



**Season Six: Episode Two**  
**AI & Geothermal: The Next Wave of Clean Energy**  
**Launch Date: November 4, 2025**

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**Tim Latimer:** Not often you get to use your ski gear living in Texas.

**Hillary Ribaud:** Houston, February 2021: Tim Latimer and his family braced for a historic freeze.

**Tim:** I remember actually my dad called me and told me, you know, wrap the pipes, shut your water off, get ready for everything.

Later on people told me that it was funny because I was just very actively tweeting about, oh, look at this Ercot supply chart and this new weather forecast and everything.

And then from like midnight on, there was just no tweets from me for multiple days. And it was like, well, yeah, that's 'cause we lost power and that's not exactly what I was gonna use my phone to charge for.

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**KPRC:** The winter storm that blacked out much of Texas in February of 2021 was brutal.

**Hillary:** This was the news coverage of Winter Storm Uri.

**KVUE:** Millions were without power after leaders of the state power grid issued rolling blackouts to try to conserve energy.

**KPRC:** At the peak of the winter storm, more than 4.5 million homes and businesses were left without power.

**Tim:** We, uh, spent a day or two trying to figure out what to do with lost power and watching our, our house cool off over time.

**Hillary:** During the blackout, Tim reassured his wife they could rely on their local H-E-B grocery store, which is famous for its resilience and infrastructure.

**Tim:** I said, yeah, don't worry, you know, H-E-B is always there. And then we got there and the lights were on, but of course, the thing I didn't think about was the roads were all so icy that nobody could get to the H-E-B, and so we had to walk back in the cold.

**Hillary:** It got so bad, that they had to relocate.

**Tim:** Ended up finding a, uh, a neighbor who lived across the street from a police station. They did not turn their block off. And so we slept on the couch for the next five days, which is how long it took 'em to get our power back.

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**Hillary:** For Tim, the blackout was a reminder of how fragile our power grids can be.

Meanwhile, another story has been unfolding globally. According to the International Energy Agency, electricity use from data centers, AI, and crypto could double by next year. Data centers alone are on track to jump from roughly 460 terawatt-hours in 2022 to over 1,000 by 2026—that's about as much electricity as all of Japan uses in a single year.

**Fahad Alajlan:** If some of these projections are correct, I think we're gonna struggle the next 5 to 10 years, both for electricity but also with emissions. I think the demand increase that we're seeing today across the world is going to be difficult to achieve unless we do something dramatic.

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**Hillary:** AI is pushing electricity demand up, but it's also accelerating the energy transition. And as the world continues to look for power that's reliable and clean, geothermal —Earth's built-in battery— is gaining momentum: it's always on, it's carbon-free, and, with advances in drilling and AI, it's finally ready to scale.

This is Unseen Upside by Cambridge Associates, where we explore investments beyond their returns. I'm Hillary Ribaud.

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**Tim:** The vast majority of people do not spend a lot of time thinking about the power grid or where their energy comes from. And really the only two instances, whenever they do think about the power grid are when their electricity rates go up or when they lose power.

**Hillary:** Winter Storm Uri wasn't Tim's first run-in with a blackout. In fact, just one week after he was born, parts of Texas went dark in a massive outage.

**Tim:** My dad reminded me, you know, watching a one week old baby, when you lose your power and pipes bust in your attic and everything is an experience that sticks with you.

**Hillary:** A year before Winter Storm Uri, Tim also lost power in California's first wildfire shutoffs.

**Tim:** These events in Texas and in California and other places, vaulted the importance of energy reliability to the forefront of the conversation.

**Hillary:** Today, Tim is the co-founder and CEO of Fervo Energy, a company that is pioneering next-generation geothermal power by adapting advanced drilling and data technologies from the oil and gas industry.

**Tim:** In our case, California was able to put through some new policies and regulations that actually were strong incentives to build more geothermal power because geothermal is one of the energy resources that can actually work 24/7 and provide that backbone of grid reliability that's needed in these situations through all kinds of different weather events and other challenges to the grid.

**Hillary:** Challenges like an around-the-clock load from digital infrastructure.

For example, when you open ChatGPT, type your prompt, and hit send, somewhere out there, a handful of servers in a warehouse-scale data center are processing your request. Each server needs electricity, and so do the cooling systems, the lights, the security. And then you multiply that across millions of prompts and you've got a serious new load on the grid.

