

WASHINGTON ENERGY STRATEGY ADVISORY COMMITTEE

Meeting 3 Summary

June 11, 2020, 9:00 am to 12:00 pm
Virtual meeting via Zoom

Meeting Participants

Advisory Committee Members

George Caan, Executive Director, Washington Public Utility Districts Association
Jason Campbell, Spokane Tribe and Chief Executive Officer, Sovereign Power
Reuven Carlyle, Senator, Washington State Legislature
Co-Chair: Reeves Clippard, Chair, CleanTech Alliance and Chief Executive Officer, A&R Solar
Dave Danner, Chair, Washington Utilities and Transportation Commission
Kathleen Drew, Chair, Energy Facility Site Evaluation Council
Sandi Edgemon, City of Richland
Will Einstein, Director of Product Development and Growth, Puget Sound Energy
Martin Gibbins, Water Issues Chair, League of Women Voters
Deric Gruen, Program Director, Front and Centered
Co-Chair: Nancy Hirsh, Executive Director, NW Energy Coalition
Nicole Hughes, Executive Director, Renewable Northwest
Paul Jewell, Policy Director, Washington State Association of Counties
Dan Kirschner, Executive Director, Northwest Gas Association
Kent Lopez, General Manager, Washington Rural Electric Cooperative Association
Bruce Martin, Energy Resource Manager, WestRock Tacoma
Patrick Oshie, Member, Northwest Power and Conservation Council
Clay Norris, Power Management Manager, Tacoma Power
Rebecca Ponzio, Climate & Fossil Fuel Program Director, Washington Environmental Council
John Rothlin, Manager of Washington Government Relations, Avista Corporation
Jessica Spiegel, Director Northwest Region, Western States Petroleum Association
Dan Wilson, President, Local 338 United Steelworkers
Alex Ybarra, Representative, Washington State Legislature

Commerce, Governor's Office, and Consultant Team

Aditi Bansal, Clean Energy Transition Institute (technical support)
Tom Beierle, Ross Strategic (facilitation support)
Glenn Blackmon, Washington State Department of Commerce
Derik Broekhoff, Stockholm Environment Institute (technical support)
Andy Chinn, Ross Strategic (facilitation support)

06/25/2020

Marc Daudon, Caspian Group (technical support)
Michael Furze, Washington State Department of Commerce
Roel Hammerschlag, Hammerschlag LLC (technical support)
Jeremy Hargreaves, Evolved Energy Research (technical support)
Kate Kelly, Washington State Department of Commerce
Nicole Larson, Clean Energy Transition Institute (technical support)
Michael Lazarus, Stockholm Environment Institute (technical support)
Heather Martin, Ross Strategic (facilitation support)
Lauren McCloy, Office of Governor Jay Inslee
Scott Nystrom, FTI Consulting (technical support)
David Paoella, Clean Energy Transition Institute (technical support)
Eileen V. Quigley, Clean Energy Transition Institute (technical support)
Poppy Storm, 2050 Institute (technical support)

Welcome and Agenda Overview

Washington State Energy Strategy Advisory Committee Co-Chair Reeves Clippard welcomed meeting participants. Mr. Clippard thanked Committee members for their participation and reminded them of the unique circumstances of working on the state energy strategy during the COVID-19 pandemic, now layered with another crisis that highlights both the historical and ongoing pain and suffering of the Black community. Mr. Clippard reiterated that the Advisory Committee’s purpose, as outlined in the charter, is to “provide independent guidance, advice and recommendations on the State Energy Strategy as it is being developed, especially helping Commerce understand high-level implications, trade-offs, and opportunities associated with implementation of proposed strategies as they relate to energy planning goals and principles and to particular interests, sectors, and regions of the state.” During the second meeting, one of the participants noted that many Committee members come from technical backgrounds, and Mr. Clippard reinforced the importance of thinking of people first – particularly in the context of harder to address cross-cutting issues. Mr. Clippard urged Committee members to consider the needs of Black, indigenous, and other people of color as a lens to think through proposed solutions that help people, before building technological artifacts: Equity and inclusion must come first.

Tom Beierle, lead facilitator from Ross Strategic, reviewed the meeting objectives and the day’s [agenda](#).

Economic Development and Economic Analysis in the State Energy Strategy

On behalf of the Governor’s office, Lauren McCloy provided remarks on the role of energy strategy in the state economy. The State of Washington is experiencing its highest jobless rate since the federal government began keeping records, and the economic reverberations from unemployment and the state budget shortfall will impact the State Energy Strategy. Governor Inslee is one hundred percent focused on health and safety and implementing the state’s safe start plan.

