The Power Policy Playbook

High-Impact State Policies to Tackle the Electricity Affordability Crisis with Clean and Reliable Energy

clean tomorrow

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In the last year, more than half of low-income Americans report having cut back on groceries just to pay their power bill. Two-thirds of Americans say they couldn't afford even a 10% increase in energy costs. Yet prices keep climbing. For the average household, after adjusting for inflation, utility bills cost $540 more in 2025 than in 2019.

The United States is barreling toward a full-blown electricity affordability crisis. Despite recent fervor from elected officials, the data is clear: utility bills will not be shrinking any time soon. Utilities remain tied to volatile natural gas prices, decades of deferred grid maintenance are finally coming due, and demand is surging faster than the system can accommodate. In the absence of a dramatic overhaul of the energy system, the best we can hope for is slowing the tailspin. And even that will require a fundamentally different approach to how we build energy infrastructure.

The responsibility for charting that path falls overwhelmingly on the states. Governors and state legislatures ultimately shape what gets built, where, and on what timeline. Across the country, many pragmatic Democrats and Republicans have already found common cause in a new approach that cuts red tape, modernizes outdated processes, and empowers agencies to deliver public goods more efficiently.

Out there is a policy agenda that will help us meet this moment. We have identified the most recent and consequential, supply-side, bipartisan policy reforms that are available to governors and state legislators. These reforms are designed to accelerate development of new electricity resources, keep energy prices in check, and support long-term grid reliability, with the added benefit of reducing carbon emissions. Any power policy playbook should include efforts to:

- **Simplify Permitting and Siting**
- **Increase Efficiency with Immediate Investments**
- **Leverage the Data Center Boom to Build a Better Grid**
- **Put Game Changing Generation Technologies to Work**

Not all of these policies will be applicable to all states, but for policymakers looking for concrete, tangible, and high-impact solutions that meaningfully reduce energy costs for consumers today, this is the place to start.

Simplify Permitting and Siting

Outdated permitting rules are slowing down desperately needed energy projects. The following policies trim the fat from regulatory processes, streamline approvals, and give communities a clear say without letting bureaucracy grind progress to a halt.

Digitize the permitting process

While the fight over substantive permitting reform drags on at the federal level, one simple, high-impact state solution is hiding in plain sight: digital permitting.

Today, applying for a permit often means wrestling with PDFs, mailing paper copies to multiple agencies, and hoping someone picks up the phone. Meanwhile, nearly every other part of modern life has moved online. Permitting should too. With online forms, automated tracking, and shared dashboards, states can speed up approvals and cut costs without changing the substance of environmental laws.

Virginia's Permitting Enhancement and Evaluation Platform (PEEP), now expanded as the Virginia Permit Transparency (VPT) system, is the most effective example of permitting digitalization in the nation. With only an Executive Order and a $3 million budget, in 2022 Governor Glenn Youngkin launched PEEP as a pilot program. It introduced a public dashboard to track every permit through the approval process, much like Domino's Pizza Tracker. At first, it covered only the four agencies that issue the most permits. Over time, more agencies were added, and by 2024 the program had scaled statewide and been rebranded as VPT.

The results have been remarkable. In just two years, permitting times dropped 70%, saving Virginians an estimated $40 million annually. Sixty-eight renewable energy projects have moved through the system with an average processing time of 50 days, 18 days faster than the state's initial target. Now, the state is again iterating on the program, aiming to fully digitalize the application process.

Pennsylvania is following in Virginia's footsteps. Under Governor Shapiro's Lightning Plan, the state launched a Permit Tracker in January 2025. By June, it had cleared 94% of its backlog and reviewed over 17,000 permits.

Instantly permit residential rooftop solar

The U.S. has over one terawatt of rooftop solar capacity—enough to power nearly half the country. But as of 2022, rooftop solar made up just 1.5% of our power supply.

Rooftop solar can save families up to $730 a year and slash emissions by the equivalent of 1,452 gas-powered miles. Add storage, and those systems can strengthen the grid, homes, and businesses, too. In New York, experts estimate

flexible DERs could save ratepayers $3 billion a year in avoided upgrade costs. But to unlock those benefits, rooftop solar has to be easy and cheap to install.

