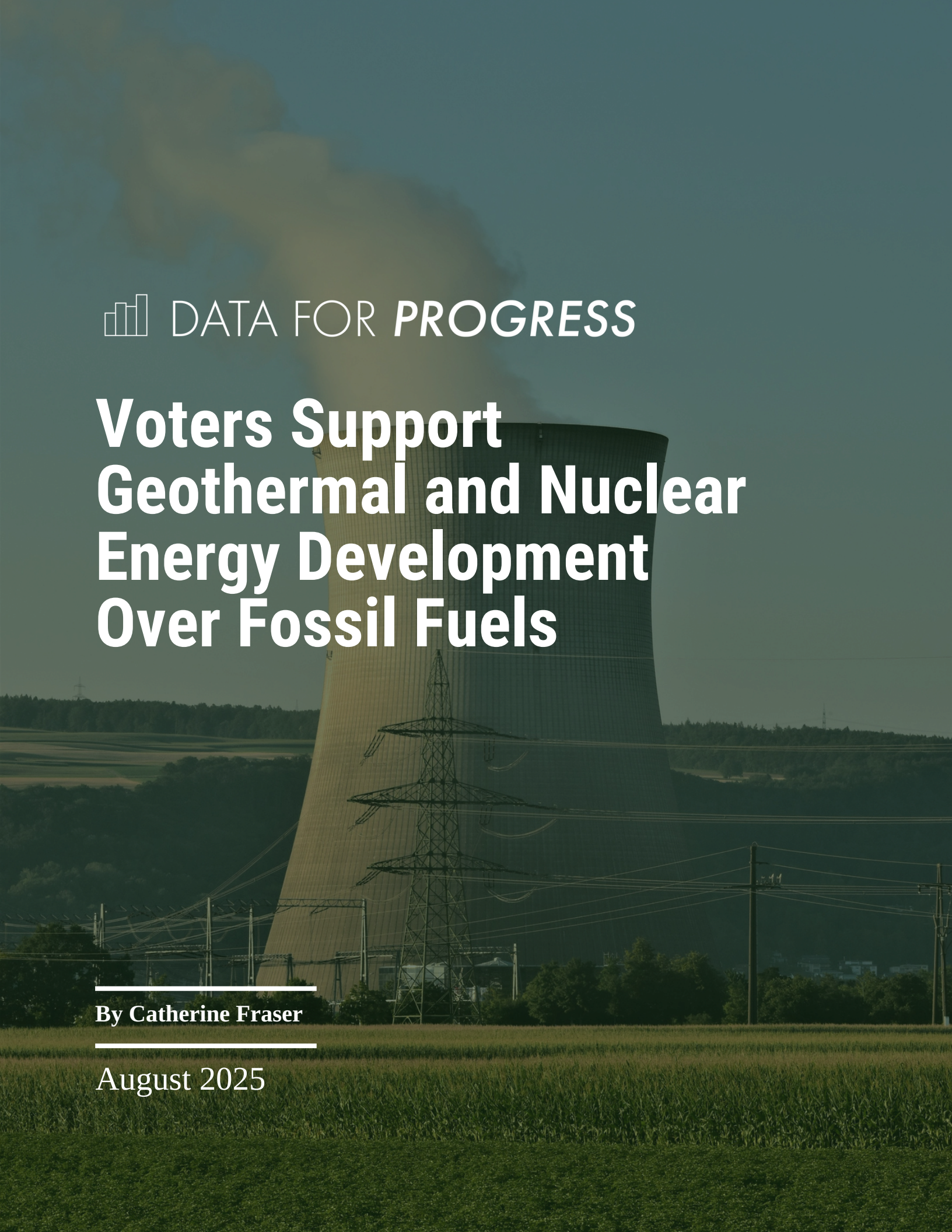

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Voters Support Geothermal and Nuclear Energy Development Over Fossil Fuels

By Catherine Fraser

August 2025

Voters Support Geothermal and Nuclear Energy Development Over Fossil Fuels

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Despite the Trump administration's full-fledged attack on clean energy, particularly wind and solar, geothermal and nuclear have emerged largely unscathed since Donald Trump's first term. In the One Big Beautiful Bill Act (OBBBA), Trump and congressional Republicans preserved both the Inflation Reduction Act's (IRA) investment tax credit and production tax credit (PTC) incentives for new geothermal and nuclear development in the U.S. OBBBA also preserved the PTC for existing nuclear plants. However, tariffs and foreign entities of concern provisions may jeopardize supply chains and tax credit eligibility for new geothermal and nuclear systems.

The Trump administration has also taken executive action on geothermal and nuclear that goes beyond the preserved IRA incentives. In declaring a national energy emergency upon taking office and calling for expanded domestic energy production of certain energy sources, Trump directed the Department of the Interior to implement an expedited permitting process for geothermal. The Senate has also called for selling public lands in 11 states to increase geothermal leasing potential. Geothermal's shareholders and technological processes overlap with the fossil fuel and fracking industry, and have contributed to its popularity among Republicans and the Trump administration.

Trump also signed four executive orders on nuclear energy, which direct the Department of Energy (DOE) to develop three small, modular nuclear reactors, the Department of Defense to commission a pilot reactor in three years, the Nuclear Regulatory Commission (NRC) to speed approvals for new reactors, and the U.S. to increase nuclear capacity fourfold by 2050. Trump's order for NRC to fast-track approvals, and his subsequent firing of NRC Commissioner Christopher Hanson, have raised serious concerns about the NRC's ability to operate independently and to properly vet new reactors, leading former NRC commissioners to voice concerns about safety and erosion of public trust in the commission.

Beyond the Trump administration, policymakers and companies — particularly tech companies — are increasingly looking to geothermal and advanced nuclear for reliable, clean power. In the U.S., Fervo Energy, XGS Energy, and Sage Geosystems have all announced commercial-scale deployments of geothermal in partnership with investors and major tech companies, like Meta. In fact, Sage Geosystems' first project will provide power to Meta data centers. Similarly, TerraPower, Kairos Power, and X-Energy have emerged as top players in the advanced nuclear space, with all three receiving investment from or signing offtake agreements with major tech and other companies, like Amazon, Google, PacifiCorp, and Alphabet. In addition, companies are restarting nuclear power plants across the country, including Constellation Energy, which

signed a power purchase agreement with Microsoft to restart its Three Mile Island nuclear power plant to power Microsoft's data centers.

Beyond private companies, states are also increasingly investing in and supporting geothermal and nuclear. In Colorado, the state's energy office recently announced $1.6 million in grants for geothermal initiatives, from heat pump installations to thermal energy projects. California has also announced plans to advance geothermal through its clean energy procurement program, soliciting 10.6 GW of clean energy, including up to 1 GW of geothermal.

In New York, Governor Kathy Hochul recently directed the New York Power Authority (NYPA) — the state's public power utility — to develop a new nuclear facility in upstate New York to meet growing demand for clean electricity. If completed, the facility would be the first built in New York in nearly four decades, and, as mandated by Hochul, would need to provide at least 1 GW of electricity — enough to power almost 1 million homes — by 2040.

Why geothermal and nuclear?

To reach net-zero emissions, and eventually net negative emissions, many experts say clean firm power — not just intermittent power, like that from solar and wind — will be necessary. To that end, many view adding geothermal and nuclear generation to the grid as essential to decarbonize, given that both are sources of reliable, 24/7 clean power. These clean firm power sources ensure that the electrical grid can accommodate increasing energy demand and extreme weather events, which threaten the reliability of the grid.