**Josh Posamentier:** AI and specifically the large language model GPT world that we're staring at today is in and of itself a huge inflection point, given the amount of computer it requires and then the result and the amount of power it requires.

**Hillary:** Josh Posamentier is the co-founder and managing partner of Congruent Ventures, a San-Francisco-based early-stage venture fund focused on all things climate, including geothermal energy.

**Josh:** There's not a lot of other sources of power that can come online as fast as geothermal at this point.

I never would've said that like five years ago, but here we have, multi, multi-year backlog of turbines. We have very slow interconnects, but Fervo because they got started, six or seven years ago and just were very foresightful about getting those things in place.

They're really well poised to deliver that kind of power.

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**Hillary:** Most people know geothermal for heating and cooling houses, but that's just the tip of the iceberg.

**Tim:** The main principle that you need to understand for geothermal is that the earth is really, really big and that the earth is really hot. And in certain spots around the world, that heat actually comes very close to the surface.

You know, you go back millennia and people have been congregating in towns and regions where they could take advantage of the fact that there were hot springs at the surface. And that's like the most basic use of geothermal energy.

There's heat in the earth and it's coming to the surface, and you can swim in the hot springs or you can cook with that heat or you name it.

Geothermal electricity is the idea that you can use that heat to create power.

**Hillary:** And using the earth's energy is not a new idea.

**Tim:** 1904 is the first time the person who's credited with inventing geothermal power. And it was, in Tuscany, in Italy, which obviously has volcanic activity and hot springs and some unique geology. And there was a person there who decided that, you know, if there's steam coming outta the ground. What if you actually put a turbine on that and spun that turbine and used it to create electricity. And over time, people started doing that in more and more places. And if steam wasn't coming to the surface naturally, the obvious thing you could do is what if you drilled wells into the steam, and you could produce that steam to create electricity.

**Hillary:** Geothermal first took off in places with ideal geology like northern Italy, Iceland, and Kenya, that's where steam naturally reaches the surface. Those sites were largely developed decades ago, through the 1960s, '70s, and '80s.

**Tim:** But trying to expand the field of geothermal had always struggled because drilling is expensive, and so if the heat's not really shallow and really close to the surface, it could be uneconomic.

And then sometimes you would drill wells and end up with dry holes, because even if there is hot rock down there, it doesn't have the natural permeability or the natural fluid pathways to flow. And so people have been working for a long time on new ways and new technology to try to get more productive flow out of wells and to drill deeper for cheaper.

And that's kind of called the field of enhanced geothermal systems.

**Hillary:** In the U.S., geothermal power production has been confined to pockets in states like California, Nevada, and Idaho, which is one of the reasons it makes up less than half a percent of our electricity mix.

**Tom Mitchell:** We were sort of I think through the end of last year, estimating it was about 0.4% of total U.S. electricity generation.

**Hillary:** Tom Mitchell is a partner at Cambridge Associates, and he's also the Head of Sustainable & Impact investing solutions for North America.

**Tom:** I think you just have to apply the simple math of, well, if you're going from a small base and can increase that sort of generation and meet what's also rising demand, your growth percentages or the multiples you might get off that are much higher than using something that's the largest percentage of production and trying to grow from there.

**Hillary:** According to the U.S. Energy Information Administration, fossil fuels made up about 60% of the electricity mix in 2023, and today they still dominate the market — especially natural gas.

This year, the London Stock Exchange Group says the first five months set a new record, as U.S. power generation was up about 2% from last year — with clean power growing slightly more than fossil fuels.

**Josh:** Now we have actual load growth, the coal assets that were being retired are still not economical, so they're still going away. We also have issues around congestion. Point loads where, you know, where we use electricity is not always where we generate it. And so it's a perfect storm in terms of a need to develop more power assets on the grid.

**Tim:** Where we are in the energy system right now is there's these huge demands for reliable electricity, affordable electricity, carbon free electricity, and geothermal is finally having its day.

**Hillary:** But this isn't just a U.S. story. About 730 million people worldwide still lack electricity, and according to the World Health Organization over 2 billion still cook with polluting fuels. Powering the planet, reliably and cleanly, takes a global effort.

