

The Texas Geothermal Development Fund

Investing in the Next Century of Energy Abundance and Deploying Texan Oil and Gas Talent To Unlock Geothermal at Scale



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TEXAS GEOTHERMAL ENERGY ALLIANCE

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Executive Summary

Texas has so much of what it needs to build a major geothermal industry. It has large subsurface resources and a mature drilling and oilfield-service ecosystem.[1,2] Major next-generation geothermal companies have their headquarters in the state.[3,4,5] And it has a growing need for firm, dispatchable electricity.[6] The state legislature has also spent the past several sessions clearing legal and regulatory barriers to geothermal development.[7,8] It does not, however, have commercial-scale geothermal projects—yet.

These projects produce baseload power, private investment, drilling activity, jobs, lease and royalty income, and grid stability and a local tax base for Texas. Geothermal also has a small surface footprint and low operating emissions, allowing properly designed projects to provide reliable electricity with limited disruption to surrounding communities. While Texas is home to many of the companies and people with the skills needed to build those projects, these Texas-based geothermal companies are advancing major projects outside of the state.[9,10]

If Texas wants to change this equation, it must create the conditions that would lead to projects being developed in the state. Texas has taken similar actions to scale advanced nuclear power. In 2025, the Texas Legislature created and funded a $350 million Advanced Nuclear Development Fund to help nuclear companies get through the "valley of death" by providing reimbursement-based grants for early development activities such as feasibility studies, site planning, engineering, environmental characterization, and permitting, as well as construction costs.[11,12,13]

This fund was created even though nuclear generation was already eligible for financing through the Texas Energy Fund, because financing power plant construction alone did not address the substantial up-front development costs and regulatory hurdles facing nuclear projects.[14,15] The structure of the Advanced Nuclear Development Fund could be repurposed to close the remaining development gaps and build a productive geothermal industry in Texas.

Next-generation geothermal faces similar up-front capital challenges as those facing advanced nuclear, although the hurdles are different. Developers must drill and test commercial-scale wells and demonstrate that a geothermal reservoir is commercially viable. This process de-risks the project and opens it up for private financing. The problem is that this

de-risking can require tens of millions of dollars before a developer knows whether it has a financeable project.[16] (Once a resource is proved, however, much larger pools of private capital are available.[17]) A geothermal development program could bridge that gap and catalyze the development of next-generation geothermal projects in Texas. Geothermal resources can be de-risked in roughly one to two years, far faster than nuclear plants can be developed, which can allow Texas to provide loans instead of grants and recycle repayments from successful projects into the next round of drilling.

Building on this distinction, Project InnerSpace—with input from the Texas Geothermal Energy Alliance—modeled how a geothermal program comparable in size to the nuclear fund could work and what it could deliver for Texas. The proposed program has five core features:

- **Focus on resource de-risking, not construction.** State funding would support drilling and testing to prove commercially viable geothermal resources, leaving power plant construction to private capital.
- **Recycle capital as private investment takes over.** Following successful de-risking, developers would repay the state at the first financing event, allowing the same capital to support multiple rounds of geothermal de-risking while private investment finances commercial development.
- **Ensure every project delivers value**. Even when testing shows a site cannot support commercial development, the developer would provide valuable subsurface data that can guide future projects in place of repayment, provided all program requirements are met.
- **Require developers to share risk while limiting state exposure.** Developers would contribute their own capital, the state's financial commitment would be capped at the initial appropriation, and the program would have a 15-year life.
- **Leave Texas electricity markets unchanged.** The program would impose no ratepayer charges, generation mandates, procurement requirements, or changes to Electric Reliability Council of Texas (ERCOT) market design.

The goal is to jump-start an industry that, by the time the program ends, has enough proven resources, development experience, and commercial success to continue growing private capital without further state support, bringing baseload energy, jobs, and rural economic development to the state.

These core features could be implemented in several ways. Project InnerSpace modeled three potential structures. Under the central modeled case, a $400 million Texas geothermal development fund could produce substantial benefits for the state:

- **Turn $400 million into approximately $2 billion in state de-risking capital** over 15 years by recycling repayments, with developers contributing another $499 million of their own capital.[18]
- **De-risk about 55 geothermal projects**, with more than 40 projects successfully proving commercial resources that would then attract private financing.
- **Catalyze more than 30 gigawatts of dispatchable, baseload electricity generation in Texas**.[19]
- **Leave approximately $450 million in the program after 15 years**, after paying for program administration and earning interest on the cash the program holds between rounds.[20]
- **Unlock up to $235 billion of private sector capital,** leveraging $588 of private sector investment for every dollar spent by the state.
- **Create an additional $106.5 billion of additional economic benefits**.
- **Lead to $14 billion in state and local tax revenues.**
- **Support 939,000 job years**[21] for Texas drilling rigs, operators, oilfield-service companies, engineers, and supplies, an average of an additional 62,600 Texans employed each year across the state because of this investment.

These figures are outcomes based on modeling; they are not forecasts. Project InnerSpace's complementary work on resource standards and financing networks—

USING OIL AND GAS KNOW-HOW AND SUPPLY CHAINS TO UNLOCK TEXAS' GEOTHERMAL POTENTIAL

What a $400 million initial state investment could support:

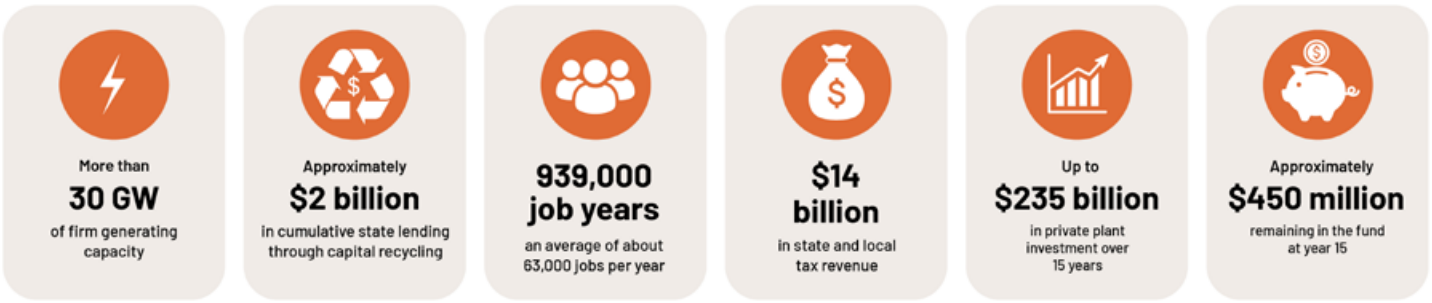


Figure ES.1: Potential economic and energy benefits of a $400 million Texas geothermal development fund over 15 years. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

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including the development of the Geothermal Resources Management System (GRMS) and the launch of the financial instruments and investment structures associated with the Abundance Energy Group—is designed to work together in a complementary, united framework to help ensure that successful de-risking leads to privately financed construction and operating geothermal plants in Texas. This paper illustrates the core opportunity: Rather than watching Texas-based geothermal companies build major projects elsewhere, with this program, Texas could bring that investment, electricity generation, and economic activity home.

NEXT-GENERATION GEOTHERMAL AND THE TEXAS OPPORTUNITY

A Short Geothermal Primer

To produce power, geothermal systems use heat from beneath Earth's surface to create electricity. Until fairly recently, the only economical geothermal power plants were ones that depended on naturally occurring hot water or steam close to the surface. Those systems—conventional systems—have been limited to a relatively small number of locations, mostly in the western United States.[22]

But next-generation geothermal expands the map. Engineered geothermal systems use directional drilling and hydraulic fracturing to create pathways through hot rock, allowing fluid to circulate and carry heat to the surface. Advanced geothermal systems, also known as closed-loop systems, circulate fluid through sealed wellbores without relying on natural underground permeability. Both approaches draw heavily on techniques developed in the oil and gas industry: deep drilling, horizontal drilling, completions, reservoir engineering, downhole tools, cementing, and subsurface monitoring. The International Energy Agency estimates that up to 80% of the investment required in a geothermal project involves capacity and skills common to the oil and gas industry.[23,24]

In Texas, of course, that capacity and those skills already exist.[25]

A Resource Large Enough To Matter

Project InnerSpace estimates that the Texas subsurface contains temperatures of at least 302°F within 16,400 feet of the surface and that the Lone Star State has roughly 140 gigawatts of technical geothermal electricity potential. These are prospective resources, not a forecast of what may be built, but it means the resource is large enough to be material to the Texas power system.[26]

TYPES OF GEOTHERMAL ENERGY SYSTEMS

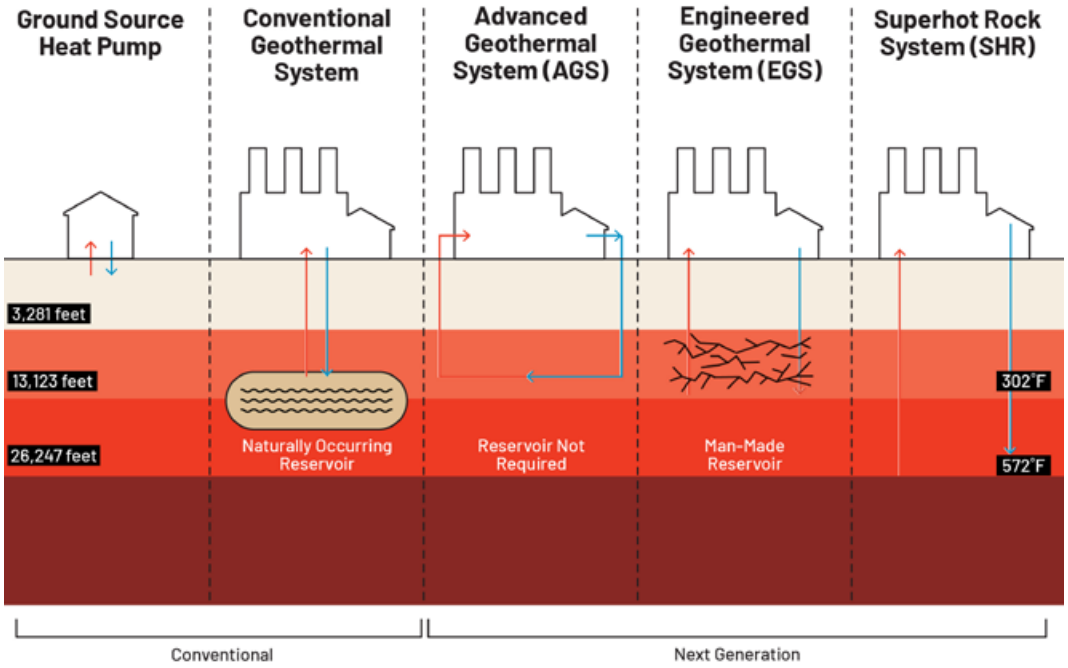


Figure 1: Types of geothermal energy systems. The ground source heat pump shows building heating; the arrows and fluid flow would reverse for building cooling. Source: Adapted from D'Avack, F., & Omar, M. (2024). *Infographic: Next-generation technologies set the scene for accelerated geothermal growth*. S&P Global.