What's more, recent advancements in geothermal and nuclear technologies have broadened their potential variability and scalability. For decades, geothermal has made up a tiny sliver of U.S. electricity generation — only 0.4% in 2023. As indicated in Figure 1, conventional geothermal power historically required naturally occurring rock and geological formations, like hot springs and geysers. Conventional geothermal power pulls hot water and steam from such formations, which in turn rotates a turbine to generate electricity. As a result, most U.S. geothermal generation to date has been concentrated in the West, where such formations sit close to the earth's surface.

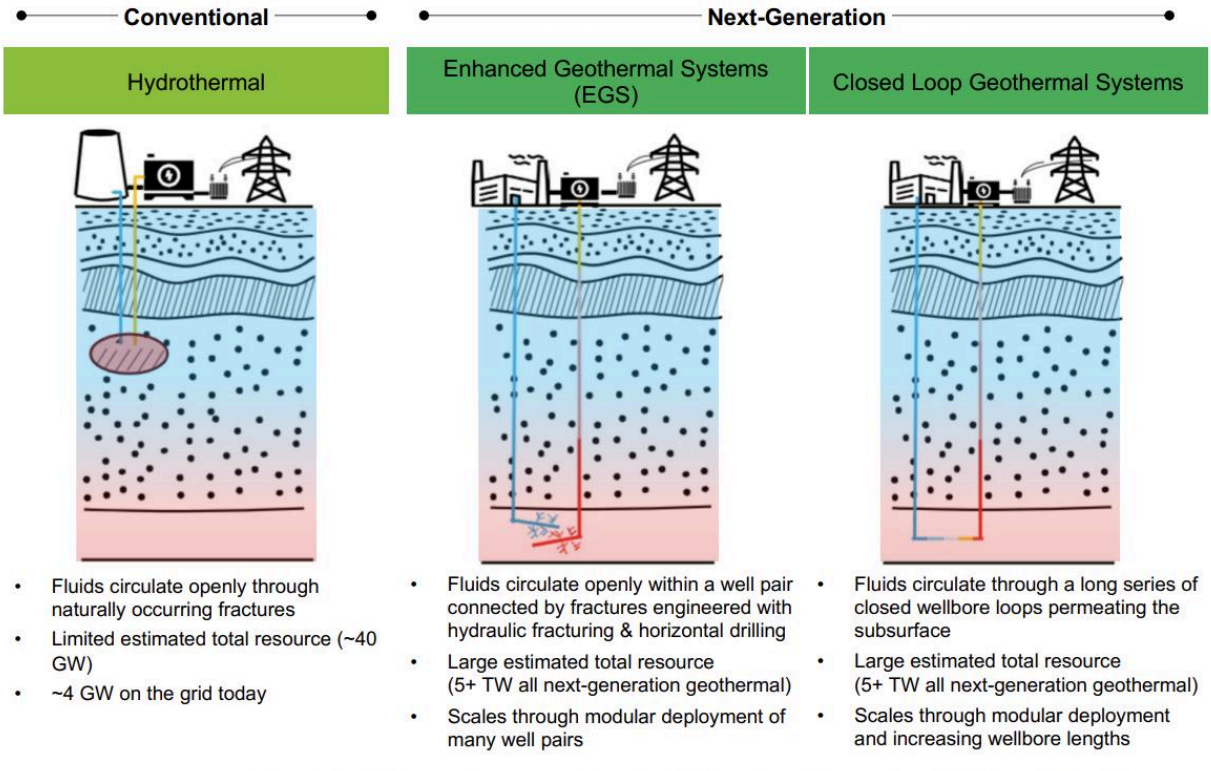


Figure 1. Graphic from the DOE's Liftoff Report on NextGen Geothermal

However, next-generation geothermal technologies, including enhanced geothermal systems (EGS) and closed loop, or advanced geothermal systems (AGS), could dramatically expand U.S. geothermal generation capacity by more than 20 times. EGS use horizontal drilling and hydraulic fracturing ("fracking") technologies developed by the oil and gas industry to inject water into rock formations deep underground, fracturing rock and allowing hot water and steam

to flow in the well, spinning a turbine and thus generating electricity. In the U.S., Fervo Energy recently built the country's first pilot enhanced geothermal facility in Nevada and is nearing completion of its first commercial-scale EGS operation, which will be the world's largest when completed.

Where EGS projects may drill many wells to create several energy reservoirs, AGS ones may drill just a couple to create a closed loop system where water and other fluids are circulated between the surface and deep underground. One AGS startup, Eavor, has pilot projects in Alberta and New Mexico, with its first commercial-scale closed loop project in Germany aiming to start producing energy this year.

Beyond EGS and AGS, superhot rock geothermal systems are also being researched and are in the early stages of development. Superhot rock geothermal would inject water even deeper underground — up to 8 miles — to reach rock formations with heat greater than 375 degrees Fahrenheit. At such temperatures, water turns into a supercritical state, where it has the potential to produce up to 10 times more energy than a conventional geothermal well.

In addition to technological advancements in geothermal, the emergence of advanced nuclear reactors has opened doors for new nuclear deployment in the U.S. Since the early 1990s, only three new nuclear reactors have been brought online, though some retired reactors are being brought back online, like Three Mile and Palisades in Michigan. Compared to traditional nuclear reactors, advanced reactors are safer, and could be smaller and cost less, especially if they achieve economies of scale. As demonstrated in Figure 2, advanced nuclear reactors include small modular reactors (SMRs) and microreactors, which can provide up to 300 MW and 10 MW of power, respectively. These smaller reactors offer greater flexibility and versatility in their use cases, offering power to cities and at the facility level, as they can replace energy sources, from coal plants to diesel generators.

