



ENERGY

SUPERABUNDANCE

UNLOCKING PROSPERITY IN THE WEST

The Initiative of Utah Governor Spencer Cox



Dear friends and colleagues,

We often take for granted how important energy is in our daily lives. At its most fundamental level, energy is the foundation for our lives. Energy produces the food we eat, cools our homes, and powers our ability to communicate in the modern age. We use it to propel our cars and trucks and trains and airplanes. Energy is what allows our schools to educate and our businesses to operate. It's what drives local, regional, and global economies. Energy is directly responsible for our standard of living; the necessities and the conveniences we use every single day. Our health, well-being, and quality of life depend on it.

Today, the West, like the rest of the world, is headed towards an energy deficit due to increased power demand and decreasing supply. The harsh reality is that we need significantly more power to meet current and future energy needs. That's the bad news.

The good news is that we can meet this challenge. The West is rich in diverse energy resources. We have a large workforce with great expertise in energy research, development, and deployment. We have the tools and resources to harness energy in an environmentally responsible manner.

When I was elected Chair of the Western Governors' Association, I wanted to focus on the regional opportunities we have across the West to address our energy needs, now and into the future. Every Western Governor wants our energy to be reliable, affordable, secure, and clean for generations to come. This led directly to the creation of the Energy Superabundance: Unlocking Prosperity in the West initiative.

I want to thank the people who generously gave their time and expertise to contribute to the initiative's conversations. I would like to thank Arizona Governor Katie Hobbs, Colorado Governor Jared Polis, and Idaho Governor Brad Little for graciously hosting initiative workshops in their states. And I would like to thank our initiative sponsors for their generous support of the Energy Superabundance: Unlocking Prosperity in the West initiative over the past year.

This effort has led to a lot of conversations on the challenges we face and the opportunities we have to ensure a prosperous energy future for the West. It has also produced a number of recommended actions that would make achieving that vision a lot easier. This report encapsulates those discussions and recommendations, and I hope it serves as a blueprint for Governors and federal decision makers as we work together to secure energy superabundance.

Sincerely,



A handwritten signature in black ink, appearing to read "Spencer J. Cox".

Spencer J. Cox

Governor of Utah
WGA Chair

Dear friends of the West,

The West has long stood as an epicenter of energy development, with Western Governors leading the charge to drive innovation across the energy spectrum. Western states have consistently been at the forefront of developing the resources, technologies, and infrastructure that power the nation.

Today, energy demand is rising at an unprecedented pace, creating both challenges and opportunities alike for western states. Meeting this moment will require a regional, all-of-the-above approach that leverages the strength of every available energy resource and technology while bolstering the infrastructure needed to deliver it. By capitalizing on our wealth of resources, fostering innovation, and streamlining development, the West can continue to serve as a cornerstone of American energy leadership and unlock energy abundance, both today and for generations to come.

For decades, Western Governors have considered energy an issue of critical importance and have maintained robust, bipartisan energy policy as a result. The 2026 WGA Chair initiative of Utah Governor Spencer Cox, *Energy Superabundance: Unlocking Prosperity in the West*, builds upon this history, envisioning a future in which energy is reliable, affordable, and abundant.

WGA Chair initiatives reflect the Governors' commitment to

collaboration and developing practical bipartisan solutions to regional challenges. These efforts would be nothing without the pragmatism and leadership of our Governors, as well as the generous support from our initiative partners, sponsor community, and stakeholders, whose commitment and expertise help make this work possible.

WGA is grateful to all those who contributed to this initiative and shared their insights and expertise with us. I am especially appreciative of Idaho Governor Brad Little, Colorado Governor Jared Polis, Arizona Governor Katie Hobbs, and Governor Cox for hosting workshops in their states.

I would like to extend my gratitude to Governor Cox for his dedication and leadership as WGA Chair, and for his passion and commitment to this initiative. The recommendations presented in this report will continue to inform Western Governors' policy and will help shape WGA's future advocacy work. The work to advance these policies is only just beginning, and I look forward to continuing to confront these challenges together.



Jack Waldorf

Executive Director
Western Governors'
Association

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EXECUTIVE SUMMARY

Utah Governor Spencer Cox, as Chair of the Western Governors' Association, launched the Energy Superabundance: Unlocking Prosperity in the West initiative in July 2025. The initiative examined challenges and opportunities for expanding production, transmission, and storage options across the energy spectrum to unlock more reliable, secure, and affordable energy to meet growing demand and achieve energy abundance across the West.

The West is rich in diverse energy resources, offering significant opportunities for both traditional and renewable energy development. Vast reserves of oil, natural gas, coal, and hydropower; high-quality wind, solar, nuclear, and geothermal resources; and plentiful critical mineral deposits position western states as leaders in both energy production and innovation.

The initiative examined many key elements of energy development, from energy resources and supply chain challenges to electricity generation and transmission, as well as workforce development and permitting issues.

Despite our immense resource abundance, growing energy demand driven by factors like changing populations, the increased

electrification of our society, and the proliferation of energy intensive industries like artificial intelligence is adding strain to our current electricity systems. Achieving energy abundance will require more energy from a broader spectrum of energy sources.

The viability and opportunity for different types of energy generation varies across states and applications.

While there are numerous methods of energy production, collaborative work on transmission stands out as an area where the West can realize an important benefit.

Permitting and regulatory challenges are also key aspects of achieving energy superabundance. Inefficient and cumbersome permitting processes significantly hinder the development of energy projects by creating delays, increasing costs, and adding uncertainty to investments. These barriers slow the deployment of energy resources, preventing critical infrastructure from keeping pace with growing demand. Streamlining permitting and modernizing regulations are essential elements to accelerating energy development and ensuring a more resilient and abundant energy system.

Western Governors contributed their personal resources and effort to the initiative by hosting workshops in their states. WGA is especially indebted to these workshop hosts: Arizona Governor Katie Hobbs, Colorado Governor Jared Polis, Idaho Governor Brad Little, and Utah Governor Spencer Cox. The workshop sessions are available for viewing at WGA's YouTube page, and additional information about the initiative can be found at WGA's website.

The initiative received an enormous amount of input from a wide variety of interested stakeholders, including state and federal energy experts, private businesses, and non-governmental organizations. This report incorporates these stakeholders' consensus recommendations to put western

states on a path toward a future of energy superabundance that is reliable, secure, and affordable – a future that provides our western communities with the energy they need for unbridled economic opportunity and good quality of life.

The efforts of the Energy Superabundance: Unlocking Prosperity in the West initiative establish a solid foundation to address some of the most challenging aspects of achieving energy superabundance. Western Governors encourage federal decision makers and our partners to implement these recommendations and work to secure an environmentally responsible, affordable, and abundant energy future for the West.



BACKGROUND

As we celebrate the 250th anniversary of the founding of the United States this year, it is important to reflect on the role that energy innovation has had in shaping our society. There is a direct causal relationship between energy development and human prosperity. Energy development and innovation, largely powered by the people and resources of the West, have played a critical role in making the United States the envy of the world. We have a responsibility to lean into making energy, and the quality of life it empowers, superabundant for those who will come after us so we can continue to be a beacon of opportunity for the world.

Looking forward, the next 250 years is not without its challenges. Maintaining our position in an increasingly electrifying and growing society will require us to build, which is something we've got to get back in the habit of doing. And we need to do it in a way that will result in an affordable, reliable, and secure energy future.

Since the year 2000, the U.S. has seen its population grow by about 20 percent. Western states have seen even greater gains over that period as people have been drawn to the economic opportunities, natural beauty, and high quality of life our states offer. And people increasingly depend on electricity to power more and more of their daily routines. Our high-tech industries require greater amounts of electricity to power the data centers and use of artificial intelligence that will spur economic innovation. Energy conservation and efficiency have important roles in the responsible stewardship of our resources, but will not offset the need for new generation capacity and transmission improvements.

Western states hold a leadership position in energy development. We have abundant energy resources, from renewable geothermal, hydro, wind, and solar power, to nuclear energy resources and traditional fossil fuels like coal, natural gas, and oil. Our states also harbor vast

reserves of the critical metals and minerals needed to build the energy infrastructure and products that ensure our health and well-being. We are committed to utilizing these resources responsibly and in a way that promotes the health of people and our environment.

Enabling an abundant energy future requires a shift from managing scarcity to enabling growth, innovation, and resilience across the energy spectrum. Meeting this growing demand will require wholesale changes across the energy spectrum to ensure energy is not only reliably available, but also affordable and secure. Achieving energy superabundance will require expanding energy production, strengthening transmission networks, and improving energy storage systems.

Energy Resources and Generation

An immense amount of new capacity will need to be added in the coming years to feasibly meet our expected demand growth. Some estimates anticipate a national increase of nearly 150 gigawatts in peak electricity demand over just the next five years. Ensuring that we can accommodate this expected growth will require a larger and more diversified generation portfolio than we have today.

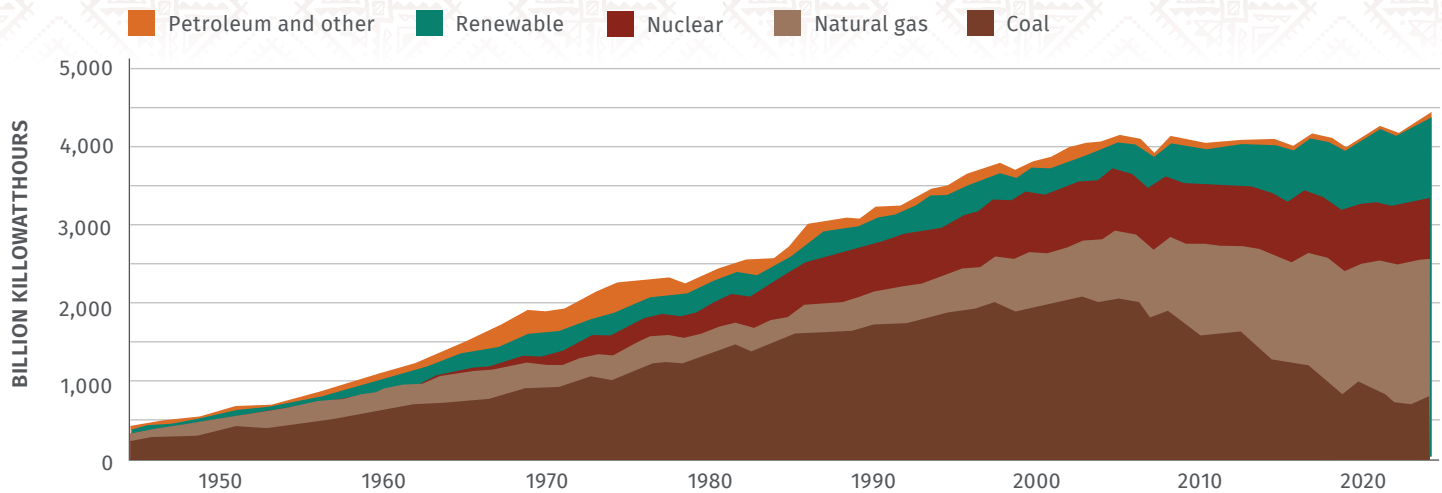
The West has an incredible wealth of energy resources, and electricity generation in western states has traditionally relied on the generous coal, natural gas, and hydropower reserves located in the West. We also have substantial wind, solar, and geothermal resources.

These various electricity generation resources operate in different but complementary ways to ensure reliable, flexible, and continuous supplies of power. Coal, nuclear and geothermal energy provide baseload power, running at high capacity for long periods of time with few fluctuations or lapses. Wind and solar are intermittent sources that can vary substantially depending on the time of day and weather conditions. Intermittent sources work well when conditions are favorable, but depend on dispatchable sources that can quickly ramp up or down depending on available supply. Natural gas, hydropower, and energy storage provide dispatchable power that can respond to demand peaks and ensure consistent overall electricity supplies.

