Northwest **Power** and **Conservation** Council

Minutes for Conservation Resources Advisory Committee
April 23, 2026

Kevin Smit, NWPCC, began at 9:00 by reviewing the day's agenda and pointing to the minutes of the last CRAC meeting. Christian Douglass, NWPCC, took roll call.

Ninth Plan Capital Expansion Modeling Results: Conservation & Other Resources

Jennifer Finnigan, Seattle City Light, said her utility is currently thinking about scenarios and sensitivities for their 2028 IRP [Slide 12 High-Level Model Results: All Resources]. She asked staff what stood out to them when thinking about the scenarios and sensitivities and how they would adviser her. Finnigan then asked what sensitivities staff thinks will jump out from the rest.

Jennifer Light, NWPCC, replied that the upcoming results will help answer those questions, previewing that staff are not seeing much difference between the sensitivities.

Aliza Seelig, PNUCC, noted that the modeling strategy is very different for this Plan [Slide 18], wondering how that influences results and how results should be thought about. Light answered that, for conservation, it's important to think about what out-year decisions mean for near-term decisions. Light added that the model assumes investments remain constant between years, meaning the long-term picture informs the near-term picture.

Ted Light, Lighthouse Energy, confirmed that there is no planned reinstatement of tax credits for conservation or incentives, only renewables [Slide 21]. Douglass said it benefits conservation as well, adding that there is a bigger advantage for renewables over conservation. J. Light admitted there is some inconsistency between the two.

Seelig asked if it made sense for the renewables to be more valuable than conservation, wondering if it is due to a difference in shape. Smit said it comes down to the levelized cost of energy, adding that the region needs energy and the renewables provide it at low cost. J. Light added that renewables can be curtailed while conservation cannot.

Seelig confirmed that the curtailment cost is the real issue. J. Light said the upfront cost, curtailment, and other things are issues that play into the results. Seelig noted that renewables have so much variability that you would get more value from conservation at the peak period. J. Light pointed to the model's dynamic probabilistic reserve accounting, which calls for more reserves when you add renewables. Smit said the hybrid resource is the real competition as it flattens the load and sits right in the conservation sweet spot.

J. Light pointed the CRAC to [Slide 114-115] to see the max levelized cost of resources selected.

T. Light asked about the T&D credits that get included into the levelized cost of energy efficiency measures [Slide 24], confirming that they were higher for west side utilities. Douglass confirmed. T. Light thought the $10 difference would be greater if you factored out the T&D credits. Smit agreed. Douglass said the T&D credit gets you more and it will be discussed later in the day.

T. Light asked for speculation about differences in model selection in Western WA and OR versus Eastern WA and OR [Slide 26]. Douglass said it is most likely due to transmission and other things to be explored later.

Kim Boynton, Avista Corp, asked if the AVA box on the slide focuses on Washington policy or Idaho. J. Light said, at a high level, staff accounted for zones and policies with different load shares and load factors. She assured him that this graph is not what Avista is supposed to do but just represents locational zones.

Boynton mentioned Avista's Montana generating resources, wondering if those resources are in the WA/ID zone or MT. J. Light said she will connect offline to give more information, but said existing resources are mapped where they are acquired.

BREAK

Danielle Walker, Brightline Group, wondered what happens when average prices get really high and everyone is grateful for EE [Slide 30]. She asked where that value is captured. J. Light explained that this is not an entire average but an average of some pieces (weekday/weekend) before further explaining the graph.

Andrew Grant, Cadmus, asked why there is such a large difference between January/February compared to December in Western Oregon. J. Light answered that the way the calendar rolls through the model forced staff to separate December out.

Anthony Fontanini, Tacoma Power, asked if [Slide 40] only shows the value of efficiency or if peak load management, some weatherization, or other multiple value streams are included too. Douglass said that is all baked into the numbers and the hourly model selects for attributes.

Chris Johnson, Benton PUD, asked if there is any CRV in [Slide 42]. Douglass answered yes.

Questions and Discussion [Slide 48]
Jennifer Snyder, WA UTC, pointed to the constrained scenario, which she thought required more resources than what was already planned to solve. J. Light clarified that the model has resource build limits and the constrained world lowered those build limits.

