

Transforming Washington's electricity supply

Key electricity sector actions from the 2021 State Energy Strategy

A. Accelerate investment in renewable generating resources and transmission

The clean electricity supply must grow to replace fossil fuels in transportation and buildings. Transmission capacity and market mechanisms enable better access to diverse clean resources across the West. Strengthen resource adequacy through an explicit program.

B. Build a smart and flexible grid

Grid modernization is necessary to increase energy resilience and assure reliable service. Expand advanced metering infrastructure with safeguards for privacy and security. Pursue universal, statewide deployment of broadband access.

C. Facilitate community deployment of renewable generation resources and grid services

Increase opportunities for communities to control their own energy supplies. Develop tools for equitable energy distribution and deployment.

State agency key action

Expand the state's energy infrastructure security and emergency management capabilities. Increase state agency engagement in interstate and federal transmission and market development initiatives.

An electricity supply free of GHG emissions is key to meeting Washington's statutory GHG reduction limits. Clean electricity will allow residents to power their cars and buildings with renewable and non-emitting resources, displace fossil fuels in the industrial sector, and enable Washington to manufacture synthetic fuels and green hydrogen. The 2021 SES found that clean electricity will lower overall energy costs, increase overall energy efficiency, and increase Washington's national and international economic competitiveness, boosting the standard of living for all Washington residents.¹⁵

Washington is well positioned to electrify its economy. Washington's abundant hydropower and ambitious 100% clean electricity law, the Clean Energy Transformation Act (CETA), provide the foundation and architecture for a decarbonized grid that ensures clean, affordable and reliable electricity for customers. The Climate Commitment Act (CCA), Washington's economy-wide cap-and-invest program, provides additional assurance of GHG reductions from in-state electricity generators and electricity imports.

A combination of electrification and energy efficiency is the most cost-effective way to meet the state's clean energy and environmental protection objectives.¹⁶ This requires Washington to double its clean electricity supply by 2050.¹⁷ Building these resources in the state is not necessary. A more reliable and productive resource portfolio includes wind from the Rocky Mountains and solar from the Southwest. These resources are complementary and will ensure affordable and reliable power. Electricity imports are projected to continue to increase to 43% of Washington's electricity supply by 2050.¹⁸ Washington utilities and planners will continue

¹⁵ [2021 State Energy Strategy \(PDF\)](#)

¹⁶ Ibid.

¹⁷ Ibid.

¹⁸ [Washington State Energy Strategy Decarbonization Modeling: Final Report \(Excel\)](#)

to explore other resources options that do not yet appear cost effective, such as geothermal, offshore wind and nuclear.

Constraints in the bulk power transmission system pose one of the greatest challenges to Washington's energy and climate goals. Transmission constraints reduce access to cheap and abundant wind and solar and increase the likelihood that resource supply is inadequate at critical times. An inability to access these resources will increase costs of the clean energy transition and limit Washington's ability to produce hydrogen and synthetic fuels.¹⁹ Washington must take deliberate action in coordination with its neighbors to expand transmission capacity to ensure it can affordably and reliable meet its clean electricity goals.

Removing barriers to regional electricity markets offers another opportunity to improve access to clean energy resources. The benefits of regional trade increase as emissions limits become tighter and electricity loads grow through the electrification of Washington's economy. Well-designed, climate-aware electricity markets support the state's climate goals and economy. However, market structures that treat fossil-fired energy and clean energy as equivalent are a significant obstacle. The Western Power Pool's Western Resource Adequacy Program (WRAP), while not an actual power market, is a good first step toward regional integration. Utilities, regulators and the State Energy Office should continue to participate in developing this program.

Washington also needs to build renewable generating resources within the state. Siting challenges must be addressed for in-state expansion of clean energy to occur. This requires engaging with communities to better understand land use considerations, including protection of natural resources, support for work in rural areas, and preservation of tribes' cultural resources.

A. Transmission

There is a broad consensus across utilities and planning agencies that additional transmission development and greater market access to clean energy resources are needed to maintain resource adequacy and meet the state's long-term climate objectives. The Bonneville Power Administration's (BPA) lengthy interconnection request queue demonstrates both the significant project investment that is occurring and the resulting transmission congestion.

Building new transmission lines is a time-intensive process that requires significant investment. A recent two-year study by the Department of Energy confirmed the potential cost savings and resource adequacy benefits of a Western regional transmission organization (RTO).²⁰ In light of these findings, discussions of an RTO are ongoing in the West.