The West also generates some nuclear power and contains most of the uranium ore mined domestically, but most U.S. commercial power reactors are not located in western states. Nuclear energy provides high-capacity factor baseload power, and generates about 18 percent of the electricity in the U.S. today. It also accounts



U.S. electricity generation by major energy source, 1950-2025



Source: U.S. Energy Information Administration

for nearly half of all carbon-free generation. Despite these benefits, few new large-scale nuclear reactors have been constructed: of the 94 reactors operating in the U.S., only 4 have been built in the last 20 years.

The nuclear fuel cycle is broken into two stages: the front end, which includes mining, milling, conversion, enrichment, fuel fabrication, and preparing fuel for use in nuclear reactors to produce electricity. The second stage is the back-end that ensures that used nuclear fuel is safely and securely stored. Today in the U.S., long-term disposal of used nuclear fuel is an unresolved issue. With the recognition that new nuclear must be a part of our clean energy future, the U.S. Department of Energy (DOE) is working with interested states to explore opportunities and solutions to address the entire nuclear lifecycle in an effort to catalyze new nuclear development in the U.S. This effort relies on state-led nuclear fuel lifecycle proposals that include front-end activities as well as reprocessing used fuel to extract the full beneficial use and drastically reduce the volume of material that would need to be permanently stored. Addressing these fuel cycle issues is key to expanding the use of nuclear energy in the U.S.

Transmission and Grid Infrastructure

The U.S. power grid is comprised of a vast network – about seven million miles – of transmission and distribution lines. High-voltage transmission lines are the backbone of this system, carrying electricity over long distances from where it is generated to where it is used.

DOE estimates that nearly 70 percent of the transmission lines in the U.S. are over 25 years old, leading to increased failure rates, operating costs, and vulnerabilities to looming threats. Especially in the West, the grid faces a convergence of risks, such as more frequent and severe wildfires that threaten physical infrastructure, and increasing vulnerability to cybersecurity threats as the grid is expanded and upgraded with more digital components and operating software.

Grid resilience, or the ability of the electric power system to withstand, adapt to, and quickly recover from disruptions, is a foundational component of an abundant energy system. Even a system with ample generation capacity cannot meet demand if electricity cannot be consistently delivered where and when it is needed most.

In 2024, DOE released the National Transmission Planning Study, which found that to maintain reliability, the U.S. will need to more than double its transmission capacity over the next two decades.

Energy Storage

Energy storage plays a crucial role in ensuring grid stability and maximizing the benefits of increased energy production, especially from intermittent sources like wind and solar, by storing energy when supply exceeds demand, and deploying it to the grid when demand exceeds supply. While short duration energy storage (SDES) plays a critical role in maintaining day-to-day grid stability, it is not well suited to address longer periods of energy shortfall, such as those caused by multi-day weather events or seasonal variability. To supplement these capabilities, long duration energy storage (LDES) options can store electricity for extended periods and discharge it over many hours. This reduces strain during prolonged demand peaks, helps address seasonal weather shifts, and supports grid reliability during extended supply disruptions. Systems like advanced battery technologies and other emerging thermal or hydrogen-based solutions can reduce reliance on other dispatchable generation systems and stabilize energy prices.





Idaho Governor Brad Little, Utah Governor Spencer Cox, and Idaho National Laboratory Director John Wagner talked about the future of nuclear power at the Energy Superabundance workshop in Idaho Falls.

RECOMMENDATIONS FOR FEDERAL ACTION

The Western Governors' Energy Superabundance: Unlocking Prosperity in the West initiative, under the leadership of WGA's Chair, Utah Governor Spencer Cox, examined the current state of our electricity generation and transmission system, as well as energy use trends that are guiding the planning efforts for future system needs. It also examined the policy factors affecting the development and deployment of energy resources and assessed strategies to responsibly achieve energy superabundance in the West.

The report recommendations highlight actions that would address immediate, mid-term, and long-term energy needs. It is important to recognize that the long-term goals still require immediate implementation. For example, expecting new nuclear capacity to contribute to our electricity generation needs requires us to begin taking action today. It takes 7-10 years to complete a new large-scale nuclear plant. Siting decisions, regulatory approvals, and a qualified workforce must all be in place before construction starts, and those steps can also take years. Many of the other steps we must take to achieve energy superabundance have similarly long

timelines to completion. We must take these steps today to secure energy superabundance for tomorrow.

Recommendations to Unlock Immediate Capacity

Maximizing and optimizing existing energy infrastructure can help unlock immediate near-term capacity and improve reliability and security. These are critical steps to meeting current demand growth without the timelines and costs associated with building new assets. There are numerous technological and policy options in place that can help achieve energy abundance today.

Recommendation: Leverage existing energy infrastructure

The federal government should take steps to optimize existing energy infrastructure through the deployment of advanced transmission technologies (ATTs) which can quickly unlock additional grid capacity and increase the resilience of the aging grid:

- DOE should uphold funding agreements issued under the Speed to Power through Accelerated Reconductoring and other Key Advanced Transmission Technology Upgrades (SPARK) program. These funding opportunities should be awarded and disbursed in a timely manner.

- The Federal Energy Regulatory Commission (FERC) should consider broadening requirements to be more inclusive of a wide range of ATTs that can reduce interconnection costs and timelines.

ATTs and other grid optimization strategies are effective tools to extend the life and effectiveness of the existing grid as transmission planning and investment improvements are made for the future. Grid enhancing technologies (GETs) are one type of ATT that optimize the performance and efficiency of existing grid infrastructure. Through hardware and software solutions, GETs can increase grid capacity, reduce congestion, and maximize efficiency of current transmission systems. Advanced conductors are another type of ATT that can double the transmission capacity of existing lines through reconducting or retrofits. Advanced conductors are proven, cost effective technologies that can be deployed much faster than a new transmission project can currently be built.

DOE encourages investment in ATTs through the SPARK program funding opportunity (previously known as the Grid Resilience and Innovation Partnership (GRIP) program), a competitive funding program for states, tribes, utilities, and other stakeholders to strengthen grid resilience and promote grid

innovation. SPARK funding provides meaningful investment in grid modernization and ATTs and should be continued.

Since 2023, FERC has required transmission providers to evaluate whether ATTs could address identified constraints more effectively than traditional network upgrades when approving interconnection applications. However, not all of the viable, proven ATTs and grid optimization strategies are required to be considered. Requiring consideration of a wider range of ATTs can help further reduce interconnection costs while improving the current efficiency and reliability of the grid.

**Recommendation:
Mitigate risks to the transmission and distribution grid**

Strengthening protection against both physical and cybersecurity threats is essential to maintaining a reliable and secure energy system. Investments in grid hardening, increased system monitoring, and cybersecurity measures and technologies can help safeguard critical infrastructure from disruptions that could limit energy availability and delivery:

- Congress should continue to provide adequate appropriations to the DOE Office of Cybersecurity, Energy Security, and Emergency Response (CESER).

- Congress should reauthorize the Energy Threat Analysis Center within the Department of Energy and provide additional support to continue advancing goals of the pilot program.

- Congress should continue to provide funding for efforts like Grid Resilience Utility and Industry Grants and Grid Resilience State and Tribal Formula Grants to support grid hardening and weatherization.

CESER has developed Supply Chain Cybersecurity Principles as a tool to strengthen the cybersecurity of critical operational equipment and provide guidance to inform and validate security decisions. CESER's Cyber Testing for Resilient Industrial Control Systems (CyTRICS) leverages technical expertise of the National Laboratories to test and certify equipment for cyber resilience. These programs offer valuable technical and analytical expertise to utilities and critical infrastructure operators who may otherwise struggle to adapt to rapidly evolving cybersecurity threats.

Collaboration across the energy sector, especially between utilities, governments, and energy infrastructure operators, is also critical for effectively mitigating risks and securing the grid against attacks. Government programs that enable collective monitoring and defense should be leveraged further to more quickly and effectively detect



and respond to threats. The Energy Threat Analysis Center (ETAC) within CESER is a public-private partnership pilot program that provides a secure and classified space for government analysts to analyze threat information in collaboration with trained utility experts. This enables governments and utilities to more effectively identify threats, prepare appropriate responses, and disseminate information to utilities and other stakeholders.

Strengthening and safeguarding energy infrastructure is critical to ensuring energy abundance. The increased prevalence of extreme weather and natural disasters can pose physical threats to energy infrastructure, jeopardizing grid stability. Proactively hardening infrastructure can mitigate these risks. DOE administers Grid Resilience Utility and Industry Grants to support grid modernization efforts that mitigate effects of extreme weather and natural disaster. The grants can be used to deploy weatherization equipment, monitoring and control technologies, vegetation and fuel load management, and the hardening, undergrounding,

or relocation of lines and other transmission infrastructure. DOE also administers several other grid resilience financing initiatives, such as the Grid Resilience State and Tribal Formula Grants Program. These programs can help facilitate upgrades needed to fortify the grid against natural disasters.

**Recommendation:
Support readily deployable
generation resources and
energy management solutions**

Congress and the Administration should take steps to ensure that energy storage and energy management solutions are developed and integrated into the electricity grid:

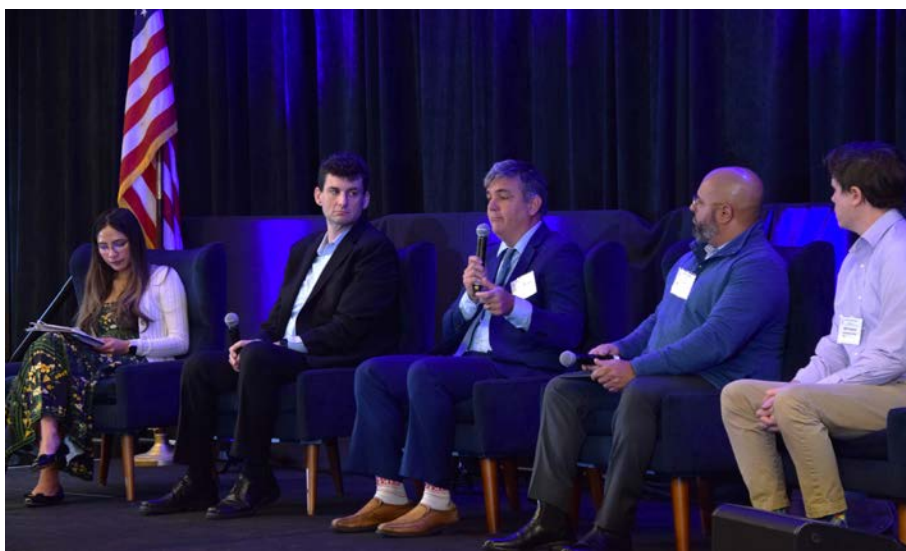
- The Administration should ensure that quickly deployable energy projects are considered and approved in a timely manner.
- FERC should provide additional guidance and support to help facilitate aggregation and distributed energy resources (DERs) deployments that can deliver grid-scale benefits, where practical.

- Continued investment in research, development, and deployment of energy storage systems is essential to reducing costs, accelerating commercialization, and advancing innovative technologies.
- FERC should continue to encourage the use of surplus interconnection service (SIS) and provide support and guidance to facilitate more widespread adoption.

Wind and solar resources enjoy relatively short construction timelines, mature supply chains, and favorable market conditions that allow them to be deployed faster than large, baseload generation resources today. Expanding these resources can help meet demand while resources with longer lead times continue to be developed. Pairing these resources with energy storage is fundamental to realizing this vision.

