

Energy and Climate Policy Advisory Committee: Report on Clean Energy Fund Recommendations



A report pursuant to SB 5116 Section 127(23).

Acknowledgments

ENERGY AND CLIMATE POLICY ADVISORY COMMITTEE		
Angela Becker-Dippmann	Director of the Energy & Environment Directorate's Program Development Office	Pacific Northwest National Laboratory
Mel Clark (<i>ex officio</i>)	President and CEO	Clean Tech Alliance
Elvin Delgado, Ph.D.	Associate Professor Department of Geography; Director, Integrated Energy Management Program; Faculty Senate Chair (2020-2021)	Central Washington University
Tom Karier, Ph.D.	Professor of Economics; former member Northwest Power and Conservation Council	Eastern Washington University
Scott Morgan, M.P.A.	Director of Sustainability	Evergreen State College
Dan Schwartz, Ph.D.	Boeing-Sutter Professor of Chemical Engineering; Director, Clean Energy Institute	University of Washington
Joel Swisher, Ph.D.	Director, Institute for Energy Studies; Research Professor of Environmental Science	Western Washington University
Michael Wolcott, Ph.D.	Regents Professor and Associate Vice President for Research, Office of Clean Tech	Washington State University

Washington State Department of Commerce

Michael Furze, ASSISTANT DIRECTOR

michael.furze@commerce.wa.gov

Phone: 360.529.9587

- Ilana Darrant, Administrative Assistant
- Jennifer Grove, Managing Director
- Kate Kelly, Senior Energy Policy Specialist
- Bob Kirchmeier, Senior Grid Modernization Engineer
- Brian Young, Clean Technology Sector Lead

ENERGY DIVISION

1011 Plum St. SE
P.O. Box 42525
Olympia, WA 98504-2525

www.commerce.wa.gov

For people with disabilities, this report is available on request in other formats. To submit a request, please call 360.725.4000

Table of Contents

Executive Summary 2

Activities of the Advisory Committee 4

Background: Clean Energy Fund..... 5

Recommendations..... 7

Executive Summary

In the coming years, the 100% clean electricity goal of the 2019 Clean Energy Transformation Act, [RCW 19.405](#), combined with the state's greenhouse gas reduction targets, [SSHB 2311 \(2020\)](#), will cause fundamental shifts in Washington's energy landscape and transformation of an essential service, electricity. Electric utilities will need to transition their portfolios and their infrastructure to cleaner sources. Industries will have to adopt new technologies to reduce their carbon intensity while remaining competitive. Consumers and businesses will be required to adopt and adapt to new efficiencies in buildings and transportation. Our ambitious decarbonization goals will require us to embrace nature-based and other agriculture and forestry solutions to reduce emissions and sequester carbon. At the same time, communities are stepping forward, asserting their desire to shape their own energy future and ensure an equitable distribution of the costs and benefits of the clean energy economy. More recently, COVID-19 has dramatically affected our economy. Successfully implementing a clean energy transformation over the upcoming years presents our state with significant challenges and tremendous opportunities.

This report lays out recommendations for actions the Legislature can take to best deploy the [Clean Energy Fund \(CEF\)](#) to equitably and fairly meet the state's climate goals and support the recovery and competitiveness of the Washington economy. The report is submitted in response to a proviso in section 23 of the Clean Energy Transformation Act, [SB 5116\(23\) \(2019\)](#) directing the Department of Commerce to convene the Energy and Climate Policy Advisory Committee (ECPAC) as follows:

- 1) By January 1, 2020, the department of commerce must convene an energy and climate policy advisory committee to develop recommendations to the legislature for the coordination of existing resources, or the establishment of new ones, for the purposes of examining the costs and benefits of energy-related policies, programs, functions, activities, and incentives on an on-going basis and conducting other energy-related studies and analyses as may be directed by the legislature.
- (2) The advisory committee convened under this section must consist of, at minimum, representatives of each the state's public four-year institutions of higher education, the Pacific Northwest National Laboratory, and the Washington state institute for public policy.
- (3) Subject to the availability of amounts appropriated for this specific purpose, and in compliance with RCW 43.01.036, the department of commerce must submit its recommendations in a report to the legislature by December 31, 2020.

