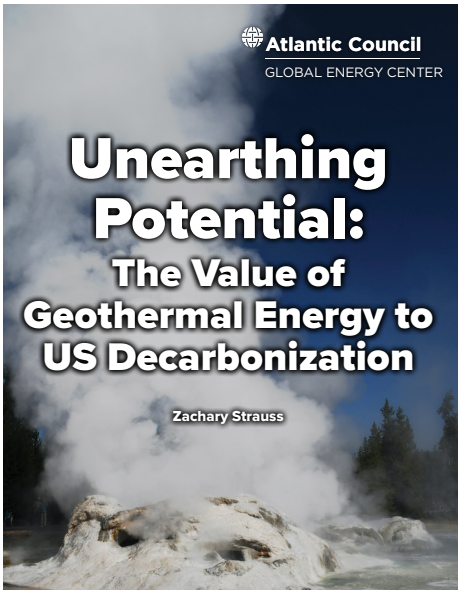
Atlantic Council
GLOBAL ENERGY CENTER

# Unearthing Potential:
## The Value of Geothermal to US Decarbonization




Achieving US climate goals requires the development and widespread deployment of all available clean energy solutions. Geothermal energy, while currently only a marginal component of the US energy economy, will be indispensable in the fight against climate change. Geothermal capacity can support deep decarbonization in a way that most other clean energy solutions cannot by providing: clean, baseload power; a highly efficient means to heat and cool buildings, campuses, and cities; a host of agricultural and industrial applications; and the potential for sustainable lithium production.

With proper financial and political support, geothermal energy could play a central role in decarbonizing the entire US economy. Deep decarbonization requires scaling proven solutions to difficult climate issues like sustainable lithium development, building-sector electrification, and grid reliability. As a nearly inexhaustible renewable resource with immense potential, the US geothermal energy sector is ready to take on the challenge; policymakers now must give it the opportunity.

| Policy Category | Policy Options | Implementation Opportunity | Impact |
|---|---|---|---|
| **Geothermal permitting and leasing** | Allocate greater resources to the Bureau of Land Management and hire additional personnel with geothermal expertise<br><br>Develop a digital application tracking system<br><br>Enact legislation to allow geothermal categorical exclusions for resource confirmation<br><br>Create centralized, geothermal-specific Renewable Energy Coordination Office | FY 2023 Appropriations<br><br>Enact the Enhancing Geothermal Production on Federal Lands Act to enable such categorical exclusions | Speed up permitting and leasing timeline and allow developers to take greater advantage of tax credits<br><br>Reduce project costs and administrative fees and those associated with exploratory drilling<br><br>Allow more projects to get over the finish line and in a timelier fashion |

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| **Recognizing geothermal power for its full value** | Move away from the levelized cost of energy and toward a model that values geothermal power's value as a baseload, renewable energy source with a high capacity factor<br><br>Integrate baseload renewable power into federal energy procurement standards | Executive Order on Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability: Requires 50 percent 24/7 carbon-free electrical energy use on a net annual basis in federal facilities by 2030 | Increase compensation provided to geothermal developers for energy produced, increasing return on investment and improving overall project economics<br><br>Federal government drives geothermal procurement, development, and deployment, recognizing its value as 24/7 carbon-free energy |
| **Tax credits** | Raise current geothermal power and heat pump tax credits to parity with solar and extend them for at least five years<br><br>Provide tax credits through a direct pay mechanism rather than tax equity financing | Enact the Groundsource Exchange Tax Parity Act to peg the GHP commercial ITC to that afforded to solar (from 10 percent to 26 percent)<br><br>Extend the geothermal PTC beyond its 2021 expiration<br><br>Enact the Energy Sector Innovation Credit (ESIC) Act, to provide geothermal power and heat pumps with credits based on total market penetration | Raising and pegging geothermal credits to parity with solar would ensure they remain a fixture of the tax code at a rate that supports sector growth, and longer-term extension establishes investor, developer, and homeowner confidence<br><br>Direct pay allows a project developer or homeowner to take advantage of the full value of a credit, with no premiums to third-party lenders or need for tax equity<br><br>Enacting ESIC Act would help GHP use and the geothermal power sector, which have low levels of market penetration |
| **Research, development, and deployment** | Create advanced geothermal demonstration program, similar to that developed for nuclear energy | IIJA Implementation and FY 2023 Appropriations | Allocating additional money for advanced geothermal demonstration would enable deployable EGS to develop more quickly and facilitate improved drilling and resource identification technologies |