**Fahad:** My name is Fahad Alajlan. I'm the president of KAPSARC

**Hillary:** KAPSARC—the King Abdullah Petroleum Studies and Research Center in Riyadh—is Saudi Arabia's first nonprofit energy policy institute. It's backed by a permanent government endowment. And vision 2030, a national plan to diversify the economy beyond oil, so this puts clean power front and center.

**Fahad:** Saudi is a society that is mostly youth around, you know, 60 to 70% of people are under the age of 30, and they had a big ambition to join the global world. But also I think they had a huge expectation about transformation, and leading by example. So on the economic dimension, the idea is to transform from reliance on oil and export of oil. Uh, to be a more diversified economy and to be a more modern economy.

**Hillary:** Fahad says a few years ago they had about 300 megawatts of renewables, which is roughly 60,000 home rooftop systems. Today it's around 12 gigawatts—which is about 2.4 million rooftops' worth. The goal is 46 gigawatts in the next two years and 100 gigawatts by 2030. And most of that will be solar, with a bit of wind.

**Fahad:** Especially when we think about Saudi Arabia, we have a lot of demand that is coming from cooling and from air conditioning and that demand usually peaks during the summer. But also it peaks around the late afternoon and early evening when people leave their offices and their work and their schools and go back to their homes. So you would either need to complement with batteries, which would help you for a few hours, extend that peak. But then during night, you'll need different energy sources.

**Hillary:** This is where geothermal comes in.

**Fahad:** The great thing about geothermal is it's available around the clock. And so geothermal is critical because it provides the base load.

**Hillary:** It's a reliable energy source that can be used in combination with intermittent energy sources, like solar and wind.

**Fahad:** If we think about the other countries in the region, when we think about the Middle East. The U.E. does not have the potential for geothermal energy, and that goes back to the allocation of resources.

So it's like oil and gas, not all countries have access to that geothermal potential. And so Saudi Arabia has that, Egypt and other countries have that, Jordan and others.

**Hillary:** As promising as geothermal energy already is, Fahad views it as building toward an even bigger impact down the road. While it may not be leading the charge right now, he predicts it will become a major player between 2030 and 2040.

And another major economic benefit to geothermal relates to land use.

**Fahad:** If you think about solar and wind, you need a lot of surface area for especially solar. You need some surface area for wind, to have your mills and turbines and you have issues around the best use for land. Do you use this land for renewable? Do you use it for development?

**Hillary:** Geothermal is mostly underground. So you can have geothermal operations running beneath solar panels or nearby wind farms.

And Geothermal also can use the oil-and-gas toolkit—the same rigs, the techniques, and even the same talent—so expertise transfers easily.

**Fahad:** A lot of the drilling, a lot of the exploration, you know, the geo-surveying, all of these things align very well with the geothermal energy. And funnily enough, the

renewable team that we have at KAPSARC actually did not lead the way. It's actually our oil and gas team that have been leading this research part on geothermal.

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**Tim:** My first job outta college was working in the oil and gas industry, so I was a drilling engineer.

**Hillary:** Fervo's Tim Latimer.

**Tim:** This is almost 15 years ago now, so right when the shale oil and gas boom was like really starting to take off in the U.S., and I was working on a drilling rig in south Texas, and I was put on a project where I was supposed to research what to do with the fact that we thought the high temperatures we were seeing while drilling was leading to like failures of our drill bits. And all of the literature I could find about drilling in high temperatures, was about this thing called geothermal, which I had never heard of before.

And so, I kept reading more and more about geothermal, ended up becoming fascinated by the sector.

I was already sort of looking at a point in time where I wanted to move my career in a direction that was more focused on sustainability and climate change, and so just felt like I'd found the perfect fit for me. I could continue being a drilling engineer, do the things that I knew how to do well, but just do it for a new kind of carbon free energy instead of oil and gas.

**Hillary:** But Tim didn't know how to start a company, so he went to graduate school at Stanford, got his MBA, and spent a lot of time at the geothermal research program.

**Tim:** I met our co-founder, Dr. Jack Norbeck, who was a Ph.D. in Stanford's geothermal reservoir engineering program. And he and I had very similar ideas of how we would revolutionize the geothermal space. And so, we hit it off and decided, no time like the present and decided that we would start Fervo actually right when we were still in graduate school at Stanford and launched the company in 2017.