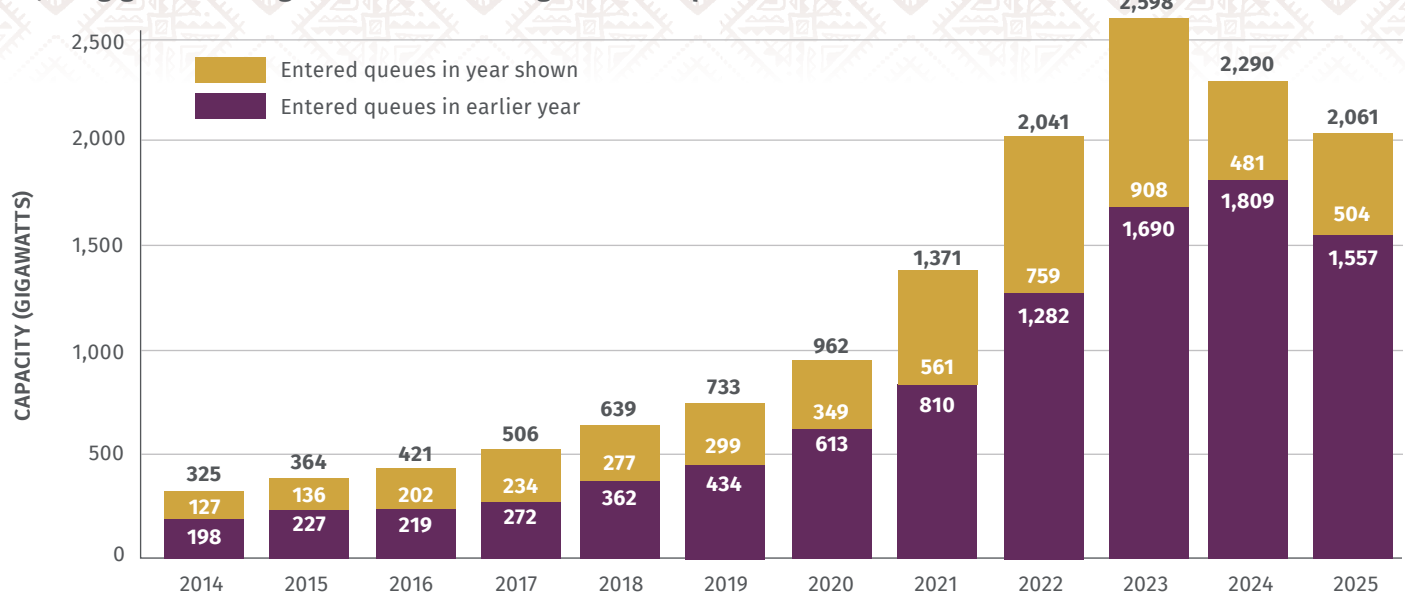
DERs are small, modular energy generation and storage technologies including wind turbines, photovoltaics, fuel cells, combustion and steam turbines, and batteries. These technologies can be deployed to deliver immediate benefits to the grid, help enhance grid reliability, or can be colocated to serve on-site demand. Because of their flexible nature, DERs can be used to delay or reduce the need to build new generation and transmission infrastructure and can help enable large load users to operate independently from the grid, eliminating the need to interconnect. DERs can be aggregated by grid operators and digitally coordinated, monitored, and dispatched in real time to supply electricity, reduce demand, or provide necessary grid services like frequency regulation and capacity support.

In 2020, FERC issued an order that opened the door for DERs to participate in wholesale electricity markets by allowing smaller resources to be combined into a single market participant. This encourages further



At the Energy Superabundance workshop in Phoenix, Scott Lipton, Director of Energy Policy at Enchanted Rock LLC; Walker Wright, Vice President of Public Policy at Sunrun; Chris Mejia, Partner and Chief Development Officer at Obodo Energy Partners; and Will Greene, Arizona Representative for Southwest Energy Efficiency Project (SWEEP), spoke about how DERs are reshaping how electricity is produced and managed across the West.

>2,000 gigawatts of generation and storage active in queues



Source: Lawrence Berkeley National Laboratory

investment and broader deployment of DERs. Regional transmission organizations (RTOs) and Independent System Operators (ISOs) are required to create market participation models and coordination processes that integrate DERs while maintaining a reliable grid. However, implementation remains relatively stagnant, hindered by a range of technical, regulatory and market challenges. FERC could provide additional guidance to help aggregators deploy DERs even in instances where wholesale market participation is limited. FERC should continue updating its regulations to support the deployment of long duration energy storage systems.

SIS is another approach to expedite the addition of new generation and storage assets to the grid. Many existing generators do not operate to their full interconnection capacity, leaving a surplus of megawatts that could be used by new generation or storage assets. Identifying underused capacity and creating a pathway for it to be used by developers would enable more projects to come online without going through the interconnection process. Since 2018, FERC has required transmission providers and grid operators to implement a process for interconnection customers to utilize

SIS and outlines a process for SIS separate from the full interconnection process. FERC later clarified that SIS can only be used if no new network upgrades are required. However, rules for SIS use vary across transmission providers and SIS itself remains underused.

Recommendation: **Address interconnection bottlenecks**

Electric transmission system operators (ISOs, RTOs, or utilities) require power generators seeking to connect to the transmission system to undergo a series of studies before they can be built. This process, or the interconnection queue, addresses cost allocation and evaluates what additional transmission equipment or upgrades may be needed before a project can connect to the grid. At the end of 2025, over 2,060 gigawatts of generation and storage capacity were actively seeking connection to the grid. Streamlining the interconnection queue is critical to ensure new generation can be deployed in a timely manner:

- FERC should monitor the status of backlogs in the interconnection queue and consider options for mitigating them.

- As FERC continues to issue guidance and new rules on transmission interconnection, it should encourage transmission providers to identify opportunities for automation.

Currently, interconnection queues face a significant backlog of requests, driven by increased energy demand and policies that have encouraged the development of renewable resources. Between 2000 and 2010, the U.S. averaged between 500 and 1,000 new transmission interconnection requests annually, equating to 150-200 gigawatts of proposed generation. Over the past decade, annual requests have surged to an estimated 2,500 to 3,000 each year, representing 400 to 750 gigawatts of proposed capacity. During that time, completing interconnection study requirements and completing the interconnection process has more than doubled across the U.S.

In addition to longer timelines, interconnection itself has become increasingly costly. When energy demand was lower, transmission assets were not working at full capacity, allowing new generators to easily come online. That excess transmission capacity has since been used up, leading to network upgrade costs becoming an increasingly large



part of interconnection costs. The combination of long study timelines, escalating costs, and network upgrade requirements has motivated many generators to abandon their interconnection requests and withdraw from the queue or initiate restudies.

In 2024, DOE released the Transmission Interconnection Roadmap, which outlines a series of actions for transforming bulk transmission interconnection over the next decade, including several incremental queue management solutions that can reduce queue volumes and delays. FERC should actively monitor the status of backlogs in the interconnection queue and consider options identified by the Interconnection Innovation e-Xchange (i2X) program to mitigate the backlog.

FERC addressed some of the Transmission Interconnection Roadmap findings through Order No. 2023, which adopts reforms to address the interconnection queue backlog, improve certainty, and ensure transmission access for new technologies. Additional actions and improvements could further reduce

the associated costs and timeline to interconnect. Order No. 2023 noted the need for better data, requiring transmission providers to make available data visualization tools that analyze available transmission capacity. These tools may improve interconnection timelines and may help resource developers navigate the process more efficiently, especially in the West, where there is no coordinating RTO or ISO over the region.

Automating the process could also streamline the processing of interconnection requests and should be leveraged by transmission providers. Automation may be able to improve the initial application process, reducing the number of incomplete or insufficient applications that will inevitably be withdrawn or restudied. It can also coordinate data input, validation, and sharing across models and processes, streamlining the study process. Some utilities and ISOs have already begun initiating and implementing partnerships to automate the process.

As FERC continues to issue guidance and new rules on transmission interconnection, it should encourage transmission providers to identify additional opportunities for automation.

Recommendations to Address Mid-Term Needs

Beyond securing and optimizing existing energy systems, removing barriers that delay or block the development and deployment of energy generation, transmission, and storage projects is critical to unlocking the capacity required to achieve energy superabundance. This can be especially challenging considering the vast diversity of western resources and landscapes. Energy needs, resources, and attitudes are different across western states. Each energy resource presents unique challenges to development and deployment; solving them will require ongoing support and engagement, deeper investment, and broader structural policy reforms.



Fervo Energy's Cape Station geothermal development is strategically located in Beaver County, Utah, near the U.S. Department of Energy's Frontier Observatory for Research in Geothermal Energy (FORGE) field laboratory. Beaver County is exceptionally rich in geothermal potential and continues to lead the innovation of enhanced geothermal systems (EGS). Cape Station is anticipated to begin delivering power to the grid in 2026.

Recommendation: Address siting challenges

Project siting and permitting are critical factors that determine whether and when a project can be built. Siting an energy project requires balancing a range of technical, environmental, and community considerations; this includes factors such as resource availability, proximity to transmission infrastructure, land use constraints, environmental and wildlife impacts, and local needs and attitudes. The quality of planning is critical to long-term success in developing a project. Early access to accurate and precise information, surveys, maps, and data helps in identifying potential pitfalls before significant investment is made. Some states have already invested heavily in advanced GIS and tracking systems, which have proven to be instrumental in helping developers address cultural and environmental concerns. Federal grants can help states invest in the production and management of high-quality data and maps that developers can use to inform siting decisions and governmental agencies can use in permitting decisions:

- Federal permitting decisions should be technology agnostic and provide a predictable, timely and certain process for projects that can best meet energy needs of both the grid and the state.
- Federal land management agencies should work with states to improve access to information that can help identify land use challenges or other project pitfalls early in the siting process. Federal agencies should continue to provide technical assistance and other forms of capacity support through DOE's Reliable Energy Siting through Technical Engagement and Planning (R-STEP) program to facilitate more comprehensive and streamlined planning, siting, and permitting activities.



- Congress should amend existing authorities under the Federal Land Policy and Management Act of 1976 to support reconductoring, proximity-based siting, and enhanced use of existing transmission corridors.
- DOE should expedite projects under the Clean Energy Demonstration Program on Current and Former Mine Lands, and Congress should consider expanding the program.
- DOE Energy Dominance Financing should commit loan guarantees under the Title 17 Energy Infrastructure Reinvestment Financing program in a timely manner.
- Federal agencies should continue to leverage designated West-wide Energy Corridors to support the effective and efficient permitting and siting of energy infrastructure assets. To support more rapid and regional energy development, DOE should work with states to promptly designate National Interest Electric Transmission Corridors (NIETC). DOE should utilize data, such as the Western Transmission Expansion Coalition (WestTEC) 10-year Horizon Study and

the efforts that will follow on from this Superabundance initiative, to inform NIETC designations and other decision making.

Considering the unique nature of states and differing processes for resource development, providing flexibility within the federal permitting process can be valuable to addressing specific needs. Federal policies and changing priorities with administrations that prohibitively target certain resources can make it nearly impossible to permit or build long-lead projects, especially those on, or dependent on, federal land, significantly reducing the amount of new generation that can be added to the grid. This practice can be especially detrimental in western states that have larger percentages of federal lands within their borders and may be faced with limited energy development options. This prevents utilities and grid operators from selecting the most reliable, cost-effective, or locationally appropriate resources.

State agencies and regulators routinely manage permitting for



energy infrastructure and have built strong technical expertise in understanding the unique characteristics of their states, including local geology and resources, wildlife habitats, water resources, and community priorities. States are in the best position to manage siting and permitting decisions, and federal agencies should defer to this expertise. States can also often approve projects in a more efficient manner than federal agencies.