In the summer of 2020 the Department of Commerce convened ECPAC, focusing the work of the group on identifying recommendations for the CEF programs. Among other things, to support Washington's clean energy goals and economic recovery, the report recommends that in providing appropriations for the CEF, the legislature include clear direction to:

- Use the forthcoming **2021 State Energy Strategy** and its **equity and environmental justice** lens to guide CEF investments.
- Expand funding for the **electrification of transportation** and **grants to nonprofit lenders** programs.
- Continue support for clean energy **research and innovation**.
- Provide funding to **expand outreach, technical assistance, and education**.

In the immediate future, policymakers' investments in the Clean Energy Fund represent a proven opportunity for economic development and position Washington to leverage federal clean energy dollars. In the long term,

the CEF has a structure that can help support the innovation and infrastructure adaptation necessary to make our state’s clean energy transition. With its strategic goal of “developing, demonstrating and deploying clean energy technologies that save energy and reduce energy costs, reduce harmful air emissions, or otherwise increase energy independence for the state,” the CEF can continue to be a tool to build on Washington’s clean energy policies and sectoral strengths, ensure costs and benefits are equitably distributed and help the state rebuild our economy.

Activities of the Advisory Committee

Under a proviso in section 23 of the Clean Energy Transformation Act, [SB 5116\(23\) \(2019\)](#), the Department of Commerce convened the Energy and Climate Policy Advisory Committee (ECPAC) to "develop recommendations to the legislature for the coordination of existing resources, or the establishment of new ones, for the purposes of examining the costs and benefits of energy-related policies, programs, functions, activities, and incentives."

The proviso directs Commerce to submit ECPAC's recommendations in a report to the Legislature by Dec. 31, 2020. The section and ECPAC sunset on Jan. 1, 2021.

At a minimum, ECPAC must include representatives of each of the state's public four-year institutions of higher education, the Pacific Northwest National Laboratory, and the Washington State Institute for Public Policy (WSIPP). WSIPP declined to participate in the work of ECPAC. All of the other named organizations took part, as did the Clean Tech Alliance.

The work of ECPAC focused on a review of the [Clean Energy Fund \(CEF\)](#) programs. The committee met four times between June and September 2020, learning about past uses of the funds and considering ideas to strategically expand or adjust the CEF programs. In addition, ECPAC members and non-member stakeholders met in six interim sessions with a combined total of 29 individuals representing 26 organizations. These stakeholder sessions provided a forum for focused discussion of the three primary CEF program areas and related investments. This report and the recommendations included here are the outcome of this process.

Commerce convened ECPAC and the related stakeholder sessions, facilitated the meetings, and drafted and finalized this report. Parallel with the work of the ECPAC, Commerce led the effort to develop the 2021 State Energy Strategy, taking steps to coordinate the work of ECPAC with the strategy development process.

Energy and Policy Advisory Committee Activities: 2020

Task Description	Timing	Focus
ECPAC Meeting #1	June 4	History of CEF, equity, begin to explore ideas for adjustments
Stakeholder sessions Clean Energy Research and Innovation (aka RD&D)	June 26, July 21	Background and development of ideas for program expansion or adjustments
Stakeholder sessions Clean Energy Infrastructure (aka Grid Mod)	June 26, July 9	Background and development of ideas for program expansion or adjustments
Stakeholder sessions Clean Energy Lending (aka Grants to Nonprofit Lenders)	June 18, June 30	Background and development of ideas for program expansion or adjustments
ECPAC Meeting #2	July 20	Review stakeholder session outcomes, begin to draft recommendations
ECPAC Meeting #3	August 20	Review draft recommendations
ECPAC Meeting #4	September 25	Finalize recommendations

Background: Clean Energy Fund

Washington's Clean Energy Fund (CEF) was conceived in 2013 to support "projects that provide a benefit to the public through development, demonstration, and deployment of clean energy technologies that save energy and reduce energy costs, reduce harmful air emissions or otherwise increase energy independence for the state." [SSB 5035 sec 1074\(1\) \(2013\)](#).

The CEF has received appropriations through a series of biennial budgets up to and including appropriations in the [2019 capital budget](#). To date, through awards of \$118 million, Washington's CEF investments have successfully leveraged over \$400 million to support innovative projects including grid modernization and storage; energy efficiency and renewable energy projects (wind, solar, bioenergy) on farms, and in commercial buildings and homes; and deployment of electrification charging infrastructure. The funding has resulted in energy savings, emission reductions, and job creation throughout the energy supply chain, positioning the state as a leader in clean technology development.