Snyder said affordability is an issue and buying high-cost conservation is concerning. Snyder also thought the idea that the region couldn't build enough to meet resource adequacy was huge. She said this requires more thought about the possibility of a constrained world.

J. Light noted that costs are not on these slides but said they are a small piece of overall costs.

Drew Sizemore, Cap Oregon, addressed the fourth bullet on the slide noting that the residential measures were individually called out. He wondered if the higher cost bins included a more comprehensive weatherization approach with mechanical, envelope, and more. Douglass said weatherization will be discussed later in the session, cautioning that the model is not reality and not to overread results.

Sizemore said he works with many Oregon weatherization programs, pointing to the interconnectivity between measures. Because of this, Sizemore was surprised to see individual pieces pulled out. Douglass said staff model them separately but in reality, they are done at the same time.

Nicolas Garcia, WPUDA, praised the work, asking if the constrained system risk is a one in 20-year event or an ongoing, continuous problem that shows up year to year. Garcia then talked about the value of conservation and the importance of location, saying it makes no sense to spend $100 in Montana and $40 in Western Washington or Oregon. Garcia thought the different values by zone approach will keep price downs for customers.

J. Light spoke about the constrained world, saying staff thought a lot about the pace at which the region could build resources and transmission. She said that sensitivity limits total supply side resources in the first six years with an increased cost, while limiting transmission.

Nick Gemperle, Puget Sound Energy, asked What is the expected avoided cost of capacity in the capacity constrained case? In the question pane. Douglass answered, Thanks for the question, Nick. That will depend on where we ultimately set the cost effectiveness level for conservation. The model sees the value of capacity for conservation. The Council ultimately sets that value in the cost-effectiveness methodology based on the final target.

Gemperle rephrased this original question, wondering if there is a difference between utility and UTC modeling. He thought setting a conservation level presupposes a level of avoided cost. Smit said that is what this work is doing now and once a resource strategy is set, avoided cost for conservation will be determined.

Gemperle asked if the avoided cost of conservation is different than the avoided cost of building capacity. Smit said not necessarily as they are both components of the avoided cost of conservation.

T. Light was struck by how scenarios other than the constrained world relied on reasonable but unproven build rates. He called this a risk that is not clearly stated and thought deserved more consideration. He said in a world that needs resources quickly, EE and DR are some of a few resources that can be built quickly.

Walker offered thoughts on each bullet.

1. She said the constrained world is not that far off from today's reality. She said all the scenarios buy all the EE in 2028 because that's all there is. Walker asked what would happen at a different point in the action plan period and if the group should broaden their thinking to other times.
2. Walker then spoke about the risk factor and not being able to see that far into the future.
3. Walker talked about targets, finding a lot of value in what the zones are revealing. Walker then wondered about the logistics of managing two targets, calling it a bear. She asked if there is a way to acknowledge the spirit of two targets but not require complex navigation.

Jennifer Finnigan, Seattle City Light, spoke about the second bullet, saying her utility focuses on two and 10-year targets because of state policy. She voiced worry about a gap caused by not investing long-term in EE unless there's a change in how targets are set.

Jeff Harris, NEEA, agreed with T. Light's concern with the first bullet. Harris said the model is building an unprecedented number of renewables while the number of interconnects to large new renewables is way less than what was forecasted in the 2021 Plan. He called for a reality check on this.

Harris acknowledged the ongoing work to increase transmission capacity but said the only new data point in transmission builds is a 20-year enterprise. He said we may be able to build it faster but probably not, meaning the supply side will be constrained for at least five years. Harris called for hedging strategies.

Harris then spoke about buying more expensive conservation over time, saying it is similar to gearing up for more EE in the region. Harris said past experience has taught that ramping up EE requires time and stability. He said the model buying up the supply curve in 2028 is not practical as the process requires program design and support from trade allies. Harris suggested buying more in the near term, so the region doesn't have to scramble.

Harris addressed the third bullet, echoing Walker's point. He agreed that different regional targets would make NEEA's job harder as manufacturers already see the Northwest as a small part of a national market.

Finally, Harris spoke about different targets for the region saying he doubted it would actually help. Harris thought the markets and utilities should sort out how to deliver the EE represented by Council targets.