Scott Nystrom from FTI Consulting provided a presentation on the modeling and methodology that will be used to assess the economic impacts of the policies and actions developed during the technical advisory process. Mr. Nystrom also briefly discussed the economic impacts of the COVID-19 pandemic.

The presentation is available [here](#).

Advisory Committee Comments and Questions (and responses):

- Is there any Washington-specific economic data included in the model, and is the EIA data national, regional, or specific?
 - *Data is typically at state level, and in some cases county level. The Washington model will use Washington data. EIA data is at a regional level; there is a Pacific Region that includes Alaska, Oregon, California, Washington, and Hawaii.*
- There are efforts underway to develop non-carbon liquid and gaseous fuels in the power sector, in addition to the transportation sector.
 - *Biofuels will be included in the economic impact model.*
- Why is University of Michigan's forecast being used and not a regional forecast?
 - *REMI developed the model using the Michigan forecast. Also, not every state has a macroeconomic forecasting department (including Washington); most states use either the Michigan forecast or hire an economics consulting firm to do a forecast. The University of Michigan forecast is available online, for transparency.*
- What other studies have used the REMI model as an example?
 - *REMI has a client base in all fifty states; Scott can provide examples as follow up if needed.*
- Can the model break down by balancing authority instead of county?
 - *Economic impact analysis is based on political boundaries, whereas energy analysis is based on physical boundaries of the electricity system. A mapping exercise between political and balancing authorities is possible but will not be perfect.*
- How are results of impact analysis fed back into the energy model? Is there a feedback effect around assumption checking?
 - *The feedback issue will be explored during the first integration loop. Usually an economic impact model will include demand from the energy sector; it remains to be seen whether the changes in the energy system will cause a significant enough change in the macroeconomic systems to affect economic impacts.*
- Can we extract educational training forecasts through the model?
 - *IMPLAN and REMI generate results around employment for occupations and for industries and can create some insights around training needs.*
- Much of Washington's energy policy is based on certain GHG reduction goals, and costs. How are those economic issues considered in the model? Will this analysis give us good data on impact of these policies on climate change?
 - *The energy system model will provide costs implication results for a variety of technologies that could attain Washington State's GHG reduction targets. While the economic model does not assess the direct impact from avoided GHG emissions, it will incorporate the results from the energy system modeling and offer data on how the costs and benefits of investing in clean energy and purchasing less fossil fuel energy might be distributed.*
- Does the list of distributional breakdowns in the model include health, cost of living, and non-market activities?
 - *Cost of living is included in the model (it is a generated result). Non-market activities like uncompensated work are not included in the model.*
- Will the model accept input from pathways?
 - *Yes; pathways come up in several scenarios. Outputs are mapped from pathways into variables in REMI and IMPLAN, and then examined under the economic models.*

- Is there data from California and Oregon on biofuels markets and the low-carbon fuel standard?
 - *The energy system modelers are using data for biofuels markets in the U.S. and the opportunity for importing biofuels into Washington state. The import pathways are represented by transport costs. The LCFS is not represented in the energy model because the concept is lowest-cost pathway and the LCFS is a potential policy mechanism that would enable use of different fuels.*
- How will results include who is benefitting from investments?
 - *The distributional and equity analysis will answer questions related to benefits.*
- Would a scenario that involved locally produced biofuels result in higher equity scores?
 - *It is not possible to answer that question at this point.*
- What is the benefit to using two models?
 - *IMPLAN is more detailed on the sectoral level than REMI. REMI is also expensive. The project team will use the IMPLAN detail on the sectoral and geographic level to map and allocate, using REMI results at the state level.*

Deep Decarbonization Scenarios Update

Jeremy Hargreaves from Evolved Energy provided an update on the proposed decarbonization scenarios developed over the past month. The scenarios include:

- A reference case (business as usual),
- A central case against which the other scenarios are compared. This case includes relatively unconstrained technology availability in-state and out of state, aggressive electrification, and no reduction in service demands.
- Low electrification and efficiency in buildings and industry
- Low electrification in transportation
- Behavioral changes
- Constrained renewable and transmission

The presentation is available [here](#).

A description of the proposed scenarios is available [here](#).

Clarifying questions about the deep decarbonization scenarios were asked during the meeting, but there was not enough time to respond to all of the questions in the chat window. The CETI technical team has followed up directly with Advisory Committee members to answer those questions.