TEXAS COUNTIES: SURFACE HEAT FLOW

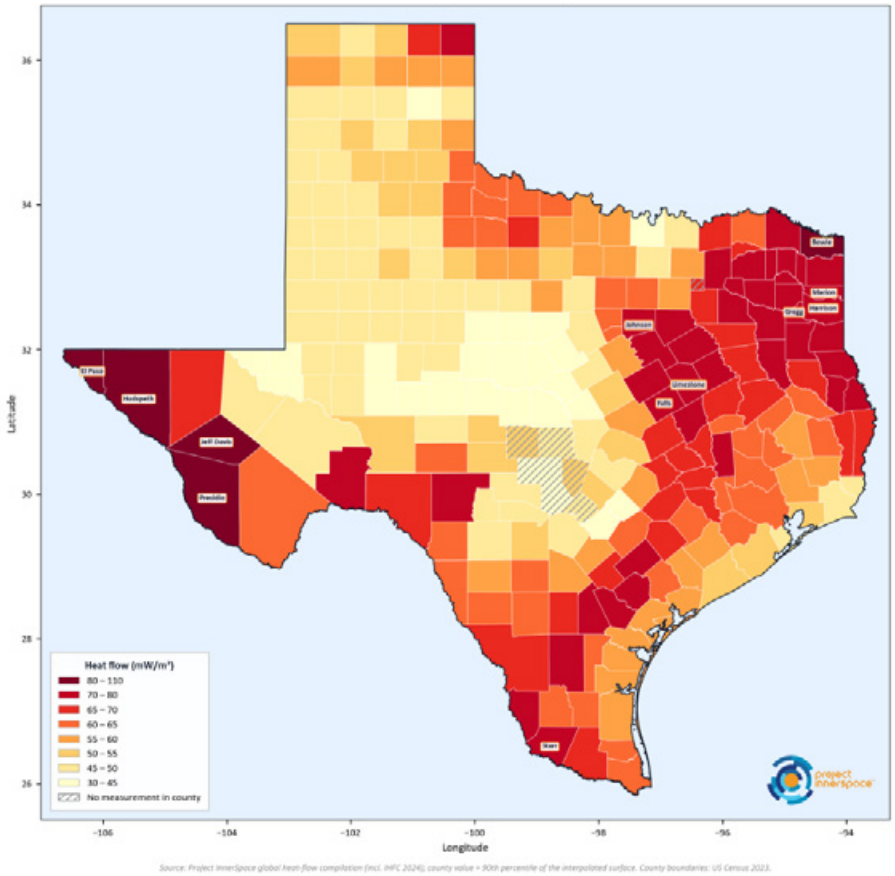


Figure 2: Surface heat flow, the amount of heat rising through the ground from the Earth's interior, is measured in milliwatts per square meter (mW/m^2). Hatched counties in the middle of the map have no measurement of their own, so their values are estimated based on InnerSpace's thermal model. Each county is colored by the hottest 10% of its area, so local hot zones are not averaged away. Heat values come from 4,440 measurements in the Project InnerSpace global heat-flow data set. Source: Project InnerSpace.



The resources with the best near-term potential are found across three broad parts of the state: South Texas and the Rio Grande corridor, the Gulf Coast and East Texas, and the El Paso region. As deeper development becomes more economical, the Permian Basin and the Panhandle will also become substantially more attractive for geothermal development.

Today, much of the immediate potential is in rural Texas, in places where drilling contractors, service companies, equipment suppliers, and experienced crews already operate.[27]

As for the Texas-based next-generation geothermal companies, Sage Geosystems (based in Houston) has developed a small next-generation geothermal test facility in Atascosa County.[28] Sage is also partnering with Ormat Technologies to develop a commercial-scale geothermal project at Ormat's Blue Mountain facility in Nevada.[29] Fervo Energy, also headquartered in Houston, is building utility-scale geothermal in Utah.[30] Mazama Energy, based in Frisco, has been drilling in Oregon.[31,32]

The Texas Legal Path

The Texas Legislature has spent the past several sessions addressing basic legal and regulatory questions that could hinder geothermal projects.

- Senate Bill 785, enacted in 2023, clarified ownership of geothermal energy and associated resources, in general assigning those rights to the landowner and, where the surface and mineral estates have been severed, to the surface owner unless an agreement provides otherwise.[33]
- Senate Bill 786 gave the Railroad Commission of Texas jurisdiction over closed-loop geothermal injection wells.[34]
- Senate Bill 1210 created a path for a person with geothermal rights to conduct operations at certain orphaned oil and gas wells for geothermal use.[35]
- Senate Bill 879, enacted in 2025, exempted operators of closed-loop geothermal wells authorized under a Railroad Commission permit by rule from drilling-permit fees and organization-report requirements.[36]

- Senate Bill 1762, also enacted in 2025, clarified the treatment of geothermal energy conservation wells under the state's orphaned-well fund and specified that these wells are not battery-energy-storage resources.[37]

- The Public Utility Commission of Texas clarified in a 2025 state Senate hearing that geothermal was considered dispatchable.[38]

In February 2025, the Railroad Commission issued its first permit for a deep geopressured geothermal well in Atascosa County to Sage Geosystems.[39] The permit points to how many legal and regulatory barriers the state has overcome.

The Timing Matters

Today, Texas electricity demand is reaching new highs. On July 22, 2026, the Electric Reliability Council of Texas (ERCOT) recorded an all-time record: a peak of 91,089 megawatts.[40] ERCOT projections suggest that peak demand could reach between 138 gigawatts and 154 gigawatts by 2030, an increase of roughly 50% to 70%.[41,42] Even if data center growth falls short of projections, population growth, industrial expansion, and electrification will continue to drive electricity demand higher. To meet this growing demand, Texas needs additional generation that can operate across seasons and when the need is highest.

Geothermal can provide additional power to Texans around the clock from the state's own resources and without ongoing fuel-price exposure.[43] That doesn't make it a substitute for other types of generation; it makes it another source of dispatchable capacity, diversifying Texas' electricity supply and helping make the grid more resilient to disruptions that affect other resources.

As mentioned, Texas has significant advantages: a large resource, a growing electricity need, a mature oil and gas ecosystem, companies developing the technology, and a legal framework that has moved substantially in the right



Figure 3: The Sage Geosystems SMECI test facility in Atascosa County leverages Texas oil and gas drilling expertise to generate geothermal electricity for the ERCOT grid, demonstrating the technology's potential in Texas. This milestone establishes a foundation for commercial-scale geothermal power generation and energy storage deployment in Texas and beyond. Source: Sage Geosystems.

direction. But its heat also sits deeper than in states like Utah and Oregon, which means the drilling costs of de-risking geothermal reservoirs can be high. A development program pays for that de-risking, providing a catalyst for Texas-based companies to undertake projects here, too.

THE REMAINING GAP: PROVING THE RESOURCE

A geothermal project has two very different stages that need financing: The first is to prove the resource is viable. The second is to build the project to tap into the resource.

To prove a resource, a developer has to characterize the site, drill and complete commercial-scale wells, perform any required stimulation, run temperature and flow tests, and build enough evidence to determine whether the reservoir can support commercial development. Those steps can require tens of millions of dollars before the developer knows whether they have an asset that can be financed.[44]

Once a site has been proven, a developer can approach project lenders, infrastructure investors, utilities, corporate buyers, or strategic partners for project financing.[45]

This process means developers face a catch-22: Conventional project finance typically does not fund initial wells, yet many geothermal companies cannot absorb the risk themselves. Additionally, oil and gas companies with capital may favor investments with more predictable returns. Developers need capital to prove the resource, but proving the resource is what unlocks capital. In Texas, the state can have a huge impact by sharing that initial risk and making geothermal

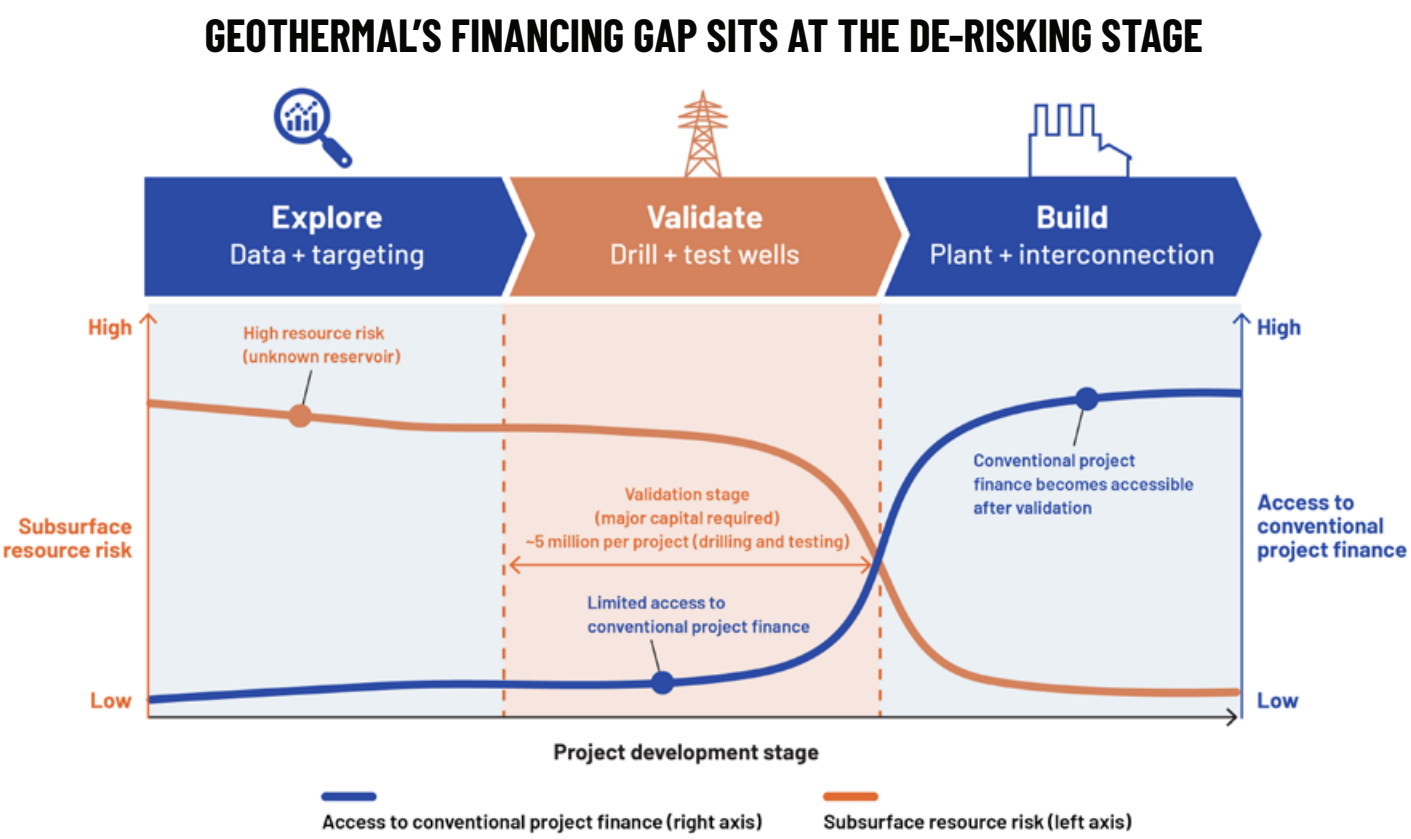


Figure 4: Geothermal development faces a critical financing gap during resource de-risking, when substantial capital is required to drill and test wells before commercial resource viability is established. Successful de-risking reduces subsurface uncertainty and enables developers to pursue conventional private project financing. Curves are illustrative, not quantitative. Source: Project InnerSpace.

investment more attractive to both groups. As **Figure 4** illustrates, conducting early characterization is relatively inexpensive but removes limited geological risk. A Texas geothermal development fund would target the critical de-risking stage, where high geological risk and substantial capital needs coincide.

Why Private Capital Rarely Supports Initial Wells

The initial exploration wells that a developer drills produce temperature logs, drilling-performance information, stimulation results, flow-test data, pressure response, and reservoir models. If the site succeeds, the project moves to project finance from the private sector. If it does not get private sector finance, all of this information still improves the understanding of the subsurface geology and can help future developers. Nearby projects, drilling and service companies, future developers, landowners, and the state all benefit from this data.

The developer, however, bears most of the cost of producing that information, which creates a basic first-mover problem: If a site does not proceed to private sector financing, the developer's financial return may be zero, even though the data produced could help other developers reduce costs.

The high costs and risks of geothermal exploration discourage developers from drilling the first wells,[46] yet those wells could help establish a much larger geothermal industry in Texas. A geothermal development program would address this gap by sharing the up-front risk, getting more wells drilled, and ensuring that Texas benefits from a project no matter what.

State-Specific Resource De-Risking

A key question concerns why Texas should pay to de-risk resources when companies are already drilling in Utah and Oregon[47,48] and project development is starting in Nevada.[49]

While some learning—faster drilling, better bit selection, improved casing programs, more reliable downhole tools, better completion practices—can be transferred to Texas development and lower the cost of geothermal development across the nation, the proof of reservoir performance elsewhere does not translate to Texas resources. Much of the state's near-term geothermal potential lies in deep sedimentary formations, unlike the hot crystalline rock targeted by Fervo in Utah or the fault-controlled geothermal reservoirs at Nevada's Blue Mountain. Temperature, flow, stimulation response, well spacing, and long-term deliverability depend on the geology at the site. These geological differences make Texas-specific resource de-risking essential to establishing commercial viability and attracting private investment. Texas has extensive subsurface data because of its oil and gas industry,[50,51] but it lacks enough commercial-scale geothermal de-risking.