Hardware costs have plummeted, but permitting, inspection and other "soft costs" are still too high. Between 2010 and 2020, those costs fell almost 50%, but they need to drop another 60-70% to make solar truly affordable. Instant permitting can help close the gap. Right now, businesses and homeowners often face a months-long process filled with paperwork and sometimes in-person reviews. Per Permit Power, that's one reason residential solar in the U.S. costs over $18,000 more than in places like Germany and Australia.

To fix this, the Department of Energy built SolarAPP+, a free, automated permitting tool. In 2022, it eliminated over 134,000 days of permitting-related delay and cut inspection failures by 29%. Today, 303 localities have adopted the software and garnered similar results.

Despite its promise, widespread SolarAPP+ adoption has been slow because each locality must independently approve and implement it. To speed things up, states are stepping in with legislation. **Maryland** passed SB 0783 legislation back in 2024 that requires the use of automated solar permitting software, but does not require the use of SolarAPP+ specifically. In **Texas**, SB 1202 legislation passed in 2025 with nearly unanimous support in both chambers to speed up approvals for home solar and storage systems by letting licensed third parties review plans and handle inspections. Once the report is submitted, homeowners can start construction right away, and the government has two business days to issue permits. Finally, S-4100 legislation was introduced in **New Jersey** in 2025 to mandate development of a "State Smart Solar Permitting Platform" to expedite construction code approval for residential solar energy systems.

Adopt statewide siting policies for large energy projects

Local opposition and restrictive zoning are among the top reasons clean energy projects get canceled or delayed. And opposition, unfortunately, is on the rise. In 2025 alone, nearly every state introduced a siting bill. About half would have made it harder to build, and only 22% would have made it easier. Most didn't pass, but the surge in activity shows siting legislation is gaining momentum.

Approaches to siting reform vary by political leaning. Some red states, including Ohio and Indiana, have passed siting bills that enable clean energy deployment. The American Legislative Exchange Council (ALEC) is setting an alternate example for right-leaning states with recent model legislation entitled State Energy Facility Siting and Permit Certainty Act.

Blue states are stepping up, too. **Michigan's** HB 5120 requires local governments to adopt state siting standards, while also providing alternative pathways for developers to pursue siting for large projects through the Michigan Public Service Commission. As part of Governor Shapiro's "Lightning Plan," Pennsylvania has proposed HB502 which would create a Reliable Electric Energy Siting and Electric Transition (RESET) Board responsible for issuing siting

certificates for large "all-of-the-above" energy projects.

Colorado has taken a more moderate approach. SB 212 directed the Colorado Energy Office to provide technical assistance to counties, develop a model ordinance database, and study siting solutions. It may work as a steppingstone to future reforms, but it won't deliver fast results today.

Automatically permit low impact projects

State permitting is rarely a single decision. It is a sequence of discrete steps, often including local land-use approval, an interconnection study, and a natural resource review, each handled by a different authority. In many states, even after those reviews are complete, a state agency conducts an additional, discretionary review before issuing a final permit, effectively re-checking work that has already been done. This multi-step review process administered by different agencies creates numerous points for potential delays.

In 2009, **Virginia** passed legislation creating the Permit by Rule (PBR) program for low-impact energy projects under 150 MW to eliminate that redundancy. Rather than layering on a final discretionary approval, PBR converts the state permitting process into a rules-based checklist. If a project completes each required review and demonstrates compliance with clear environmental and siting standards, the permit is granted.

The result is a system that puts full faith in the underlying technical and environmental reviews instead of re-litigating them at the end of the process. PBR does not relax environmental standards or limit enforcement authority; it provides certainty that a project will be able to proceed to construction once it has met objective criteria.

This certainty has translated into real deployment. Between 2009 and 2023, Virginia permitted more than 4,700 MW of capacity using this program—equivalent to more than half of the solar deployed in the state today. One industry group applauded the program for reducing "bureaucratic burden both on private companies and government."