In many instances, states are often the first to encounter regulatory bottlenecks or coordination challenges, particularly for projects that cross multiple jurisdictions or require approvals from multiple agencies. Empowering states to identify the level and scope of federal assistance or intervention they need in these cases, whether through improved interagency coordination, additional resources, or limited federal backstop authority, can help accelerate project development while federal reforms are being considered.

Capacity levels for planning, permitting, and overseeing project

development can vary widely across states, tribes, and local governments. At smaller jurisdictional scales, these capacity constraints often become more pronounced, making it increasingly difficult to efficiently review and manage complex energy or infrastructure projects. Local governments often lack the resources to evaluate complex, technical projects in a timely manner and often require additional capacity and technical support to properly manage these requests. This is especially true for transmission projects. Increasing opportunities and resources for technical assistance, both for project developers navigating the permitting process and local jurisdictions that may lack the expertise or resources to evaluate projects effectively, can help address basic capacity issues and move projects forward in a timelier manner.

DOE's R-STEP program is one tool that can be leveraged by states and local governments to navigate and overcome siting and permitting challenges for large scale renewable energy projects. R-STEP provides funding for state-based collaboratives to strengthen

state and local capacity to conduct planning, siting, and permitting activities. This program and other collaborative initiatives can be used for technical assistance and to foster better community engagement to enable a more predictable and fair siting and permitting process for energy development. Additionally, these programs should assist in facilitating deployment of technology neutral energy solutions.

Policies that support reconductoring, proximity-based siting and using existing transmission corridors contribute to enhanced grid resilience by enabling better, more proactive land management that reduces outage risks and enhances the reliability of energy infrastructure. Amending existing authorities under the Federal Land Policy and Management Act of 1976 can help overcome some siting-related operational challenges.

Brownfields are previously used or disturbed sites like former mine lands, landfills, or manufacturing sites. These sites may offer significant potential for new energy projects because they are often equipped with existing



infrastructure access and have few competing redevelopment options. The redevelopment of these sites can also benefit local economies. The U.S. Environmental Protection Agency's (EPA) Brownfields and Land Revitalization program provides grants and technical assistance to support brownfield redevelopment activities.

Despite these advantages, brownfields have rarely been used for new energy development. Potential legal liabilities stemming from existing site contamination can limit project financing, while regulatory and permitting frameworks make it difficult to develop new projects on degraded lands. DOE's Clean Energy Demonstration Program on Current and Former Mine Lands is designed to demonstrate the technical and economic viability of clean energy projects on current or former mine lands via demonstration projects integrating various energy technologies.

DOE operates the Energy Infrastructure Reinvestment Financing (EIR) program to provide loan guarantees to finance projects that repurpose, retool, repower, or replace existing energy infrastructure that has ceased operations. This program can also be used to retrofit or update existing thermal energy plants. EIR loan guarantees can supplement other federal programs to support the redevelopment of energy infrastructure and can complement EPA's Brownfield Grants program and other funding available through DOE to redevelop retired infrastructure for new use.

To help guide the siting of transmission, distribution, and energy pipeline infrastructure, West-wide Energy Corridors were established under Section 368 of the Energy Policy Act of 2005, designating preferred locations for future siting of oil, gas, and hydrogen pipelines, as well as electricity transmission and distribution infrastructure. Federal



agencies including U.S. Departments of Agriculture (USDA), Defense (DOD), DOE, Commerce (DOC), and Interior (DOI) are directed to designate these corridors, perform required environmental reviews, and incorporate designated corridors into respective agencies' land use and resource management plans. Federal agencies should continue to leverage designated West-wide Energy Corridors to support the effective and efficient permitting and siting of energy infrastructure assets.

The Energy Policy Act of 2005 also authorized DOE, in consultation with states, to designate areas experiencing transmission constraints or congestion as National Interest Electric Transmission Corridors (NIETCs). Projects in NIETCs would then be eligible for federal financing tools. Additionally, within a designated NIETC, FERC may assume authority to issue permits for the siting of transmission lines in certain circumstances. With early and meaningful state coordination, this could accelerate timelines. The designations can also support the deployment of grid optimization and enhancement tools, as well as new generation projects. DOE has not yet completed any NIETC designations, preventing any of these benefits from being realized and

limiting the usage of certain funding streams, such as those under the Transmission Facilitation Program that are tied to NIETCs.

Recommendation:
Implement permitting changes for electricity transmission projects

While states are making considerable advancements that are proving effective at permitting and advancing projects within their own frameworks, improvements to the federal permitting process will also need to be made to effectively develop new energy projects at the pace and scale required for achieving energy superabundance:

- The Federal Permitting Improvement Steering Council (Permitting Council) should continue to enter into partnerships with states to support the expedited approval of energy infrastructure projects. Other agencies should consider the merits of collaborative agreements like MOUs and formalized partnerships with states and other federal agencies and implement them where appropriate to help facilitate and accelerate permitting processes.
- DOE should continue leveraging its Coordinated Interagency





At the final Energy Superabundance workshop, Utah Governor Spencer Cox sat down with Wyoming Governor Mark Gordon and Emily Domenech, Executive Director of the Federal Permitting Improvement Steering Council, to discuss permitting needs and opportunities.

Transmission Authorizations and Permitting (CITAP) program to support the rapid deployment of new transmission capacity. Congress should provide DOE with additional funding and resources to execute the CITAP program.

- Federal agencies should encourage and support the practice of colocation for transmission lines and other critical energy infrastructure.
- Federal agencies should expand the use of streamlined permitting mechanisms like general or programmatic permits.

For nearly two decades, the challenges of building large-scale transmission projects remained largely unchanged: Large transmission projects can require approval from a range of local, tribal, state, and federal authorities and, in the West, transmission projects are highly likely to be subject to review under the National Environmental Policy Act (NEPA).

Large transmission projects lack a single, centralized permitting pathway, leaving developers to contend with a patchwork of regulatory reviews,

environmental assessments, and local permitting requirements that extend project timelines. Because multiple reviews are typically required for route approval, and these reviews are almost never done concurrently, it can often take more than a decade to approve new lines today. For example, the planning and permitting process for the SunZia transmission line, to deliver wind energy from New Mexico to Arizona and eventually California, took 17 years to complete. Reducing permitting timelines and ensuring a predictable, transparent, and efficient process would address one of the most prominent barriers to expanding regional transmission today.

It is important to note that NEPA itself is not the problem with permitting. NEPA is intended “to foster and promote the general welfare...[and] to create and maintain conditions under which man and nature can exist in productive harmony.” The act simply requires federal agencies to assess the environmental effects of proposed actions prior to making decisions and permits public review and comment. The problem is not NEPA; the problem is how the act has been implemented.

In the wake of the Seven County Infrastructure Coalition v. Eagle County decision before the U.S. Supreme Court, implementation of NEPA should facilitate rigorous compliance standards, not stagnation through process delays and a culture of acting above and beyond the requirements of the law.

Strong state-federal coordination is essential for effectively permitting large energy infrastructure projects. MOUs, interagency agreements, and other partnerships can be especially effective in aligning timelines, sharing data, and formalizing cooperation between agencies. The Permitting Council has begun taking these actions, initiating partnerships with states to establish coordination and support on eligible projects. In 2025, the Permitting Council signed a first-of-its-kind MOU with Alaska to coordinate state and federal agencies in streamlining permitting of major infrastructure projects. Under the MOU, the Permitting Council will assist Alaska in determining project eligibility, provide technical support for covered projects, and develop tools to aid in faster implementation. Other

states, including Idaho, have followed, entering into similar agreements.

The Permitting Council should continue to enter into partnerships with states to support the expedited approval of energy infrastructure projects. Other agencies should also consider the merits of collaborative agreements like MOUs and formalized partnerships with states and implement them where appropriate to help facilitate and accelerate permitting processes.

For linear infrastructure projects or projects that may span multiple jurisdictions, improved coordination is often the fastest way to shorten permitting timelines and accelerate project development. Existing frameworks and authorities can be leveraged more effectively and consistently to ensure these outcomes. The Energy Policy Act of 2005 designated DOE as the lead agency to coordinate and streamline federal environmental reviews and permitting activities for electricity transmission projects. In 2023, nine federal agencies signed an MOU to implement this authority and expedite the siting, permitting, and construction of transmission infrastructure while continuing to ensure appropriate environmental protections. DOE issued a final rule on transmission permitting reform in 2024 to establish the Coordinated Interagency Transmission Authorizations and Permitting (CITAP) program to support the rapid deployment of new transmission capacity.

CITAP sets a two-year timeline for conducting federal reviews and prioritizes robust stakeholder engagement at the preapplication phase. Permitting actions are coordinated through a centralized portal that project developers can directly access. If implemented well, CITAP is one collaborative permitting tool that can reduce duplication and uncertainty and improve permitting timelines for transmission projects. DOE should work with other relevant federal agencies to maintain agency



participation with firm timelines. To better facilitate this coordination, Congress should provide additional resources to execute the CITAP program.

Colocation offers an option to expedite the development of new transmission projects. By using existing rights-of-way, such as those along highways, colocation allows new transmission lines to be built within existing infrastructure corridors, enabling multiple types of linear infrastructure to share the same route. This effectively reduces the need for separate permitting streams and avoids the unnecessary use of eminent domain and additional land disruptions. Despite clear and distinct advantages, colocation remains heavily underutilized due to statutory and regulatory barriers that prohibit or restrict the practice. Many state policies and transportation guidelines restrict utilities from installing infrastructure within interstate highway rights-of-way, reflecting

outdated practices developed when the Interstate Highway System was first built.

Updated guidance issued by the U.S. Department of Transportation (DOT) in 2021 clarifies that states can allow utility colocation and empowers states to be the decision-making authority in these cases. States like Colorado have passed legislation that creates new opportunities for transmission developers to work with the Colorado Department of Transportation and the Colorado Electric Transmission Authority to site new transmission projects. However, many states continue to view colocation as a last resort, and the consideration, adoption, and implementation of transmission colocation policies remain fragmented. Federal agencies should explicitly signal their support for collocating transmission lines in existing rights-of-way to encourage increased adoption by states.

Streamlined permitting mechanisms like general or programmatic permits



can help incentivize system upgrades and lower-impact development opportunities. These permits authorize a number of activities, including those that support or contribute to energy development. By relying on standardized conditions and, in many cases, preconstruction notification rather than case-by-case review, programmatic permits can significantly reduce permitting timelines, costs, and regulatory uncertainty faced by developers.

In a parallel way, general permits improve timelines and simplify permitting and siting decisions. General permits use standardized eligibility criteria and predefined siting and operational conditions. The permits work on a registration-based process in which developers self-certify compliance and implement required avoidance, minimization, and mitigation measures.

Because the environmental review is conducted at the programmatic level, agencies can predefine impact limits, standard conditions, and mitigation requirements, reducing the need for duplicative,

project-by-project analysis. This approach accelerates permitting timelines while still ensuring consistent environmental protections and incentivizing developers to implement projects that fall within lower-impact areas.

Recommendation:
Encourage additional investment in transmission projects

Transmission cost allocation has become a significant policy hurdle to implementing new transmission projects. More coordinated planning, benefits assessment, clearer cost-sharing frameworks, and expanded financing tools are needed to reduce risk and funding gaps to enable transmission improvements and expansion:

- FERC should address cost allocation to enable more regional, interregional, and large-scale transmission projects.
- Congress must ensure that DOE has adequate appropriations and other necessary resources to carry out the Transmission Facilitation Program.