A Narrow Role for State Funding

To build a geothermal industry, Texas doesn't need to build power plants or take ownership in a project; it needs to address the de-risking gap, taking into consideration that the benefits of the data that first-movers collect extend beyond the first developer.

The International Energy Agency identifies early project-development risk as a major barrier to geothermal deployment. It describes next-generation geothermal as too big for venture capital alone and too risky for established energy companies. This is the missing middle where governments traditionally step in. The agency's broader analysis also points to continued deployment and drilling improvements as key drivers of future cost reductions.[52,53]

That diagnosis leads directly to the idea to create a program that puts public funding to use early enough to prove the resource, thereby catalyzing private capital alongside it, with the ability to recover the state's money as viable sites move into commercial development and capture valuable technical information when the geology does not work.

A Texas Geothermal Development Fund

The best precedent for a Texas geothermal development fund is the state's own advanced nuclear policy.

Because advanced nuclear projects take many years to move through licensing, development, and construction,



developers face substantial up-front costs long before a plant can begin generating revenue.[54,55]

To help address this financing gap, in 2025, House Bill 14 established the Texas Advanced Nuclear Development Fund to provide reimbursement-based grants for nuclear project development, supply-chain activities, and construction costs.[56] House Bill 500 then transferred and appropriated $350 million to the fund to finance these grants and associated administrative costs.[57] The fund works alongside the Texas Energy Fund, which also provides financing and completion incentives for qualifying dispatchable generation.[58]

The fact that the Texas House passed a $350 million fund even though the Texas Energy Fund already existed illustrates an important point: Although the state already had a financing tool to support dispatchable power, the legislature recognized a technology can have substantial value for the grid and still face a financing barrier before it could be served by ordinary construction finance.

As a result, the legislature concluded that advanced nuclear power needed a separate development program. Next-generation geothermal struggles with a similar finance gap. Before there is a generating plant to finance, the resource itself has to be proved. One major difference, though, is that geothermal de-risking can occur much faster than nuclear plant development.

The state could therefore catalyze geothermal using loans—not grants—in which successful projects repay the program, allowing the same capital to be used multiple times.[59]

At $400 million, the proposed geothermal program would have only $50 million more than the nuclear fund. Unlike the grants from the nuclear fund, which were only used once, Project InnerSpace modeling shows that the initial $400 million could be repaid and re-loaned repeatedly, deploying approximately $2 billion in state de-risking capital over a 15-year period.[60,61]

What the Program Would Finance

The proposed Texas geothermal development fund is intentionally narrow. With $400 million, eligible funding would cover the work required to determine whether

a site has a commercially viable geothermal resource. That work includes resource characterization, reservoir analysis, exploratory drilling, temperature de-risking, and flow testing. The program would not pay for the additional wells once a site is proven, the power plant, transmission, or interconnection. Following successful de-risking, developers would repay the state at the first qualifying financing event, such as securing construction financing or selling an interest in the project. Repayment would come from the financing or sale proceeds available at closing; the state would not own the project or take an equity position.

Those boundaries will keep the state focused on the point in a project where private capital is least available—and will leave the larger construction program to private finance.

WORKING PROGRAM DESIGN

- **Initial capitalization:** $400 million
- **Developer cost share:** Mandatory, with approximately 20% used as the working design; minimum 15% for qualifying frontier areas by Railroad Commission rule.
- **Administrator:** Railroad Commission of Texas, which selects projects; oversees technical reviews; and manages agreements, disbursements, repayments, and collections, with financial underwriting and servicing expertise provided by staff or contractors.
- **Data repository:** Bureau of Economic Geology.
- **Repayment:** State capital plus interest tied to a market benchmark and an additional payment from successful projects to help offset losses from projects that do not proceed to financing. Terms are fixed at signing.
- **Repayment trigger:** First financing event, with payment from transaction proceeds at closing when available.
- **No private sector finance:** No repayment if required work is completed but the resource does not proceed to financing.
- **Data:** Required measured subsurface data becomes state property and is made public after an appropriate confidentiality period; proprietary technologies, designs, and reservoir models remain protected.
- **Program life:** 15 years, with wind-down authority for outstanding obligations.
- **Geographic allocation:** Anywhere in Texas; projects compete under program criteria.

Why $400 Million

This figure, $400 million, is large enough to create a portfolio of projects, not just one demonstration project. Under an 80/20 working structure (in which a developer must contribute 20%), a first-round de-risking campaign with a price tag of roughly $50 million per site requires about $40 million from the Texas geothermal development fund. A $400 million program can therefore support about nine initial sites after setting aside money for program administration in the first round of funding.[62] As successful projects repay the fund, the model can support four additional rounds of at least 10 projects over 15 years. That scale matters. Because some projects will



not move forward with private sector finance, having a larger portfolio gives Texas more opportunities to prove commercial resources, test different geological formations, and establish the track record needed to attract private capital.

The $400 million is a one-time capitalization, not an annual appropriation. Successful projects would repay the state at the first financing event, with repayment coming directly from financing proceeds at closing when available. The interest rate would be set by the Railroad Commission using a published market benchmark plus a risk margin, with an additional repayment premium capped at 50% of the state's disbursement. Both terms would be fixed when the agreement is signed, giving developers certainty about their obligations. Installment repayment would be permitted only when commercial operation is the first financing event. Project InnerSpace's model assumes projects that advance to private financing repay the amount borrowed, plus 4% interest and an additional 22% payment to help offset losses from projects that do not reach that stage. The legislation would leave the precise repayment terms to rulemaking.[63]

Why the Railroad Commission Administers the Program

The Railroad Commission would serve as the sole administrator, combining its expertise in regulating drilling with financial underwriting and servicing expertise obtained through staff or contracts. A technical review panel that has project-finance expertise would certify milestones before additional funding is released.

The Bureau of Economic Geology would serve as the repository for subsurface information generated.

This structure avoids creating a new state bureaucracy while separating technical decisions from the state's role as a creditor. It also keeps the program close to the institutions that already regulate wells and administer major energy-finance funds.

Developer Cost Share and Repayment

Developers should be required to put meaningful private capital at risk. The modeled design suggests the aforementioned 80/20 state–developer split.

This approach stretches state dollars across more sites while ensuring developers have their own capital at risk when they decide where to drill. The Railroad Commission could, by rule, allow developers to contribute as little as 15% in formations or areas where no geothermal resource has yet been de-risked for commercial generation. Developers would contribute their share alongside state funding, in the same proportion as each disbursement, and could demonstrate their ability to do so through funding commitments contingent on execution of the agreement.

The 1.22 multiplier mentioned in the previous section has a specific purpose in propping up the exploratory wells that do not move forward for private sector finance over the course of the campaign. Under the model, projects that advance to private financing repay $1.22 for every $1 borrowed, plus interest. The additional 22 cents helps offset losses from projects that do not advance to private investment, preserving capital for future rounds of geothermal development.

For the State: Money Back or Information

The program is designed to absorb the risk if a geothermal resource proves commercially unviable, even when a developer completes all the required drilling and testing. These sites would not face repayment. Instead, the well logs, temperature measurements, drilling performance, stimulation results, flow tests, and pressure response should be made publicly available after an appropriate confidentiality period. Developers would not be required to provide proprietary technologies, well-completion or stimulation designs, reservoir models, or other interpretations, and any such information voluntarily submitted would remain confidential.



Contractual default is different. Misuse of funds, material misrepresentation, failure to complete required work without an approved justification, failure to provide required data, or failure to repay after a successful project obtains commercial financing should remain recoverable.

A Bounded Commitment

The program will also have clear fiscal guardrails. With fixed appropriation, funding would be advanced before or as approved milestones are performed, with subsequent disbursements contingent on certification that the previous milestone was completed. Repayments, and the interest the program earns on its cash, remain in the program during its authorized life so they can be used again. In addition, the program would not impose ratepayer charges, generation mandates, procurement requirements, or changes to ERCOT market design. Its principal state exposure is the initial appropriation and the time value of that capital.

As mentioned, the program sunsets after 15 years, with sufficient authority to collect outstanding obligations and return remaining funds as the legislature directs.

WHAT $400 MILLION COULD UNLOCK IN TEXAS

The design of the Texas geothermal development fund is key, because the same $400 million produces very different results depending on cost share structure and how successful projects repay the program.

Project InnerSpace modeled three structures for the 15-year program period. All three structures use the same basic resource de-risking process and assume that some sites succeed and some do not move forward. The comparison isolates the effects of developer cost share and the repayment multiplier.[64]

MODELED OUTCOMES FROM THREE $400 MILLION PROGRAM STRUCTURES

Measure	80/20 Cost Share + 1.22×	100% State + 1.22×	100% State + 1.0×
Sites funded over 15 years	54	43	31
Sites proved	41	33	24
Sites that do not move forward	13	10	7
State capital deployed	$1.996 billion	$2.006 billion	$1.465 billion
Developer de-risking capital	~$499 million	$0	$0
State write-offs on sites that do not get private sector finance	~$479 million	~$464 million	~$329 million
Ending program balance	~$442 million	~$467 million	~$213 million
Modeled direct generation	21.6 GW to 31.7 GW	17.4 GW to 25.5 GW	12.7 GW to 18.5 GW

Table 1: Results are modeled outcomes, not forecasts. GW = gigawatts. Capacity ranges reflect nominal 500 megawatt and 750 megawatt project sizes per de-risked site. Totals run a few percentage points higher because the model builds whole power units. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

What Each Scenario Shows

The model in the third column of **Table 1**—100% state, 1.0-times multiplier—shows the value of recycling the funds by itself, as well as how sites that do not advance to private sector finance steadily reduce the fund when successful projects repay only principal plus interest.[65]

In the model in the second column (100% state and 1.22-times multiplier), adding the 1.22-times multiplier allows successful projects to help cover portfolio losses and preserve more capital for later rounds.[66]

In the model in the first column (80/20 cost share and 1.22-times multiplier), adding a 20% developer contribution stretches the same state dollars across more sites while putting private capital at risk alongside the state.[67]

These scenarios isolate the effect of the two design levers: The repayment multiplier helps absorb geological losses, while developer cost share lets the same public dollars test more sites. Used together, they produce the strongest modeled result:

a $400 million appropriation that deploys approximately $2 billion of state capital over the life of the program, catalyzes more than 30 gigawatts of dispatchable generation, and ends 15 years later with approximately $450 million in the fund.[68]

The Central Financial Proposition

The modeled approximately $450 million ending balance is nominal, not adjusted for inflation or the time value of money. Actual results would also depend on drilling costs, de-risking success, repayment timing, developer participation, and the amount of geothermal generation ultimately built at each successful site.

The broader economic return on Texas' investment would be the next-generation geothermal industry whose loans help establish new baseload electricity, private investment, jobs, and tax revenue, while the state retains roughly its original capitalization.

Wells That Unlock Much Larger Private Investment

Once a site has demonstrated temperature, flow, and reservoir performance suitable for commercial development, developers still have to finance production wells, turbines and power plants, surface facilities, and interconnection. In the upper modeled case, developing 31.7 gigawatts of capacity would require approximately $235 billion of downstream private investment over 15 years. At the lower modeled case, 21.6 gigawatts would require about $159 billion.The program's role is to establish enough resource certainty for that private capital to mobilize.[69] The timing also matters. Federal tax policy preserves investment tax credits of up to 50% for qualifying geothermal projects

HOW $400 MILLION OF STATE FUNDS TURNS INTO APPROXIMATELY $2 BILLION

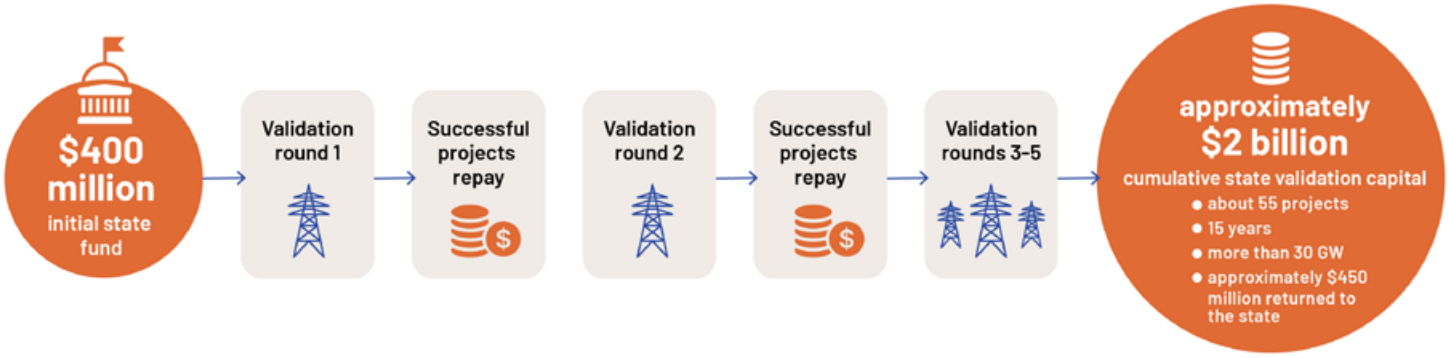


Figure 5: Under the central modeled case, an initial $400 million capitalization supports multiple rounds of geothermal de-risking, resulting in approximately $2 billion in cumulative state de-risking capital over 15 years. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

that begin construction through 2033.[70,71] By accelerating resource de-risking, the Texas fund could position more projects to secure private financing and take advantage of these incentives.