Gemperle wrote: I am going to try rephrasing my question: How did you tell the model that it was capacity constrained in the capacity constrained case? Did you input some expected cost for the building of peak generation? For instance, the cost to build a gas peaker plant? In the question pane. Douglass answered: Thanks, Nick. For our modeling, we do not put in a specific capacity credit for each resource. Rather, the model understands the shape of each resource across the hour for a typical day. It can understand how each resource, including the existing system, contributes to meeting both energy and capacity needs. And it is acquiring new resources to meet those needs as well as reserves. Conservation acquired is meeting both energy and capacity

needs. The final target will enable us to figure out the value of avoiding those other resources for both energy and capacity. But that isn't an input as much as an output. Happy to set up more time to discuss.

Light said the region has surpassed recommendations for supply side resources outlined in the 2021 Plan.

Seelig said not understanding differences in cost is limiting. She said tradeoffs between resources can be really close, wondering what the tradeoff between hybrid and conservation is. Seelig thought we could learn more in the future but wondered if staff is planning on running something different before the final targets are set. J. Light answered no, unless Council members ask for it.

Nolan Kelly, BPA, addressed bullet two asking about model mechanics. He asked what the model is optimizing when it wakes up. J. Light explained how the model works. Kelly confirmed that the model only looks forward. J. Light said the only backwards look comes from locked in resources adding that the model wants more.

Garcia voiced support for multiple targets.

Harris wrote: Thanks Jennifer for clarifying the resource build from the 2021 Plan. My point was more about interconnection. Maybe I'm overstating this issue but the existing transmission corridors have been able to handle the renewable power build out on the east side so far, but the build out required for resource adequacy will place additional significant constraints on the transmission system. I would just ask about the timing of things like Westec.. what is realistic? In the question pane.

LUNCH

Smit summarized received feedback. He said he heard support for putting weight and attention on the constrained system scenario.

- There were head nods of approval in the room.

Smit then addressed the second bullet, How much weight to put on longer term (2046) avoided costs versus nearer term (2032)? He said he heard more support for the longer term for risk hedging.

- There were head nods of approval in the room.

Smit moved to the third bullet. He said there was some support for more than one target with higher value areas paying more and lower value paying less. Smit said he also heard that doing this would be a logistical/supply chain headache.

Kelly spoke about the third and fourth bullet, saying more zones means more measures to compliment more targets, meaning this gets more complicated across the BPA zone.

Walker saw really important trade-offs with either strategy but could not say one path was better than the other.

Quentin Nesbitt, Idaho Power, voiced support for multiple targets. He asked what specific thing, like a policy difference, would drive the second target. Smit said yes, policy differences play a role. Nesbitt said it might make sense to do this with states as boundaries.

Grant asked if EE is the only resource or if DR is in the discussion too. Smit said staff are seeing the same types of signals with DR, but EE is defined by the Power Act and has a target, while DR is not conservation.

J. Light added that staff are not seeing the same big differences across the region with DR that they are with EE. She mentioned that supply side resources may not serve the region where they are sited. J. Light also assured the room that staff are not thinking about the targets in isolation but as a system.

Kelly addressed J. Light's point about supply side resources not just serving local load, saying T&D deferral value is an important factor for EE in this case. J. Light said multiple factors are at play here, saying the T&D deferral, transmission, different market prices, and policies are baked in.

Kelly went back to bullet four commenting to big pockets of resources available at different price points. He noted that some emerging resources will eventually fill out the body of programs. Kelly said an avoided cost that allows investment on these emerging resources provides value not described in the models. Smit said the cost effectiveness test requires a resource that's reliable and available, which makes these technologies hard to include. Smit then said staff and the committee can make recommendations on what should be developed.

Grant asked about DVR. J. Light said voltage regulation is represented as a thermal resource in so it can be dispatched at will. She said this creates more variable prices on the east side.

Conservation Program: Discussion of Research and Program Recommendations for the Ninth Plan

Grant asked if staff consider that a home may already have received weatherization/duct sealing before a heat pump upgrade which would allow installation of a smaller sized unit [Slide 8]. Douglass replied that the weatherization is same/same while duct sealing is included if needed.