Cost allocation is the process of determining who will bear the costs of

electricity generation and transmission upgrades and is an integral part of the ratemaking process. As the need for transmission upgrades and the addition of new lines increases, cost allocation is often a challenging practice. Historically, it was accepted practice for project developers seeking interconnection to pay for the full cost of transmission upgrades necessary to deploy a project. This was manageable at a time when only a small number of large power plants were being built. However, given the growth of smaller generation projects and the sheer volume of requests in the interconnection queue today, the situation is much different. Requiring a single project developer to bear the full costs of upgrades that will benefit future and additional projects creates a disproportionate financial burden and undermines the financial viability of many proposed projects.

FERC requires public utility transmission providers to participate in a regional transmission planning process that includes an established regional cost allocation method for new transmission facilities selected in the regional plan. This presents a hurdle to building interregional transmission projects, and as a result, very few have actually been built. Collaborative initiatives at the local and state level are crucial venues to discuss and determine cost allocation, especially in the absence of an RTO.

FERC also eliminated utilities' right of first refusal for most regional and interregional transmission projects, meaning projects must be competitively bid rather than automatically built by an incumbent utility, with exemptions for reliability projects that fulfill immediate need. This has resulted in utilities often opting for shorter, reliability-focused transmission lines and upgrades rather than large, long-distance projects.

FERC should address cost allocation to enable more regional, interregional, and large-scale transmission to be built. Transmission planning studies



Robert Kenney, President of Xcel Energy, Colorado, spoke at the Colorado workshop of the Energy Superabundance initiative about how to maximize the value of transmission in the West while keeping energy affordable.



underscore the scale of the need, identifying billions of dollars in investment required over the next two decades to maintain system reliability and support economic growth. These investments span a wide range of projects, from upgrades to existing infrastructure via reconductoring and capacity expansion, to new transmission developments.

Transmission projects require substantial upfront capital investment, often years before they can begin generating returns, creating a financing gap that traditional private capital can be reluctant to fill. States are equipped with a variety of financing mechanisms to support transmission development, including bonding authority, infrastructure banks, revolving loan funds, and credit support tools designed to lower the cost of capital and derisk early-stage investments. These approaches are particularly valuable in addressing upfront development risks where other financing options are limited and can be structured to complement utility, private sector, and federal investments.

In Colorado, the Colorado Electric Transmission Authority (CETA) provides a clear example of this model in practice, using its authority to issue revenue bonds backed by projected revenues to support transmission projects. By acting as a gap financier, particularly in early development stages, CETA can help reduce overall project costs and accelerate deployment without relying on taxpayer dollars for funding. Other western states like New Mexico, through its Renewable Energy Transmission Authority, and emerging efforts in Wyoming and Montana, are exploring or implementing similar innovative financing structures that leverage public authorities to provide low-cost capital to fill critical investment gaps in transmission development.

At the federal level, recent legislation has brought forth new opportunities for funding, financing, and credit support for transmission projects. DOE operates the Transmission Facilitation Program (TFP), a \$2.5 billion financing initiative to accelerate the development of large-scale electric

transmission projects by reducing financial risk and improving project viability. The TFP functions as a revolving fund. Capacity contracts may also be utilized, wherein DOE acts as an anchor customer, purchasing a portion of an eligible transmission line's proposed capacity. This can help attract additional investors and customers while reducing financial risk for project developers. The goal of the TFP is to enable projects that might not otherwise be built due to cost or market barriers. Congress must ensure that DOE has adequate resources to carry out this program.

There is broad agreement that federal efforts are most effective when paired with permitting reform, which can significantly reduce project timelines and costs. Moving forward, greater alignment between federal incentives and state driven opportunities, along with expanded use of existing financing and workforce programs, could help accelerate transmission deployment and ensure that investments deliver maximum value.



Recommendation:
Invest in energy storage technologies, especially long duration energy storage systems

Energy storage systems strengthen grid reliability and flexibility by balancing supply and demand, while enabling greater use of diverse energy resources and supporting long-term system resilience:

- Congress should emphasize investment into the research and deployment of long duration energy storage systems to improve overall system reliability.
- FERC should consider expanding upon its regulatory efforts to support the deployment of long duration energy storage systems.

In tandem with investments in transmission and generation assets, bolstering energy storage technologies is critical to setting the stage for an abundant energy future. More than a dozen states have set procurement targets for energy storage, which are typically implemented by regulated utilities but vary widely in design including which technologies

are incentivized, the duration of storage prioritized, and how DERs are incorporated. Historically, procurement and incentives have focused largely on batteries and short-duration storage options. As states integrate larger shares of intermittent energy generation, attention has shifted towards longer duration options.

Long-duration energy storage could contribute to grid reliability in the future, but presents a complex set of technological, economic, and market challenges. The primary technologies for energy storage at present are traditional lithium ion batteries, which becomes prohibitively expensive at longer durations. Existing long duration options like pumped hydropower and compressed air storage are limited by siting and environmental constraints in addition to being relatively high cost. Many technology options in development are at the preliminary stages of commercialization. Electricity market structures are not always designed to remunerate long duration energy storage providers for the benefits these projects bring to the grid, such as multi-day reliability, resilience, and

capacity value. Continued investment in research, development, regulation, and deployment will be essential to reducing costs, accelerating commercialization, and advancing innovative technologies.

Regulators are increasingly recognizing storage as a potential transmission asset, enabling cost recovery through regulated rates when storage provides grid-support services such as congestion relief or voltage support. FERC should monitor the efficacy of its efforts to integrate long duration storage into grid management and consider actions to support additional long duration energy storage system deployments.

Recommendation:
Develop and support the energy sector workforce

A robust, well-trained workforce is needed to design, build, operate, and maintain the infrastructure necessary for achieving energy superabundance. Labor shortages and technical capacity gaps require expanded training and greater investment in workforce development programs to meet growing demand:



Rachel Chamberlain, State Energy Strategist with the State Support Center at S2 Strategies; Theresa Foxley, Chief of Staff of rPlus Energies; Aric Saunders, Executive Vice President of Commercialization at Noon Energy; Patrick Reedy, Head of Hardware Products with Torus; and Mark Thompson, Senior Director of State Affairs at Form Energy, spoke at the Utah workshop of the Energy Superabundance initiative about how long duration and grid scale energy storage present significant opportunity to strengthen grid reliability, integrate more variable energy resources, and provide firm capacity during periods of extended peak demand or low generation.



meaningful workforce opportunities for service members and veterans and can help energy developers better leverage existing training pipelines to find skilled and qualified workers.

Cultivating a local workforce capable of supporting and sustaining long-term energy growth is critical to improving workforce outcomes. Investing in local talent pipelines ensures that jobs remain local, reducing reliance on transient or temporary labor and strengthening local economies. Initiatives and opportunities that expand postsecondary pathways, such as programs that expose students to diverse career options, can help foster a workforce that meets evolving energy needs. Admit Utah is a strong example of a state-led workforce pipeline initiative. The program ensures that high school graduates have clear, accessible pathways into postsecondary education, whether to four-year universities, trade schools, technical programs, or community colleges, to ensure that students obtain marketable job skills and successfully transition into the workforce.

Recommendations to Achieve Long-Term Energy Superabundance

Achieving and sustaining energy superabundance depends on decisions made well before their effects are visible on the grid. Actions such as coordinated transmission planning, the development and deployment of new nuclear and other innovative generation technologies, and the expansion of secure domestic supply chains may require longer lead times. While their benefits may not be immediately reflected in near-term capacity or reliability metrics, they are essential to enabling and maintaining energy abundance.

- Congress and federal agencies should continue to support and expand workforce and career pathways in the energy sector, including opportunities for veterans and transitioning service members.

The complexity and diversity of energy workforce needs can make it difficult to recruit, train, and retain the workforce necessary to support continued growth. Addressing this gap will require broad upskilling, reskilling, training, and recruitment efforts. A well-prepared workforce not only accelerates deployment but also drives innovation and supports high-quality construction. States, the federal government, and the energy industry can all contribute to and invest in these workforce pipelines to enable the right expertise for projects to be completed safely, efficiently, and on schedule.

Attracting talent from adjacent sectors and industries offers one of the fastest pathways to grow the energy workforce, particularly as growth of the energy sector outpaces traditional training pipelines. Workers from sectors like aerospace, defense, advanced manufacturing, and oil and gas already possess many of the technical skills, safety practices, and practical project expertise necessary for many energy roles. These workers can transition with targeted, short-term upskilling rather than time-intensive retraining. This approach

will not only shorten hiring timelines but may also help address immediate labor shortages across construction, operations, and engineering functions. By actively recruiting from these industries and aligning training programs to address specific skill gaps, the energy industry can rapidly expand its workforce in the face of mounting infrastructure and generation needs.

In addition to these adjacent industries, veterans represent another significant talent pool that should be leveraged and developed to support energy workforce needs, particularly in advanced sectors like nuclear. The military produces a highly skilled, safety-oriented workforce with experience in complex systems, engineering, logistics, and mission-driven operations that closely align with the needs of the energy sector. Skill-specific training and credentialing can help these individuals transition quickly into civilian roles, reducing hiring timelines, and improving retention.

Congress can supplement and enhance the effects of these programs by establishing grant programs that assist transitioning military members and their families obtaining employment in the energy sector. Mechanisms that broaden hiring pathways and improve upskilling and retraining can support



Recommendation:
Support long-term, regional transmission planning activities

Effective transmission planning requires long-term, regional coordination to identify and build critical infrastructure, reduce congestion, and ensure new energy resources can be delivered reliably and affordably to consumers:

- The federal government should assist state-led efforts and voluntary coalition-driven initiatives to improve long-term, regional transmission planning efforts.

Across the West, energy resources are abundant, with ample options to be leveraged and developed. Connecting those resources to a strong, reliable grid has proven to be a significant challenge, complicated by the West's vast geographies and intricate planning processes. Substantial transmission expansion is needed to ensure that the grid can meet evolving needs, respond to load growth, and maintain affordable and reliable service.

While many permitting and investment decisions are made at the state level, transmission planning is most effective when done at the regional scale alongside comprehensive, long-term transmission studies. This approach allows for the identification of projects that need additional support in the form of public financing or state backing to be completed. In 2024, FERC began requiring that transmission providers including RTOs and ISOs undertake long-term regional planning to identify and evaluate cost effective transmission facilities needed to maintain reliability, meet growing demand, and access lower-cost generation. This marked a significant shift away from shorter-term planning processes that often failed to identify broader, regional transmission needs.

Historically, the West has lacked a robust regional planning process. Regional coalition efforts like WestTEC are underway to develop



At the Energy Superabundance workshop in Idaho Falls, Nuclear Regulatory Commissioner Bradley Crowell emphasized that the West is positioned to lead a lasting nuclear energy renaissance.

actionable studies and frameworks that can be used to guide interregional transmission developments across the West. In the absence of an RTO, these voluntary coalition efforts can be leveraged to coordinate and accomplish regional transmission planning. Other collaborations like the Committee on Regional Electric Power Cooperation (CREPC), initiatives like the West-Wide Governance Pathways Initiative (WWGPI), or tools like MOUs and partnership agreements, have also shown promise by providing frameworks and forums for regulators, utilities, transmission developers, policymakers, and the public to discuss transmission needs, cost allocations, and planning. To achieve the desired outcomes of FERC's regional transmission planning requirement, the federal government can help fund and support successful state-led efforts and voluntary coalition-driven initiatives.