Connecting Texas Projects to Institutional Capital

This proposal builds on several years of Project InnerSpace research into the financial barriers preventing geothermal from scaling. The conclusion of this research is that geothermal needs common standards, reliable resource data, and financing structures that allow investors to enter projects at stages matching their risk appetite, with clear paths to repayment or exit. That research led to the Geothermal Resources Management System (GRMS), a framework for classifying and reporting geothermal resources and reserves in terms familiar to oil and gas lenders and investors that was developed with the Society of Petroleum Engineers International.[72]

The culmination of this research is Abundance Energy Group (AEG), a public benefit corporation launched to mobilize institutional capital and oil majors for geothermal development at scale. AEG and other private financing tools are designed to complement the Texas program, helping ensure that successfully de-risked resources can transition smoothly into private financing for production drilling and power plant construction. This financing pathway would help turn the program's results into operating projects, supporting the more than 30 gigawatts of dispatchable electricity and up to $235 billion in downstream private investment modeled in this paper. The same global capacity and financial models developed by InnerSpace and licensed to AEG underpin the Texas modeling.

As the nation's leading producer of oil and gas, Texas has demonstrated how abundant resources, technical expertise, and a business environment that supports development can build an energy industry at scale. By advancing a geothermal development program, Texas could extend that leadership to next-generation geothermal and provide a blueprint for Project InnerSpace to adapt with other states and countries facing growing electricity demand. Drawing on its global capacity and financial models, InnerSpace can help tailor the program design to local geology and costs, combining public capital for early de-risking with private financing for commercial development. Replicated globally, this approach could help geothermal deployment reach terawatt levels.

The Assumptions That Matter

The modeled capacity should be read as a range. Several assumptions drive the result and should remain visible wherever the modeling is presented.

First, the model assumes roughly three-quarters of funded sites will result in a commercial resource, with the success rate improving as the program matures and collects more data. Lower success rates would mean more write-offs and fewer times the money could be put back in the pool to de-risk other sites. Second, first-round de-risking costs are roughly $50 million per site and decline in later rounds as drilling improves. Third, the model assumes a period of 24 months is required to prove a site, in addition to time before capital from a successful project returns to the program. Slower repayment can reduce the number of times the program turns over. Finally, the range of 21.6 gigawatts to 31.7 gigawatts depends on downstream projects ultimately reaching a nominal 500 megawatts to 750 megawatts of installed capacity per successful site. The program de-risks the resource; it does not guarantee that plant size.[73]

The model uses a 20% developer share at every site; where the Railroad Commission allows 15%, each site needs more state money and the program de-risks fewer sites. It assumes no maturity extensions: Each successful project repays about nine months after de-risking. It also pays $20 million of administration from the program and credits the program with about $112 million of interest on the cash it holds between rounds. Finally, the generation estimates also assume that successfully de-risked sites obtain private financing and proceed to commercial development at the modeled scale.

Those assumptions are why the modeling is most useful as a comparison of policy designs. The exact generation outcomes will vary.



WHAT THE PROGRAM COULD MEAN FOR TEXAS

A New Market for Texas Drilling and Services

The economic benefits would begin with the first de-risking wells, putting Texas drilling rigs, crews, and service companies to work well before the first commercial power plant is built.

Geothermal wells require drilling rigs, drilling crews, directional drilling, casing and cementing, completions equipment, downhole tools, engineers, geologists, reservoir specialists, and a long list of suppliers. As mentioned, the International Energy Agency found that up to 80% of geothermal project investment involves capacity and skills common to the oil and gas industry. Texas, of course, is unusually well positioned to do the work.[74]

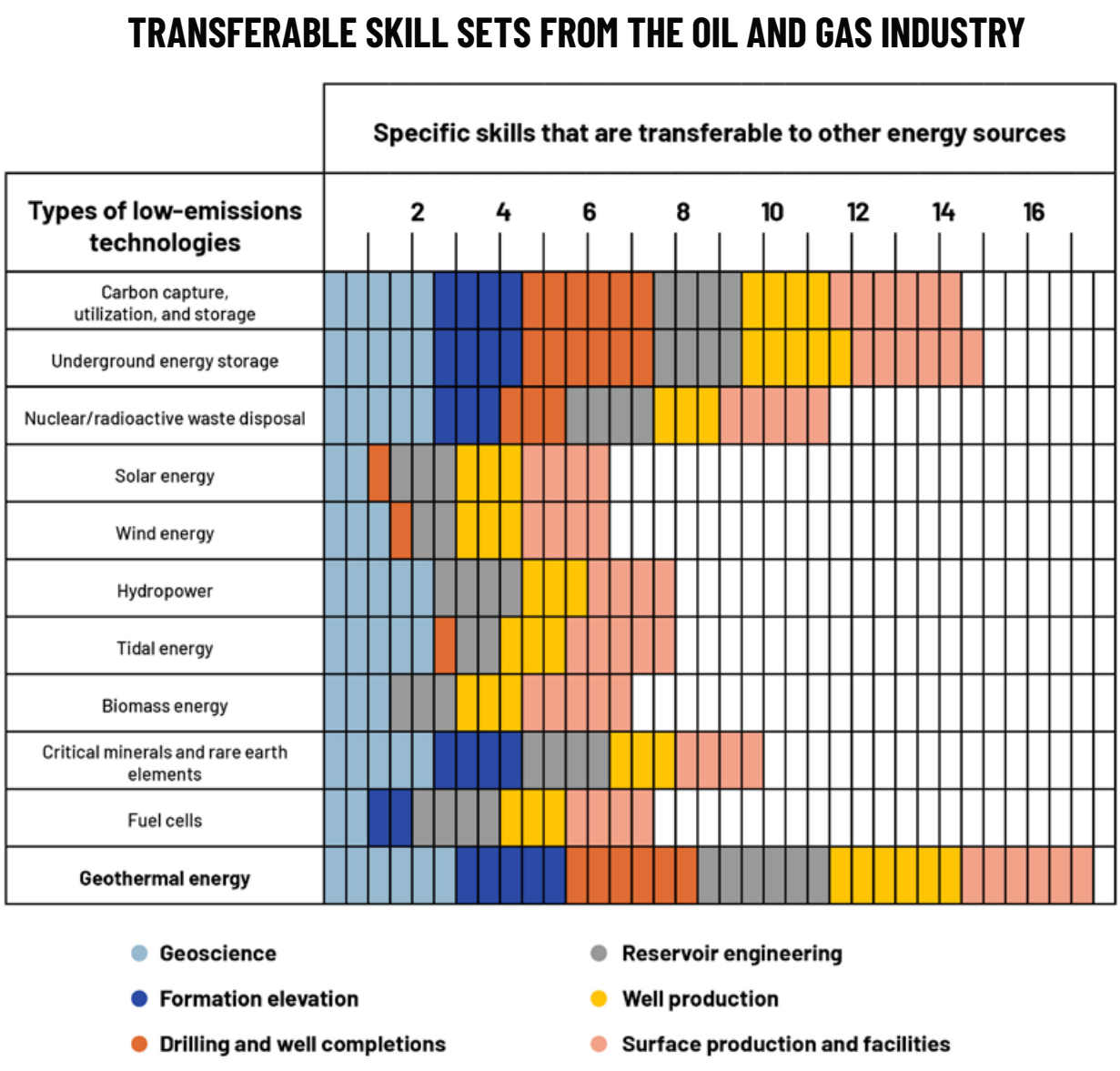


Figure 6: Geothermal industry development overlaps the most with oil and gas skills. Source: Tayyib, D., Ekeoma, P. I., Offor, C. P., Adetula, O., Okoroafor, J., Egbe, T. I., & Okoroafor, E. R. (2023). *Oil and gas skills for low-carbon energy technologies*. SPE Annual Technical Conference and Exhibition, San Antonio, Texas.

A rig that drills geothermal is still drilling. A directional driller, cementing crew, or reservoir engineer is applying known skills to a different resource.

Texas-based geothermal companies are already proving the viability of those capabilities in this burgeoning industry elsewhere in the nation. A development program would give these companies and other developers the capacity to direct their work toward Texas' resource-rich geology.

A Small Impact on Communities

Geothermal can produce substantial electricity while occupying relatively little land. Compared with other major power sources, geothermal facilities have a particularly small surface footprint (see **Figure 7**). Directional drilling and multiwell pads can further reduce land disturbance, the need for access roads, and impacts on surrounding properties.

Once operating, geothermal plants also have relatively limited environmental impacts on nearby communities. Next-generation systems typically produce very low levels of air emissions, while operating noise is substantially lower than what is produced by most other thermal energy sources. Reinjection of geothermal fluids and closed-loop technologies can also reduce water consumption and surface discharges, depending on the technology used.

The risks of geothermal are known. And there are fewer risks compared with most other energy sources and easy

COMPARING SURFACE FOOTPRINT

Geothermal has the smallest footprint of any renewable energy source

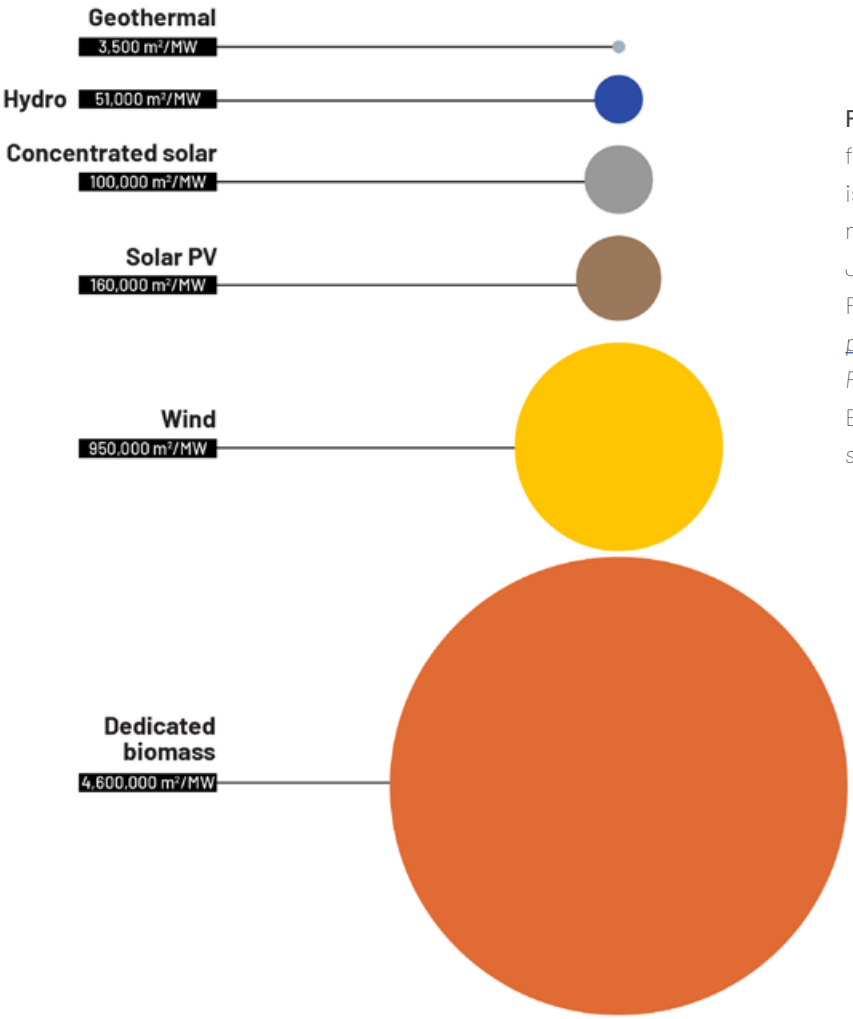


Figure 7: The project surface footprint, acre for acre for 1 gigawatt of generating capacity, is smallest for geothermal compared with other renewables. Source: Adapted from Lovering, J., Swain, M., Blomqvist, L., & Hernandez, R. R. (2022). *Land-use intensity of electricity production and tomorrow's energy landscape*. *PLOS ONE*, *17*(7), e0270155; National Renewable Energy Laboratory (NREL). (2022). *Land use by system technology*. U.S. Department of Energy.

to manage with appropriate guardrails. Proper siting, well construction, fluid management, and monitoring can mitigate the risks, helping communities benefit from new electricity generation and economic activity while limiting environmental disruption.