Kelly asked how a Model Conservation Standard (MCS) would dovetail with program operations [Slide 11]. Smit answered that the MCS carries more weight as it says utilities should do a program if it is cost effective. Kelly confirmed that it would be excluded from the RCP if it was unsatisfied. Smit said no, calling it higher level than that. Smit explained the concept further. Boynton understood the value of this approach but struggled with the requirement that utilities implement it. He said it's good for six years with the expectation that installed meets the

standard. Boynton said this means we basically pay people who install things poorly to fix what they installed. He said the market will see the short life for this and drive costs up.

Douglass acknowledged the challenges, adding that it is not the case that we would get this in the future. He said the region will continue to have poorly installed Heat Pumps, so the measure will persist. Douglass said ideally you would not send out the same contractor, but a partner ally.

Jim Lazar, independent, noted that the Act requires MCSs calling this a big one. Lazar then spoke about his gas utility offering a “furnace tune up” at a reasonable price every year. He thought that electric utilities could provide that on a six-year cycle.

Lazar then said heat pumps installed six years ago may need this, but the heat pumps installed six years from now will have on-board diagnostics and be able to call the tech on their own.

Emily Gilroy, WA UTC, said there would be value for renters or buyers who were not in the house when the heat pump was installed. Gilroy then said some property owners install this technology themselves, and this would give good peace of mind that the unit was installed properly.

Walker recalled that the first few Plans had concrete, measurable MCSs but noted that they have gotten squishy and hard to measure over time. She said this one gets back to that discreet, measurable, focused approach.

Gilroy wrote: Some of these checklist items seem like they could be useful recurring checks, even once a heat pump is commissioned. things like coil condition and refrigerant line set condition seem like they should be checked regularly, in the question pane. Douglass replied: Thanks, Emily. Yes, exactly - the thought was, if you already had a tech at the house doing some of these actions, it made sense to include some other useful O&M activities while onsite. But you are exactly right - "best practice" would be to do lots of these things on a recurring basis.

Garcia noted that the PUDs he represents are in rural areas with small customer bases. He asked if costs are based on urban areas, voicing concern that this would be more expensive in rural areas where there are not a lot of heat pumps. Douglass said staff rarely have the data to differentiate cost like that. Douglass suggested that appropriate language about the issue could be folded into the Plan.

Lazar insisted that every home should have a grid-independent heat source as it allows for installation of a smaller unit [Slide 13]. Douglass called that an interesting point.

Lazar wrote: the MCS could make electricity service to the heat pump load conditioned on compliance. Or a separate rate class for non-conforming properties. In the question pane.

Harris wrote: Regarding Heat Pump MCS: MCS has often addressed new construction/new installations rather than just retrofits. Is there a reason that you decided to focus on just retrofit Cx for HPs and didn’t do MCS for new installations? My recommendation would be that the MCS for HPs include a section on new installations that would address both equipment performance

attributes as well as commissioning at time of installation. It could also address the electric back-up heat problem, in the question pane. Douglass replied, Good question, Jeff. The main reason we focused on the retro Cx was because of the lower cost - but it really depends on where cost effectiveness thresholds land. We can certainly include, and plan to include, some more general guidance on all heat pump installations, whether we can do it within an MCS or not.

Grant asked if new data center construction was max capacity design [Slide 21]. Grant assumed a new data center would take time to reach full capacity, wondering if that is what staff was seeing as well. Smit did not know but said he will ask PAE.

Kelly asked if staff considered flexible load in data centers. Smit said that is on the radar but cannot be included in an MCS as it is not conservation.

Kelly then asked how cost effectiveness will be determined. Smit called that a good question saying staff is assuming it is all current practice.

Garcia offered that data centers serve different purposes and have different energy uses so just using the blanket term “data centers” is an oversimplification. Garcia said he’s also heard data centers will build bigger buildings with plans to fill them later.

Garcia then said most of his client utilities will not provide energy for new data centers. He asked how the MCS would apply if that is the model going forward. Smit said the data center still needs an agreement with the utility to deliver their power from a substation to their facility. Garcia agreed. Smit said a standard could be included in that agreement.

