $5,500 for the next 400 megawatts. This is on the way toward its long-term goal of $3,000 per kilowatt—a level the company says will allow it to meet, and eventually undercut, the cost of a new natural gas power plant, without the ongoing expense of buying gas to generate electricity.

Caveats

The catch is that Cape Station's next 400 megawatts are being built directly beside the first 100 in Utah. While success there would provide evidence that Fervo can economically scale its energy output, it doesn't mean this tech will easily carry over to another part of the country, says Shuvajit Bhattacharya, research associate professor at the University of Texas at Austin's **Bureau of Economic Geology**.

This distinction matters because the Earth's subsurface is not a uniform assembly line for power plants. Different places have different underground conditions, which determine where it makes economic sense for Fervo to drill and how deep its wells must go. The company will need to demonstrate that its approach will work in more places than Utah and Nevada.

Next steps

The next few years will put Fervo's strategy to the test: The company must prove it can lower costs as it finishes Cape Station, turn its discussions with data center companies into operating power plants, and ultimately replicate its success in other geological settings.

Fervo's nearer-term target is to have one gigawatt operating by the end of 2030. Five years after that, the company hopes to have five gigawatts up and running in total—which is more than the entire current US geothermal energy supply.

Document MITCOM0020261006ema60002y

 © 2026 Factiva, Inc. All rights reserved.