CEF Program Structure

The structure of the CEF programs was created by direction in the series of CEF legislative appropriations and by Commerce's interpretation of the most effective and prudent way to configure the programs and allocate the funding. With slight variations from budget to budget, and in addition to a number of one-off projects, the CEF has been invested in three primary program areas:

1) **Research, Development, and Deployment**

Funding strategic research and development projects on new and emerging technologies. This program initially started as the Federal Match program targeted to a narrow set of research organizations (e.g., PNNL, UW, WSU, BPA) for activities not covered by pre-commercialization demonstration projects being proposed by the electric utilities (see Grid Modernization below). It later became the Research, Development and Deployment program and was made available to wider categories of private and public organizations involved in clean technology development.

2) **Grid Modernization**

Funding the integration of renewables onto the electric grid. This program initially focused on helping several of Washington's larger utilities implement field demonstrations of emerging and promising grid-scale battery energy storage technologies to support the integration of intermittent renewable energy. Subsequent investments have included projects to combine emerging energy storage technologies with distributed generation including photovoltaic solar. Most of these have also included advanced microgrid controls for providing resilience benefits along with higher levels of integration into utility operations.

3) **Grants to Non-Profit Lenders**

Funding revolving loans to homeowners and commercial building owners to install renewable energy systems and make efficiency upgrades. Initiated during the great recession, this program is designed to provide inexpensive capital to lenders to deploy tried-and-true green technologies in low-income communities. The program enables non-profit lenders to create a revolving loan fund to finance energy efficiency and renewable energy loans to consumers who otherwise lack capital necessary to make the energy investment. The revolving nature of the financing mechanism allows these funds to be used many times over. Historically, every \$1 invested in this program has been leveraged by \$6 or more while supporting over 5,000 energy projects across the state. The loans never exceed 50% of the value of the project.

Collectively, CEF investments are matched at least 1:1 by non-state funds, effectively doubling the state’s investment. In many cases, the match has been 3:1 or higher. As of the beginning of 2020, grants given in the programs’ lifetimes were:

Program	Funding
Direct appropriations and other programs	\$23.5 million
Electrification of transportation systems	\$10.6 million (pending distribution)
Grants to nonprofit lenders	\$28 million
Grid modernization	\$39 million
Research, development and deployment	\$24 million
Solar deployment	\$4 million

Strongly supported by stakeholders and advocates in the business, academic and energy sectors, the CEF has facilitated a diverse portfolio of public-private partnerships ranging from backup power systems supporting emergency operations to bio-digesters that convert agricultural waste to renewable energy. The CEF programs are growing in demand and are consistently oversubscribed, resulting in the deferral of worthwhile projects and reinforcing the importance of this resource.

CEF and EQUITY

Washington's executive and legislative branches increasingly recognize the value and importance of including equity principles in crafting and implementing the state's laws and policy. The Clean Energy Fund is a catalyst program capable of creating inclusion and opportunity for highly impacted communities to participate in and benefit from our clean energy transition. For example, we know that cost, access to information, and barriers to ownership of buildings or other infrastructure inhibit widespread solar deployment in our state. In the 2019-2020 capital budget, the Legislature created a prevailing equity priority across all CEF grant programs, stating "Priority must be given to projects that benefit vulnerable populations including Tribes and communities with high environmental or energy burden." [SHB 1102, sec 1035\(1\)](#).

One example of equity principles being incorporated into CEF program implementation is the [Electrification of Transportation Systems \(ETS\) grant program](#). The program is designed with match amounts that vary based on project characteristics, environmental disparities and burden, and socioeconomic factors, and scoring criteria that take into account metrics such as environmental exposures, transportation costs, area median income, and rural status. The ETS program also requires applicants to describe the direct and indirect benefit the community will receive and meaningful engagement with affected communities.

The recommendations laid out in this report encourage continued focus on equity and environmental justice principles in CEF deployment.

Recommendations

This report sets forth ECPAC's recommendations for actions the Legislature and the Department of Commerce can take to best deploy the CEF to equitably and fairly meet the state's climate goals and support the recovery and competitiveness of the Washington economy. The committee also identified a number of promising options that the Department of Commerce should study further to create a more strategic and predictable CEF program structure.

Use the 2021 State Energy Strategy as a guide for how and where investments are made.

- The CEF should strategically advance Washington's transition to clean energy and reduced greenhouse gas emissions as part of the implementation of the State Energy Strategy.
- CEF investments should continue to incentivize developing cost-effective technologies that advance innovation, demonstration and deployment or accelerate decarbonization. The investments should be additive or accelerative, not directed towards actions that are already required or are otherwise going to happen.
- The CEF should continue to leverage potential federal and private funding.