**Hillary:** And what's revolutionary about Fervo? Well, it has to do with drilling techniques.

**Tim:** I remember going to a conference where I talked to somebody who'd been a drilling engineer for decades in geothermal. And if you know anything about the shale revolution in oil and gas, one of the key technologies that unlocked shale resources was actually horizontal drillings. You don't just drill a vertical well.

But you drill thousands of feet down, and you turn the drill bit horizontal, and you drill thousands of feet horizontally. And what it means is you can access more of the resource per well that you drill than if you were just drilling vertically, so it makes a huge difference in the economics. And I asked the guy why the geothermal industry wasn't

drilling horizontal wells because that's kind of all we were drilling in the oil and gas space by this point in time, and he kinda looked at me funny and he was like, you can't drill a horizontal well.

**Hillary:** So Tim had a light-bulb moment: Fervo could be the first to drill horizontally, if they could figure out how to do it. What if the drilling tech that turbocharged U.S. oil and gas could do the same for geothermal? The plan was simple: drill a few wells, open pathways in the hot rock, let water circulate, and produce steady heat.

**Tim:** We're not relying on natural geology, but we're actually creating our own geothermal reservoir every time we drill wells. And that means in our well system, we drill about 10,000 feet down.

**Hillary:** That's approximately 9.5 Empire State Buildings all stacked on top of each other.

**Tim:** We drill 5,000 feet horizontally.

**Hillary:** And that's roughly 17 football fields.

**Tim:** We do this at temperatures that are above 400 degrees Fahrenheit, and then we drill parallel wells that we can then flow from one well to the other through the fractures we create. So we pump cold water down the injection wells, it flows through that reservoir and comes back up the production wells as hot water that we can then capture at the surface to create electricity.

**Hillary:** But geothermal is not without controversy, because, well... you're drilling deep into the earth.

**Tom:** There are concerns that this activity can lead to things like increased tremors.

**Hillary:** CA's Tom Mitchell.

**Tom:** We saw those sort of things also being associated in basins with high degrees of oil and gas fracking.

**Hillary:** But at this point, it is important to clarify that although enhanced geothermal systems can use a form of hydraulic stimulation, it's not the same as fracking.

**Tim:** There are things like the methane production flaring that comes with oil and gas activity or groundwater contamination if there's any oil and gas that gets into the system.

Our systems are very different. What we do is we bring the hot brine up the production wells...

**Hillary:** That's hot, mineral-rich water from a reservoir.

**Tim:** we run it through a heat exchanger at the surface to cool it off. That actually heats a different working fluid that powers our power plant cycle. And then we reinject a hundred percent of the brine back down into the subsurface.

**Hillary:** In a closed-loop setup, that brine never actually touches the outside world —it just transfers heat at the surface and is then re-injected underground. And so this limits emissions and odors and helps protect groundwater, and that's one reason why these plants are considered low-emission.

**Tim:** There's no flaring, we don't vent any of the geothermal brine or any of the gases in the geothermal brine at the surface 'cause it's a completely closed loop configuration. And we're returning that same geothermal brine back to the geothermal reservoir continuously throughout the operation.

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**Hillary:** That same AI wave that's driving big buyers, like data centers, to sign up for steady, round-the-clock clean energy, is helping fine-tune Fervo's drilling and operations.

**Tim:** One of the things that makes geothermal different from other clean energy technologies or other infrastructure projects is that a lot of the research and development you think about trying to identify solar resources or wind resources.

They all have an advantage that we don't, and that's that all of the magic happens at the surface. You can see if it's sunny, you can see if there's a, a manufacturing defect in a solar panel or the same on the conventional fossil fuel generation side. It's all stuff that you can see.

The big challenge for us is all the experimentation and testing happens 10,000 feet below our feet through solid rock. And so we have to do all sorts of different specialized things to collect data. One of the things that we're really excited about is something called distributed fiber optic sensing.

**Hillary:** This involves using fiber optic cables to detect and monitor changes in temperature and other relevant measurements. But Tim says the challenge is an incredibly noisy dataset, and we're talking hundreds of terabytes! So Fervo is leveraging AI to automate the processing.

**Tim:** What we get outta the side of it is actually very precise measurements of exactly what's happening 10,000 feet below our feet. So that's something that you could not do before the advent of a lot of the machine learning and AI tools that we see today.