Economic Impact of Rural Investment

The geography of the resource also matters. Much of Texas' near-term geothermal potential lies in rural areas.[75] Commercial development could generate lease and royalty income for landowners and expand property and school-district tax bases in host communities.

The de-risking stage produces local activity before a power plant is built: site work, drilling, lodging, transportation, equipment, and service contracts. If a resource proves it can be commercially successful, those benefits expand during the production-drilling and construction phases and continue through long-term plant operations.

Over its first 15 years, the $400 million drilling fund could help attract up to $235 billion in private investment to drill an additional 120 to 180 wells at each successful site and build power plants. This combined investment would generate $344 billion in total economic activity for Texas and $106.5 billion in additional economic benefits.

This estimate is almost assuredly on the low side because we are not including secondary economic impacts such as transferring hot water to greenhouses for commercial purposes or to public buildings for heating. And while there might be some displacement or crowding effects as geothermal drilling competes with oil and gas for specialized drilling resources, in the long term, the two industries should be highly complementary: Increased geothermal demand will induce additional investment in rigs, equipment, workforce, and service capacity, substantially reducing the displacement effect. (See **Appendix B** for more detailed estimates of three impact scenarios and the methodology used to generate these estimates.)

Jobs

A Texas geothermal build-out would support substantial employment. The state program combined with plant construction and operations over the next 15 years would result in 939,000 job years (direct, indirect, and induced) across the state. Put another way, that's an average of an additional 62,600 Texans employed each year across the state because of this investment. In addition, employment can be estimated to be roughly 12.6 direct jobs per megawatt of installed geothermal capacity.

Taxes

The exact local fiscal impact will depend on project structure, tax treatment, and county conditions. The broader point is more direct: a resource physically located in rural Texas has to be drilled and developed where it sits. A large share of the associated investment therefore cannot be moved to another state once a Texas site advances to construction.

The investments created by this program would yield an estimated $14 billion in state and local tax revenue.

A Complement to the Texas Energy Fund

A geothermal development program would not replace the Texas Energy Fund, as the two programs address different stages. The Texas Energy Fund supports qualifying dispatchable generation at the construction stage; the geothermal program would target the *earlier* resource de-risking stage, before a generating plant can be underwritten.[76]

Texas made the same basic distinction when it created the Advanced Nuclear Development Fund alongside the Texas Energy Fund.[77,78]



GEOTHERMAL STATEWIDE ECONOMIC CONTRIBUTIONS, TEXAS, 2027–41

Year	Employment (thousands)	Labor Income ($, billions)	Value Added ($, billions)	Output ($, billions)
2027	0.8	0.1	0.1	0.2
2028	2.9	0.3	0.4	0.7
2029	99.8	12.4	16.3	27.9
2030	105.6	13.5	18.0	30.8
2031	17.7	2.3	3.6	6.5
2032	154.6	21.5	28.6	48.7
2033	41.3	6.0	8.7	15.0
2034	14.8	2.2	3.9	7.2
2035	152.0	23.2	31.3	53.4
2036	16.6	2.8	4.9	8.6
2037	39.2	6.4	9.7	17.2
2038	127.5	21.0	29.1	50.0
2039	15.1	2.9	5.5	9.6
2040	84.5	14.8	21.2	36.9
2041	66.9	12.1	18.0	31.2
Total	**–**	**141.5**	**199.3**	**343.9**

Table 2: Modeled annual economic contributions. Employment is expressed in thousands; financial figures are billions of dollars. The three financial totals match the sums of the annual figures. Source: JBK Economics Group calculation from IMPLAN modeling.

Why the Structure Matters for the State

The structure of the program is what distinguishes the proposal from a conventional grant program: Developers put their own capital at risk, successful projects repay, other projects return technical data, recovered capital is reused, and the program sunsets rather than becoming a permanent state enterprise.[79] The state allocates $400 million, but the program will have approximately $450 million when it ends. Texas accepts a defined risk in exchange for the chance to unlock a much larger private investment cycle while preserving its initial capital in nominal terms under the modeled assumptions.[80] Given that this will leverage $235 billion in private sector financing, every $1 dollar allocated to the program would bring $588 of private sector investment.[81]



CONCLUSION

Texas already has most of the ingredients for a major geothermal industry: the subsurface resources, the drilling and oilfield-service economy, the oil and gas and next-generation geothermal companies, the workforce, and a growing need for firm, dispatchable electricity. Ironically, Texas is already home to much of the next-generation geothermal industry, but those companies are building their major projects outside the state and taking the associated investment, drilling activity, jobs, and baseload generation with them.

A Texas geothermal development fund can change that equation. The same initial capital could:

- Be recycled into approximately $2 billion in state de-risking capital over 15 years.
- Catalyze more than 30 gigawatts of dispatchable electricity.
- Attract $499 million in developer de-risking capital and up to $235 billion in downstream private investment.
- Leave approximately $450 million in the program at the end of the program's 15-year period.
- Create an additional $106.5 billion of additional economic benefits.
- Lead to $14 billion in state and local tax revenues.
- Create 939,000 job years, an average of an additional 62,600 Texans employed each year across the state because of this investment.

The state has a ready-made opportunity to build one of the nation's most productive geothermal industries using Texas drilling know-how. Taking advantage of this opportunity would create dispatchable power, private investment, jobs, and an additional economy for the Lone Star State.

APPENDIX A: ECONOMIC IMPACT METHODOLOGY

We estimated the economic contributions to the state of Texas from investments in the geothermal fund and from the expected private investment in power plant construction by modeling capital and operating expenditures for the 15-year period from 2027 through 2041. We used the licensed input-output model, IMPLAN, to generate economic impact estimates.

IMPLAN is commonly used by economists and is an accepted model for economic impact analyses. The IMPLAN software, including its economic multipliers, social accounting matrices, and trade flows, allow for analysis of an economic "event" like the geothermal investment fund and subsequent power plant construction and operation. The software that we used in this study is specific to economic conditions in the State of Texas and used 2024 economic data (the most recent available).

Expenditure data was modeled in current dollars (i.e., each respective year of activity, 2027-2041) as Industry Output. Results are presented in nominal dollars and are thus not adjusted for inflation through the forecast horizon. Project InnerSpace provided data on expected capital and operating expenditures for 2027-2041 for the exploratory drilling phase and the development phase of the geothermal plant buildout and operating expenditures. Data were provided, by year, for 10 activities:

- Discovery: geophysics, leasing, discovery well
- Well drilling
- Fixed well cost
- Stimulation
- Turbine supply
- Production network
- Cooling
- Balance of plant
- Fund administration
- Plant operations and maintenance

We categorized the 10 activities by description in the North American Industry Classification System (NAICS) by code. We then used a crosswalk to translate the NAICS codes into the 528-sector IMPLAN model sectors. Nearly all activities (leasing, drilling, well stimulation, etc.) were modeled in Texas where the activity will occur. The exception is turbines—Texas has limited domestic production of turbines, and Project InnerSpace provided guidance for discounting supply from Texas turbine manufacturers. In our modeling, we applied a 90% discount to the turbine demand, and we conservatively estimated that only 10% of the turbines in the 15-year modeling period would be sourced from Texas manufacturers.

Geothermal drilling and well stimulation are not uniquely defined sectors within the NAICS hierarchy. These drilling and support activities largely resemble activities for oil and gas production, which served as an economic proxy for geothermal buildout in our model.

Our model used the most conservative drilling fund outcome provided by Project InnerSpace (80/20 Cost Share, plus 1.22X) in which the state's drilling fund, after 15 years of operation, actually rises from an original $400 million to $434 million as a result of repayments and cost sharing. In addition, the three scenarios we modeled from this outcome were cases P10, P50, and P90, where P10 is the most conservative case (90% probability that spending will exceed this amount), P50 is the median case, and P90 is the most aggressive case (only a 10% probability of spending exceeding this amount). Project InnerSpace also assumes that the power generation capacity for plants built by 2041 to be 31,700 megawatts (31.7 GW) for all three scenarios.

The research team assumes Project InnerSpace provided good-faith estimates of spending by year. The economic research team was not in a position to critique or question the reality of the investment.

Definitions

Economic Benefits: The dollars generated and distributed throughout the economy due to the existence of an establishment. The sources of impacts that contribute to economic benefits include capital expenditures, operating expenditures, off-site employee effects, and secondary effects.

Employment: Also referred to as headcount. This includes full-time, part-time, and seasonal employment.

Gross Domestic Product (GDP): A measure of economic activity, GDP is the total value added by resident producers of final goods and services.

Gross Output (Output): The total value of production is gross output. Unlike GDP, gross output includes intermediate goods and services.

Job Year: Represents one full-time job per year. For example, one person working for five years counts as five job years, as does five people working for one year. This measure captures employment over time, rather than the number of individual workers, as that is what the model supports.

Labor Income: This includes employee compensation (wages, salaries, and benefits) and proprietor income.
Value Added: The contribution of an industry or region to total GDP, value added equals gross output, net of intermediate input costs.

Direct Impact: Initial economic activity (e.g., sales, expenditures, employment, production, etc.) by a company or industry.

Indirect Impact: The upstream (backward) economic activity impacted by purchases of goods and services from other companies.

Induced Impact: Economic activity derived from workers spending their earnings on goods and services in the economy.

CAPITAL EXPENDITURES AND OPERATIONS

Project InnerSpace provided data on capital outlays and operating expenditures (well drilling and plant buildout) for fiscal years 2027 through 2041 totaling $270 billion (average $18 billion per year) for the median scenario (P50). The alternative scenarios included a P90 upper range of $293 billion (average $19.5 billion per year) and a P10 lower range of $248 billion (average $16.6 billion per year). **Table A.1** shows each scenario's expenditure estimates; **Figure A.1** breaks out expenditures by year, by scenario. Most of the expenditures (88%) are related to capital outlays over the first 15 years. After 2041 (beyond the scope of this study), nearly 100% of expenditures transition to plant operations and maintenance.

GEOTHERMAL EXPENDITURES, 2027-2041 ($ BILLIONS)

Expenditures	P50	P10	P90
Capital	$238	$219	$258
Operating	$32	$29	$34
Total Budget	**$270**	**$248**	**$293**

Table A.1: Source: JBK Economics Group calculation from data provided by Project InnerSpace.