Federal funding opportunities

Transmission upgrades and expansion have been a top priority of the Biden administration and 117th Congress. The significant amount of funding for transmission projects made available under the bipartisan [Infrastructure Investment and Jobs Act \(IIJA\)](#) and the Inflation Reduction Act (IRA) can help Washington implement the projects needed to access new sources of clean energy required to decarbonize the state's electricity. The IIJA also expanded the Bonneville Power Administration's borrowing authority by \$10 billion to help retrofit transmission along the federal Columbia River Power System, which includes Washington, Idaho,

¹⁹ [Washington State Energy Strategy – Hydrogen Usage](#)

²⁰ Regional transmission organizations (RTOs) are independent, non-profit electric power systems operators that exist in seven different geographic areas across the United States today (for example, PJM). RTOs play an important role in the coordination, monitoring, and control of a multi-state electric grid.

Oregon, western Montana and small parts of eastern Montana, and parts of California, Nevada, Utah, and Wyoming.

Projects eligible for IRA funding must be in a National Interest Electric Transmission Corridor (NIETC), a DOE-designated region where electricity transmission limitations are adversely affecting citizens. Among other things, the NIETC must promote national energy security and development of intermittent resources, or energy resources that vary in output by their nature such as wind, solar, run of river hydroelectric power and other renewable resources.²¹ Roughly \$760 million of IRA funds for transmission are grants aimed at facilitating the siting of certain onshore and offshore transmission lines. The funds may be used by states and local governments to conduct transmission project studies, examine alternative siting corridors, host negotiations between stakeholders, participate in federal and state regulatory proceedings, and promote economic development in impacted communities. These funds will remain available through Sept. 30, 2029.²²

One hundred million dollars of the remaining IRA funds will be available until Sept. 30, 2031, for convening stakeholders and conducting analyses related to interregional transmission development and development of transmission for offshore wind energy. Other provisions in the IRA, such as those related to loan programs administered by the U.S. Department of Agriculture, could potentially incentivize transmission development, but their potential impact is uncertain at this time. In addition to IIJA and IRA funds, the Biden administration made an **additional \$3.25 billion** available to the Western Area Power Administration (WAPA) to support the development and expansion the transmission system in the areas bordering Washington, Oregon and eastern Montana.²³ These actions strengthen regional electric transmission and increase the potential benefits of regional integration.

Transmission Corridors Work Group

The Washington State Legislature recognized transmission need when it passed CETA in 2019. The law required the Energy Facility Site Evaluation Council (EFSEC) to convene the Transmission Corridors Work Group (TCWG) to examine and report on transmission needs, environmental review options, and ways to expedite the review of transmission projects without compromising environmental protection.²⁴

The TCWG report identifies transmission capacity as crucial to achieving the state's climate protection laws. Additional capacity along existing electric transmission corridors and new transmission builds is needed to meet CETA goals and decarbonize buildings, transportation, and industry. The report recognizes transmission is expensive and controversial, but also necessary. It recommends proactive, longer-term transmission planning by the electric power industry, and calls for the executive branch of Washington's state government to take a more active role in transmission planning and development of a regional transmission organization.

Advocacy for federal transmission reform

Gov. Inslee is a national leader in advocating for transmission reform, championing a more robust and efficient transmission system in his comments on [FERC's Advanced Notice of Proposed Rulemaking RM21-17-000](#). Commerce and the UTC, joined by the Oregon Public Utilities Commission and Oregon Department of Energy, followed Gov. Inslee's lead and filed comments on the notice of proposed rulemaking to reform electric

²¹ The IIJA amended the NIETC designation to allow the Federal Energy Regulatory Commission (FERC) to supersede traditional state permitting of transmission facilities and issue permits for the construction and operation of some interstate facilities under certain circumstances.

²² Congressional Research Services, [Electricity Transmission Provisions in the Inflation Reduction Act of 2022](#)

²³ White House [Fact sheet: Biden-Harris Administration Races to Deploy Clean Energy that Creates Jobs and Lowers Costs](#)

²⁴ [RCW 19.405.150](#), Transmission corridors work group

regional transmission planning and cost allocation. The proposed rules would require transmission providers plan for longer timelines and a decarbonized grid. It would also give states a greater role in the allocation of regional transmission costs.