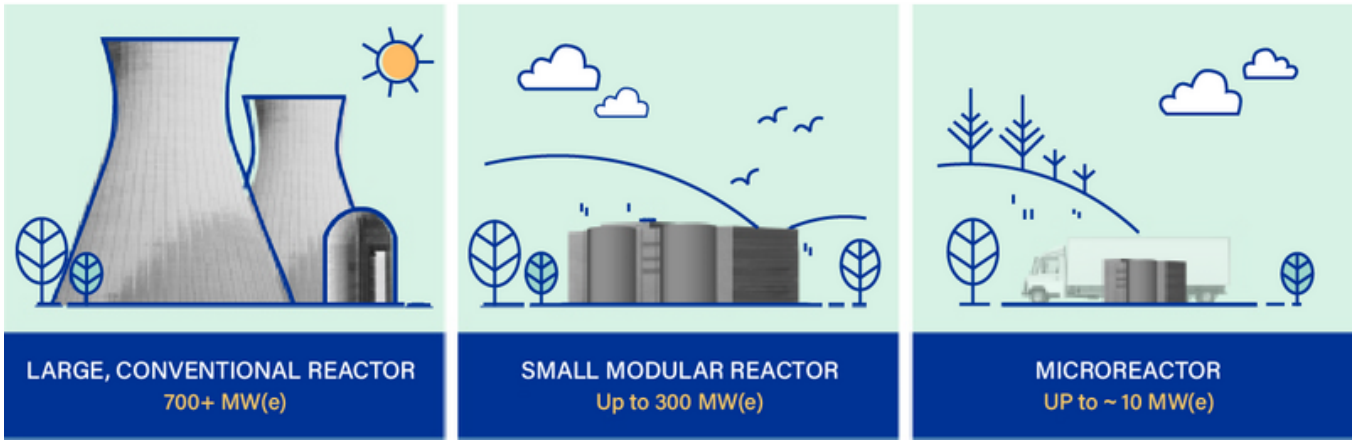


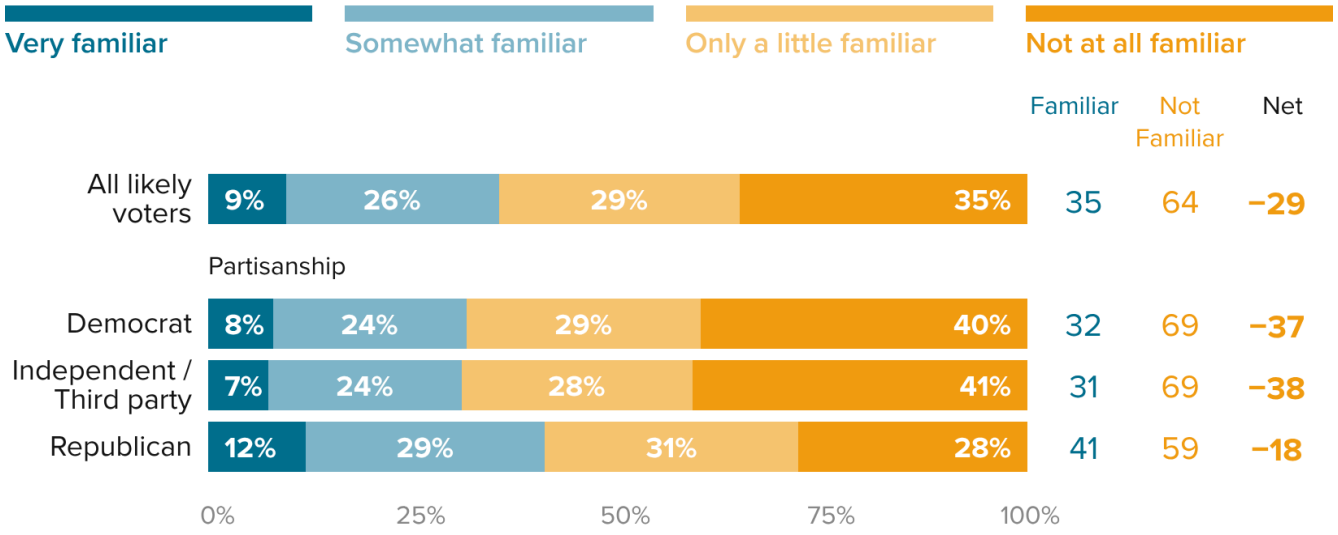
Figure 2. Types of nuclear reactors (International Atomic Energy Agency)

Attitudes toward nuclear and geothermal in the U.S.

A new poll from Data for Progress explores voter attitudes toward nuclear and geothermal, particularly in the context of local deployment and decarbonization. Perhaps unsurprising given the limited deployment and geographical constraints of geothermal to date, most voters are not familiar with geothermal. Sixty-four percent of voters say they're unfamiliar with geothermal, compared with 35% who report familiarity.

A Majority of Voters Are Unfamiliar With Geothermal Energy

How familiar are you with the concept of geothermal energy, if at all?



July 11–12, 2025 survey of 1,179 U.S. likely voters

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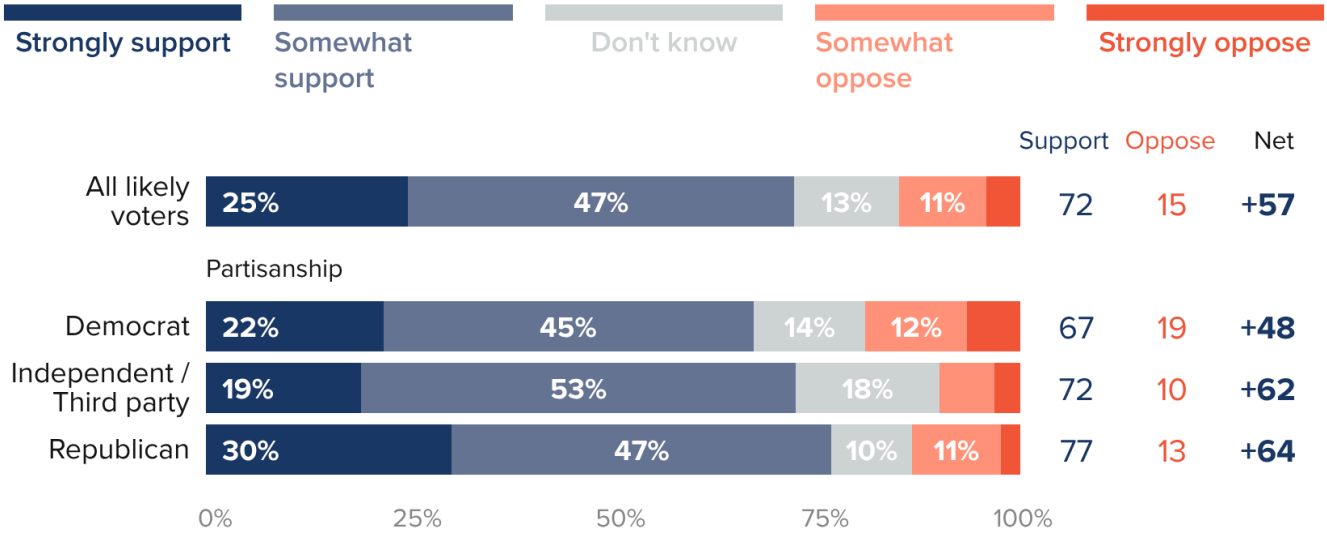
After reading a short description of geothermal energy, nearly 3 in 4 voters (72%) support expanding geothermal energy in the U.S. This includes 67% of Democrats, 72% of Independents, and 77% of Republicans.

Almost 3 in 4 Voters Support Expanding Geothermal Energy After Learning About It

Geothermal energy is extracted by drilling wells into hot underground rock formations. Water found within or piped into these rock formations turns into steam and that steam is used to spin turbines that produce electricity that can be used by homes and businesses.

Do you support or oppose expanding the development of geothermal energy in the U.S.?



July 11–12, 2025 survey of 1,179 U.S. likely voters

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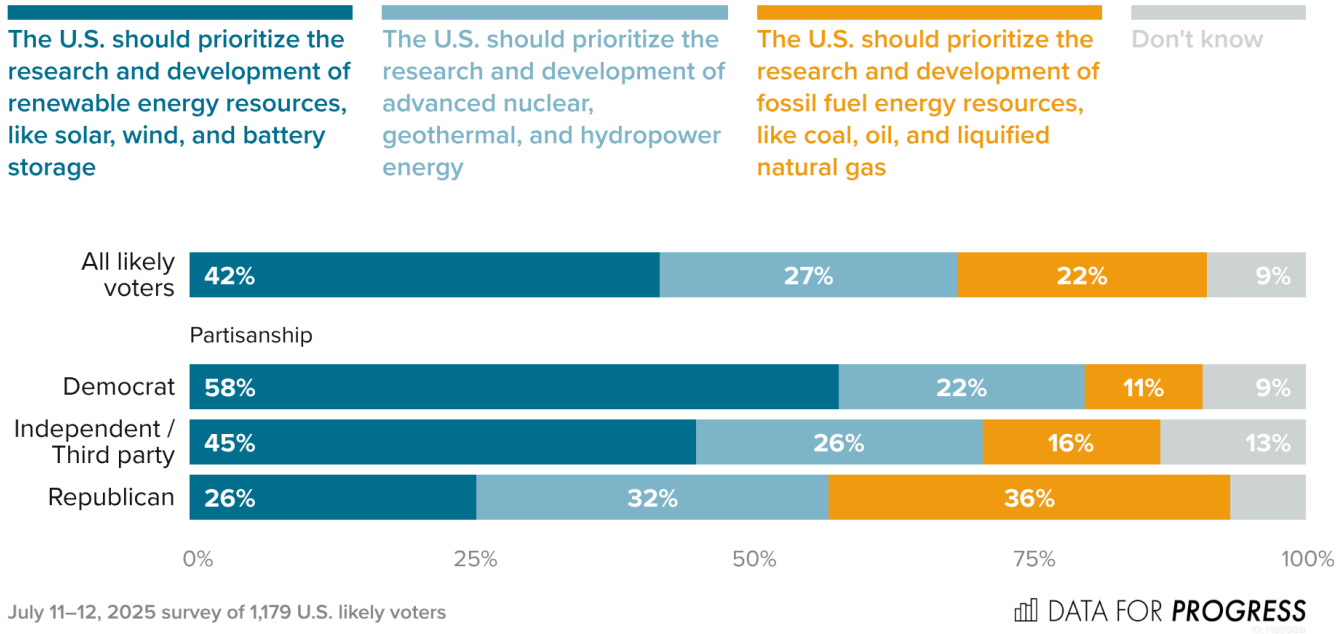
Next, voters were asked what types of energy sources DOE should prioritize. A plurality of voters (42%) most want DOE to prioritize the research and development of renewable energy, like solar and wind, followed by 27% who want DOE to prioritize nuclear, geothermal, and hydropower, and 22% who want DOE to prioritize fossil fuels. Democrats and Independents in particular want DOE to prioritize the research and development of renewables (58% and 45%, respectively)). In contrast, Republicans most want DOE to research and develop fossil fuels (36%).