Kelly asked who data centers would be reporting to under an MCS. Smit answered the utility. Grant asked if they would be exempt if they are generating their own power. Smit said yes.

BREAK

Grant noted that only the electric heating weatherization products are represented on [Slide 26]. He confirmed that gas was modeled before asking about an electrification future, wondering if the work centers around electric homes or if it will encompass the broader population.

Douglass called this an issue, how do you make a home heat pump ready, and who pays for it, if there is a fuel switch. Douglass said there are measures on the cooling side but not the heating. Douglass mentioned that some scenarios have higher building electrification which unlocked higher potential but admitted that the question of how to talk about that remains.

T. Light asked about the last Plan’s Action Item to look at resilience, wondering where that landed and if it yielded lessons that could be applied here. Douglass said staff did include resiliency values in the weatherization numbers. Douglass admitted that they were small but included.

Kelly said weatherization is often talked about as something to finish but wondered about assessing costs on a levelized basis. Kelly pointed to hard or even impossible-to-reach

populations, wondering how weatherization could ever be finished. Douglass called this a fair point, noting that it is reflected in the max potential. Douglass added that there is still a non-trivial number of homes available to weatherize.

Kelly asked if costs go up at some point. Douglass said not in the measures, but perhaps in reality. Smit recalled the 2021 Plan said do the weatherization even if it is not cost effective. Douglass added that costs are implicitly updated in the RTF.

Grant said the renter's market is hard to tap, suggesting future Plans break out renters and owners while lowering the max achievability factor for renters. Smit said the last Plan took those qualifiers out and looked only at the home which needs to be insulated.

Sizemore said [Slide 29] outlines desired thermal characteristics well but said there is nothing about the pressure boundary. Douglass suggested an air-sealing minimum ACH threshold. Sizemore agreed, saying tighter, more efficient housing still needs to be safe.

Sizemore then voiced curiosity about future projections, wondering how general maintenance over time, or useful life of materials is expressed. Sizemore pointed to the need to re-insulate the belly of a manufactured home every ten to 15 years as an example. Douglass agreed with the point, saying the same could be said about heat pumps. Douglass then pointed to ways this can be mitigated including rewriting the Plan every five years and conducting stock assessments.

Nesbitt wondered if code would make the building shell heat pump ready. Nesbitt then asked if heat pump ready requires ducts in homes. Douglass said this is for existing and older, pre-code homes.

Nesbitt then asked if this applies to homes that already have ducts. Douglass said yes and this gives guidance on how to install a ducted heat pump. Nesbitt said he was struggling with the concept because, as an electric utility, he has no connection to the gas ducts.

Douglass called that fair, saying this makes a lot more sense for a heat pump conversion from an electric forced air furnace. Nesbitt still struggled with the word "ready." Douglass said it's a way to gauge if your shell and ducts are ready for the heat pump. Douglass assured him this wouldn't be an MCS but helpful information.

Grant thought the segments (single family/manufactured home/multifamily) were important for R values. Grant added that ductless heat pumps exist asking how staff square that peg. Douglass said language must be clear and if someone is looking at a ductless system then this wouldn't apply but shell would. Douglass added that a lot of the recommendations are ducted-centric.

Kelly asked, given that many of these measures are cost effective, why staff are not asking for an MCS. Douglass said it's hard as staff don't know what the cost effectiveness threshold will be.

Kelly noted that many entities already do this to some extent, and this asks NEEA, BPA, and the utilities to do it too [Slide 35]. Kelly asked if the policies are meant to dovetail and overlap with

each other. Smit answered yes, pointing to a need for a coordinator to bring it all into one place. Kelly countered that a portfolio manager already does this and was skeptical of having too many cooks in the kitchen. Smit said a consultant looked at the data sets and found a lot of inconsistency and having a single coordinator would help with that.

Kelly said the patchwork approach versus a more "Fortis BC" or "Hydro Quebec" approach, where they pick a building, would make more sense. He asked what the benefit of a patchwork approach would be.

Lazar thought a MCS was an obvious approach but thought it would be hard to get full Council votes. Lazar said a good set of case studies would be useful to help illustrate the benefits to those other states.