Progress assessment: Transmission

2021 SES recommendation	2023 update
Encourage federal investments and transmission reforms.	<p>The IIJA and IRA include significant federal funding for transmission. The IIJA provides \$65 billion for:</p> <ul style="list-style-type: none">Constructing new transmission linesIncreasing capacity on existing linesFurthering the research, development and deployment of innovative grid enhancing technologies <p>The IRA appropriates an additional \$2.9 billion for transmission infrastructure. A \$2 billion direct loan program for transmission development will be available through Sept. 30, 2030.</p>
The Executive Office of the Governor, the UTC and Commerce should pursue opportunities for enhanced transmission planning and integration across the western grid and advocate for joint development where feasible.	The Transmission Corridors Work Group convened by EFSEC will release a report in December 2022 that identifies strategies for enhancing transmission planning Washington and beyond.
Utilities and planning agencies should evaluate the need for a joint development of new and upgraded transmission capacity and consider the viability of a regional transmission organization.	Exploration of a regional transmission organization is ongoing.

Areas for action

Secure federal funding for transmission projects

Utilities, transmission owners and investors should pursue opportunities to leverage federal funds to build onshore and offshore transmission. Commerce should continue to raise awareness and coordinate statewide efforts to direct federal funds to Washington. Commerce will continue to raise awareness and coordinate statewide efforts to support communities and eligible entities in securing federal funds for Washington's benefit.

Staffing and technical study needs

Commerce and the UTC continue to participate in RTO discussions and track federal regulatory developments and funding opportunities. Both agencies represent Washington in the NorthernGrid regional transmission planning organization. The Legislature should fund additional staff at the UTC and Commerce to advocate for Washington interests at FERC and other national and regional forums, consistent with the recommendation of the TCWG. The dedicated staff would also work to build a better understanding of the concerns and interests of overburdened communities in the development of clean energy resources, and the role of power transmission systems in addressing those concerns. In addition, the Legislature should provide funding for technical studies to evaluate transmission opportunities.

Study and engage in transmission planning

As Washington utilities and planning agencies engage in discussions of a western RTO, they should pursue independent means of building transmission capacity within or outside of the state. If needed, the state should consider taking a more direct role in the development and even operation of critical transmission facilities. The Legislature should commission an independent assessment of the potential benefits of creating a new entity, with powers and duties comparable to those of a joint operating agency under [RCW 43.52.300](#), to finance, construct, or operate facilities for the transmission of electricity within or outside the state of Washington. The study could explore the establishment of a stakeholder steering committee and offer tribal consultation, and consider the experiences of comparable entities in [New Mexico](#), [Colorado](#), and other jurisdictions.

B. Deployment of Clean Energy Resources

Accelerate investment in clean generating resources

Most consumer owned utilities (COU) in Washington have sufficiently clean or non-emitting resource portfolios to comply with CETA until at least 2030, and many are in compliance until 2045. As a result, COU pursuit of new clean energy resources has been limited over the past two years but could increase before the 2030 CETA compliance date due to load growth. For example, [Grant County Public Utility District anticipates](#) having insufficient energy capacity in 2026, largely due to the county's recruitment of electricity-intensive industries such as data centers. In its 2022 Integrated Resource Plan, Grant County proposes adding 550 MW of new capacity through 2025 (of which about 34% is natural gas fired reciprocating internal combustion engines and the remainder is solar and wind generation).

In contrast to many consumer owned utilities, Washington's three electric investor-owned utilities are working to procure additional clean energy resources in the near term. For example, [Puget Sound Energy's \(PSE\) demand forecast predicts a capacity need for 369 MW](#) of new electric resources in 2026, increasing to 527 MW in 2027. However, a [request for new generating resources that PSE issued](#) in 2021 sought up to 1,506 MW of capacity resources due to PSE's desire to reduce reliance on the market for procuring short term energy contracts. A total of 95 proposals were submitted in response to [PSE's request for proposals](#) with a capacity of 21,006 MW. The proposed projects would be in Washington, Oregon, Idaho, Montana and Wyoming. Selected projects had not yet been announced when this report was drafted.

As demonstrated by the geographic diversity of the projects submitted to PSE's RFP, there are tradeoffs in siting new generating resources. Out-of-state sites often enable higher capacity factors for renewable generation (such as wind in the Rocky Mountains and solar in the Southwest) but have greater transmission requirements. In-state projects offer opportunities for economic development, including job creation, workforce development, and capital investment. These projects must also adhere to the state's commitments to respect and uphold tribal sovereignty, protect natural resources, and create direct benefits in the communities where these projects occur. Understanding competing land uses and being aware of culturally significant areas and areas where tribes have rights to resources can help the state better target areas that have high production potential for solar, wind and other sources of renewable energy, and better protect conservation and agricultural lands and tribal resources.