Voters Want to Prioritize Development of Clean Energy Over Fossil Fuels

Which of the following energy resources would you **most** prefer the U.S. Department of Energy focus on:



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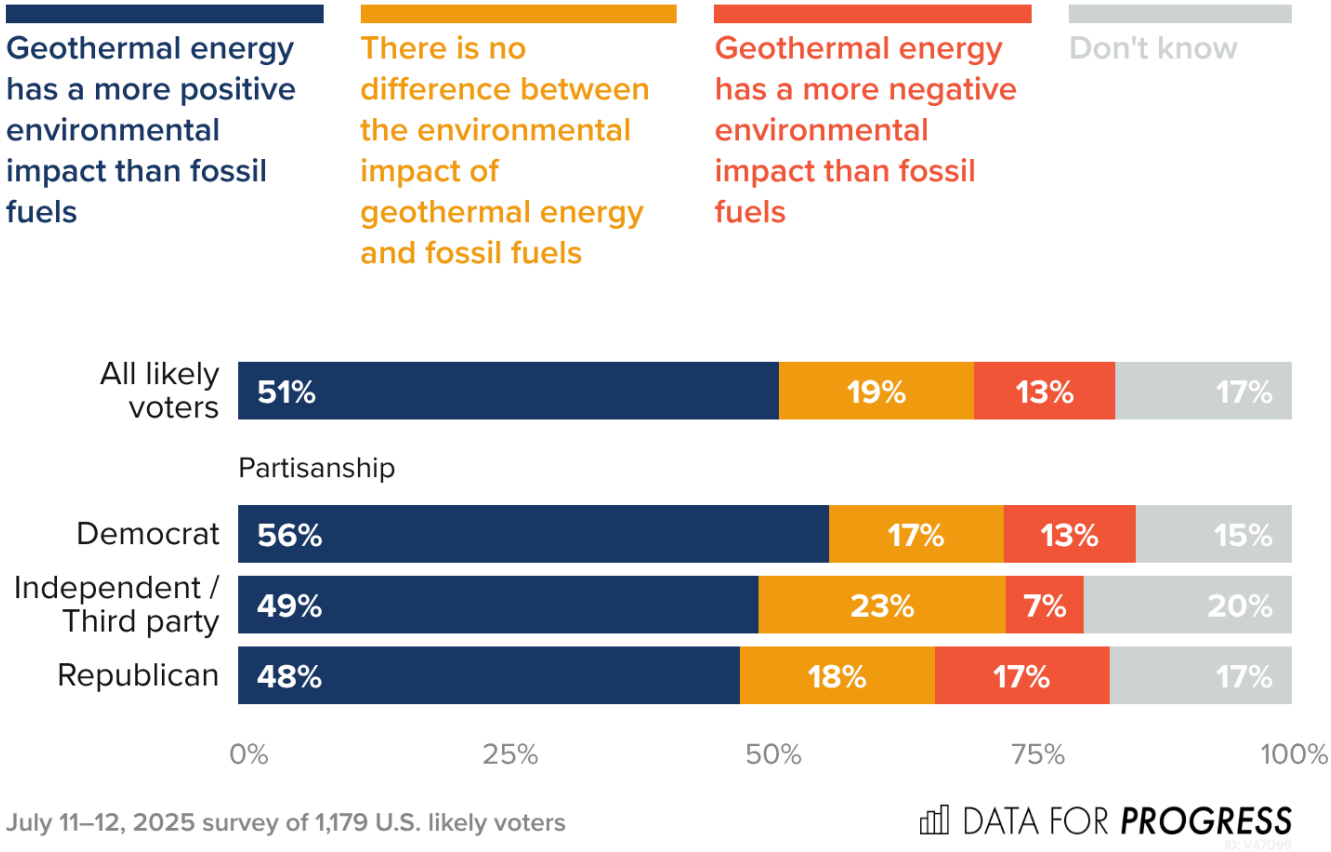
Next, voters were asked to compare the perceived environmental impact of geothermal with that of fossil fuels, with a slight majority (51%) of voters saying they think geothermal has a more positive environmental impact than fossil fuels.

Most Voters Think Geothermal Has a More Positive Environmental Impact Than Fossil Fuels

Compared to fossil fuels, like coal, oil and gas, how do you view geothermal energy in terms of its environmental impact?



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Respondents then read a description of geothermal, as well as arguments for and against its development. After voters read more, their support for expanding the development of geothermal energy decreases by 13 percentage points (from 72% initial support to 59% informed support), though a majority of voters across partisanship still support expanding geothermal energy production, including 55% of Democrats, 54% of Independents, and 64% of Republicans.

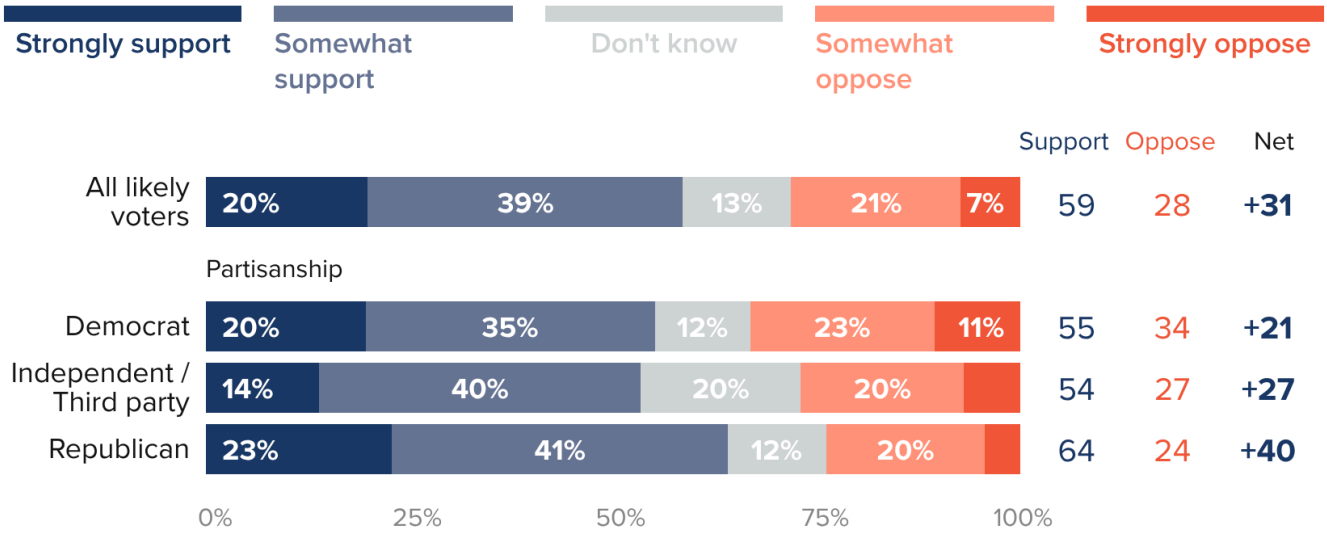
A Majority of Voters Support Expanding Geothermal, but Support Drops When Voters Learn More About Its Risks

Geothermal energy is extracted by drilling wells into hot underground rock formations. Water found within or piped into these rock formations turns into steam and that steam is used to spin turbines that produce electricity that can be used by homes and businesses.