Grant added that climate zone is important in determining heating/cooling EUIs and should perhaps be broken out in the next Power Plan. Grant then addressed vacancy rates saying vacant buildings have lower EUIs and it's important to capture that, even if it's hard to do.

T. Light thought appropriate installations of ductless heat pumps should also be on the list [Slide 38]. T. Light expanded on his thoughts, saying putting ductless heat pump in the wrong spot or adding multiple heads should be discouraged.

Smit asked for a thumbs up/down if this information should be included in the Plan.

- There were head nods of agreement in the room.

Grant asked about how the region would use a component analysis to help reduce the cost of conservation. Smit said DOE does that to reduce costs. Grant said if this is a way to true up incremental costs, he supported it but doubted it would influence manufacturers.

Kelly pointed to the bullet that says, "Utilities should become accustomed to paying the full incremental cost of all measures" saying he's met people who live in half burned out homes, and homes without running water or insulation. Kelly asked if staff are thinking of a class of measures in that category. Smit said it's the incremental cost of all cost-effective measures. Smit added the incentives for most measures are based on a portion of the incremental cost and not the full cost.

Lazar thought the fourth and fifth bullet points were in conflict because if the utilities are paying full incremental cost there is no need for accessible financing models. Lazar suggested changing the fourth bullet to, "Utilities should become accustomed to financing the full incremental cost."

Sizemore wondered if health, safety, and reliability ever come into play. Smit said this was done with weatherization in the last Plan with the suggestion for utilities to partner with other agencies.

Garcia agreed with Lazar's point about the challenge of getting utilities to pay the full incremental cost. Garcia added that there is also the issue of defining cost effectiveness, saying the chart from the morning could be even more granular between various utilities. Garcia thought implementing this measure would cause disagreement about what is cost effective.

Grant said the supply curve is dwindling and the RTF needs more exotic measures [Slide 41]. Grant said that means not having evaluations for a long time, which might require some reconsideration on how the RTF selects measures.

Lazar wrote: The legal standard is "forecast to be available within the time needed, reliable, and cost-effective." If SMR can be considered to meet this test (without any demonstrable experience) then the same criteria should apply to emerging EE measures in the question pane [Slide 45].

Grant noted that the need to educate installers keeps coming up in the RTF [Slide 49], suggesting including some language around that. Smit said that sound close to what Douglass was saying and offered to expand on it.

Smit thanked the room and asked that additional thoughts be sent to staff. Smit ended the meeting at 3:15pm.

Attendees In Person and via Zoom Webinar

Kevin Smit	NWPCC	Jennifer Joly	OMEU
Jennifer Light	NWPCC	Haixiao Huang	NW Natural
Christian Douglass	NWPCC	Anthony Fontanini	Tacoma Power
Laura Thomas	NWPCC	Drew Sizemore	Cap Oregon
Aliza Seelig	PNUCC	Mary Kulas	consultant for PPC
Chris Johnson	Benton PUD	Leann Bleakney	NWPCC
Nolan Kelly	BPA	Nick Gemperle	Puget Sound Energy
Kyle Morrill	Energy Trust of Oregon	Jilian Greene	Brightline Group
Ted Light	Lighthouse Energy	Kim Boynton	Avista Corp
Danielle Walker	Brightline Group	Quentin Nesbitt	Idaho Power
Aquilla Velonis	Cadmus	Debbie DePetris	Clark PUD
Andrew Grant	Cadmus	Elizabeth Osborne	NWPCC
Jennifer Finnigan	Seattle City Light	Rebecca Cottrell	Idaho PUC
Micheal Coe	Snohomish PUD	Eli Morris	ICF
Elliot Carleton	WA UTC	Emily Gilroy	WA UTC
Jennifer Snyder	WA UTC	Jimena Diaz-Duran	Seattle City Light
Joe Walderman	NWPCC	Nick Manning	WA Dept of Com
Jeff Harris	NEEA	Nicolas Garcia	WPUDA
Sophia Spencer	Nauvoo Solutions	Kerry Meade	Building Potential
Rebecca Klein	Seattle City Light	Jim Lazar	independent
John Purvis	Clallam PUD	Sarah Widder	NEEA
Leah Kim	Tacoma Power		