In 2021, the Legislature directed the Department of Ecology (Ecology), in consultation with Commerce, to develop recommendations to improve the permitting of clean energy projects while maintaining the state's environmental standards and preserving tribal consultation and treaty rights. The [Low-Carbon Energy Project Siting Improvement Study](#) was released in November 2022. Commerce and Ecology engaged interagency partners, a diverse advisory group, and tribes to develop recommendations for improving siting and permitting processes. In 2022, recognizing the need to bolster development of new clean energy facilities, the Legislature

passed Chapter 183, Laws of 2022 ([House Bill 1812](#)) to expand the authority of the Energy Facility Site Evaluation Council (EFSEC), including allowing additional types of energy facilities to elect to be permitted through EFSEC. Some initial work is underway to identify potential locations for clean energy resources that may reduce conflict with agriculture, tribal resources, places of tribal significance, critical habitat, and other uses. A few relevant mapping projects are described in the table below.

Project	Lead Agency	Description
DNR Solar Mapping Project	Department of Natural Resources (DNR)	Map identifies potential lease sites on DNR trust lands that may avoid conflicts with competing uses and concerns about ecosystem and cultural impacts.
Compatible Energy Siting Assessment (CESA) Map	Commerce	Prototype map provides examples of site specific consultation guidance to support civilian-military coordination for compatible siting of clean energy.
Least-Conflict Solar Siting	Washington State University (WSU)	WSU is engaging solar developers, farmers, ranchers, conservation groups, and tribes to map land uses where solar development may occur in the Columbia Plateau. Interested parties will work together to develop mapping layers that will be available by June 2023.
Marine Spatial Planning Map	Department of Ecology	This interagency map provides information on various resources, infrastructure, and habitats off of the Pacific coast of Washington to inform marine planning and new potential uses of the offshore environment.

Progress assessment: Deployment of clean energy resources

2021 SES recommendation	2023 update
Washington utilities, resource owners, and developers advance plans to build clean resources.	New electricity generation continues to expand in Washington. In particular, there has been a proliferation of new large-scale solar projects currently under development, based on the project queue before the Energy Facility Site Evaluation Council (EFSEC) .
Funding should be made available to Commerce and electric utilities to conduct a statewide clean energy potential assessment to identify clean energy development zones.	Funding has not been provided for a statewide clean energy potential assessment. Some siting studies are in progress and the state is pursuing opportunities to support more efficient and effective siting of renewable energy generation and energy storage technologies.

Areas for action

Washington must continue to encourage energy efficiency across all sectors of the economy as the first step and lowest-cost action. Utilities should work with their regulators to undertake proactive resource planning and make strategic investments in new resources that both decarbonize the grid and benefit their customers, particularly overburdened communities and vulnerable populations. Ultimately, market prices and transmission capacity will largely determine whether new generating resources are located in- or out-of-state. The actual outcome will almost certainly be a combination of diverse resources sited both in state and beyond Washington's borders.

Fund dual-use solar demonstration projects

The Legislature should provide funding for a grant program at Commerce for dual use solar demonstration projects. This grants program can provide a proof of concept and identify best practices for productive co-use of sites for renewable energy generation and an additional economic use, such as:

- Using land for both a farm crop and solar energy generation, through a practice called agrivoltaics.²⁵
- Installing solar over irrigation canals to make use of existing impervious surface, keep water cool, and reduce evaporation.

The overarching goal of these projects is demonstrating that solar production and current land uses do not need to be in conflict, and that clean energy production can be sited harmoniously with the rural character of communities and support existing livelihoods.

Center community-led project design

Ultimately, Washington must find additional pathways beyond current developer-driven siting approaches and toward community-centered project design. **The state should encourage a process that engages communities before project conception to understand community preferences and goals.** This includes empowering communities with timely and accessible data and prioritizing community values through community benefit agreements. The community energy visioning process can enable communities to coalesce around shared priorities for clean energy expansion.