Recommendation:
Develop and deploy nuclear energy

Unlocking additional baseload generation through the development and deployment of nuclear energy is a critical step to achieving energy abundance. Nuclear energy offers

a carbon-free source of consistent, durable electricity generation that can power a wide range of generators, from large baseload facilities to small, mobile power units. Durable demand signals for new nuclear projects are essential to mobilizing and sustaining the investment, workforce development, and supply chain durability needed to expand the industry:

- The Nuclear Regulatory Commission (NRC) should continue to work quickly to issue licensing decisions and implement reforms, where necessary, to improve the process.
- Congress should amend the Atomic Energy Act to address uncontested hearing requirements, granting NRC more flexibility to take regulatory action in undisputed cases. NRC should work to consider other regulatory reforms related to the hearing process that may reduce timelines or duplication.
- To adapt to nuclear technology innovation and the influx of advanced reactor designs, NRC should also develop clearer, more streamlined guidelines for non-light-water reactors and other advanced reactors and manufacturing processes.



During the Energy Superabundance workshop at Idaho National Laboratory, Idaho Governor Brad Little signed an executive order to establish an Idaho Advanced Nuclear Energy Task Force that “will bring together experts from across industry, academia, government, and local communities to provide clear and actionable strategies for the future of nuclear energy.”

- Congress and the Administration should set specific deployment targets for advanced reactors to catalyze development and investment in a broader suite of nuclear technologies.
- DOE should continue to support the rapid innovation and commercialization of a wide range of nuclear technologies through the Nuclear Energy Launch Pad Program and the establishment of nuclear reactor orderbooks.
- Congress should increase DOE Energy Dominance Financing credit subsidies and work with DOE to expand them to support a wider range of nuclear projects and designs.
- Congress should consider legislation that would allow DOE Energy Dominance Financing to function as a federal backstop to help utilities and project operators manage cost overruns associated with developing nuclear projects.

The NRC has undertaken efforts to improve a number of its regulatory processes to unlock nuclear

development across the country. The Accelerating Deployment of Versatile, Advanced Nuclear for Clean Energy (ADVANCE) Act, passed in 2024, directed NRC to streamline advanced reactor licensing and a subsequent Executive Order (EO) 14300 instituted further changes to NRC and its regulatory regime to prioritize more rapid nuclear development. NRC has already taken steps to implement many of these changes and early indications suggest success in improved licensing times. NRC should assess the effect of these reforms and take additional steps as needed to improve licensing processes.

Under the Atomic Energy Act, NRC is required to hold licensing hearings on every application for a construction permit for a nuclear power reactor. Because of the resources required to prepare and conduct these hearings, even uncontested applications can be costly to applicants, burdensome for NRC staff, and result in significant process delays. Through rulemakings, NRC has sought to streamline this process, but Congress would need to amend the Atomic Energy Act to

address this uncontested mandatory hearing requirement and grant NRC the latitude to take regulatory action in undisputed cases. This would allow licensing decisions to be reached more quickly and would expedite nuclear development. Other hearing-related licensing reforms, such as allowing multiple reactors to be built on the same site with only one hearing, or implementing a written hearing process, should be considered to help further reduce licensing timelines and process duplication.

NRC should continue to work quickly to issue reactor certifications and licenses, especially for advanced nuclear reactor designs. This may include strategies like utilizing repeatable approval, general licenses, and pre-approved criteria once the initial safety review of a specified reactor type has been completed. Adequate NRC staff capacity and technical knowledge of a range of reactor designs is also critical to ensure that licensing decisions can be made in a timely manner.

In 2025, President Donald Trump issued



a series of EOs to accelerate the growth of the nuclear energy industry and expand domestic nuclear capacity. EO 14300 set a target of nearly quadrupling U.S. nuclear capacity to reach 400 gigawatt by 2050. EO 14302 set more specific goals for large reactor construction, licensing, and accelerating domestic nuclear supply chains. Congress or the Administration taking action to set similar, specific deployment targets for advanced reactors can provide an important signal of support for the industry and may motivate investment in a broader suite of nuclear technologies.

EO 14301 established the Reactor Pilot Program to accelerate the testing and demonstration of advanced reactors and next-generation nuclear technologies using DOE authorization instead of typical NRC licensing. This program has transitioned to the Nuclear Energy Launch Pad and can improve the innovation cycle and establish a standardized set of reactor builds and designs that can eventually be approved and commercialized. Nuclear reactor

orderbooks or similar durable demand signals can continue this momentum by enabling project stakeholders to plan and execute large scale nuclear deployments with greater certainty and speed.

Nuclear projects face exceptionally high upfront costs and development risk that can make private financing difficult until commercial deployment, often necessitating additional policy support, risk-sharing mechanisms, or long-term revenue certainty.

Private investments can be supplemented with federal support to help developers overcome initial financing challenges. Federal credits are one mechanism that can provide support to nuclear developers. DOE Energy Dominance Financing provides up to \$200 billion in total loan authority, including for proven reactor designs, with collaborative application support. Increasing the credit subsidy or expanding it to support a wider range of nuclear projects and designs, including small modular reactors and microreactors, can also help advance new projects. Provisions that would

allow project developers or applicants to pool multiple incentives and funding opportunities can help bridge funding gaps from private investment. Other options, such as implementing a federal backstop authority to help utilities and project operators account for cost overruns, provide another potential mechanism for derisking investment in nuclear projects.

Recommendation:
Support emerging energy technologies

- Federal incentives and funding programs should be technology neutral in a manner that allows a wider range of technologies to be brought to market. DOE should implement more flexible demonstration program requirements that enable opportunities for innovative technology options.
- Federal agencies should work to more closely align regulation with innovation and should implement performance-based rules and frameworks.
- The National Laboratories and other federal test beds or demonstration sites should continue to be supported and leveraged as hubs of energy innovation. DOE should consider expanding its partnership models to more broadly include public sector users like state energy offices and economic development teams.
- DOE should work with state energy and financing authorities to establish revolving geothermal de-risking facilities to mitigate downside risk for geothermal developers at the appraisal stage.

Innovative and emerging energy technologies will have a role in expanding the energy mix and providing additional baseload generation needed to achieve energy superabundance. First-of-a-kind projects often carry higher upfront costs, unproven performance risks, and financing challenges,



At the Energy Superabundance workshop in Salt Lake City, Utah, Governor Spencer Cox and Colorado Governor Jared Polis helped launch the Mountain West Geothermal Consortium to advance the development of geothermal energy.

which creates a gap between technology demonstration and commercialization. Mechanisms like federal grants, cost-sharing, loan guarantees, or advanced market commitments can help bridge this gap by validating technology performance, mitigating perceived risks, and establishing initial deployment pathways. These incentives and policy support should be technology neutral, allowing market forces to determine which technologies succeed. Providing for a wider range of options also allows states and communities to select energy options that best meet their local needs and conditions.

Emerging energy technologies can be subject to the same regulatory processes as large-scale, conventional energy projects. Shifting from a rigid, rules-based permitting process to a performance-based approach and using tailored licensing pathways could unlock rapid development and deployment of innovative energy technologies and allow a greater range of technologies to flourish.

DOE has excellent experience in building large, complex infrastructure projects, which can help project developers facing risk or regulatory uncertainty. Programs like the Gateway for Accelerated Innovation in Nuclear (GAIN), exemplify how the resources of the National Laboratories can be used to effectively accelerate technology development. GAIN provides private developers access to lab expertise, facilities, and data, helping them overcome technical hurdles and move towards deployment. This model of combining targeted funding, lab access, and commercialization support has been proven effective at bringing technologies to market. These models could be expanded more broadly to include public sector users like state energy offices and economic development teams, enabling them to complete modeling



Raef Sully, Chief Executive Officer of Lilac Solutions; Andrea Watson, Associate Laboratory Director, Innovation, Partnering, and Outreach at the National Laboratory of the Rockies; Brian Somers, President of Utah Mining Association; and Sidney Smith, Government Affairs Manager of the American Exploration and Mining Association, spoke at the Energy Superabundance workshop in Salt Lake City about the need to strengthen the nation's critical mineral supply chains.

exercises and capacity studies that can be shared across states.

Partnerships with the National Laboratories and demonstration programs at federal sites provide a vital avenue to assess technology risks. This allows developers and regulators to generate the data needed to establish a workable and fair regulatory pathway. These policies should provide developers appropriate flexibility and allow for reasonable proxies and modeling simulations to demonstrate project performance. This would allow various models to be analyzed for performance and operational safety before committing to the expense of constructing large-scale demonstration facilities.

Similar partnerships and public-private facilities can also be leveraged to further advance proven technologies like geothermal by providing support for developers at higher risk, capital-intensive project development stages such as appraisal drilling, by allowing a revolving pool of capital to backstop

potential failures. By lowering the risk born by the developer at the appraisal stage, these facilities can spur additional motivation to appraise more projects. Geothermal de-risking facilities can unlock the investment needed to develop over 300 gigawatts of clean, firm, affordable power in the West.

**Recommendation:
Bolster domestic supply chains**

Building a reliable, domestic energy supply chain requires expanding critical mineral production, processing, and manufacturing capacity to reduce bottlenecks and reliance on foreign sources.

- Congress, in consultation with the states, should develop a National Minerals Policy that truly enables mineral exploration and development and recognizes the importance of a reliable domestic supply of minerals while providing protection for state equities, tribal interests, local communities, and human health and the environment.



- Congress and the Administration should consider policies and reforms that support early investment and planning and provide greater certainty across the entire energy supply chain.
- The Department of Commerce should work with other relevant federal agencies to clarify foreign entity of concern requirements.
- Congress should take steps to encourage the long-term viability of the domestic nuclear supply chain.

Parallel to new generation, storage, and grid technologies being developed and deployed, supply chains will need to be strengthened to ensure the availability of materials and components needed to maintain and expand energy technologies and infrastructure. Critical minerals have an essential role in energy development, underpinning technologies including nuclear fuel, batteries, solar panels, wind turbines, and other energy systems. The needs of the energy, manufacturing, transportation, and defense sectors far outpace domestic production and processing capabilities, forcing an outsized reliance on foreign sources. The West has a rich legacy of mining, a significant endowment of mineral resources, and mining is an important economic driver for many western states and communities. Securing reliable and stable supplies of minerals is essential not only for achieving energy superabundance but for providing local economic opportunities as well.

Bolstering domestic supply chains will require a comprehensive approach that considers not only mineral extraction but also mineral processing, refining, and recycling to maximize resource efficiency and meet energy, economic, and national security needs. Despite a wealth of mineral resources, the U.S. maintains a significant processing and refining gap, lacking sufficient

domestic capacity to refine minerals into usable metals. For example, the West is one of the world's top producers of copper and exports large amounts of raw copper ore, yet nearly 45 percent of the finished copper in the U.S. is imported due to the lack of domestic refining capacity.

The limited availability of mineral resources often contributes to larger supply chain constraints, hindering the ability to manufacture or acquire the equipment that makes an abundant energy future possible. Nuclear energy technologies rely on highly specialized supply chains that can create significant bottlenecks for new projects. The U.S. lacks sufficient, qualified steel, forging, and fabrication capacity, and many legacy suppliers no longer maintain certifications and quality assurance programs, restricting their ability to provide materials for new reactor deployment. Early investment and planning are critical to align the supply chain with project timelines. Greater standardization of traceability, certification, and quality management requirements could improve reliability and reduce delays.

High energy prices can undermine the economics of domestic production. Manufacturers often depend on low-cost power to remain competitive, making reliable and affordable energy critical for their financial viability. Supply chain reforms that provide greater certainty for the entire scope of mining, manufacturing, industrial, and retail operations, rather than individual projects, would provide developers and investors confidence that longer-term projects can be built and sustained.