Supporters say geothermal energy is a reliable source of renewable energy that can provide power 24/7 and requires less land than other types of energy.

Opponents say geothermal energy is disruptive to local landscapes and habitats, can potentially trigger earthquakes, and can cause noise pollution.

Knowing what you know now, do you support or oppose expanding the development of geothermal energy in the U.S.?



July 11–12, 2025 survey of 1,179 U.S. likely voters

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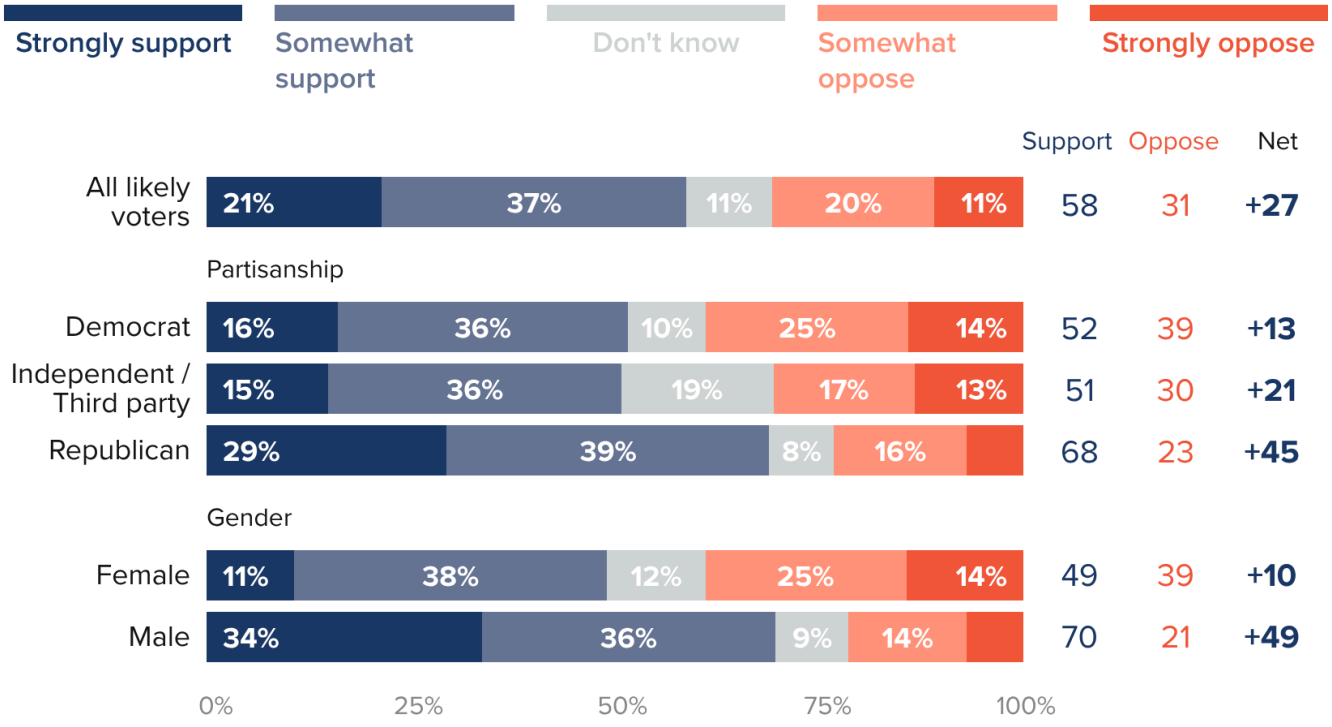
The survey next asked respondents about their views of nuclear power. A majority of voters (58%) support expanding the development of nuclear energy in the U.S., including 52% of Democrats, 51% of Independents, and 68% of Republicans. However, opinions vary starkly across gender, with 70% of men expressing support for expanded nuclear energy development in the U.S., compared with just 49% of women.

Most Voters, Including Over Two-Thirds of Republicans, Support Expanding Nuclear Energy

Nuclear energy is generated by splitting atoms through a process known as fission to release heat. This heat is used to spin turbines to produce electricity that can be used by homes and businesses.

Do you support or oppose expanding the development of nuclear energy in the U.S.?



July 11–12, 2025 survey of 1,179 U.S. likely voters

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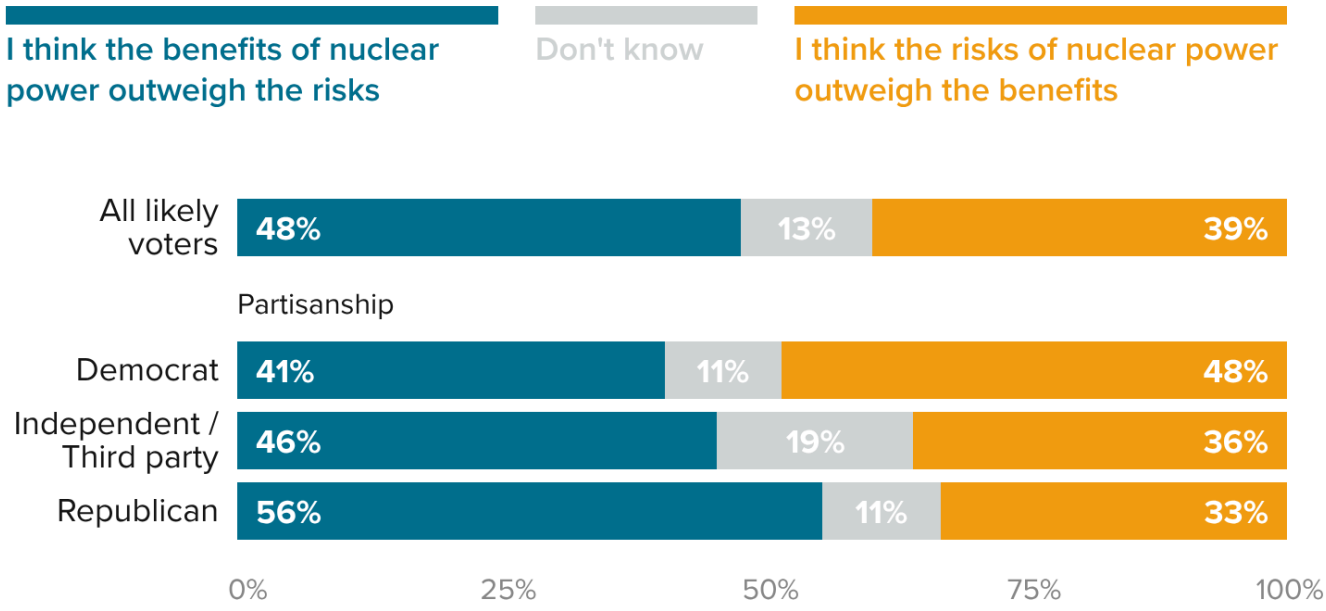
Respondents were then asked to think about the tradeoffs of nuclear energy, with a plurality (48%) saying they think the benefits of nuclear energy outweigh its risks. This includes 46% of Independents and 56% of Republicans. Notably, however, a plurality of Democrats (48%) believe that the risks of nuclear power outweigh its benefits.