Increase Efficiency with Immediate Investments

By 2030, electricity demand is expected to increase by 25% and peak demand is expected to surge 14% in the same period. Unfortunately, the United States has proven unable to build grid infrastructure or power plants quickly enough to meet these increased energy needs. Long-term solutions to these problems will require significant infrastructure investment. While work toward more significant reforms is underway, decisionmakers can immediately implement policies that increase the efficiency of what has already been built.

Institute virtual power plant programs to reduce peak demand

Virtual Power Plants (VPPs) aggregate and manage distributed energy resources to act like one flexible, responsive power plant. By increasing efficiency, they can also lower utility bills.

The Rocky Mountain Institute found that fully integrated VPPs can cut costs by 20% and the need for new gas units by 75%. And these installations are not only cost effective but also easily deployed. The Department of Energy reports that utilities can launch VPPs in under six months with less than $1 million. Done right, these programs deliver fast solutions to serious grid strain.

National Grid's ConnectedSolutions program is a standout example. It launched in under four months with less than $500k and now delivers 250 MW of dispatchable capacity in Massachusetts and New York. The utility uses EnergyHub to send signals to smart thermostats, batteries, and commercial HVACs and EV chargers that reduce stress on the grid during periods of high demand. Customers get upfront incentives for smart thermostats and 0% interest loans for batteries coupled with performance incentives for commercial customers. The program's success has inspired similar efforts in a number of other states in the Northeast.

Utah's Wattsmart battery VPP program is even more advanced. Developed in three years with $5 million, the program provides cost-effective, high value grid services using residential batteries. Unlike most VPPs that only dispatch during peak hours, Wattsmart can deploy batteries 24/7. As of November 2024, the program can provide 28 MW of capacity using only 4,200 enrolled customers.

VPPs can move faster than nearly any other grid solution and deliver meaningful capacity in a pinch. For governors facing short-term capacity crunches, VPPs are one of the most actionable, cost-effective tools available.

Add innovative transmission technologies that stretch the existing grid further

Grid-Enhancing Technologies (GETs) can squeeze more power out of existing transmission lines without having to build new ones. The GETs umbrella encompasses a set of technologies:

- **Dynamic line rating (DLR)** maximizes the power carried by transmission lines when the weather is favorable. Per research from Grid Strategies, DLR increases capacity by an average of 10-30%, takes less than six months to deploy, and costs less than 5% of the price of building new transmission.

- **Topology optimization** temporarily partitions parts of the grid that aren't being used. Per research from Grid Strategies, topology optimization can be deployed in three to six months and increases capacity by 5-50%.

- **Reconductoring** upgrades technology on transmission lines with a more efficient alternative. Per research from Grid Strategies, it can double capacity and takes one to three years to deploy.

Modeling suggests these technologies can reduce congestion by 40%, saving families $5 billion per year. GETs aren't yet widely deployed, but a handful of utilities have piloted the technology to test what's possible. In 2024, AES installed 42 sensors on five transmission lines in Ohio and Indiana. The install took just two weeks and increased capacity by over 50%.

States can scale this success. To date, ten states have passed GETs legislation, and even more are moving in that direction. States looking to take a low-risk approach can model after **Utah** HB 212 and **Indiana** SB 0422, which allow the state's utility commission to consider the impact of Advanced Transmission Technologies. More ambitious states can instead look to **Minnesota** SF 4942 and **Ohio** HB 15 which require utility commissions to use Advanced Transmission Technologies to reduce congestion.

Use surplus interconnection to skip the interconnection queue

Interconnection queues across the country remain congested. Despite repeated attempts to fix the interconnection process, recent reforms continue to fall short of meaningfully accelerating project timelines. Rather than attempting to force additional projects through an already constrained system, decisionmakers can incentivize new development at existing generation sites with available grid capacity, a practice known as surplus interconnection.

