Regional Technical Forum

April 21, 2026
Meeting Minutes

Welcome, Agenda Review and Meeting Minutes
Kevin Smit, RTF Chair, began the meeting at 9:00am. Christian Douglass, RTF Vice Chair, took attendance counting 19 voting members.

Eric Miller, independent, moved to approve the day's agenda. Andrew Grant, Cadmus Group, seconded. The agenda was approved unanimously.

Laney Ralph, NW Natural, moved to approve the minutes from the March 17, 2026 meeting. Mark Jerome, CLEAResult, seconded. The minutes were approved unanimously.

Management Update
Laura Thomas, RTF Manager Presentation
Staff presented the update.

Grant noted that there is a lot of information about cold climate heat pumps in the northeast and suggested reaching out to NEEP staff for more information [Slide 4].

Sunset Date Extensions: Multiple UES
Laura Thomas, RTF Manager Presentation
After the presentation, the RTF moved to approve the sunset date extension for three UES measures.

MOTION
I, Eric Miller, move that the RTF extend the sunset date of the Walk-in Evaporator Fan Motor Controller and Compressor Head Fan Motor Retrofit UESs to June 30, 2026 and Residential Dryers UES to September 30, 2026
Rob Marks, Snohomish County PUD, seconded.

The motion was approved unanimously.

Discussion: Connected Thermostat UES
Laura Thomas, RTF Manager
David Bopp, RTF Contract Analyst (CAT) Presentation

After hearing the presentation, the RTF discussed the Energy Trust of Oregon study and other possible sources of information.

David Tripamer, BPA, questioned the idea that a change in setback behavior has never been conclusively proven [Slide 5]. He pointed to evaluations and RCTs that do show savings.

- David Bopp, RTF CAT: We do have evaluations that show savings, but most don't follow best practices to mitigating biases. I'm not sure if this is savings versus other changes happening when thermostats go in. It is likely that setback behavior is changing, but we don't have the data to prove it.
- Tripamer: Are you talking about evaluations not following UPM?
- Bopp: Yes.
- Tripamer: Specifically, in the PNW?
- Bopp: Yes.
- Tripamer: Those evaluations do exist.
- Bopp: Please send them my way. We've relied on the PNW evaluations, because there are several of them. But none suggest savings from setbacks.

Jackie Goss, Energy Trust of Oregon, revealed that she didn't have anything new to share [Slide 8]. She pushed back against the comment that evaluations didn't follow best practices, stressing that Energy Trust believes their most recent evaluation do follow best practices, including using future participants as comparison

- Bopp: My apologies. Your evaluation came closest to best practices by far. And it did not find significant savings.
- Tripamer: Was this Energy Trust study over two years?
- Goss: 2019-2023 installs.
- Tripamer: The overall savings factor was 2.5%. In the 2nd quarter after installation, the latter half of heating season, it drops to 1.5%. 1.5% is still a decent amount of savings if that persisted throughout the heating season. The report says you don't see a path to cost-effectiveness. Does that mean ~400 kWh wouldn't cut it?
- Goss: Over the course of the year, electric savings were not statistically significantly different from zero.
- Bopp: It's about 377 kWh savings annually, but the confidence interval gets close to zero.
- Tripamer: I thought it was 170-600. That's too close to zero?
- Goss: I'd have to go back to the analysis.
- Thomas: Let's follow up on this after the RTF meeting.
- Tripamer: What I'm getting at is that Energy Trust claimed savings were close to 1000 kWh and evaluated were around 150. It doesn't cut it at 150?
- Goss: Our best estimate is that savings are near zero.

Jamie Anthony, BPA, asked if the main issue with the Energy Trust evaluation was that they didn't record previous and new thermostat settings.

- Bopp: That would be ideal. No one has done that before, after, and down the road. We saw savings degrade after first quarter. So, the question is, is this a resource or just a temporary bump? We need to do more work to demonstrate lasting savings.

Mark Jerome, CLEAResult, stated that when the RTF first approved the measure in 2016, we worked in offices. He said that COVID and work-from-home protocols have changed behaviors and was not sure if they have gone back. Jerome called savings from electric resistance lockouts different.

Jerome then said that manufacturers are lowering the cost of thermostats by taking out the intelligence/learning. He said this makes the equipment look more like a programmable thermostat.

- Grant: That's right. COVID changed behavior. Is there any way to remove people who began working from home from the data? It just seems like there are savings. Also, how do we define savings mechanism? Here we want evaluated savings. Others want a building simulation. What if we redefined this as a Small Saver and just used simulation and RBSA thermostat setpoints?
- Bopp: We could use simulations and setpoint change, but we don't know what the reality is. Lots of judgement would be required. I don't think this would be a Small Saver, though. We will most likely keep this as a gas measure; it's not a Small Saver with that. Maybe if there was just an electric furnace it would qualify, but that's not something we're supposed to do.

David Baylon, independent, pointed to a research paper from Balsnik about NEST. He called it the best national researcher to discuss this type of savings, saying it is credible. Baylon quoted 90 therms nationwide. Baylon suggested not using that number, but called it a rigorous sign, stressing that is only gas furnaces.

Baylon didn't see any good reason to use the technology on an electric furnace, especially with a heat pump. He said a heat pump loses performance with setbacks. Baylon added that electric homes have a lot of supplemental heat. He concluded by saying, in the absence of real commissioning measures, this measure is counterproductive.