**Hillary:** And they're also using AI to speed up decisions and automate parts of drilling.

**Tim:** When we drill, we're drilling through solid granite and drill bits don't last that long in solid granite. When we first started drilling, our drill bits would only last about 200 feet. So you can imagine if we're drilling wells 15,000 feet long, that's a huge problem.

And so what our team has been able to do is build out workflows using AI that actually can integrate hundreds of different data sets from the geologic properties to the parameters that we're running the drill bits on to the quality and characteristics of the drill bit itself. And measure that in real time and actually come up with mechanisms to kind of score the performance of the drill bit and adjust in real time. You know, our average drill bit life since we started working on this, has gone from about 200 feet per bit to over 2,000 feet per bit. And we've used that to reduce our drilling times by about 70% over the last two or three years.

**Hillary:** And AI is also helping with the bigger picture.

**Tom:** In the case of geothermal, we have a lot of maps, and we have some pretty good assessments of subsurface. And what's nice about enhanced geothermal, is that different from conventional geothermal, it can be applied in a lot larger land masses. So we can use AI to more rapidly assess locations for potential geothermal sites.

**Hillary:** AI and geothermal create a feedback loop: AI has generated tremendous energy demand, but it's also helping to make geothermal cheaper and smarter, and it's caught the tech industry's attention.

**Tim:** Our major customers include folks like Google, they were our first customer and were the oftaker on our very first project as part of their 24/7 carbon free energy initiative.

We now have a 115 megawatt deal that we've done with them in Nevada for our next project. That was a very interesting agreement that we worked with Google on as well as NV Energy and created a new tariff structure actually specifically for round the clock carbon free power.

**Hillary:** These kinds of innovations: commercial models, software, and subsurface tech; have compressed decades of progress into just a few years, and they are reshaping geothermal's role within the grid.

**Josh:** It's a really good participant around wind and solar. It can dovetail, it can ramp up and down, it can backfill.

**Hillary:** Josh Posamentier from Congruent Ventures

**Josh:** And so you actually end up making the whole grid less expensive to operate, more resilient. And the knock-on effects are disproportionate to the power it's producing.

**Fahad:** AI will be very important in grid stability. Making sure that all of your resources are available.

**Hillary:** KAPSARC's Fahad Alajlan

**Fahad:** And geothermal can help in that, especially when we are talking about evenings and nights where geothermal is available, but sun is not shining.

**Hillary:** In many regions, geothermal doesn't just steady the grid. It unlocks other essentials like desalination. Because its continuous power and heat can turn seawater into a reliable water supply.

**Fahad:** For Saudi Arabia and a lot of countries in the Middle East, desalination is a major concern, it also it consumes a lot of energy. And so the idea of switching some potential energy consumption to come from geothermal will help in that.

A lot of the desalination plants are in the western part of Saudi Arabia. Uh, with, you know, access to the Red Sea, which is co-located next to the geothermal source potential. So that helps in aligning a lot of these energy demand and energy consumption that you need.

**Hillary:** And a reliable source like geothermal is especially useful in places with climate extremes.

**Fahad:** If you look at Saudi Arabia, I think 70% of the demand in energy that comes from building is for space cooling.

Geothermal can help in that. You can transfer a lot of the heat to the ground and cool it. And the great thing is it can be used for large consumers. So if you think about district cooling, if you think about residential housing, if you think about warehouses, even industrial consumers.

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**Hillary:** From district cooling to server farms, the common thread here is steady power. The International Energy Agency says a single large data center can use about as much electricity as 400,000 electric cars. And AI is moving so fast that Big Tech is racing to build more of those centers, and to lock in 24/7 clean power to run them.

That's why you're seeing huge energy deals: From Microsoft who is partnering with Constellation Energy to bring an 835 megawatt nuclear plant back online and lining up 10.5 gigawatts of wind and solar with Brookfield.

To Amazon, who bought a campus tied to a Pennsylvania nuclear plant and signed a 1.92 gigawatt power purchase agreement with Talen.

And Google's 24/7 carbon-free energy push is helping to finance Fervo's enhanced-geothermal work.

**Josh:** It is absolutely priceless to have a blue chip offtaker like Google, having those off takers enables a company to finance the project off balance sheet, which is absolutely critical to scaling any of these technologies.