Uncertainty surrounding the DOC's foreign entity of concern requirements has created significant challenges for manufacturers and developers seeking to invest and deploy domestic energy products or

infrastructure. While intended to drive domestic production and purchasing, implementing these requirements is often difficult due to the lack of domestically produced materials. Ambiguity around compliance standards, sourcing restrictions, and eligibility requirements has increased project risk, delayed investment decisions, and complicated supply chain planning. Clarifying these requirements can help reduce compliance risk and streamline project development timelines to support the growth of domestic manufacturing and supply chains.

There is also a critical need to bolster the domestic nuclear fuel cycle to support new nuclear deployment. Decades of volatility have hollowed out domestic capacity, leaving the U.S. with limited mining output, a single conventional uranium mill, and heavy reliance on foreign suppliers for uranium conversion and enrichment. Advanced reactor deployment further intensifies these pressures by requiring new fuels such as HALEU (High-Assay Low-Enriched Uranium), which lack domestic commercial-scale production capacity.

Recent EOs designed to revitalize the nuclear industrial base support developments to the entire fuel cycle, however, more robust, systemic improvements that better align policies, timelines, incentives, and investments will be necessary to support continued operation of the current reactor fleet, as well as facilitate future deployments. Establishing durable demand signals through long-term contracting or task orders such as the ones DOE recently signed for uranium enrichment can stimulate growth and ensure stable supply of domestic fuel production capacity. Other strategies like restarting and expanding the Strategic Uranium Reserve can also be an important procurement signal that can incentivize domestic production and investment.

WORKSHOPS, WEBINAR, PANEL, PODCAST SUMMARIES

Idaho Workshop: Idaho Falls, Idaho

September 22-23, 2025

Utah Governor Spencer Cox kicked off his WGA Chair initiative, Energy Superabundance: Unlocking Prosperity in the West, by co-hosting a two-day workshop with Idaho Governor Brad Little at the Idaho National Laboratory (INL).

The event brought together local, state, and federal officials; public utilities; industry experts; nuclear scientists; NGOs; and think tanks to explore strategies for safely advancing nuclear energy.

Whether the momentum building behind nuclear energy was described as a “nuclear renaissance” or a “nuclear resurgence,” the excitement was universal. INL Director John Wagner told workshop attendees at the Energy Innovation Laboratory that, “we’re seeing an intersection of multiple factors come together that I haven’t seen in my entire career.”

“The world is changing rapidly,” Governor Little added. “Energy

demand is expected to increase by an unprecedented 30 percent in the near future. We cannot do that with our legacy energy... Communities, states, and nations are all searching for energy solutions. Advanced nuclear technologies hold enormous promise to meet those needs.”

To effectively leverage this moment, panelists spoke about strategies for attracting investments in research and development, improving the domestic nuclear fuel cycle and supply chains, growing the nuclear workforce, and streamlining the permitting process without compromising public health or environmental protections.

“We have to significantly increase the amount of energy that we’re producing, and we have to do it very, very quickly,” Governor Cox said. “We cannot move at the speed of government. We really have to hyperscale, and we need the best thinkers, the best innovators, and the best regulators in the world at this moment to make sure that we can do it, and that we can do it safely.”

Colorado Workshop: Denver, Colorado

October 28-29, 2025

Colorado Governor Jared Polis hosted an Energy Superabundance initiative workshop in October to explore practical solutions for expanding and improving energy transmission while avoiding lengthy timelines and providing affordable electricity for consumers.

“We want a lower cost grid, we want a more resilient and reliable grid, and transmission is absolutely critical to achieve that,” Governor Polis said. “My fellow Governors and I are committed to working together to find practical and bipartisan solutions that can improve the grid and expand transmission infrastructure to truly achieve energy superabundance.”

Throughout the workshop, panelists emphasized that states have a critical role to play in advancing transmission — from coordinating across agencies and state lines to modernizing siting rules and deploying new technologies that increase capacity on existing infrastructure.



Idaho Workshop



Colorado Workshop



Speakers also highlighted the value of state infrastructure authorities and interstate agreements as tools for aligning regional priorities, accelerating permitting, and reducing costs.

“We tend to get fixated on the federal level, but as the feds reach down, the states need to reach up... especially if they have infrastructure authorities,” said Sarah Webster, the Senior Vice President of External Affairs and Market Development at Pattern Energy (the developer of the SunZia and Western Spirit transmission lines). “It can be agnostic. It can be for oil pipelines, gas pipelines, transmission, or just energy transportation.”

Arizona Workshop: Phoenix, Arizona

December 17-18, 2025

Arizona Governor Katie Hobbs hosted an Energy Superabundance initiative workshop in Phoenix in December, convening policymakers and industry leaders from across the West for a two-day discussion on the region’s energy future.

The workshop examined opportunities to streamline permitting and siting for new generation facilities, strengthen domestic critical mineral supply chains, support tribal energy

development, expand distributed energy resources, and accelerate the deployment of emerging energy technologies.

“The fact is that America’s energy future runs through Arizona and other western states, Governor Hobbs said. “We stand on the frontier of energy innovation and generation, and our collective power has the ability to support and promote American advancement for generations. The good news is that western states are already leading the way in energy production... we know that we can only accomplish more when we work together, and that’s what today’s and tomorrow’s conversations are about.”

Utah Workshop: Salt Lake City, Utah

May 20-21, 2026

“Capital is a coward,” Utah Governor Spencer Cox said during a discussion with Wyoming Governor Mark Gordon at WGA’s final Energy Superabundance initiative workshop. “It’s going to flee when there’s uncertainty.”

Whether the topic was nuclear power, geothermal energy, hydropower, long-duration energy storage, energy transmission, or critical mineral supply chains, the Governors and workshop panelists spoke

about the need for permitting and regulatory reform to unlock the generation, transmission, and energy infrastructure needed to ensure reliability and affordability.

“NEPA was an incredibly foresightful law,” Governor Gordon said. “Since NEPA’s inception, however, it has been so changed by laws and legal precedents and other things that it’s become what you might say is ‘banana’ — build absolutely nothing anywhere near anybody — and that is incredibly problematic.”

“There’s this misnomer out there that you have to choose between speed and environmental safety regulation,” Governor Cox said. “That is certainly not true.”

While many solutions already exist, both Governors pointed out, advancing them will require bipartisan collaboration and action at the federal level.

“The truth is, the innovation in energy policy is happening in states like Utah and Wyoming, and other states are following us,” Governor Cox said. “Now, we’ve got to get there at the federal level... All of this is coming to a head in a way that can lead to really important generational changes in policy and structure that are good for our country if we can get this right.”



Arizona Workshop



Utah Workshop



Cully Cavness, President and Chief Operating Officer of Crusoe Energy; Christian Grant, Partner at Deloitte; Nate Hill, Head of Energy Policy at Amazon; and Lisa Tiffin, Chief Commercial Officer at Tri-State Generation and Transmission Association, spoke with the Governors at WGA's 2025 Winter Meeting about strategies to meet baseload electricity growth while maintaining affordability and reliability.

WGA 2025 Winter Meeting Panel: Energy Superabundance for Data Needs

Data centers have rapidly become some of the largest and fastest growing consumers of electricity, driven by the proliferation of artificial intelligence, cryptocurrency, quantum computing, and cloud computing. As computational capacity increases, so does the demand for energy. Many large data centers now draw hundreds of megawatts, placing increased strain on electric grids and accelerating the need for new, abundant generation capacity. This panel explored the capacity demand that data centers in the West are creating, and examined strategies to meet growing electricity needs while maintaining affordability and reliability.

Webinar: Improving Energy Interconnection

Increased electricity demand, rapid energy development, and an aging and inadequate transmission system continue to strain the grid, creating significant interconnection challenges that limit the ability to bring new energy online quickly and

restrict opportunities for optimizing or diversifying the grid. Energy project developers often encounter long queues and lengthy delays in securing interconnection agreements, which may be further stalled by high costs and complex permitting requirements. This webinar explored how improving the interconnection process can reduce queue backlogs, lower development risk, and accelerate the deployment of new energy resources.

For this discussion, WGA Policy Advisor Abby Pelsmaeker was joined by Darren Buck, Director of Power Delivery at Platte River Power Authority; Will Gorman, research scientist at Lawrence Berkeley National Laboratory; Steven Johnson, Senior Director of Markets Administration at Southwest Power Pool; and Sunny Raheem, Director of System Planning for the Engineering Department at Southwest Power Pool.

Together, they highlighted several promising solutions, including improved coordinated regional transmission planning, such as Southwest Power Pool's consolidated planning process. They also emphasized the value of market transparency, automation, artificial intelligence, transmission technologies like dynamic line ratings, and better coordination between state

regulators, utilities, developers, and federal agencies.

"There are all kinds of ways we're looking to squeeze all the efficiency we can out of the system," Steven Johnson said. "We look forward to partnering as an industry with [the regulators] to get this right and to keep this plane in the air as we continue to rebuild it."

Podcast: Energy Superabundance: Unlocking Prosperity in the West

Utah Governor Spencer Cox sat down with WGA Executive Director Jack Waldorf to talk about the inspiration and vision behind his WGA Chair initiative. The podcast also features interviews with Emy Lesofski, Director of the Utah Office of Energy Development, to learn about Utah's approach to energy innovation and John Wagner, Director of the Idaho National Laboratory, who spoke about the unique factors driving today's nuclear resurgence.



INITIATIVE PARTNERS



PARTICIPANT ACKNOWLEDGMENTS

WGA thanks all the speakers who contributed their time and expertise to the initiative's workshops and webinars.

Idaho Workshop: Idaho National Laboratory, Idaho Falls, Idaho, September 22-23, 2025

- The Honorable Brad Little, Governor of Idaho
- The Honorable Spencer Cox, Governor of Utah
- The Honorable Bradley Crowell, Commissioner, Nuclear Regulatory Commission
- John Wagner, Director, Idaho National Laboratory
- Stephen Burdick, Senior Counsel, Idaho National Laboratory
- Adam Stein, Director, Breakthrough Institute
- Víctor Ibarra, Senior Manager Nuclear Energy, Clean Air Task Force
- Mason Baker, Chief Executive Officer, Utah Associated Municipal Power Systems
- Tom Hucker, Senior Consultant, U.S. Department of Energy Office of Energy Dominance Financing
- Niko McMurray, Managing Director, International and Nuclear Policy, ClearPath
- Bradley Williams, Senior Policy Advisor, Idaho National Laboratory
- Chad Cramer, Associate Partner, McKinsey & Company
- John Kotek, Senior Vice President, Policy and Public Affairs, Nuclear Energy Institute
- Kevin Plunkett, JP Morgan Chase
- Cassie Powers, Chief of Staff, National Association of State Energy Officials
- Joshua Jarrell, Director, Fuel Cycle Science and Technology Division, Idaho National Laboratory
- Chris Lowe, Chief Executive Officer, Nusano
- Curtis Moore, Senior Vice President of Marketing and Corporate Development, Energy Fuels
- Mary Neumayr, Director of Government Affairs, Urenco
- Bethany Coates, Chief Executive Officer, BreakLine
- Michelle Fussell, Legislative Representative, Iron Workers International
- Chris Hayter, Chief Operating Officer and Co-Founder, Hi-Tech Solutions
- Jimmy McDonough, Assistant Commissioner, State of Utah Education Workforce Programs
- Stephanie Barnard, Washington State Representative, 8th Legislative District
- Steve Kiser, Vice President and Global Energy Sector Lead, WSP USA
- Hope Morrow, Co-Chair, Idaho Advanced Energy Consortium

Colorado Workshop: Denver, Colorado, October 28 – 29, 2025

- The Honorable Jared Polis, Governor of Colorado
- Ben Fitch-Fleischmann, Director, Markets and Transmission, Interwest Energy Alliance, WestTEC
- Yaron Miller, Project Director, Pew Charitable Trusts
- Chris Parker, Director, Utah Division of Public Utilities