A Plurality of Voters Think the Benefits of Nuclear Outweigh Its Risks

In general, do you think the benefits of nuclear power outweigh the risks associated with it?



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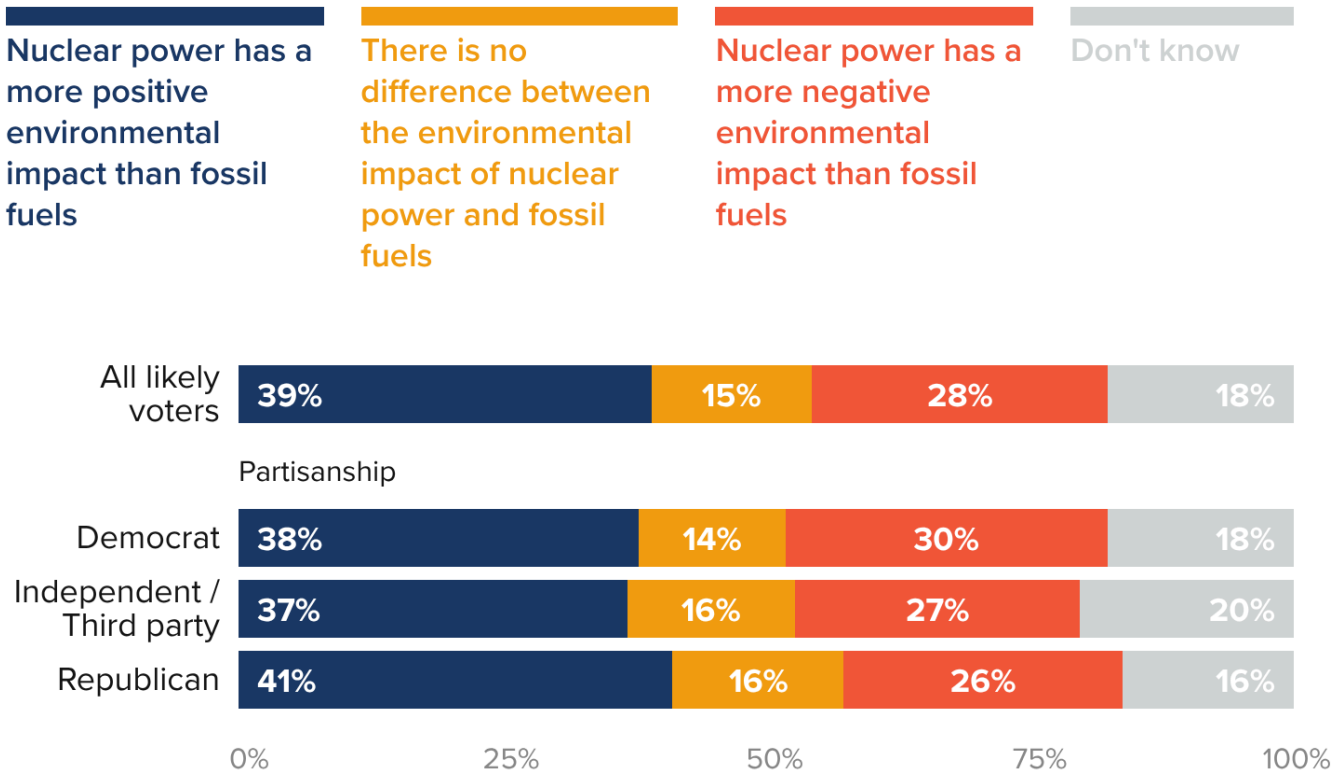
As with geothermal, voters were asked to compare their views of nuclear energy's environmental impacts to that of fossil fuels, with a plurality (39%) saying that nuclear has a more positive environmental impact than fossil fuels. This includes 38% of Democrats, 37% of Independents, and 41% of Republicans. In contrast, just 28% of voters say fossil fuels have a more positive environmental impact than nuclear, and 15% say there's no difference between the environmental impacts of the two.

A Plurality of Voters Think Nuclear Has a More Positive Environmental Impact Than Fossil Fuels

Compared to fossil fuels, like coal, oil and gas, how do you view nuclear power in terms of its environmental impact?



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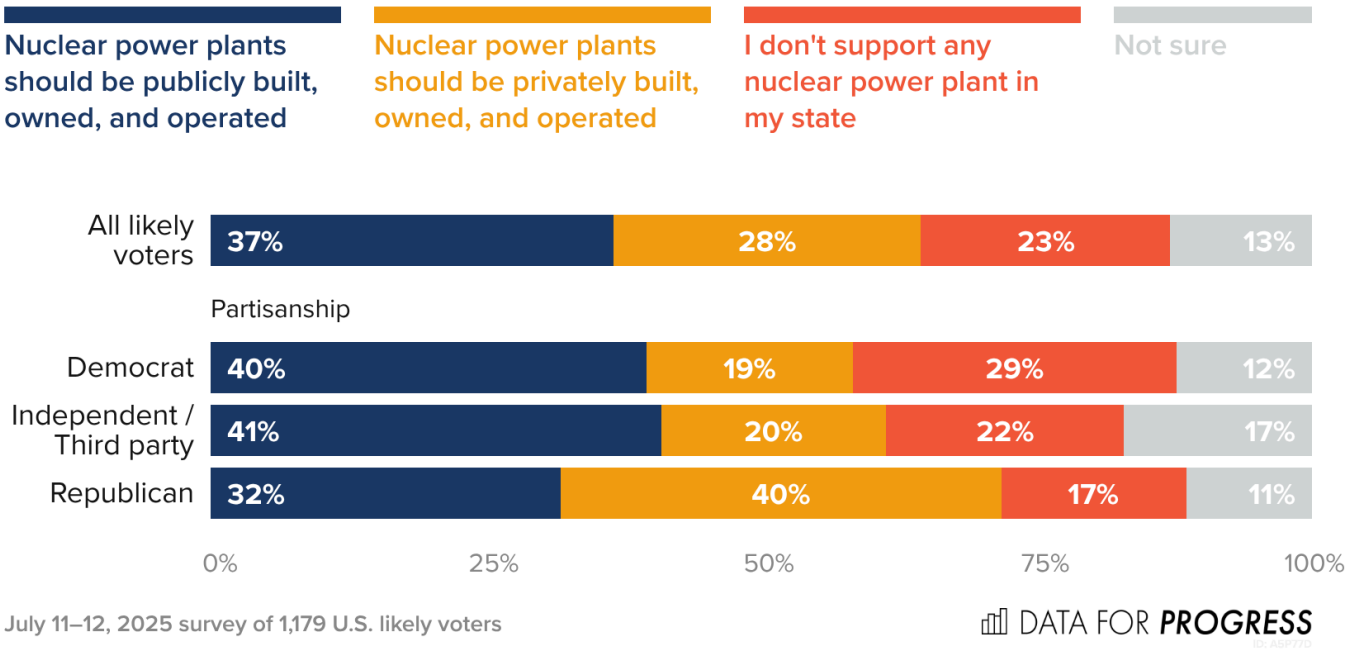
Though most nuclear power in the U.S. is privately owned, the Tennessee Valley Authority (TVA) owns and operates three public nuclear power plants across Tennessee and Alabama. Given the high upfront cost of building new nuclear facilities, and the broad public benefits of clean firm energy, some advocates have called for building nuclear power via publicly owned entities, like the TVA, to reach climate goals, while delivering affordable power and union jobs. For example, under Hochul's order, NYPA could build a publicly owned nuclear power facility in upstate New York.