The Energy and Climate Policy Advisory Committee (ECPAC) recommends that the Legislature and the Department of Commerce use the Clean Energy Fund (CEF) to support the innovation and infrastructure adaptation necessary for a successful and equitable transition to clean energy. The recent adoption of aggressive climate goals has changed Washington's energy landscape. In the coming years, our state's 100% clean electricity and building efficiency goals, combined with greenhouse gas reduction targets, will cause a major shift in Washington's energy landscape and transform an essential service: electricity. At the same time, COVID-19 has dramatically affected our economy. The policies and actions in the 2021 State Energy Strategy will delineate a path to meet our goals, often presenting cross-sector opportunities and benefits. The strategy can present a guide for CEF investments.

Use an equity and environmental justice lens for program structure and participation.

- Set a lower or no-match requirement based on applicant type.
- Require applicants to identify how their research or investment will lead to more equitable outcomes.
- Require or incentivize inclusion of underrepresented communities or organizations on project teams.
- When appropriate, link CEF outcomes to non-energy programs and policy goals (e.g., low-income housing, public health, broadband access, workforce and economic development).
- Use the Department of Health's Environmental Health Disparities map and energy burden data to inform decisions and guide CEF investments.
- Ensure community-driven outreach and participation in program design and implementation.

ECPAC recommends that the Legislature and the Department of Commerce continue to build on a CEF framework that promotes equitable outcomes. The CEF Electrification of Transportation program pioneered the use of the Department of Health's Environmental Health Disparities map and energy burden data to inform decisions and target investments in disparately impacted communities. The 2020 CEF solar grant program is aimed exclusively at reducing the energy burden for low-income housing providers and tenants. More equitable outcomes can be achieved with representation from a more diverse array of energy uses, users, and developers from across the state (agriculture, Tribal, commercial, industrial, residential, academia, etc.) in CEF program management and participation.

Support the transition to clean, equitable transportation of passengers and goods.

- Future CEF investments should focus on both urban and small-town charging solutions, rural electrification and infrastructure.
- Support publicly accessible vehicle charging infrastructure deployment to cover charging gap, and enable more Washingtonians to use the technology.
- Encourage partnerships to take steps to decarbonize the maritime sector by developing decarbonized solutions for ferries, vessels, ports and cargo movement on land.
- Use the CEF to incentivize the manufacturing and deployment of electric medium- and heavy-duty vehicles.
- Build on the model used in the aerospace sector to leverage federal dollars and bring together research and business partners to solve transportation challenges.

ECPAC recommends the Legislature invest the CEF in accelerating transportation decarbonization across the state, with a particular focus on reducing emissions from transportation sources in communities disproportionately impacted by the effects of environmental degradation and climate change, including Tribal communities. According to the Department of Ecology, the transportation sector accounts for about 45% of Washington’s greenhouse gas emissions. Reaching our state’s climate goals requires steep reductions in those emissions. Insufficient charging infrastructure is a significant barrier to accelerated electric vehicle adoption in the state. Adequate and equitable charging infrastructure will not be built by the private sector alone.

Expand the CEF lending program to promote economic recovery.

- With economic conditions inhibiting access to capital, ensure lending plays a role in recovery efforts and the transition to clean energy.
- Provide flexibility for lenders to offer grants paired with low-interest loans to lower the overall debt amount.
- Allow interest rate buy-downs.
- Increase utility engagement through more active and direct partnerships.

ECPAC recommends that the Legislature continue to support the CEF lending program, and consider expanding opportunities to increase both access to capital and the pace of equitable clean energy investment and job growth across Washington. This program is well positioned to help small businesses, nonprofit organizations, multifamily building owners, and homeowners reduce energy and operating costs and achieve sustainability goals. The revolving nature of the program allows the funds to be used many times over. Historically, every \$1 invested in this program is leveraged by \$6 or more while supporting over 5,000 energy projects across the state. By connecting clean energy projects with innovative financing, the CEF lending program can accelerate market expansion and unlock opportunities for underserved markets to participate in the green economy.

Play to Washington’s existing strengths.

- Build on our state’s foundations in aerospace, maritime, information and communications technology (particularly data center infrastructure, artificial intelligence and machine learning), grid modernization and decarbonizing buildings.
- Support Washington’s world-class manufacturers, technologists, and academic research organizations, including those in regional comprehensive universities across the state.
- Catalyze activities that align with sustainability, climate and carbon investment funds being established and policies being adopted by the private sector, including Microsoft, Amazon and other sector leaders.