C. Prepare for widespread deployment of distributed energy resources and advance grid modernization

Distributed energy resources (DERs) are distinct from large scale energy generating facilities like hydroelectric plants and large wind and solar farms. DERs generate electricity locally and reduce or shift demand at the site where it is used. Certain conditions in Washington have slowed adoption of DERs relative to national trends. These conditions limit the value that DERs can provide to the electric grid and as a result, the economic value that customers can receive. They include:

- Low electric rates, which lead to longer payback periods for customer-owned energy resources like rooftop solar
- Relatively slow deployment of Advanced Metering Infrastructure (AMI) and Distributed Energy Resource Management Systems (DERMS), which utilities can use to better integrate DERs
- Low levels of utilization of time of use rates and demand response, which can increase the benefits that DERs provide to the electric grid

Expanded federal tax incentives and federal grant funding for rooftop and community solar may help utilities and customers overcome these barriers. Increased deployment of DERs, such as installing solar in the built environment, could play an important role in transitioning to a clean energy grid under CETA while sidestepping some of the siting challenges faced by large-scale utility projects.²⁶

²⁵ This includes growing plants such as carrots, turnips, and squash under solar panels. The crops chosen should be suited to local growing conditions and soil nutrients. See for example: <https://www.jackssolargarden.com/>

²⁶ For example, [HB 1814](#) (2022) included the following definition of preferred sites for community solar: rooftops, structures, existing impervious surfaces, landfills, brownfields, previously developed sites, irrigation canals and ponds, stormwater collection ponds, industrial areas, dual-use solar projects that ensure ongoing agricultural operations, and other sites that do not displace critical habitat or productive farmland as defined by state and county planning processes.

The first Clean Energy Implementation Plans (CEIPs), submitted in late 2021 by Washington's investor-owned electric utilities, emphasized DER deployment as a strategy for achieving the equitable distribution of benefits required under CETA. Customer interest in DERs is nascent in Washington, particularly in rural and remote areas. This is evident from the addition of energy storage to a growing number of customer-owned solar installations, even though there is no economic signal for these customers to shift their usage or put power onto the grid during times of peak usage.

Unfortunately, under current conditions, it is likely that many of these systems, particularly behind-the-meter storage, will sit idle waiting to provide backup power during relatively infrequent outage events. Better integration of DERs, as envisioned in the 2021 SES,²⁷ can provide additional value to both the distribution grid and to customers. With the need for clean energy ramping up in the next decade under CETA, it is a good time for the state and individual utilities to take steps to actualize the full value that DERs can provide to customers and the electric grid.

To derive the full benefits of DERs, utilities need to develop new economic signals to send to customers and deploy additional grid integration technologies in the next two years. This includes targeting locations where the benefits of DERs are the greatest and the costs of interconnecting them are the lowest. Most utilities in Washington have yet to conduct and publish hosting capacity analyses that can provide insights on particularly beneficial locations for DERs. While early examples of publicly available hosting capacity analysis (HCA) should be commended (see table below), even these early adopters should take additional steps to increase the transparency and the usefulness of the data. As more utilities develop HCAs, these best practices should be utilized.²⁸ In particular, the analyses should be updated regularly and should address both the ability of the distribution grid to support increased loads and additional distributed generation. The results should be displayed on a publicly accessible, interactive map.

Examples of Washington utilities developing hosting capacity analyses

Utility	Analysis	Opportunities for improvement	More information
Puget Sound Energy	Published a HCA for its entire service territory as part of its 2022 DER Request for Proposals .	Update HCA maps regularly, ideally as close to in real time as possible. It is important to indicate the date of last update on the map.	Hosting Capacity Heat Map
Seattle City Light	Developed a grid capacity analysis and published the results in its 2022 Technical Report.	SCL's analysis was intentionally focused on the ability of the distribution grid to host additional load. A full HCA would also address the distribution grid's ability to support additional generation. It is beneficial to convert HCA into a map to enable users to interact with the data and identify optimal locations for DERs.	Electrification Assessment Report

²⁷ 2021 State Energy Strategy, page 126.

²⁸ "Key Decisions for Hosting Capacity Analyses." IREC. September 16, 2021. <https://irecusa.org/wp-content/uploads/2021/10/IREC-Key-Decisions-for-HCA.pdf>

Utility	Analysis	Opportunities for improvement	More information
Avista Utilities	Recently published a DER Hosting Capacity map that provides information on the ability to interconnect DERs.	Update HCA maps regularly, ideally as close to in real time as possible. Indicate the date of last update on the map.	DER Hosting Capacity Map