When asked whether they prefer nuclear plants in their state to be built, owned, and operated publicly or privately, a plurality of voters (37%) say they want nuclear power plants to be built, owned, and operated publicly. In comparison, 28% of voters want nuclear power plants to be built, owned, and operated privately, and 23% say they don't support any nuclear power plant in their state.

A Plurality of Voters Think Nuclear Plants Should Be Publicly Built, Owned, and Operated

Would you prefer that nuclear power plants in your state be built, owned, and operated **publicly**, such as by a state or the federal government, or **privately**, such as by energy companies?



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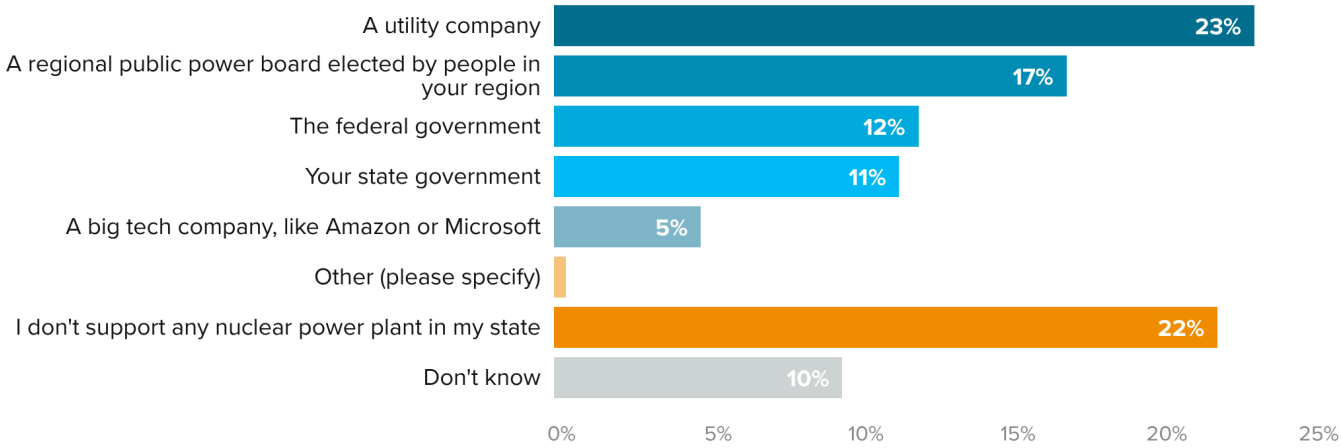
Voters were also asked whom they would most trust to build, own, and operate a nuclear power plant. Voters say they would most trust a utility company (23%), followed by a regional public power board elected by people in their region (17%), the federal government (12%), their state government (11%), and a big tech company (5%).

Voters Would Most Trust a Utility Company to Build, Own, and Operate a Nuclear Plant in Their State

Which of the following actors would you **most trust** to build, own, and operate nuclear power plants in your state?



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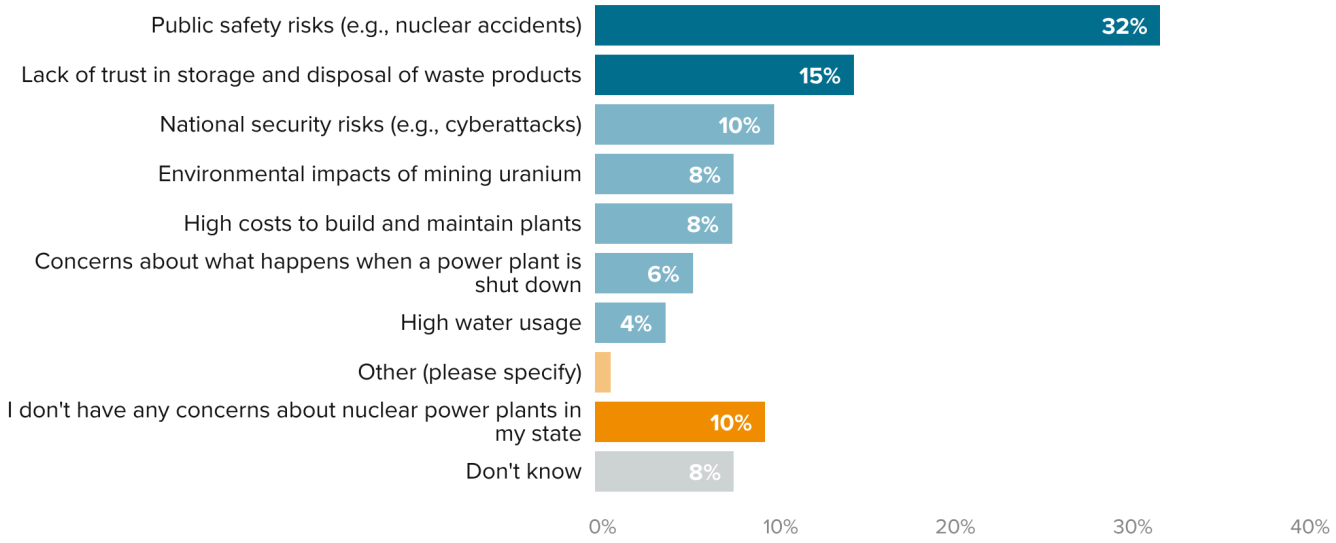
Next, voters were asked what their most important concerns are about nuclear power development in their state. Around a third of respondents (32%) say that public safety risks, like nuclear accidents, are their top concern. After public safety risks, voters say their top concerns are lack of trust in storage and disposal of waste products (15%) and national security risks (10%).

Public Safety Tops Voters' List of Concerns About Nuclear Power Plant Construction in Their State

Which of the following is the **most important concern** that you have about a nuclear power plant being built in your state?



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Respondents were then asked again about their support for developing nuclear energy, and provided with both arguments for and against nuclear power. After reading this information, a slight majority of voters (53%) support expanding the development of nuclear energy in the U.S., but this is 5 percentage points lower than when respondents were initially asked (58%).

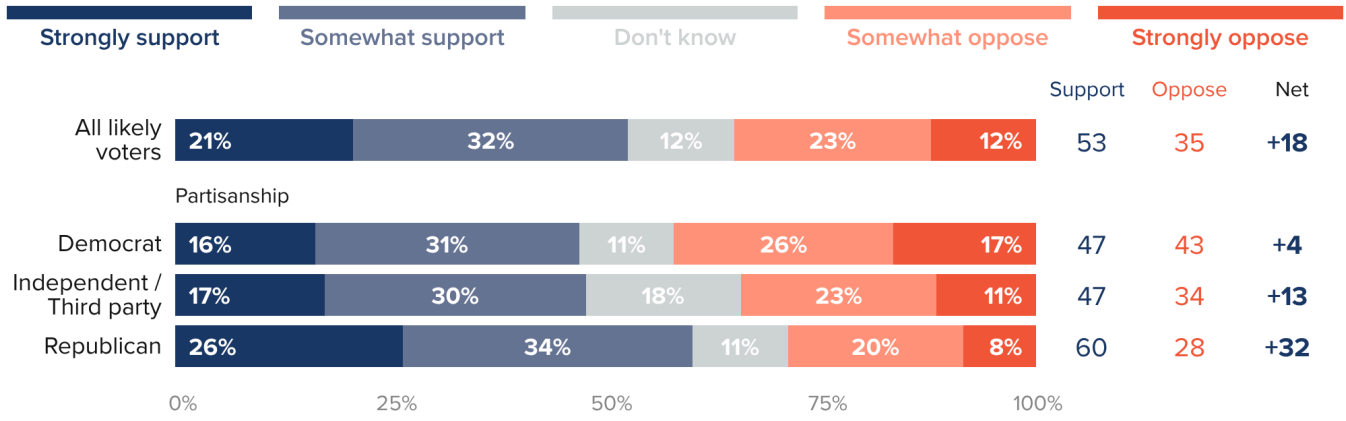
After Reading Arguments For and Against It, Voters Are Less Likely to Support Nuclear Power

Nuclear energy is generated by splitting atoms through a process known as fission to release heat. This heat is used to spin turbines to produce electricity that can be used by homes and businesses.