A recent analysis found that adding 251 GW of battery storage to existing sites in RTOs across the country could not only save $89 billion in interconnection costs, but also support another 360 GW of renewable energy development that doesn't need an interconnection study. Surplus interconnection also has the added benefit of firming renewable energy resources, increasing the average capacity factor of an asset from 37% to 75%. That could be game changing as decisionmakers look to quickly reduce dependence on volatile fuels.

No state has passed legislation to facilitate the use of surplus interconnection thus far, but decisionmakers can push utilities in the right direction by using the approach that has kickstarted uptake of grid enhancing technologies: they can require utilities to include surplus interconnection in their Integrated Resource Plans. This would encourage utilities to pursue projects that use surplus interconnection when economically feasible.

Improve transmission planning

Most states already participate in an RTO. The West, however, remains the primary exception, largely because states in the region haven't aligned on decarbonization goals or market design. That stalemate has held the region back for decades. A full embrace of RTOs among Western states would deliver the biggest cost savings, but even partial

cooperation could pay off. One study found that simply improving transmission coordination could save the West up to $2.23 billion per year.

Colorado's SB21-072 takes a step in the right direction and could serve as a model for other likeminded states in the region. The bipartisan bill both lays the groundwork for joining an RTO by 2030 and creates the Colorado electric transmission authority to support buildout of the transmission system. One study found that a West-wide RTO could potentially save Coloradoans $139 million per year.

Lack of coordination on transmission planning doesn't just lead to cost overruns, but it also leads to congestion and exacerbates problems in an already constrained system. When looking to solve congestion at the regional level, good investments pay for themselves. One analysis found that a $5 billion investment in just three well planned, regional transmission lines in the Southeast would deliver $8 billion in benefits.

There are plenty of reforms that could help the Southeast realize these savings. One option squarely within their reach would be to require utilities to disclose congestion data and costs. Forcing transparency would be a powerful first step toward better planning and lower bills.

Leverage the Data Center Boom to Build a Better Grid

Data centers are driving massive new electricity demand. Between 2024 and 2028, energy use from data centers is expected to triple. This surge will reshape the grid. Utilities are still assessing how many miles of new transmission lines will be needed to provide for this growing demand, but it's clear the number will be large. And under today's rules, working families might be forced to foot the bill. However, with proper guardrails in place, data centers could provide a once-in-a-generation opportunity to modernize the grid.

Allow new grid users to produce their own energy while paying their fair share of grid costs

In **Virginia**, home to the largest concentration of data centers in the world, Dominion Energy plans to spend $7.6 billion on new transmission infrastructure. The utility expects homeowners to pay for 55% of those upgrades, including for projects that only support data centers. By 2040, these rate increases could result in a $444 annual increase in customer bills.

Meanwhile, data center operators want clean energy and are willing to pay a premium for it. Microsoft has offered to pay double the market rate for nuclear power to supply its facilities. Google is willing to do the same for geothermal energy. This opens a political window. States can let big users build or buy their own power, so long as they also

also cover the grid costs they create. No state has combined both strategies yet, but many are experimenting.

Flexible procurement:

Nevada's "Clean Transition Tariff" lets Google buy geothermal energy from Fervo's Corsac Station. Google then pays the difference between the geothermal energy from Fervo's plant and the cheaper energy source NV Energy would normally choose. **Utah's** SB 132 gives 100+ MW users freedom to contract flexibly outside of traditional utility frameworks. This ensures that companies can procure clean energy independently, but doesn't advantage one technology over another.

Infrastructure support:

New Jersey's AB 5462 requires that data centers provide financial guarantees that they will use 85% of the power they're asking utilities for over the next ten years. This both keeps data centers' projections honest and ensures rate payers won't get stuck footing the bill for new infrastructure if the data center is never actually built. The bill also includes provisions to minimize phantom queue requests and provides incentives for large load customers to use flexible interconnection technology. Tariff and rate designs like this are part of a growing trend seen also in Indiana, Ohio, the Carolinas, West Virginia and Kentucky.

Turn large electricity users into grid assets with demand flexibility

New research suggests the grid could handle 98 gigawatts of new demand if large load users reduced their energy usage slightly during peak hours. In other words, flexibility could unlock more growth with less infrastructure.