Washington is advancing innovative approaches to renewable energy integration and flexible load management, and demonstrating technologies that increase grid resilience through state investments. In 2022, the legislature created a \$100 million incentive program for low-income community solar²⁹ and appropriated \$37 million to the Department of Commerce to launch a new solar plus storage program focused on enhancing community resiliency.³⁰ The Grid Modernization Program funded by the [Clean Energy Fund continues to demonstrate how novel integration of DERs can provide increased benefits to the electric grid](#). For example, the EcoDistrict in Spokane is a first-of-its-kind project in Washington. This CEF round three project includes onsite solar, batteries, thermal energy storage, and sensors to granularly control demand across a set of interconnected buildings. This project and others funded by CEF demonstrate what is possible and offer a proof of concept that these technologies will work in and for Washington. In fact, a new [Department of Energy-funded project is building](#) on the EcoDistrict model to explore how distributed energy resources can be managed across 50 to 75 existing single family and multi-family residential homes and 25 to 50 commercial buildings in Spokane to avoid expensive distribution grid upgrades. Seattle City Light is also undertaking a project under [DOE's Connected Communities program](#) that will deploy battery storage systems, electric vehicle charging infrastructure and rooftop PV, thus enabling flexible loads in multifamily affordable housing to defer distribution upgrades, saving ratepayers money while providing new services. These projects should be a model to other utilities in the state of what is possible with effective DER integration enabled by investment in smart grid technologies.

²⁹ The [Community Solar Expansion Program](#) is being implemented by WSU's Energy Program.

³⁰ The initial grant application period for the [Solar Plus Storage for Resilient Communities](#) closed March 23, 2023.

Progress assessment: Prepare for widespread deployment of distributed energy resources and advance grid modernization

2021 SES recommendation	2023 update
Request support from the U.S. Department of Energy and Pacific Northwest National Laboratory (PNNL) to convene a DER workgroup to identify and resolve grid architecture barriers to DER deployment.	The DER workgroup with DOE and PNNL has not been created and might not be necessary, as work already underway fulfills this recommendation. The Advanced Grid Institute, formed by PNNL and WSU, is already doing important work in this space and is fostering crucial conversations on DER deployment; for example, during the annual Advanced Grid Institute Day . In addition, the CEF Grid Modernization program and DOE's Connected Communities programs are leading the way in demonstrating what is possible.
Utilities should incorporate comprehensive assessments of the value of DERs in the specific context of individual distribution grids by performing and publishing hosting capacity and critical load studies.	Most utilities have yet to conduct and publish hosting capacity analyses. Early examples of publicly available hosting capacity analysis should be commended, but more is needed to increase transparency and the usefulness of the data produced. As more utilities develop hosting capacity analysis maps, these best practices should be utilized.
The Legislature should assess whether voluntary distributed energy resources planning is the appropriate policy approach given the requirements of CETA.	While WAC 480-100-620 requires electric investor-owned utilities regulated by the UTC to assess “the effect of distributed energy resources on the utility's load and operations”, the UTC only “strongly encourages utilities to engage in a distributed energy resource planning process.” As a result, utility distributed energy resource planning efforts, particularly at consumer-owned utilities, have been variable and relatively limited. Given the anticipated proliferation of DERs under CETA and the limited voluntary work that is occurring on hosting capacity analysis and DER integration, the Legislature should evaluate whether distributed energy resources planning should be voluntary.
Provide state support for flexible and resilient planning and project development by creating a new cluster within Commerce's Office of Economic Development and Competitiveness to focus on utility grid optimization and DER deployment.	This cluster has not been created. Through the Clean Energy Fund, Commerce is developing and demonstrating technologies and processes that can better integrate renewable energy and DERs to achieve grid optimization. The legislature should continue to invest in the crucial innovation and market transformation enabled by CEF. In addition, state, local governments, utilities, and private entities should secure Infrastructure Investment and Jobs Act (IIJA) and Inflation Reduction Act (IRA) funding to support further utility grid optimization and enable the full benefits of DER deployment to be harnessed.
Target CEF funding to projects that enable flexible load management and increase grid resilience.	Commerce has funded several grid modernization projects that demonstrate flexible load management and increase grid resilience.

Areas for action

Comprehensive distribution system planning can unlock additional value from DERs. In particular, utility use of DERs to avoid or postpone distribution grid upgrades and capital investments, known as "non-wires alternatives," can provide beneficial cost saving opportunities. The Legislature should incentivize utilities to proactively plan and innovate for a future distribution grid that effectively integrates increased electric loads and widespread DERs including rooftop solar, behind the meter batteries, electric vehicles, and grid-responsive heat pump water heaters. **The Legislature should evaluate whether to require a process under RCW 19.280.100 or if there are other opportunities to incentivize this work, given the limited voluntary work occurring on distribution planning.**

Currently, only about 60% of utility customers in Washington use smart meters. While several utilities are actively working to deploy smart meters soon, smaller utilities might need support in exploring and deploying advanced metering infrastructure (AMI). This is an important first step for greater DER deployment due to the improved communications that AMI enables. Funding opportunities should also support utilities in developing the capacity to dispatch DERs when additional capacity, voltage, or other services are needed on the grid. This could include funding and/or technical assistance for obtaining Distributed Energy Resource Management Systems (DERMS). An important prerequisite for deploying these technologies will be adopting and mandating robust cybersecurity protocols to ensure consumer protection.