Technical Advisory Process and Breakout Discussions on Framing Questions

Marc Daudon provided an [overview](#) of the Technical Advisory Process (TAP). Mr. Daudon reminded Advisory Committee members of the purpose and focus of the TAP, its approach to identifying and assessing policies and actions, the plan for engaging the Advisory Committee and experts, and expected output.

Breakout Sessions

The analysis conducted during the Technical Advisory Process will be driven by a set of sector-specific framing questions. To help ensure that these questions are responsive to the knowledge and insights of

the Advisory Committee, participants broke into sessions to discuss them. Michael Lazarus introduced these framing questions in advance of the breakout sessions. Each sector has an overall question followed by a series of key topics to address. The framing questions ask the following:

- Do the questions identify the key, broad high-level issues that should be addressed within each of the TAP sectors?
- What modifications or additions would you suggest?
- What resources (studies, experts, etc.) would you suggest the TAP consult in answering these questions?

Advisory Committee members then split into three breakout groups to discuss the framing questions, with the groups emphasizing buildings, electricity/industry, or transportation. Some of the breakout groups expanded their discussion beyond their sector of focus as time permitted. Breakout group discussions are summarized below.

Breakout Group 1 - Buildings

The buildings framing questions and background slides are available [here](#).

Participants:

- Advisory Committee: Pat Oshie, Deric Gruen, Nancy Hirsh, Dan Kirschner, John Rothlin, Clay Norris, Jason Campbell
- Commerce: Elizabeth Osborne
- Technical/Facilitation Team: Michael Lazarus, Poppy Storm, Andy Chinn, Nicole Larson

Key Themes:

Energy Conservation: In energy conservation programs, there have been problems reaching communities in municipal utility districts and rentals, and also communities above the poverty level who do not qualify for low-income programs but lack the means to pay for conservation efforts. There are also behavioral strategies that come into play, such as working from home, household size, square footage, etc.

Existing buildings: New construction has an energy efficiency pathway and the strategy seems clearer. Existing buildings are more challenging, and the main issue is funding because of the significant need for investment in retrofits. Related issues are affordability and displacement. The built environment is a great energy resource; buildings can be used to optimize the grid and for new power generation. How do we do this proactively and think about what it means to do that? Broadband is key to us being able to optimize systems, use the buildings, and manage load effectively. We need investment in broadband.

Extent of electrification and energy mix: One of the transformative ways to think about energy is capitalizing on existing infrastructure, such as the 45,000 miles of natural gas infrastructure in the state. As described in a previous webinar, the costs of upgrading the electric distribution system are complex, and modeling will produce a broad range of costs of upgrading the transmission system. The modeling will also not account for the cost to consumers for decommissioning the gas infrastructure in the state. Is aggressive electrification the right path or can a diverse energy system achieve the goals? If the gas distribution system can accommodate green hydrogen, this may contribute to decarbonization without stranding existing infrastructure.

Role of Utilities: The scenarios assume that electric utilities will achieve the goals set forth by CETA. It would be helpful to see some analysis of the relationship between electrification and utilities' ability to meet CETA within the cost and reliability requirements.

Tribes: Tribes are looking at ways to approach the built environment with more resilient, smaller-scale approaches like micro-grids and community solar. Funding mechanisms are an important part of this, such as recent proposed legislation around community solar policy.

Support for rural and small utilities: There is a need to support rural and small utilities with funding and programs for energy efficiency.

Transportation: For decarbonizing personal transportation, electric vehicles are a primary mechanism, along with looking at vehicle miles traveled, other new mobility options, and new technologies. Managed charging is also a key component of electrification, especially in light of the capacity of the distribution system to handle the load of electric vehicles. For medium and heavy-duty vehicles, natural gas can play a role in decarbonization.

Breakout Group 2 – Electricity/Industry

The electricity/industry framing questions and background slides are available [here](#).

Participants:

- Advisory Committee: Reeves Clippard, Nicole Hughes, Kent Lopez, Martin Gibbins, Dan Wilson, Bruce Martin, Sandi Edgemon, Kathleen Drew, Alex Ybarra
- Technical/Facilitation Team: Marc Daudon, Jeremy Hargreaves, Roel Hammerschlag, Aditi Bansal
- Commerce: Glenn Blackmon

Key Themes:

Barriers to renewable energy - focus needed on market mechanisms: One of the proposed deep decarbonization pathways scenarios (Scenario Six) assumes that the major constraints to renewables are siting and transmission, however the major constraint is an inefficient market mechanism, which limits renewables investment, efficient response to capacity constraints, and optimal use of existing generation, transmission, and distribution resources.