- Leah Rubin Shen, Managing Director, Advanced Energy United
- Jo Seel, Policy Researcher, Energy Markets and Policy, Lawrence Berkeley National Laboratory
- Lisa Epifani, Head of Policy, ClearPath
- James Lester, Senior Policy Lead, Transmission, Climate, and Energy, Colorado Energy Office
- Randall Luthi, Policy Director, Office of Wyoming Governor Mark Gordon
- Brant Johnson, Senior Vice President for Development, Grid United
- Janea A. Scott, Senior Fellow, Gridworks
- Maury Galbraith, Executive Director, Colorado Electric Transmission Association
- John Jenks, Director of Energy Market Development, Wyoming Energy Authority
- Josh Smith, Energy Policy Lead, The Abundance Institute
- Daly Edmunds, Director of Policy and Outreach, Audubon Rockies
- Randy Satterfield, Executive Director, NextGen Highways
- Dan West, Senior Western Regional Policy Manager, Clean Air Task Force
- Maury Galbraith, Executive Director, Colorado Electric Transmission Association



- Robert Kenney, President, Xcel Energy Colorado
- Robert Taylor, Vice President of Transmission New Markets, Invenergy
- Sarah Webster, Senior Vice President of External Affairs and Market Development, Pattern Energy
- Sarah Kotwis, Senior Associate, Rocky Mountain Institute
- Julia Selker, Executive Director, WATT Coalition
- Kate Strickland, Director, Smart Electric Power Alliance
- Peter Brehm, Vice President of Policy and Grid Strategy, CTC Global
- Bill Ritter, Partner, Freestone Strategies
- Duane Highley, Chief Executive Officer, Tri-State Generation and Transmission Association
- Nate Gleason, Cyber and Infrastructure Resilience Program Leader, Lawrence Livermore National Laboratory
- Christopher Ott, Director of Security for Critical Infrastructure, POWER Engineers, WSP USA

WGA Winter Meeting: Scottsdale, Arizona, November 20, 2025

- Cully Cavness, President and Chief Operating Officer, Crusoe Energy
- Christian Grant, Partner, Deloitte
- Nate Hill, Head of Energy Policy, Amazon
- Lisa Tiffin, Chief Commercial Officer, Tri-State Generation and Transmission Association

Arizona Workshop: Pheonix, Arizona, December 17-18, 2025

- The Honorable Katie Hobbs, Governor of Arizona
- Ashley Bunch, Manager, Government Relations and Stakeholder Engagement, BluEarth Renewables

- Jake Dubbs, Lead Advisor for External Affairs and Tribal Relations, Southwest Power Pool
- Chris Pasterz, Economic Development Director, State of Arizona
- Tara Righetti, Occidental Chair in Energy and Environmental Policies, University of Wyoming School of Energy Resources
- Matthew Allen, Director of Legislative Affairs, National Hydropower Association
- Christine King, Director, Gateway for Acceleration in Nuclear Initiative, Idaho National Laboratory
- Matt Murdock, Founder and Chief Executive Officer, Raven SR
- Blake Simmons, Division Director, Biological Systems and Engineering, Lawrence Berkeley National Laboratory
- Adam Stafford, Commissioner, Arizona Power Plant and Transmission Line Siting Committee, Arizona Attorney General's Office
- Shelby Stults, Government Affairs Manager, The AES Corporation
- Rob Rebel, Vice President of Environmental Engineering, WSP
- Jason Baran, Director, State Government Affairs, Salt River Project
- Kathryn Leonard, Arizona State Historic Preservation Officer, Arizona State Historic Preservation Office
- Marc Reyes, Director of Interconnection and Transmission, Fervo Energy
- Madeleine West, Vice President for Western Conservation, Theodore Roosevelt Conservation Partnership

- Tom Vinson, Vice President of Policy and Regulatory Affairs, American Clean Power Association
- Michael O'Connor, Executive Director, Mountain West Geothermal Consortium
- Kayla Lucero-Matteucci, Manager of Finance, Arizona Governor Katie Hobb's Office of Resiliency
- Tim Kowalchik, Research Director, Utah Office of Energy Development
- Dave Castillo, Chief Executive Officer, Native Community Capital
- John Lewis, Managing Director of Native American Energy, Avant Energy
- Will Greene, Arizona Representative, Southwest Energy Efficiency Project
- Scott Lipton, Director of Energy Policy, Western, Enchanted Rock
- Chris Mejia, Partner and Chief Development Officer, Obodo Energy Partners
- Walker Wright, Vice President of Public Policy, Sunrun
- Misael Cabrera, Director, School of Mining Engineering and Mineral Resources, University of Arizona
- Peter Ferrell, Senior Director of Government Relations, National Electrical Manufacturers Association
- MJ Shiao, Vice President of Supply Chain and Manufacturing, American Clean Power Association



Utah Workshop: Salt Lake City, Utah, May 20 – 21, 2026

- The Honorable Spencer Cox, Governor of Utah
- The Honorable Mark Gordon, Governor of Wyoming
- Emily Domenech, Executive Director, Federal Permitting Improvement Steering Council
- Adam Dice, Senior Vice President of Renewables, WSP USA
- Joseph Hulse, Director of Business Development, Williams
- Eric Kang, Senior Manager of Commercial Development, TerraPower
- Paul Maguire, Chief Engineer, Public Utilities Commission of Nevada
- Theresa Foxley, Chief of Staff, rPlus Energies
- Patrick Reedy, Head of Hardware Products, Torus
- Aric Saunders, Executive Vice President of Commercialization, Noon Energy
- Mark Thompson, Senior Director of State Affairs, Form Energy
- Rachel Chamberlain, State Energy Strategist, State Support Center, S2 Strategies
- Robert Blake, Executive Director, Native Sun Community Power Development
- Michael Johnson, Vice Chair, JP Morgan Chase Security and Resiliency Initiative
- Ben Serrurier, Director of Government Affairs and Policy, Fervo Energy
- Jeffrey Ackermann, Senior Policy Advisor, Center for the New Energy Economy
- Charles Hua, Founder and Executive Director, Powerlines

- William Malcolm, Government Affairs Director, Utilities, AARP
- Evan Jurkovich, Vice President of Government Relations, Tri-State Generation and Transmission Association
- Sidney Smith, Government Affairs Manager, American Exploration and Mining Association
- Brian Somers, President, Utah Mining Association
- Raef Sully, Chief Executive Officer, Lilac Solutions
- Andrea Watson, Associate Laboratory Director, Innovation, Partnering, and Outreach, National Laboratory of the Rockies
- Caleb Douglas, Principal Project Engineer, Schnabel Engineering
- Joseph Gardner, Program Manager, Generation Major Projects, Salt River Project
- Connor Nelson, Manager, Regulatory Affairs and Markets, National Hydropower Association
- Michael Squires, Managing Director of Government Affairs, Utah Associated Municipal Power Systems
- Amanda O'Connor, Western Business Director, Earth and Environment, WSP USA

Webinar: Interconnection June 5, 2026

- Darren Buck, Director of Power Delivery, Platte River Power Authority
- Will Gorman, Research Scientist, Lawrence Berkeley National Laboratory
- Steven Johnson, Senior Director of Markets Administration, Southwest Power Pool
- Sunny Raheem, Director of System Planning, Southwest Power Pool

We would also like to thank all of the groups and organizations that participated in workshops, webinars, and initiative surveys over the past year:

- 50 State
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- AARP
- Abundance Institute
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- Advanced Energy United
- Agave Community Threads
- Amazon
- Amazon Web Services
- American Clean Power Association
- American Conservation Coalition
- American Council on Renewable Energy
- American Exploration & Mining Association
- American Fuel & Petrochemical Manufacturers
- American Gas Association
- American Property Casualty Insurance Association
- Arevia Power
- Arizona Attorney General's Office
- Arizona Commerce Authority
- Arizona Competitive Power Alliance
- Arizona Corporation Commission
- Arizona Game and Fish Department
- Arizona Geological Survey
- Arizona Governor's Office of Resiliency
- Arizona PIRG Education Fund
- Arizona Public Service
- Arizona Solar Energy Industries Association
- Arizona State Historic Preservation Office
- Arizona State House of Representatives
- Arizona State Land Department



- Arizona State Senate
- Arizona State University
- Arizona Technology Council
- Arizonans for Community Choice
- Arnold Ventures
- Aspen Environmental Group
- Audubon Rockies
- Audubon Southwest
- Avant Energy
- Avantus
- Aypa Power
- B3 Strategies
- Balanced Rock Power
- Basin Electric Power Cooperative
- Battelle Energy Alliance
- BHP
- BluEarth Renewables
- BlueGreen Alliance
- Brad Hall Companies
- BreakLine Education
- Caliber Strategies
- California ISO
- Canadian Consulate in Seattle
- Cato Institute
- Carbon Power & Light, Inc.
- Center for the New Energy Economy
- Center for Western Priorities
- Ceres, Inc.
- Chambers for Innovation & Clean Energy
- Chevron
- Clean Air Task Force
- Clean Energy Action
- Clean Tomorrow
- ClearPath
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- Colorado Electric Transmission Authority
- Colorado Energy and Carbon Management Commission
- Colorado Energy Office
- Colorado General Assembly
- Colorado Nuclear Alliance
- Colorado River Energy Distributors Association
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- Cowen Consulting, LLC
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- Cypress Creek Renewables
- Deloitte
- Edison Electric Institute
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- Electric Power Research Institute
- Enchanted Rock
- Energy Fuels
- Environmental Defense Fund
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- Fervo Energy Company
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- Form Energy
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- Idaho Energy Inc.
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- Idaho Legislature
- Idaho National Laboratory
- Idaho Sustainability and Energy Coalition
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- IOWN Renewables
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- James Fisher Technologies
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- JPMorganChase
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- Lawrence Livermore National Laboratory
- League of Conservation Voters
- Lilac Solutions
- Lincoln Hill Partners
- LIUNA



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- Montana Department of Commerce
- Montano Greene Group LLC
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- NAIOP Arizona
- National Audubon Society
- National Center American Indian for American Indian Enterprise Development
- National Electrical Manufacturers Association
- National Hydropower Association
- National Laboratory of the Rockies
- National Resource Defense Council
- Native Community Capital
- Native Sun Community Power Development
- The Nature Conservancy
- Navajo Power
- Navajo Transitional Energy Co.
- New Mantle Technologies
- NextEra Energy Resources
- NextGen Highways
- The Niskanen Center
- Noon Energy
- North Dakota Department of Commerce
- NRGX
- Nuclear Energy Institute
- Oak Ridge National Laboratory
- Oil Mountain Energy
- Onward Energy
- OPAL
- OpenMinds
- Orsted
- Pattern Energy
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- Pew Charitable Trusts
- Planetary Venture Capital
- Phillips 66
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- Premier Technology
- Raven SR
- Renewable Northwest
- Resolution Copper
- Rocky Mountain Institute
- Rodatherm Energy Corporation
- rPlus Energies
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- Utah Office of Energy Development
- Utah State University
- Vote Solar
- Wagner Morgan Strategies, LLC
- WATT Coalition
- Western Energy Caucus
- Western Freedom
- Western Interstate Energy Board
- Western Regional Partnership
- Western Resources Advocates
- Western States and Tribal Nations Energy Initiative
- Western States Regional Council of Carpenters
- The Western Transmission Consortium
- The Western Way
- Westwood Public Affairs
- Wildfire AZ
- Wilkinson Barker Knauer, LLP
- Williams
- World Resources Institute
- WSP USA
- Wyoming Energy Authority
- Xcel Energy
- Zanskar Geothermal & Minerals





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