Finally, interconnection rules and timelines vary by utility in Washington, meaning that installers might navigate distinct processes for very similar projects even a few miles apart. In addition, interconnection standards that enable the full value of customer site battery energy storage systems are largely nascent in the state.³¹ A DER workgroup among all Washington utilities and industry could improve interconnection processes and move towards consistent interconnection standards statewide. This would streamline interconnection applications so projects follow similar processes and timelines regardless of which utility a project is interconnecting with. **The Legislature should provide funding for a consultant with interconnection expertise to facilitate these processes.**

D. Resource adequacy program development

Resource adequacy guides utility decisions to make sure they have sufficient power generation to meet demand under a range of operating conditions. Reliable service is a core element of CETA and utilities are required to adopt a resource adequacy standard to comply with law.

An industry-led, region-wide resource adequacy effort is also underway in the west. In August 2022, The [Western Power Pool](#) (WPP), formerly the Northwest Power Pool (NWPP), submitted to FERC an application to establish the Western Resource Adequacy Program (WRAP). The WRAP will establish a common resource adequacy standard, which will help participating utilities forecast and acquire resources based on their electricity needs and available generating resources. This will reduce costs and improve resource adequacy across the region.

The WRAP is now in an initial non-binding phase of implementation. This phase allows utilities to submit data and identify their resource obligations under the program, but it does not require utilities to make any changes

³¹ For example [IREC's BATRIES project](#) is working to address common interconnection challenges experience by energy storage systems nationally.

to their operations. Utilities that opt into the program's binding phase will be required to meet resource obligations starting in summer 2025, as approved by WRAP in February 2023.

The current WRAP proposal makes a number of key governance changes. The WRAP board must be independent of financial interests and other potential biases. A proposed committee of state representatives would enable state regulators of participating utilities to have influence and oversight over WRAP's direction. Participating utilities would have individual committees. A program review committee will engage the public and review and administer suggested changes to the program. Together, these committees provide checks and balances and have the potential to enhance resource adequacy governance across the West.

Progress assessment: Resource adequacy program development

2021 SES recommendation	2023 update
Utilities, resource owners, developers and other stakeholders should continue to engage in developing a consistent and non-discriminatory resource adequacy program through the Western Power Pool.	Most of the utilities serving Washington customers have participated in the non-binding phase. Some consumer owned utilities have opted not to participate.
Commerce and the UTC should review the progress and outcomes of the WRAP initiative and evaluate the need for additional state action to ensure CETA's resource adequacy requirements are fulfilled.	Utilities have the opportunity to sign up for the binding phase of the program. ³² The UTC and Commerce will continue to monitor the involvement of Washington utilities in the WRAP initiative.

Areas for action

- Utilities, resource owners, developers and other stakeholders should support the development of WRAP through FERC approval process.
- Utilities should continue to participate in the non-binding phase of the program and prepare to join the binding phase in 2025. The UTC and Commerce should evaluate whether additional actions should be taken to require utility participation in the WRAP, if utilities do not participate in the program.

E. Reform and expand wholesale electricity markets

The 2021 SES found that expanding access to regional renewable, clean energy resources is important to ensure Washington can meet its growing electricity needs with clean, affordable, and reliable power. [RCW 19.405.130](#) (Sec. 130) requires Commerce and the UTC adopt rules to ensure that utilities comply with CETA's clean electricity requirements when they buy and trade power in wholesale electricity markets. The statute convenes a stakeholder workgroup to assist the agencies.

Commerce and the UTC convened a 20-member Carbon and Electricity Markets Workgroup to inform the agencies' work under Sec. 130. The workgroup included a broad set of stakeholders, including environmental and public interest organizations, public and privately owned electric utilities, wholesale generators and electricity market participants, labor groups, and residential and business customers.

The workgroup hosted four workshops on energy markets, greenhouse gas policies and other related topics to inform its examination of the issues. After this series of workshops, the workgroup developed an issues list for consideration in the CETA rulemaking process. The group held three public work sessions to discuss the

³² [FERC approval of WRAP](#)

issues list and a set of alternative approaches for resolving the issues. It was unable to come to an agreed upon approach and filed a [summary report](#) to the agencies in April 2021.