Workforce development: It is important to consider workforce questions such as: How many workers will it take, how many apprentices, where will the training occur? Washington will be competing with an out-of-state workforce if workforce development is neglected. Workforce development should start at the middle and high-school level and focus on the transition away from traditional energy jobs. There also should be a renewed focus on workforce development for the current energy infrastructure.

Information transparency: There are blind spots in information about the distribution system, particularly around non-wired alternatives.

Generation resources - focus on capacity issues: In the utility and energy policy world, the primary concern is capacity, not generation. It will be important to keep in mind what new energy generation

06/25/2020

might be available versus what's needed, and then what capacity generation is available versus what is needed. With a marketplace capacity shortage, new facilities will be needed.

Outreach and education: Important to put together messages highlighting why decarbonization is important.

Reliability and cost impacts to ratepayer: Making sure baseload generation is maintained and that costs are not prohibitive to consumers, especially low-income and disadvantaged populations.

Role of natural gas: There is some concern about characterizing natural gas as a transition fuel because it is not completely carbon-free.

Technology fatigue: Keeping things simple for the retail consumer is a consideration, given the proliferation of web-enabled technologies (e.g., wirelessly controlled water heaters) and the possibility of technology fatigue.

Environmental and aesthetic impacts: There are environmental and aesthetic impacts from renewable energy systems.

Equity: The importance of addressing the cost impact on low income customers and providing a means to become self-reliant.

Urban and rural balance - cost differentials and implications: Seattle is a major source of GHG emissions but much of the renewable energy development is occurring in Eastern Washington. Eastern Washington residents will not want to see increased electricity prices and increased solar and wind installation in their backyards.

Connecting industry and utility sectors: It will be important to identify utilities' role in providing clean energy to industry in the form of hydrogen or other renewables for electricity as well as for process fuels.

Note: Breakout participants brought up a recent webinar from the Bonneville Power Administration that included a presentation on equity and energy markets from Advisory Committee member Deric Gruen, Front and Centered. A recording of the webinar is available here:

Link: <https://bpa.webex.com/bpa/ldr.php?RCID=5c332e17ee604f48859813de1c8f03ef>

Password: SqP6JBr\$

Breakout Group 3 - Transportation

The transportation framing questions and background slides are available [here](#).

Participants:

- Advisory Committee: Will Einstein, George Caan, Jessica Spiegel, Rebecca Ponzio, Paul Jewell, Dave Danner
- Technical/Facilitation Team: Eileen V. Quigley, Tom Beierle, Derik Broekhoff

Key Themes:

State transportation electrification targets. Washington State only has passenger vehicle electrification goals through 2020. The analysis for the state energy strategy will go far beyond that time period, and the strategy may need to inform new transportation electrification targets as well as the incremental steps needed to achieve them. There is some confusion over whether CETA implementation will achieve state GHG reduction goals or whether new policies are needed.

People miles traveled: The energy strategy should emphasize approaches to reducing people miles traveled rather than too much focus on vehicles and fuels. Adding an analysis of people miles traveled will bring more focus to mass transit where additional investment would help address equity issues in transportation.

Behavioral change and transportation patterns: Rather than focusing on vehicle electrification the strategy should consider behavioral changes such as teleworking and increased use of mass transit. Increased investments in broadband infrastructure could encourage telework (building on new patterns as a result of COVID-19 stay at home orders) as a strategy for reducing vehicle miles traveled.

Permitting and Siting: Local governments will play a significant role in permitting and siting electric vehicle charging infrastructure. Siting is a local function until it becomes an issue of statewide significance, and there can be state and local friction over jurisdiction. Lack of charging infrastructure in more rural areas is a key obstacle. A model code for charging infrastructure (similar to what we have for buildings) would be useful for local governments.

Utility regulatory policy. Utility regulatory policy will be important in determining the role that electric utilities can play in advancing transportation electrification, primarily through investments in charging infrastructure.

Air quality and equity: Transportation decarbonization could yield significant equity benefits, as air pollution often disproportionately impacts vulnerable populations. This is particularly true for medium- and heavy-duty transportation in locations with heavy traffic, such as ports.

Other deep decarbonization pathways work: A [report from May 2019](#) details pathways for deep decarbonization in California and could be a potential example for Washington.