This idea isn't new. Flexibility was once championed by the Department of Energy and Google is already testing it. But for flexibility to work at scale, utilities need to get on board.

Massachusetts is trying to lead the charge. H4144, introduced by the Governor but not passed yet, would require utilities to offer flexible interconnection for new electricity users. The Governor's office says it could save ratepayers between $1.27 and $5.06 billion from 2036 to 2050. **New Jersey's** AB 5462 takes a similar approach, mandating a new rate class for data centers but relaxing the rules if they bring flexibility or their own power.

Texas, on the other hand, has spent years studying flexible interconnection via ERCOT's Large Flexible Load Task Force. ERCOT later pioneered a program for Controllable Load Resources (CLR) where big electricity users volunteer to reduce consumption when needed. This year's SB6 took it further, letting utilities disconnect large loads during grid emergencies and requiring shutoff gear as a condition for interconnection. It also pays large users to dial back usage during peak stress.

Let large electricity users build their own microgrids

West Virginia's HB 2014 is one of the boldest data center energy laws in the country. Instead of leaning on utility companies to provide all the power a new data center would need, the law allows data centers to build and operate their own generation and distribution networks. These microgrids can include solar, batteries, natural gas, and even advanced nuclear. When they produce too much power, they're even allowed to sell it back to the grid, but they must cover the full cost of infrastructure needed to do so.

The law also creates the Electric Grid Stabilization and Security Fund, paid for by taxes from datacenter districts. That means each data center not only powers itself, but helps upgrade the broader grid too. Unfortunately, the bill limits those funds to coal and natural gas infrastructure. Decisionmakers looking to replicate the model should broaden the scope to include clean energy.

Put Game-Changing Generation Technologies to Work

After decades of federal investment, next-generation energy technologies are ready to scale. But they won't deploy themselves. States need to update their rules, build new institutions, and clear the path for adoption. The states that move first will reap the rewards in jobs, investment, and cleaner power.

Unleash geothermal through strategic reform

Enhanced Geothermal Systems (EGS) promise to solve many of the grid's most pressing challenges. They can operate 24/7 without emissions. They are incredibly energy-dense, with life cycle impact four times lower than solar PV. And their potential is almost limitless. Just 1% of the U.S. EGS potential could meet the country's energy demand eight times over (based on 2021 figures).

The level of investment still needed to understand and scale EGS is high. The Department of Energy's *Pathways to Commercial Liftoff: Next-Generation Geothermal Power* report expects the industry will need another $225-250 billion in total investment to successfully commercialize.

The federal government has already taken steps to support the scaling of EGS. In 2018, the Department of Energy partnered with the state of **Utah** to launch UtahFORGE, a $218 million field laboratory for EGS. The project made technical breakthroughs that have decreased the cost of drilling by 50% in the past two years. The progress has benefited every EGS company in the United States and directly spurred private investment, with Fervo opening the world's largest next-gen geothermal project directly next to the FORGE site. When complete, the project will deliver 400 MW of clean firm power and generate $437 million in earned wages, showing how public research can lead

directly to economic opportunity.

Ideally, more states would partner with DOE to replicate that model. But with uncertainty around the federal government's investment appetite and capacity, states can't afford to wait. Fortunately, momentum is still growing: the oil and gas sector continues to invest in EGS, and permitting on federal lands is starting to move faster. Now it's time for states to open their markets to development.

First, states need to right-size permitting processes for EGS. But while permitting reform is a crucial first step, unlocking the full potential of EGS will require a strategic all-of-government approach. And that approach will look different in every state. Some states have more potential than others, others face steeper siting hurdles, and not all have the same appetite for financial support. States well-equipped with EGS potential and serious about harnessing it should follow the model set by the Texas Advanced Nuclear Reactor Working Group and its report on Advanced Nuclear. Texas convened 100 stakeholders across industry, academia, and government to chart a path for advanced nuclear in the state. Their final report was both technically rigorous and deeply practical. It assessed the state's development landscape and offered actionable regulatory and legislative policy recommendations. Now Texas is leading the nation in advanced nuclear and on track to build six new reactors. EGS warrants the same kind of strategic planning, and strong state roadmaps will be required.