EXPENDITURES BY YEAR, BY SCENARIO

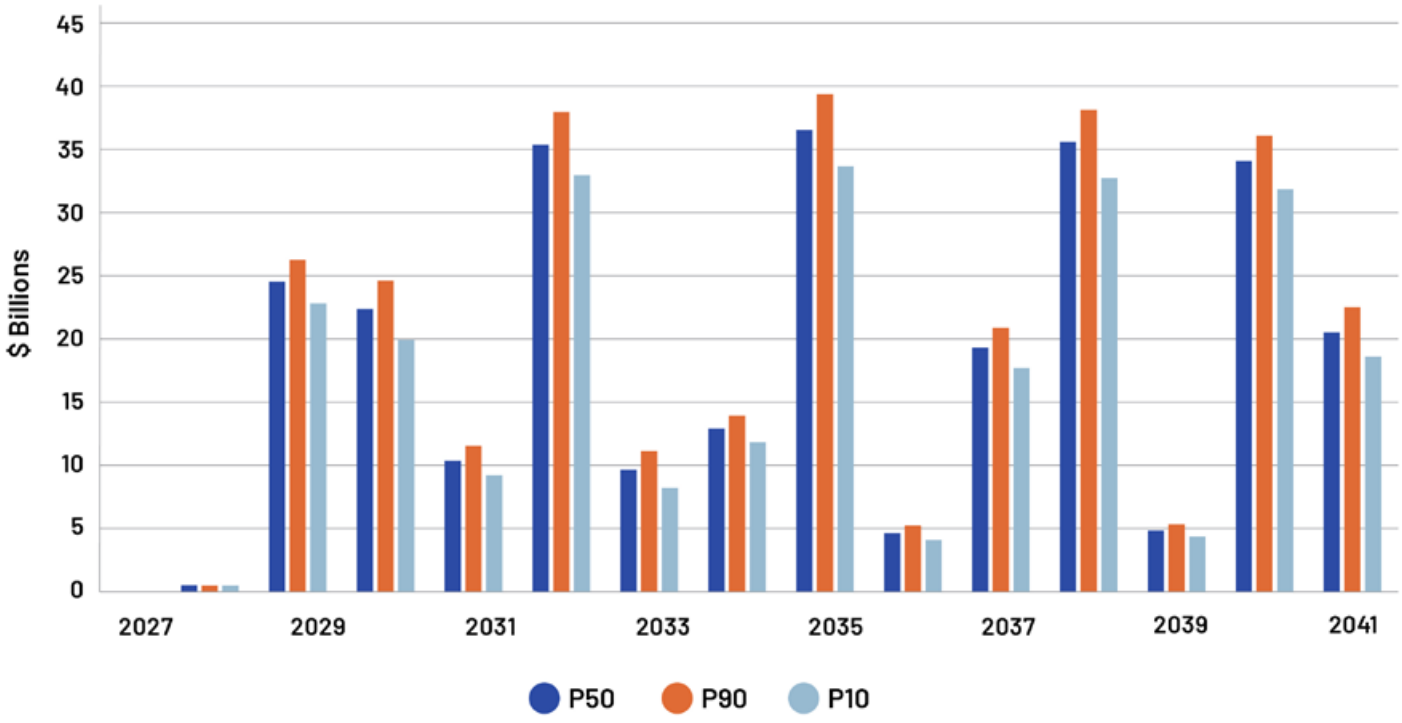


Figure A.1: Source: JBK Economics Group calculation from data provided by Project InnerSpace.

ECONOMIC IMPACTS

The $270 billion in direct capital and operating spending in the median scenario (P50) will have an estimated economic impact of $344 billion on the Texas economy from 2027-2041, as shown in **Table A.2**, including Direct, Indirect, and Induced impacts. It is important to note that most activities will inherently be delivered by workers and companies in the state (e.g., drilling, stimulating, operating, etc.), with the exception of non-local spending on power plant turbines, which will be largely be manufactured out of state, thereby diluting the multiplier effect.

Nearly 60% of the economic impact ($199 billion) is estimated to contribute to overall state GDP (value added, or total output minus intermediate inputs). The initiative may have a sizable impact on employment. Direct jobs combined with supported jobs (supply chain purchases, household spending) totals 939,000 job years, or a simple average of 63,000 jobs per year, with peaks and valleys depending on when capital is deployed. (Because employment is modeled in "job years" rather than "new jobs per year," employment figures for a particular year include everyone employed directly or indirectly because of the investment made that year and

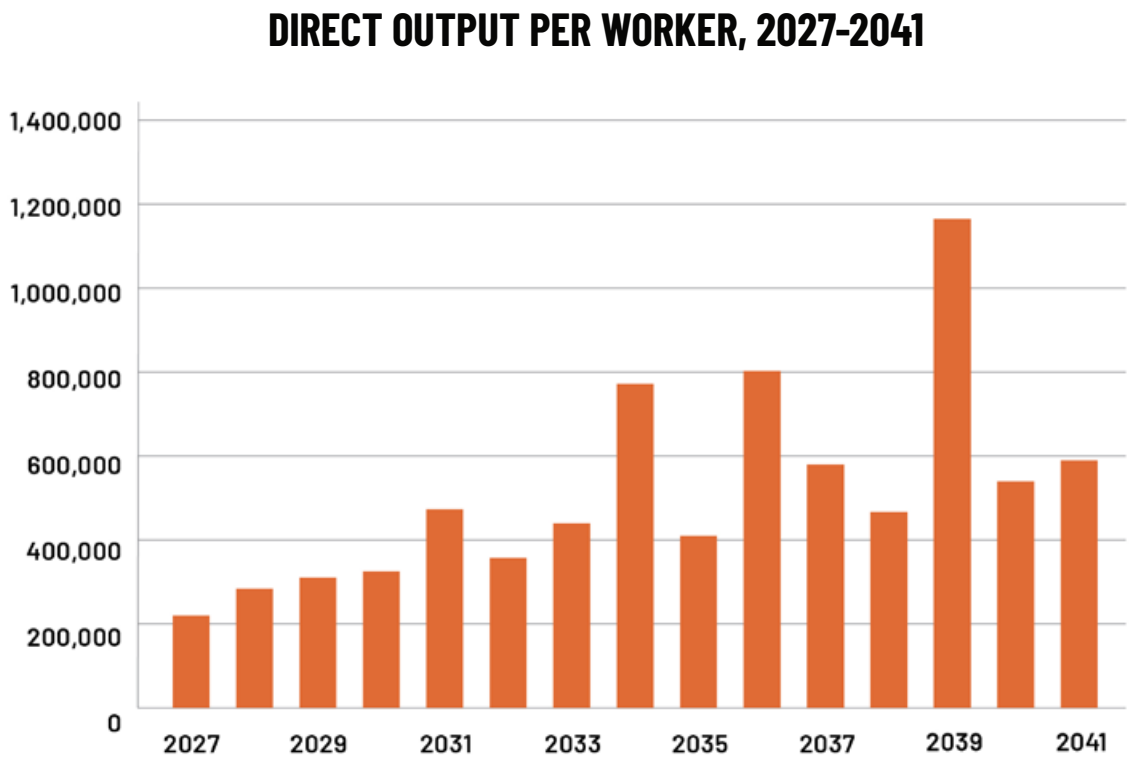


Figure A.2: Source: JBK Economics Group calculation from IMPLAN modeling.

all previous years.) Based on the magnitude of spending, direct employment is expected to be higher by a simple average of 26,800 per year, with intensive well drilling and stimulation years registering the highest levels of employment. The employment is commensurate with output—the level of direct output per worker averages $516,000 (see **Figure A.2** for direct output per worker per year). Direct, indirect, and induced labor income totals $142 billion over the 15-year period.

In addition, we conservatively estimate that the direct job years (400,000) (not including indirect or induced job years) per megawatt of power that are expected to be generated in the first 15 years will be 12.6 direct jobs per MW of installed capacity (31,700 MW). This includes direct jobs across the initiative's value chain, from exploration and drilling to plant buildout and operations in the first 15 years. The 12.6 direct jobs per MW compares favorably with an oft-cited 2022 study of the geothermal industry in Germany, which estimated the direct jobs per MW of installed geothermal capacity to be 5-10 jobs.[82]

FISCAL IMPACTS

The businesses, supply chain, employees, and employee purchases are subject to various federal, state, and local taxes. For instance, employee income is subject to federal taxes, and consumption is subject to state and local sales and use taxes. **Table A.2** summarizes the fiscal impacts of the initiative. Of particular note is the estimated $14 billion that will accrue to state and local governments over the 15-year period, from direct, indirect, and induced economic activity.

TOTAL FEDERAL, STATE, AND LOCAL TAXES

Total Impact	Labor Income ($, billions)	State and Local ($, billions)	Total ($, billions)
Direct	$17	$6	23
Indirect	$5	$3	8
Induced	$7	$5	12
Total	**$29**	**$14**	**$43**

Table A.2: Source: JBK Economics Group calculation from IMPLAN modeling.

EMPLOYMENT IMPACTS (DIRECT, INDIRECT, AND INDUCED)

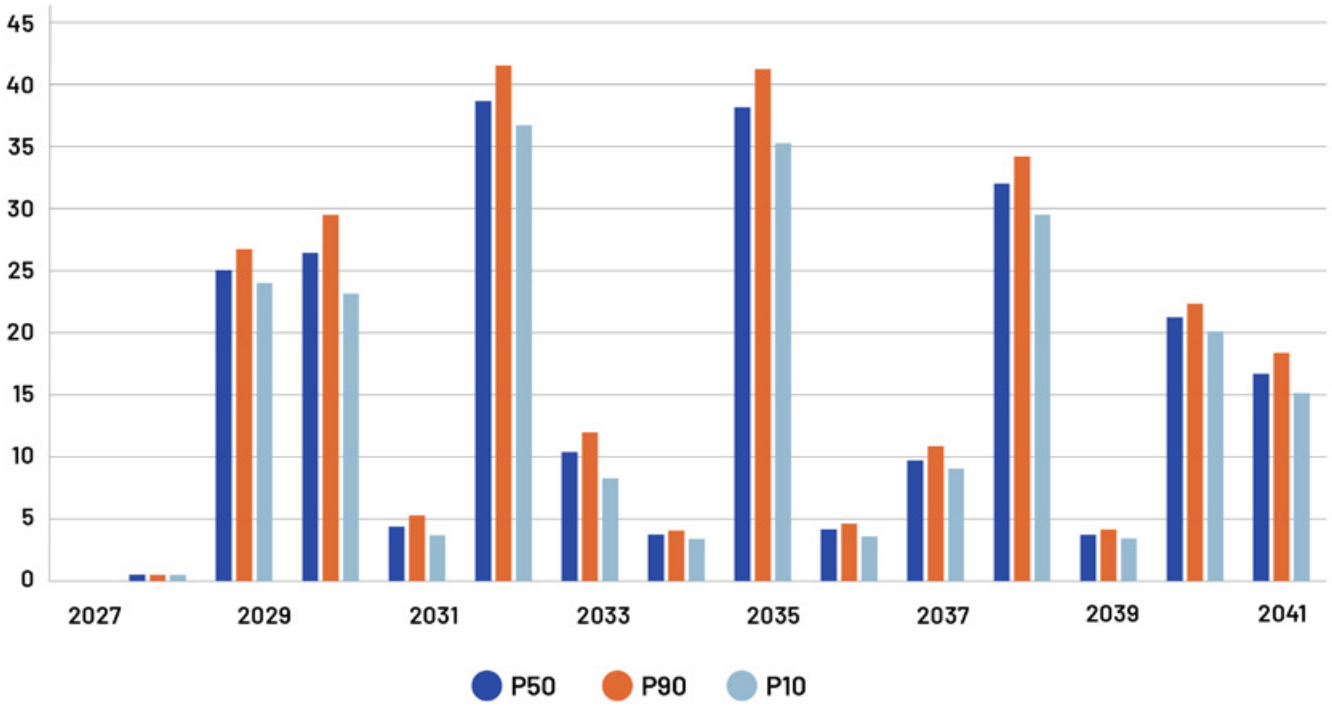


Figure A.3: Source: JBK Economics Group calculation from IMPLAN modeling.