Next Steps and Action Items

- The presentations, recording, and meeting summary will be posted to the State Energy Strategy [website](#).
- The facilitation team will follow up with meeting participants and other interested individuals to provide opportunities for feedback on the Technical Advisory Process framing questions.
- The CETI technical team will respond to unanswered questions about the deep decarbonization scenarios analysis following the meeting.
- The Technical Advisory Process topical leads will follow up with Advisory Committee members and others according to their interests.
- Commerce will post the final Advisory Committee charter to the website.

Public Comments

Throughout the meeting, members of the public were invited to provide comments via email.

Comments are copied below:

- I very much appreciate the technical team lifting up the economic analysis in light of our current financial crisis. It's extremely important that we're grounding work on the state's energy strategy in economic impact and equitable development—now more than ever. Thank you for taking the time to help us understand the models that you'll be using to shed light in this area. It's clear from today's presentation that we'll be able to glean a lot of high-level insights, which will be extremely useful. At the same time, it's also important to recognize the limits of these models. It seems that a lot of the information that we'll need to identify, evaluate, and address distributional and workforce impacts may be buried in net impacts. We need to be equally clear about what these models won't tell us so that we can actively seek to address those blind spots. The more granular the results, the better. I also want to note that workforce and procurement policy can play a major role in increasing the positive economic impact of investments, but this won't be visible absent some type of scenario-based modeling. When it comes time to translate model outcomes into policy recommendations, it will be extremely important to be proactive and intentional in making sure that we're creating those high-road economic opportunities with equitable access and preventing manufacturing leakage.
- Agricultural biofuels have huge land use implications and emit about as much CO₂ as gasoline or natural gas when burned. It is nearly impossible to assign enough CO₂ sequestration from the growth of the biomass to eliminate this quantity of emissions. For instance, it is generally accepted now that corn ethanol is not climate friendly. (I will explain the limitations of other biomass sources in a written comment later.) I am concerned that any scenario that assumes a significant amount of biofuel use (of any kind, not just corn ethanol) could create a market that locks in climate-damaging practices on a large scale over a long period of time (just as we still add ethanol to our gasoline, in spite of our knowledge). In general, burning biomass on a large scale for electricity generation, to heat buildings, or to power vehicles will not compare favorably to lower emissions options. (I will send more detail in a comment soon.)
- Thank you for the opportunity to once again provide comments to this advisory committee and the Department of Commerce on the 2021 Washington State Energy Strategy. In my previous comments I have urged you to develop and implement a strategy that is transformative rather than simply incremental. And as part of that work I underscored the need to widely and fully engage and educate the public and non-energy organizations in the processes and outcomes. Today I would like to tie those comments together with what has become an increasingly critical consideration in our world of pandemic, economic recession, and demands for social justice and systemic reform. That element is the second of the guiding principles set forth by the legislature:
“Ensure that the state's energy system meets the health, welfare, and economic needs of its citizens with particular emphasis on meeting the needs of low-income and vulnerable populations”
- Co-chair Reeves eloquently articulated that technical and economic elements of your work are often familiar and manageable while understanding the equity, welfare, and social dimensions of future energy choices are vital but difficult. In that regard, I urge you to deeply examine the equity questions presented as part of the framing question discussion and ensure that any of your recommendations fully address those elements. The ultimate success of the State Energy Strategy as a long-term guide for our state's energy future depends on how those questions are

answered. Finally, I want to draw the committee's attention to a paper by Clark Miller of Arizona State University, *The Ethics of Energy Transitions* (attached). This paper was developed as part of a National Science Foundation project on Energy Ethics in Science and Engineering Education. It is just one of several that examines ethical issues in energy, but I commend it to the group as a useful thought piece on how you might expand your consideration of the critical dimensions of your energy choices beyond economics, engineering and environmental dimensions.

- I'm disappointed in the process being utilized by Commerce to include broader public viewing and participation – highlighted by today's meeting where public presentations are made by consultants, but the Q&A is being deferred to breakout sessions the public isn't being provided access to. While PSE has a representative on the advisory committee, it is important for a broader group to be able to hear the discussions as you breakout into these smaller groups – especially if you are going to avoid answering questions pertinent to the presentations and materials that are part of the public record. Technology is available to allow for better public participation in this effort. Commerce should better provide this opportunity – in addition to recording the breakout sessions.

Closing Comments

The Co-Chairs thanked Advisory Committee members for participating and keeping a people-first attitude. The Co-Chair recognized frustration with the lack of time during the meeting to address all questions. However, the Co-Chairs have confidence that the technical team is hearing the Advisory Committee's input and encouraged Committee members to reach out to the technical team with additional thoughts.