Build a policy framework for large and small nuclear reactors

Nuclear energy offers solutions to many of our nation's greatest problems: it's the least emissions-intensive method of generating power, it uses a minimal amount of land (31 times less than solar farms), it produces energy 24/7 and bolsters national security.

Two main hurdles have held nuclear back: public perception and cost. And the tide is turning on public perception. Republicans are championing nuclear as a path to American energy dominance. Democrats see its potential to deliver clean, affordable power. That leaves cost as the main problem to solve.

With the high price tag of new nuclear projects, states alone can't foot the bill. That's why the federal government has historically stepped in to support projects. With uncertainty at the federal level around the Loan Program Office and new foreign entities of concern stipulations on federal tax credits, it's not clear if federal funding will be available again in the near future. That puts the onus on states to lead the charge.

Small modular reactors (SMRs) and other next-gen technologies are advancing fast, and states that build a policy foundation today will be best positioned to attract projects tomorrow. Utah and Texas are already well on their way.

Utah's Operation Gigawatt is a whole-of-government initiative to prepare the state for advanced nuclear development. It doesn't pick winners. Instead, it builds the scaffolding to support future development and innovation. Spearheaded by the Office of Energy Development and codified by HB 249, the effort created a consortium of industry partners, workforce leaders, and technical experts; a council to administer a development fund and designate zones; and a research board to facilitate collaboration between laboratories, academia and other research institutions across the state.

Texas has gone a step further by running a rigorous, stakeholder-driven process to define exactly what a pro-nuclear state framework should look like. The Advanced Nuclear Reactor Working Group, launched in 2023, convened over 100 leaders from industry, academia, utilities, and state agencies. Their first report, delivered in late 2024, is a model for other states. The report includes legislative and regulatory policy recommendations, economic analysis, safety evaluation, and an assessment of how the new power sources would integrate into the wholesale market.

The results speak for themselves: multiple developers have now expressed interest in building SMRs in Texas, and legislative momentum is building to implement the report's recommendations.

Other states don't need to start from scratch. The mechanics are simple: convene the right stakeholders, audit the current regulatory environment, identify barriers, and create a public-facing roadmap. Whether styled as a task force or a working group the goal is the same: show the private sector that the state is serious, prepared, and open for business.

Conclusion

Electricity demand is rising. Costs are climbing. Families are struggling. There is no silver bullet that magically reverses that reality, but this policy playbook outlines clear levers states can pull to blunt the worst impacts and make progress on reducing costs in the short-term.

The first set of policies focuses on simplifying permitting and siting. Digitization, automated approvals, predictable siting standards, and permit-by-rule frameworks all reduce unnecessary delay and risk without weakening environmental protections. When developers can move forward with confidence, projects are cheaper to build, which leads to lower costs.

The second policy set aims to buy time by increasing efficiency of the existing grid. Virtual power plants, grid-enhancing technologies, surplus interconnection, and improving transmission planning allow states to stretch existing infrastructure further. These policies could not only offset the immediate need for highest-cost investment, but also assist with long term efforts to actually deliver savings.

The third policy set ensures large new electricity users pay their fair share. Data centers and other major loads are reshaping the grid. With the right guardrails, this interest can be leveraged to finance new infrastructure, bring flexible demand onto the system, and accelerate clean generation without shifting costs onto households.

Finally, the last set of policies puts game-changing technologies to work. Enhanced geothermal systems and advanced nuclear both offer clean, firm, energy-dense power that can transform how electricity is produced in America. States that build the regulatory and institutional frameworks today to enable these next generation technologies will be first in line to reap the economic benefits tomorrow.

The policies in this playbook are not about chasing miracles or freezing rates in place. They are about making smart, strategic choices early to slow how quickly rates rise and position states for long-term energy abundance and affordability.