LABOR INCOME (DIRECT, INDIRECT, AND INDUCED)

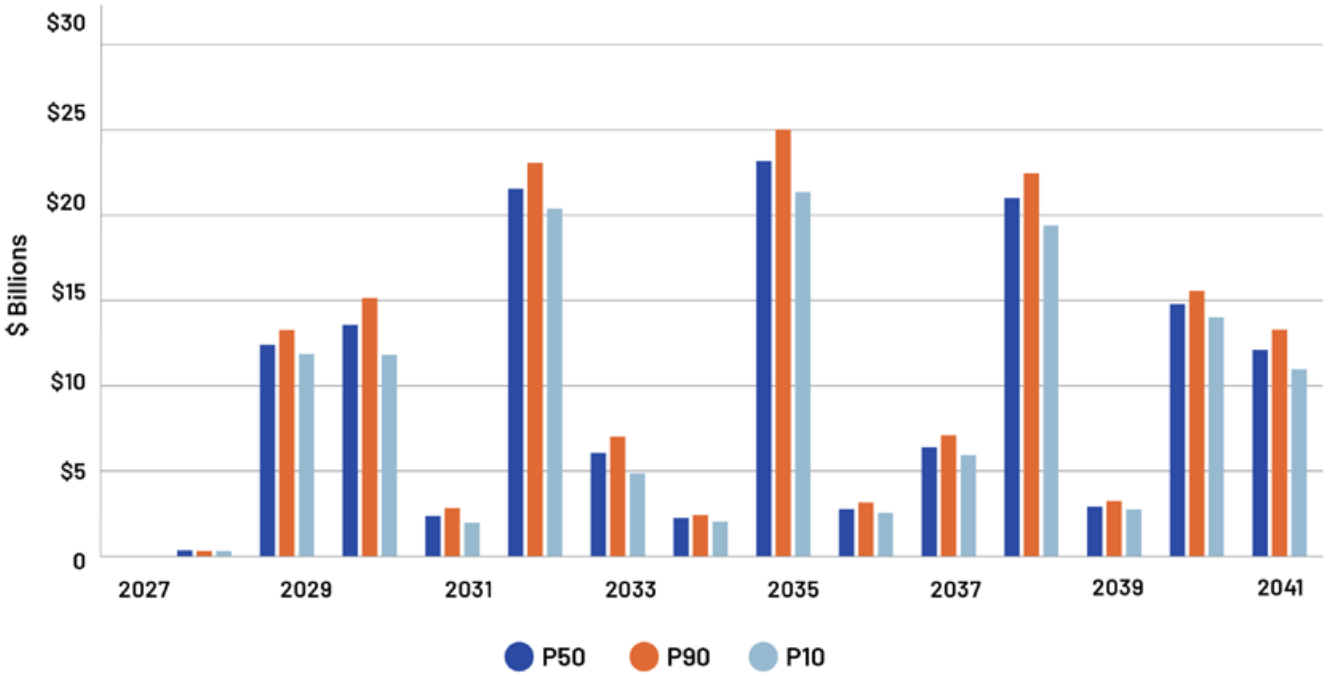


Figure A.4: Source: JBK Economics Group calculation from IMPLAN modeling.

VALUE ADDED (DIRECT, INDIRECT, AND INDUCED)

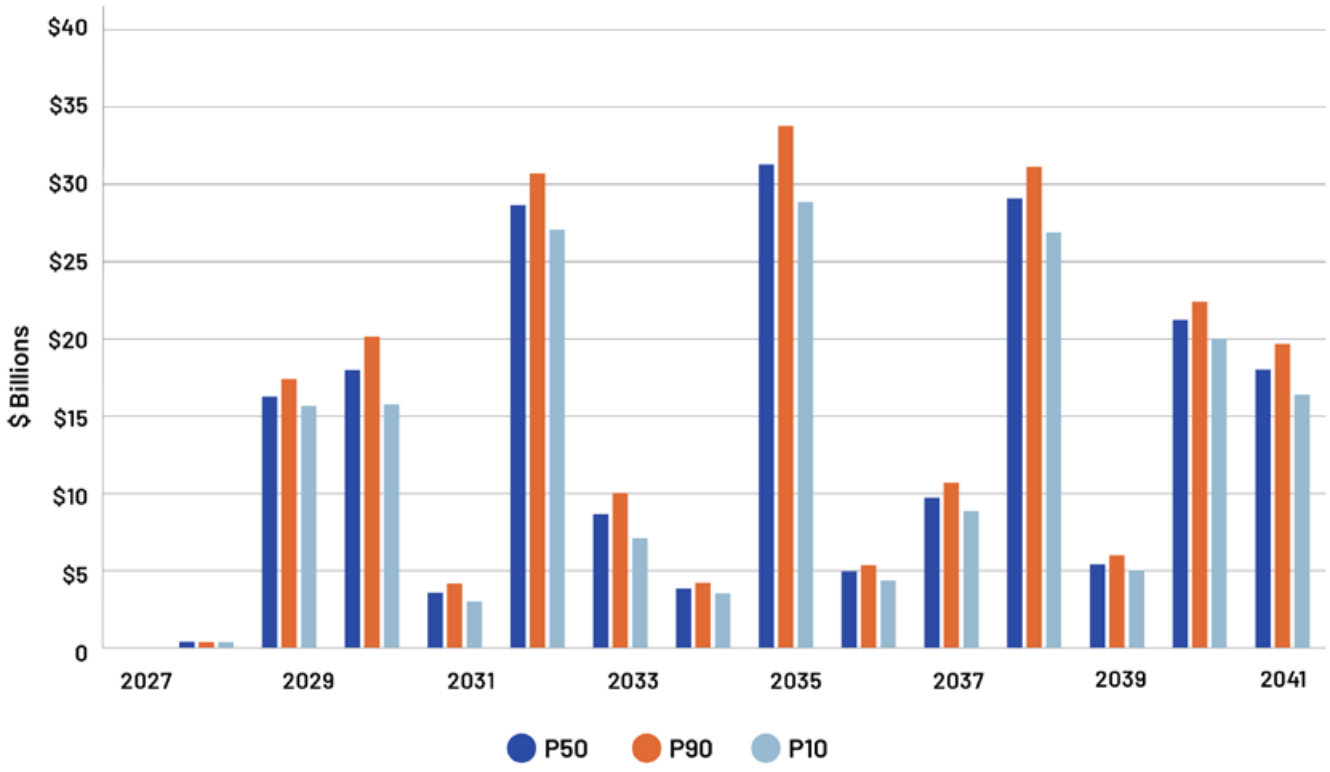


Figure A.5: JBK Economics Group calculation from IMPLAN modeling.

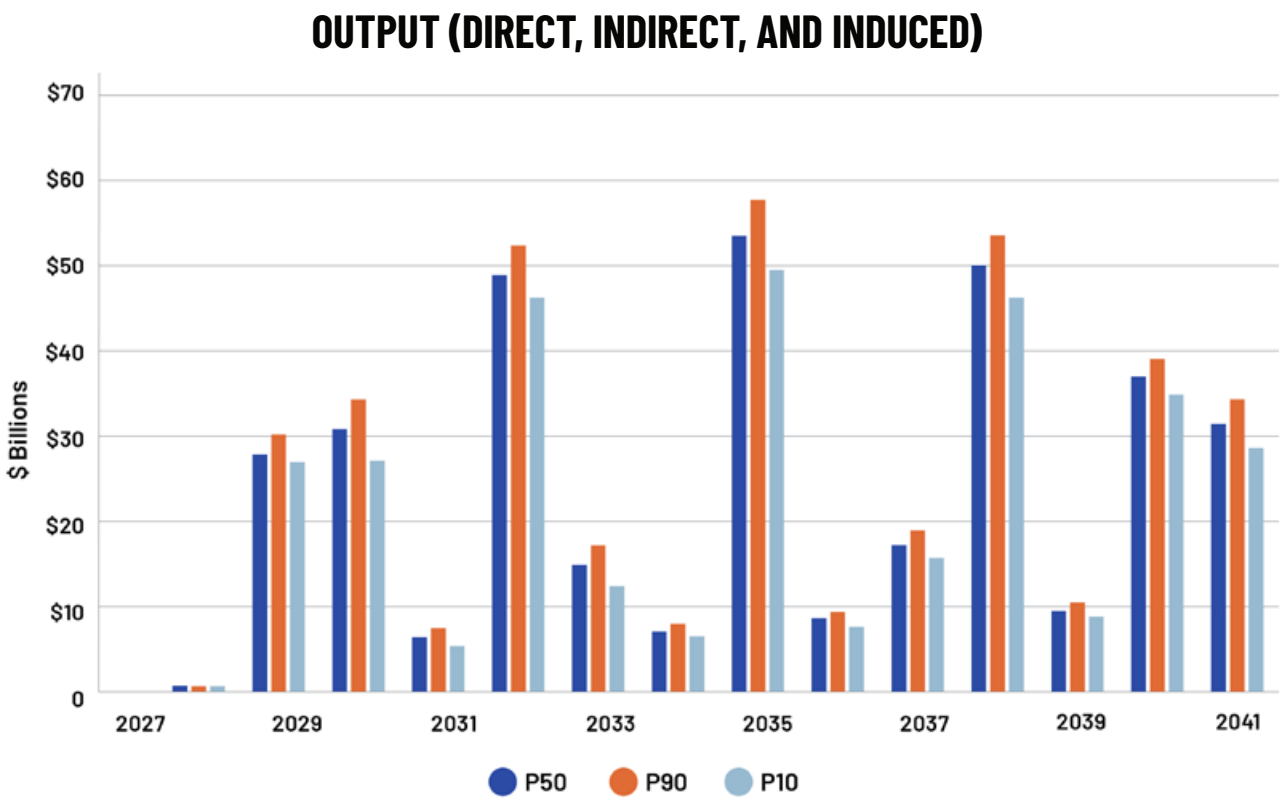


Figure A.6: Source: JBK Economics Group calculation from IMPLAN modeling.

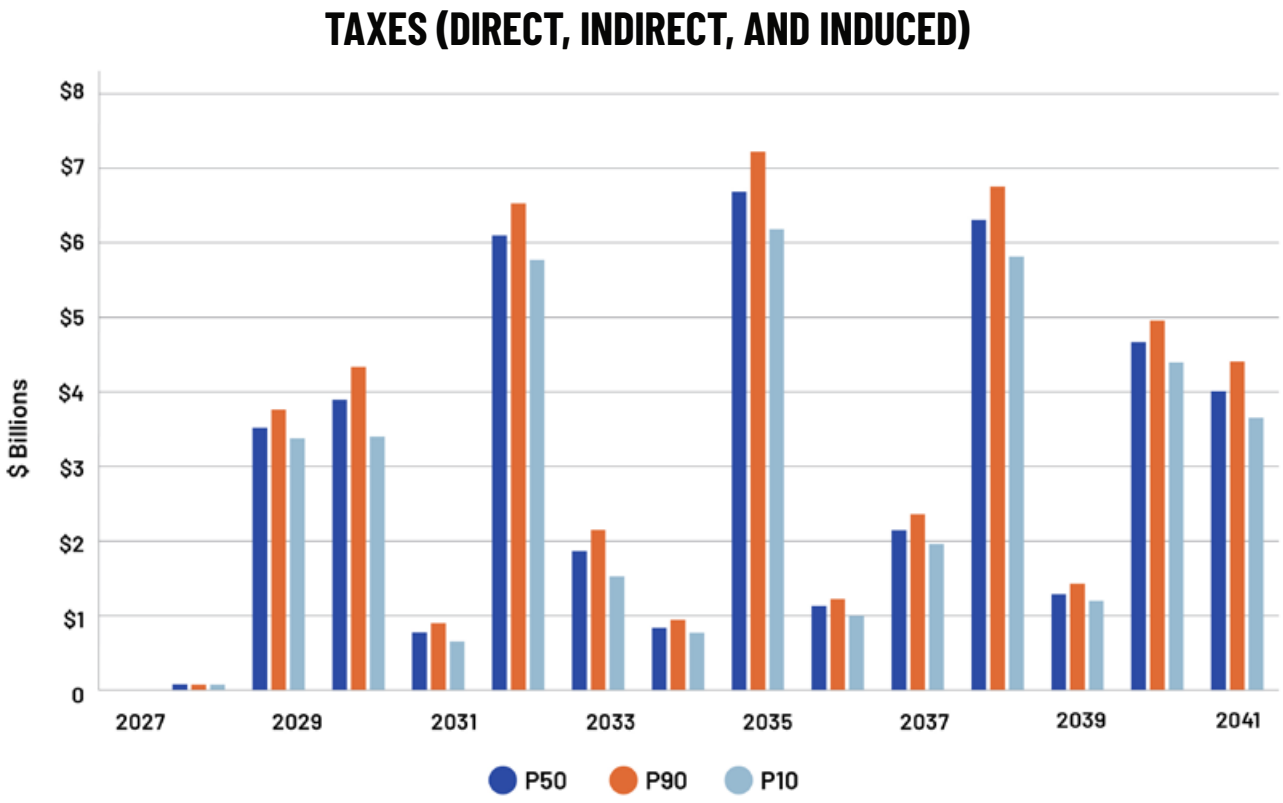


Figure A.7: JBK Economics Group calculation from IMPLAN modeling.