**Hillary:** As Josh Posamentier at Congruent Ventures puts it, a “blue-chip offtaker” is a buyer you can bank on, like Google. And that kind of commitment is a big deal for investors.

**Josh:** You wanna be able to access infrastructure capital and not have to build everything on your venture dollars that you had to raise the hard way.

**Hillary:** Tom says one thing that Congruent does well is de-risk the science.

**Tom:** They have to have a deep, scientific understanding that the science works and that what they're trying to invest in might be an engineering problem. so that we can actually, can we build it? Can we make it go forward? And what kind of engineers do you need?

**Hillary:** Once the science is validated, capital can back a spread of solutions aimed at reliability and decarbonization, not just single bets.

**Tom:** We're seeing how managers are putting together diversified portfolios of interesting companies trying to get at a big challenge. Both serve a big need as far as our energy need here in the U.S., and also tackle a big challenge of how we shift the base load supply of that energy and move toward lower carbon forms of that energy.

It's much easier to produce an electron today, and the costs of renewables have come down tremendously. From just a pure cost basis, it still looks incredible.

**Josh:** The companies that are doing exceedingly well in the portfolio are doing things that absolutely will change something materially on a global scale.

So at the end of the day, economics will drive things and the things that scale the best are the ones with the best economics.

**Hillary:** But scaling still runs into timelines, equipment queues, permitting...

**Josh:** Supply chains, while recovered from COVID, are still really complicated and very congested for anything in the power space. So, if you did not pre-buy transformers or turbines or cooling systems or get your interconnect permit request in the queue years ago, it is incredibly challenging to get that done in a short period of time.

**Hillary:** And even if we build lots of new solar, wind, and geothermal plants, they can't actually serve customers, or data centers, without enough high-voltage highways —also known as transmission lines— to carry that power where it's needed.

**Josh:** The U.S. has built notoriously little transmission in the last five years. When you need to develop that infrastructure, that sometimes becomes the gating factor.

**Hillary:** AI and geothermal aren't just reshaping industries, they're reshaping how societies power the future.

**Fahad:** Geothermal will be a very critical source, especially where you don't have the capacity to make big investment in nuclear.

What we understand about nuclear, it has a huge upfront investment, and then very low cost in operation. Geothermal is different. Yes, you have some investment upfront, but it's not the same magnitude as nuclear, so it makes it more available to developing countries who don't have the capacity to develop nuclear.

**Hillary:** But funding these projects is still steep.

Tim and his co-founder refined Fervo's plan in Stanford's Climate Ventures class, mentored by Dave Danielson and Joel Moxley. When Danielson became Managing Director at Breakthrough Energy Ventures—a \$1 billion climate fund founded by Bill Gates—he and Moxley led Fervo's first investment in 2017, after traditional VCs had passed on geothermal.

**Tim:** That was our \$500,000 seed round, we've raised now just over \$1 billion.

And there's been a whole mix of figuring out how to drive the commercial proof points and the technical proof points in the business with the quantum of capital that you can raise at the time, how to use things like Department of Energy grants for R&D to get as much extension of the technology performance as possible, so you can raise those next venture rounds.

**Hillary:** Tim says Fervo's funding is shifting from venture capital—which is great for proving early technical ideas—to much larger capital from infrastructure investors and project debt.

**Tim:** That's what you need to do to actually scale these capital-intensive technologies to have impact.

We're very excited now that, out of that billion dollars, several hundred million of those dollars have been from traditional infrastructure finance at the project level, which is something that allows us to move capital faster into building these projects out.

**Hillary:** And Fervo just recently announced a partnership with oil field giant Baker Hughes to supply equipment for their latest project.

**Tim:** We are in the process of building a 500 megawatt system in southwest Utah right now. That's Project Cape. We'll build about 10 power plants there, so we sort of build them sequentially next to each other as we continue to scale up the field.

And the key with Fervo's technology is we have dramatically increased the amount of geothermal power you can get from a single site. A rough rule of thumb is, and everyone uses different numbers for this, but about a thousand homes can be powered per megawatt, so this 500 megawatt project will be enough power to produce kind of a city size level of electricity. And when we fully finish this project in 2028, this one site will account for about 10% of the power generated in the entire state of Utah.