Proponents of building new nuclear energy say that the United States cannot achieve its climate goals without nuclear energy, which can provide clean energy 24/7, unlike wind and solar.

Opponents of building new nuclear energy say that it's too expensive to build and its health and environmental risks outweigh its potential benefits.

Knowing what you know now, do you support or oppose expanding the development of nuclear energy in the U.S.?



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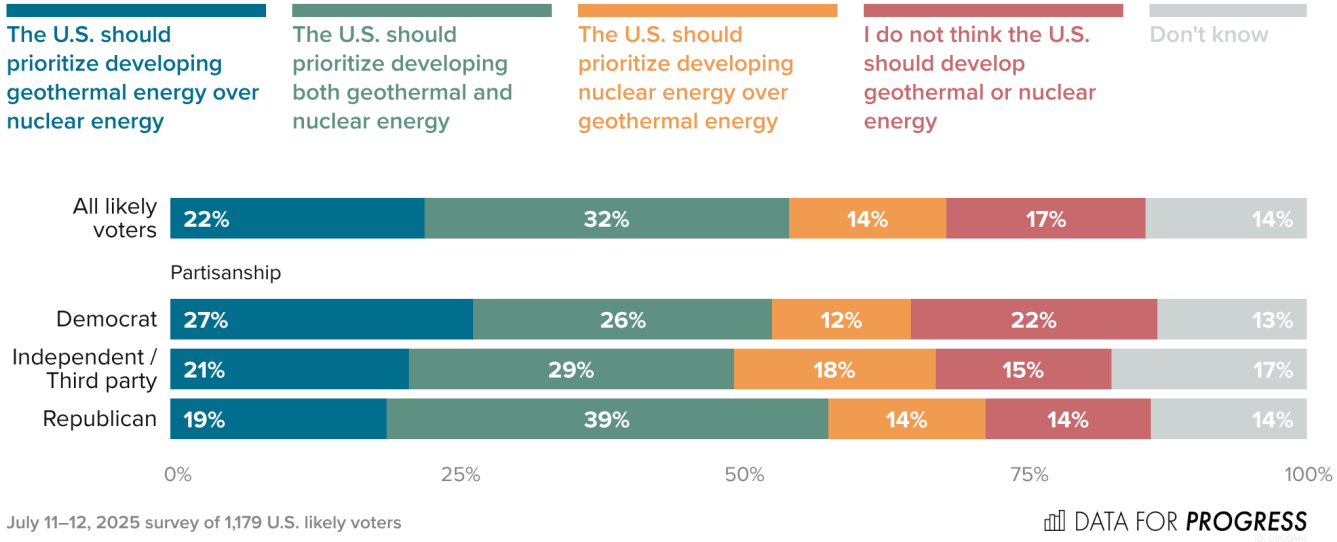
After responding to this series of questions on geothermal and nuclear energy, respondents were asked to select from a series of statements the statement that comes closest to their view. Around a third (32%) select a statement saying that the U.S. should prioritize developing **both** geothermal and nuclear energy, compared with 22% who think the U.S. should prioritize geothermal over nuclear, and 14% who think the U.S. should prioritize nuclear over geothermal. In contrast, 17% select a statement saying that they don't think the U.S. should develop geothermal or nuclear energy at all.

A Plurality of Voters Think the U.S. Should Prioritize Developing Both Nuclear and Geothermal Energy

Knowing what you know now, which of the following statements, if any, best aligns with your view, even if none are exactly right?



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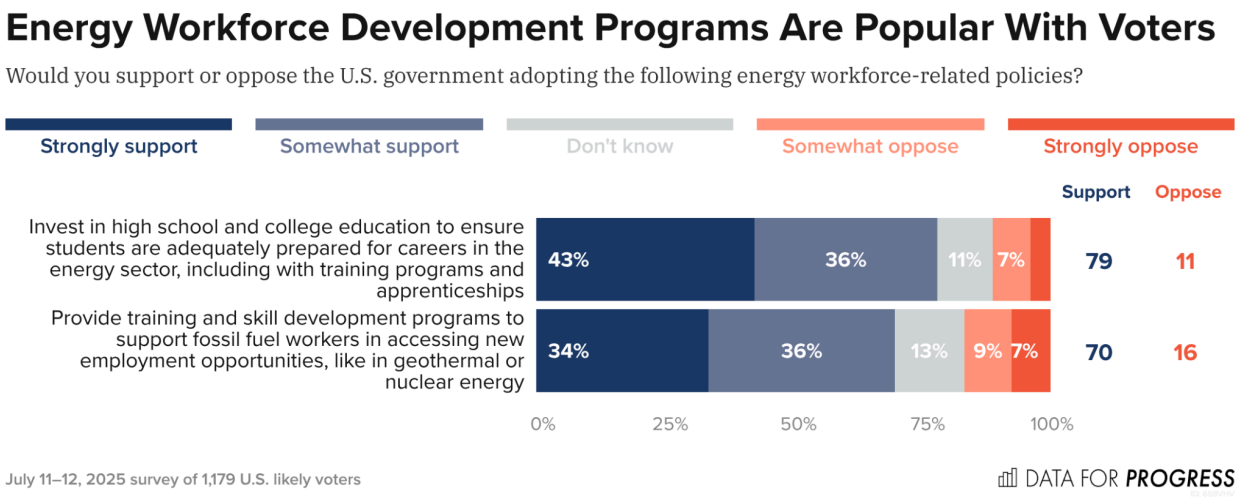
Finally, respondents were asked whether they support the U.S. government adopting two energy workforce policies. A strong majority of voters support the U.S. adopting a program to invest in education to ensure students are prepared for careers in the energy sector (79%), as well as a program to provide training and skill development programs to support fossil fuel workers accessing new employment opportunities, like those in geothermal or nuclear energy (70%).



Conclusion

As demand for electricity rises and the urgency to decarbonize our power system grows, nuclear and geothermal development presents a tremendous opportunity to deliver clean, reliable power to the grid, and to complement the intermittency of solar and wind energy. While geothermal energy in particular is still largely unknown to voters, these survey results demonstrate a clear demand for clean energy — like solar, wind, battery storage, nuclear, and geothermal — over fossil fuels, and a strong interest in the public development and ownership of nuclear energy.

As NYPA moves forward with developing New York's first new nuclear facility in decades, voters signal a clear appetite for an approach that prioritizes public ownership and involvement in such development.

Survey Methodology

From July 11 to 12, 2025, Data for Progress conducted a survey of 1,179 U.S. likely voters nationally using web panel respondents. The sample was weighted to be representative of likely voters by age, gender, education, race, geography, and recalled presidential vote. The survey was conducted in English. The margin of error associated with the sample size is ±3 percentage points. Results for subgroups of the sample are subject to increased margins of error. Partisanship reflected in tabulations is based on self-identified party affiliation, not partisan registration. For more information please visit dataforprogress.org/our-methodology.

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Acknowledgements

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