APPENDIX B: METHODOLOGY ON THE PROGRAM MODEL

Project InnerSpace estimated the program results with an in-house simulation model of geothermal development. The model is a discrete-event simulation. It moves through the 15-year program one month at a time and tracks each site as a separate project. Each site passes through the stages of a real project: surveys, de-risking drilling, production drilling, plant construction, and operation. The fund size and loan terms are inputs, so the model can test any appropriation. This paper uses $400 million as the appropriation for the model.

Each month, the model applies the program's rules and the industry's limits. The program starts a site only when it has cash for the state share. Sites compete for a limited supply of drilling rigs and turbine units. Drilling and turbine costs fall as the industry completes more sites. The model records each loan, repayment, and write-off, as well as the interest on the program's cash, in the month when it occurs. These records show when money returns to the program and when the next round can start.

Many inputs are uncertain, so the model runs the 15-year program 2,000 times. Each run draws drilling costs, drilling speeds, well output, turbine supply, and other uncertain inputs from set ranges. Unless the text says otherwise, each figure in this paper is the median (P50) of the 2,000 runs. The "Scenarios" section in this appendix explains the P10 and P90 cases.

MAIN MODEL INPUTS

Input	Value in the model
Fund size	$400 million at the start, with no later appropriations
Program length	15 years
Cost share	80% state and 20% developer at every site
Rounds	Five. Each round opens when the previous round's repayments fall due, every 33 months.
De-risking work per site	12 months of surveys and site characterization, then 12 months to drill and flow-test one pair of wells (an injector and a producer)
De-risking cost per site	$50.0 million in Round 1, falling to $43.6 million in Round 5
Repayment by a proved site	1.22 times the amount lent, plus 4% annual interest, in one payment nine months after de-risking
Project that does not proceed to finance	No repayment. The state writes off the loan and receives the well data.
Program administration	$20 million over 15 years, paid from the fund
Interest on the program's cash	3.65% per year (the July 2026 average TexPool rate), kept in the fund
Plant size per proved site	750 megawatts of baseload output, or 500 megawatts in the lower case, built in 50 megawatt turbine units. At a 90% capacity factor, a 750 megawatt site gets 17 units.

Table B.1: Main model inputs and values. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

How the Model Runs the Program

The model uses the working program design in this paper. **Table B.1** lists its main inputs. Each round of sites goes through these steps:

1. The program lends 80% of each site's de-risking cost, and the developer pays the other 20%. A site starts only after the program has cash for the full state share of its cost.

2. De-risking takes 24 months: 12 months of surveys and site characterization, then 12 months to drill and flow-test one pair of wells.

3. If a site does not move forward to private sector finance, the state writes off the loan and receives the well data.

4. If a site proves a commercial resource, the developer repays 1.22 times the amount lent, plus 4% annual interest, nine months after de-risking.

5. These repayments are due when the next round opens, so they pay for that round. The program also earns 3.65% interest each year on its cash and lends that interest.

6. The developer of each proved site drills the production wells and builds the power plant with private capital.

The Five Rounds

Each round opens 33 months after the previous one. That interval is the 24 months of de-risking plus the nine months before the round's repayments fall due. The original $400 million pays for Round 1 and $36 million of Round 2. Repayments and interest pay for every site after that. Rounds grow from nine to 12 sites for two reasons: De-risking costs fall as drillers gain experience, and the repayment premium and interest add to the fund.

Generation online first passes 1 gigawatt about 40 months after the program opens. The last plants from Round 5 come online in the 15th year of the program. **Figure B.1** shows each round's spending and the generation online over time.

THE FIVE DE-RISKING ROUNDS, 750 MEGAWATTS PER PROVED SITE (P50 OF 2,000 RUNS)

Round	Opens (month #)	Sites Funded	Sites Proved	De-Risking Cost per Site ($, millions)	State Loans ($, millions)	Developer Share ($, millions)	Plants Complete (month #)
1	0	9	7	50.0	360.0	90.0	45
2	33	10	8	47.8	382.5	95.6	76
3	66	11	8	46.2	406.5	101.6	108
4	99	12	9	44.6	428.2	107.1	141
5	132	12	9	43.6	418.5	104.6	174
Total		**54**	**41**		**1,995.7**	**498.9**	

Table B.2: De-risking cost per site is the full cost of one site, and the state lends 80% of it. The fund figures are the same at 500 megawatts per site. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

DE-RISKING SPENDING BY ROUND AND GENERATION ONLINE

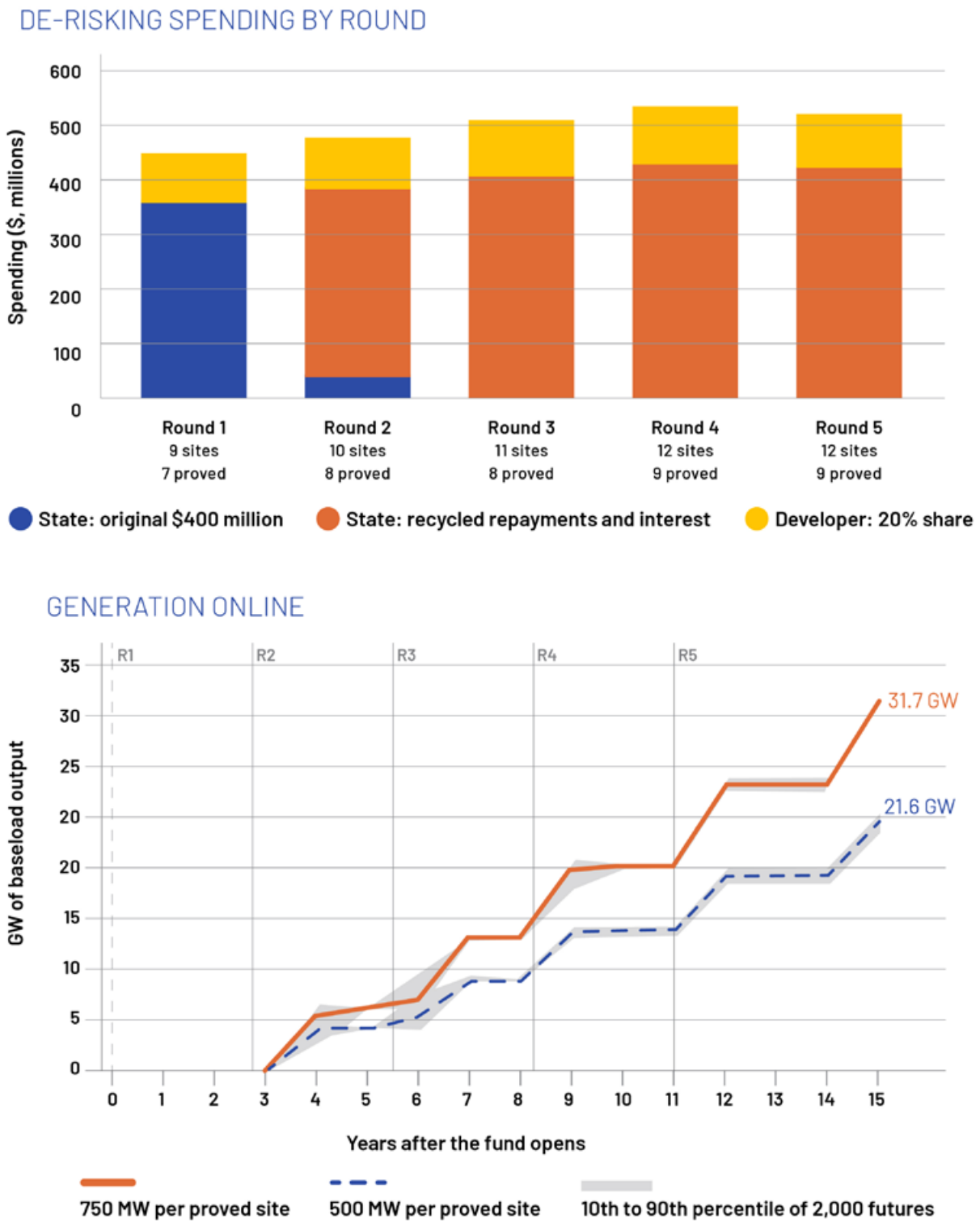


Figure B.1: *Top:* Each bar spans the 24 months of a round's de-risking work. The gap before the next bar is the nine months before that round's repayments fall due. *Bottom:* Generation online at 750 megawatts and 500 megawatts per proved site, median of 2,000 runs, with the 10th to 90th percentile band. GW = gigawatts. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

How the Program Ends With $442 Million

Over 15 years, the program lends $1.996 billion, about five times its starting capital. Money lent to a proven site comes back with the premium and interest, and the program lends it again in the next round. Proved sites repay $429 million more than they borrowed. That sum covers most of the $479 million that the program writes off. Interest on the program's cash ($112 million) covers the rest of that loss and the $20 million for administration costs. The program ends with $442 million—$42 million more than the state put in.

HOW THE PROGRAM ENDS WITH $442 MILLION (P50 OF 2,000 RUNS)

Item	Amount ($, millions)
State appropriation at the start	400
Repaid by the 41 proved sites above the amount they borrowed (22% premium and 4% interest)	+429
Written off on the 13 sites that do not get private sector finance	–479
Interest on the program's cash at 3.65% per year	+112
Program administration	–20
Ending fund balance after 15 years	**442**

Table B.3: Each line is the median of its own measure, so the lines add to the ending balance within $1 million. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished modeling].

Scenarios

The central proposal made in this paper is the 80/20 cost share with the 1.22-times repayment multiplier. In this case, the fund grows from the original $400 million to $442 million after 15 years. The repayment premium, the loan interest, and the interest on the program's cash more than cover the write-offs and the administration.

Project InnerSpace modeled three probability-of-exceedance cases from this central case: P10, P50, and P90. P10 is the high case, which only 10% of runs exceed. P50 is the median case. P90 is the low case, which 90% of runs meet or exceed. Each measure takes its P10, P50, and P90 from its own results, so the P10 case pairs the high generation with the high plant investment.

All three cases assume 750 megawatts per proved site, the upper end of the range given in **Table B.1**. The headline figures of this paper—more than 30 gigawatts and $235 billion—are the P50 case. **Table B.4** gives the three cases, along with the 500 megawatt values for comparison. The jobs and tax estimates provided in **Appendix A** use these three cases.

The ranges are narrow because the model holds the program terms and the path of the success rate fixed. In almost every run, 41 of the 54 sites prove a resource, and the count ranges only from 39 to 42. The spread comes from costs, drilling speed, well output, and the capacity factor. A success rate below the path of 75% to 80% gives more write-offs, fewer sites, and less generation. These runs do not test a lower success rate.

THE THREE SCENARIOS: 80/20 COST SHARE PLUS 1.22-TIMES MULTIPLIER (2,000 RUNS)

Measure	P10 (High Case)	P50 (Median Case)	P90 (Low Case)
750 megawatts per proved site (the three scenarios)			
Sites funded	54	54	54
Sites proved	41	41	41
State lending	$2.009 billion	$1.996 billion	$1.982 billion
Ending fund balance	$443 million	$442 million	$441 million
Generation (baseload output)	32.4 gigawatts	31.7 gigawatts	30.9 gigawatts
Plant investment	$256 billion	$235 billion	$217 billion
Production wells	7,896	7,294	6,752
500 megawatts per proved site (for comparison)			
Generation (baseload output)	22.2 gigawatts	21.6 gigawatts	20.7 gigawatts
Plant investment	$173 billion	$159 billion	$146 billion
Production wells	5,250	4,848	4,488

Table B.4: P10 is the value that 10% of runs exceed (the 90th percentile of the runs), and P90 is the value that 90% of runs meet or exceed (the 10th percentile). Each row takes its three values from its own measure. Plant investment is the total modeled investment less state loans and the developers' validation share. The fund rows are the same at 500 megawatts per site. Source: Project InnerSpace. (2026). *Texas geothermal development fund model* [Unpublished model].

What the Model Leaves Out

The model reports nominal dollars, with no adjustment for inflation. It assumes no maturity extensions and a 20% developer share at every site. The generation figures count only the plants at the 41 proved sites. They exclude later projects that the program's data and track record help other developers start. The model does not estimate jobs or tax revenue, which are covered in **Appendix A**.

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