**Hillary:** Fervo now has 15 customers under long-term power purchase agreements, including utility companies like Southern California Edison.

**Tim:** One of the things that's interesting in the power sector is you don't just come up with an agreement with your counterparty and be done. You have to then get that contract approved by the public utility commission in the states that you operate in to show that you thought deeply about costs and the emission profile of the projects and that it's a fair contract for everybody involved.

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**Tom:** Sustainable and impact investing tries to look beyond just what's reported in the financial statements and look at the material sustainability factors that can influence our clients' portfolios, their performance, and their mission.

**Hillary:** From Cambridge Associates', Tom Mitchell.

**Tom:** I'd say as far as investing in renewable energy and clean energy, it is part of the broader approach to resource efficiency. And we think about how are we playing both offense and defense with respect to climate change.

**Hillary:** On the offense side, that looks like investing in solutions proactively.

**Tom:** We've seen much higher return potential going into the earlier stages, so it's not just investing in renewables, but things that might assist or benefit from the growth of renewables. So everything from clients who invested over 20 years ago in electric vehicles to clients that 10 years ago were rotating capital into electric vehicle infrastructure.

**Hillary:** On the other hand, taking a defensive approach often means carefully managing risks and aligning investments with climate goals.

**Tom:** So we do have clients that are wanting to really understand the sources of their emissions. So are they invested in companies that have an approved science-based target for how they'll reduce emissions in a manner that's aligned with the Paris Climate Agreement, for example. And I think that's where it's exciting 'cause at times like this, where there could be risks, like there could be, depending on the stage of development of certain solar projects that will be risks now from the policy side. And we don't wanna be leaning too heavily into one source or another in a given client portfolio.

And so despite the current headlines and the concerns around that gives me and our clients comfort.

**Tim:** What we foresee is with our technology innovations, we can get geothermal to be 25 to 30% of the electricity in the United States or higher.

**Hillary:** Fervo's CEO, Tim Latimer

**Tim:** Which, when you start thinking about complimenting that with other energy resources, gets you a very long way to having a very robust electric grid, and we do expect that AI is gonna play a major role in both helping accelerate our project development because our customers are really motivated to get power built quickly and at an attractive cost. And so we expect that to drive a lot of customer demand in the near future that will let us come down the cost curve.

**Fahad:** I think globally what we would like to see is more uptake of geothermal energy, especially for countries that have the potential, whether that's in the U.S., in Europe, in Africa, east Asia, and especially given that this is a low emission source, we see it as a potential of complementing existing renewables.

**Josh:** There are geographic limits to how Fervo's style of geothermal can operate, but the ceiling is pretty high. I think inevitably AI is gonna help on everything from early discovery to drilling development operations and for sure on, the downstream operating the plants, making sure they're inter-operating with the grid efficiently and effectively.

I'm a firm believer that AI will be absolutely pervasive. Everywhere. There aren't going to be industries that are untouched by AI no matter how physical they are, and it's gonna make them cheaper and faster.

So, my biggest hope for geothermal is it becomes one of the biggest sources of clean power in the US and the world.

**Hillary:** If you want to learn more, please visit us at [cambridgeassociates.com/unseenupside](https://cambridgeassociates.com/unseenupside) or check out the show notes. If you like what you're hearing, leave us a review and tell your friends and colleagues.

And if you'd like to learn from us in-person, we'll hope you join us at our Investment Leaders Exchange on April 13th and 14th in Chicago, Illinois. For more information, visit <https://www.cambridgeassociates.com/events/>.

**Hillary:** And! We asked ChatGPT to look into ways AI is helping the grid in Texas.

**ChatGPT:** Sure. In a nutshell, here are a few quick ways Texas is using AI to prevent another big blackout like Winter Storm Uri. First, they're using AI to improve demand forecasting, so they can better predict when and where electricity will be needed.

Second, they're deploying AI to manage virtual power plants, which combine lots of small energy resources into a single flexible grid asset.

And third, they're using AI to optimize battery storage systems, so they can quickly respond to grid imbalances and keep things stable.

**Hillary:** At Cambridge Associates, our podcast team includes Michelle Phan, Megan Morrissey, Stacy Stoddard and me, Hillary Ribaud. And a special thank you to Robert Scherzer and Krista Matthews.

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