ECPAC recommends that the Legislature focus CEF investments on existing sectors and institutions to more readily develop the technology and innovation required to meet the state, national and global climate goals, offer opportunities for economic and job growth, and strengthen technology supply chains. Alongside our world-class research universities and institutions, regional comprehensive universities have scholars with the expertise and active research agendas that could take advantage of CEF opportunities while providing significant benefit to their communities. Collectively, these efforts can help ensure our existing and future industries have access to the tools needed to reduce the carbon intensity of their operations.

Focus on public and community infrastructure.

- Areas of focus should include clean energy infrastructure for community resilience systems, ports, vehicle charging stations, school and other public buildings, transmission, storage and continued modernization of the electricity grid.
- Target CEF infrastructure investments to make Washington more competitive in attracting federal clean energy grants through state matching funds.
- Support community resilience efforts, creating on-site clean energy infrastructure and systems in community-centered facilities (e.g., food banks and community centers) sited in vulnerable communities.

ECPAC recommends the Legislature's CEF investments include public infrastructure construction, direct investments towards electrification, and fund demonstration projects for emerging technologies and community resilience. These investments not only help meet climate goals, but also position the state to attract businesses, grow the economy and create jobs. Infrastructure investments should ensure concurrent public health, social, and climate justice benefits, while presenting opportunities for workforce and economic development.

Encourage collaboration and leverage partners.

- Build on the model of the Joint Center for Deployment and Research in Earth Abundant Materials (JCDREAM), Washington Clean Energy Testbeds, the Centers of Excellence and similar efforts.
- Design the CEF appropriations, programs, and scoring preferences to encourage project teams with a variety of members, such as large and small businesses, non-profit organizations, small and large research institutions and local and Tribal governments.
- Design programs to encourage the clustering of smaller, similar or identical projects under a single applicant or project manager.

ECPAC recommends that the Legislature give the Department of Commerce the tools to expand the geographic and organizational scope of CEF programs and avoid imposing conditions that limit participation. CEF structure has historically hindered engagement by smaller organizations and businesses due to eligibility thresholds, and applicants' lack of access to expertise and resources. CEF funds can be leveraged even further and reach a wider swath of beneficiaries by expanding program eligibility, which will encourage teams and partnerships to apply for the programs. Steps could be taken to partner with organizations (e.g., Washington State Academy of Sciences, 2030 District, Northwest Energy and Efficiency Alliance, Community Action Agencies) as a way to scale economies and concurrently advance non-energy benefits and policy goals, such as preservation of low-income housing, securing power for broadband access, protecting health, and business development.

Identify resources for expanded outreach, technical assistance, and education.

- Provide enhanced technical assistance as part of CEF program delivery to facilitate the involvement of smaller communities, organizations, utilities and companies.

- Ensure the system has capacity to consult with and include stakeholders in designing programs and selecting projects.
- Provide training resources including sample project plans, design standards, sample past projects and templates.
- Streamline applications and eligibility as much as possible to eliminate redundancies and complexity.

ECPAC finds that the 3% capital budget cap on administrative costs has artificially limited the potential of CEF program development, management, and contracting. Constraints on resources to provide effective community outreach and education have resulted in inequitable outcomes. The Legislature should identify and designate funding sources within and outside of the capital budget for enhanced outreach, technical assistance and education.

Suggestions for Further Review and Consideration

ECPAC identified the following promising options that the Department of Commerce should explore to create a more strategic and predictable CEF program structure. In particular, ECPAC recommends consideration of program changes to allow for strategic planning, to access stakeholder and community expertise, and to incorporate performance metrics. Among other things, further study should be given to:

- Adopting a system to pre-build a project list to bring to the Legislature each biennium.
- Allowing rolling or quarterly grant applications.
- Using an advisory body to serve in an ongoing capacity and provide strategic direction for the CEF program policy focus and administration.
- Engaging frontline communities and organizations in the design and implementation of CEF programs. This could be done through an advisory group, such as King County’s [Climate Equity Community Task Force](#).
- Incorporating any available flexibility in assets and equipment that qualify for grants (i.e., software development is not an option).
- Including performance metrics in grant awards and taking steps to resolve obstacles to establishing and achieving performance metrics, where they exist.
- Structuring the CEF programs and funding based on the type or stage of projects, for example: incubator and accelerator, emergency resilience and planning, education and technical assistance, and deployment.
- Incorporating best practices from the [Recreation and Conservation Office](#) or the [Oregon Energy Trust](#).