Commerce and the UTC encouraged stakeholders to continue working together to develop proposals for the agencies to consider. The agencies held a workshop in August 2021, when stakeholders presented two proposals. Neither proved viable, and the workshop concluded with stakeholders jointly asking Commerce and the UTC to break the impasse. Commerce and the UTC subsequently proposed multiple rule drafts, held two more stakeholder workshops, and offered three more comment periods before settling on rule language.

The rules clarified that:

- Utilities must use renewable or non-emitting electricity sources in an amount equal to 100% of the utility's retail electric load under the 2030 greenhouse gas neutral standard. To comply with this standard, utilities need to develop a portfolio of resources that could reasonably meet 80% of their load with clean energy resources on an hourly basis, since the standard allows for 20% of load to be met using fossil resources combined with renewable energy certificates.
- Utilities must supply 100% of their electricity from clean energy resources under the 2045 standard. The [Commerce rules](#) clarify how utilities may count wholesale power purchases and sales under this requirement. The UTC is completing its rules regarding this requirement and expects them to be finalized in 2023.

Commerce and the UTC also developed rules to clarify the effect of energy storage under CETA. The agencies initiated the discussion of potential rules because of concerns that storage transactions would distort or confuse the accounting of clean electricity in CETA compliance. Some stakeholders were concerned that electricity might lose its renewable attribute when stored and used later, while others wanted to ensure that the storage transaction did not cause fossil-fired generation to appear to be clean.

The rules adopted by the UTC and Commerce take a neutral approach to these concerns. The rules clarify that utilities may use energy storage systems, such as batteries and pumped hydro storage plants, to manage renewable energy supply and demand. The rules apply to all storage resources, whether they are collocated with renewable generated resources or located separately in the transmission or distribution system. Electricity used by storage resources behind the customer meter are part of retail load, consistent with the [statutory definition in CETA](#).

Organized markets

Discussion around the expansion of organized markets includes three forums:

- California's Western Energy Imbalance Market
- California's Extended Day Ahead Market
- The Southwest Power Pool's Markets+ offering

The Bonneville Power Administration (BPA) and Western Area Power Administration recently joined the Western Energy Imbalance Market, and BPA announced it would be an active participant in developing other markets.³³ Electric utilities continue to engage with the California Independent System Operator (CAISO) to find an equitable governance structure and effective market mechanisms for an extended day-ahead market.

³³ [BPA to Join Western EIM, Eyeing Other Developing Markets in West | Supply & Demand | newsdata.com](#)

Avista, Chelan County PUD, Grant County PUD, Puget Sound Energy and Tacoma Power have all indicated an interest in the Southwest Power Pool's Markets+.

Utilities are also discussing the development of a comprehensive Western regional electricity market. Large electric utilities within the Western Interconnection, including PacifiCorp, Puget Sound Energy and Seattle City Light, created the informal Western Markets Exploratory Group to discuss forming a regional electricity market. PNGC Power, an Oregon-based electric generation and transmission cooperative owned by 15 cooperative utilities from across the Northwest, also held discussions with utilities, regulators and energy offices about a regional market.

Progress assessment: Reform and expand wholesale electricity markets

2021 SES recommendation	2023 update
The UTC and Commerce, with input from the Carbon and Electricity Markets Workgroup, should adopt rules to allow for the trade-in electricity from sources verified to comply with CETA's clean energy requirements.	These rules were published.
Electric utilities should pursue the long-term development of a fully integrated Western regional electricity market, beginning with expansion of organized markets to trade day-ahead and then longer term resources.	Utilities are exploring options to establishing regional markets, starting with the expansion of organized markets.
Commerce's 2024 CETA evaluation under RCW 19.405.080 should include an assessment of industry progress in developing efficient and resource-specified electricity markets.	Commerce plans to begin the 2024 CETA evaluation in 2023. Per statute, the review will focus on technologies, forecasts and existing transmission, as well as an evaluation of environmental and public safety protection, affordability, and system reliability.
Commerce and the UTC should ensure that CETA's energy accounting methods accommodate the charging and discharging of storage resources within the electricity grid.	Commerce and the UTC adopted rules on accounting for energy storage under CETA in 2022.

Areas for action

Electric utilities should continue to explore options for further regional integration through CAISO and Markets+. Utilities should also continue to support the development of market and governance structures through WRAP.

There will be ongoing need to ensure that electricity markets operate to support both the efficient economic operation of the power system and the state's requirements to reduce greenhouse gas emissions and reduce impacts on overburdened communities. Commerce and the UTC must work closely with other states, federal officials and affected communities in this effort.