Thomas asked the RTF to please follow up with any additional input.

- Tripamer: Central Electric Coop has kind of a pilot starting on this. A smart thermostat with heat pump commissioning. BPA will evaluate it when it's done, hopefully in the Fall of this year.
- Thomas: Even if the RTF deactivates this measure, we will look at heat pumps and thermostats again.

Goss wrote, I think the person seeing 600kwh savings in the ETO evaluation might have been looking at the ex-ante savings for electric heat or misinterpreted our negative 543 savings finding for heat pumps. Figures 12 and 13 https://www.energytrust.org/wp-

content/uploads/2025/11/2019-2023-Smart-Thermostats-Billing-Analysis-Report_wSR-and-Appendix.pdf in the question pane.

Update Proven UES: Efficient Pumps
Laura Thomas, RTF Manager Presentation
Staff explained that for measures with fewer updates and no new data, a new approach is being tried to help expedite work, which includes the RTF contract analysts limiting the scope of the update and support from the RTF manager with the presentation. Discussion centered on new data that may be incorporated into an update. The RTF approved the update, including revising the costs to the most recent DOE Technical Support Document.

Grant noted that the lifetime on [Slide 21] varies from two to 23 years. He said this is sales data and not just installed units and recommended looking at a broader range of years of sales data to get a broader view of the actual market.

Grant said the federal standard minimum is from 2020, adding that there must be a new TSD and new cost data [Slide 29]. He asked why the data is not updated to that.

- Ryan Firestone, RTF CAT: I'm not sure there is new data set.
- Grant: If it's available and easy to update, you could use that.
- Firestone: You could include that in the motion.

Anthony asked if sales data includes all program participants and non-program participants [Slide 37].

- Thomas: It's regional sales data. It's not weighted towards non-participants or participants.
- Jerome: There are thousands of permutations. Did that change with this update?
- Thomas: No.
- Jerome: Pivot tables and representative sizes would be helpful.

MOTION
I, Mark Jerome, move that the RTF approve the Efficient Pumps UES as presented, and: Keep the Category at Proven, Keep the Status at Active, Set the sunset date to April 30, 2031. Douglass seconded.

Amendment
Grant asked to update the cost data based on the most recent DOE TSD.
Kyle Chase, Jefferson PUD, seconded.

Gregory Brown, Tierra Resource Consultants, asked about the reliability of TSD incremental costs.

- Firestone: This is a tricky one because incremental cost is based on retooling and redesigning, not the incremental cost of making a more efficient pump. That doesn't necessary translate into an incremental cost per pump.

Vote on the Amendment. The Amendment carries. (23 yes, 1 no, 0 abstain)
Vote on the Motion. The Motion Carries. (24 yes, 0 no, 0 abstain)

BREAK

Sunset Date Extension: New Homes Standard Protocol
Ryan Firestone, RTF CAT Presentation
Staff presented the materials. Discussion centered on improving codes, the common practice baseline, and the dangers of possible double counting before approving the sunset date extension.

Baylon asked how the current practice baseline handles compliance path options in WA, and to a lesser extent in OR [Slide 4].

- Firestone: That's a challenge with the current approach, where we get in a game of estimating different paths' likelihoods, etc. This proposal just uses the reference home specified in the code.
- Baylon: WA has no direct ERI option, at least not currently. So, what would the reference spec be there?
- Firestone: There is a performance path in the WA code. We're proposing to use that as the reference home in the protocol. That gets the RTF out of the business of guessing at different paths. It's at least something that's written out by the code authority. Of course, we'll still need an adjustment factor to true things up, because the performance path spec isn't a real baseline in the world.

Kevin Geraghty, independent, asked if Firestone used the same modeling tool on both the baseline and augmented home.

- Firestone: We expanded it to be any 301 resident certified software.
- Geraghty: For both?
- Firestone: The current protocol only allows for REM rate.
- Geraghty: So, what's the problem? When the code changes you have to rerun everything.
- Firestone: We will get into that.

Grant asked if the 9th Plan includes adjustments to align to the code cycle at that point in time [Slide 5].

- Smit: I don't think so.

Baylon stated that evaluations have real limits in this space [Slide 15].

- Firestone: Right. We know the most from evaluation and not simulation.
- Baylon: You could be guessing wrong.
- Grant: How do you run an evaluation on something that wasn't built?
- Firestone: It's a challenge to create a valid comparison group. We'll talk about what Idaho Power and Energy Trust tried in their evaluations later.

Tripamer wondered if program participants behave differently from non-program people. He didn't see how an evaluation could account for that.

- Firestone: Yes, there's an inherent limit to how well we can know savings at all here.
- Tripamer: It's almost like you need to get the behavioral layer through surveys or something and then try to simulate that somehow.
- Baylon: This is saying that we can never know savings with this protocol. So why are we keeping this protocol (or anything like it)?
- Firestone: The evaluations we have do find some savings, so we can at least align savings with what we do see in those evaluations.

Geraghty asked if this is for an existing system.

- Firestone: Yes.

Geraghty pointed to the delta that still remains between non-program and program kWh (evaluated), adding that it's a lot smaller than simulation might suggest [Slide 24].

- Firestone: Right.

Tripamer asked if evaluations include surveys of program and non-program homes to check for systematic differences in demographics or behaviors [Slide 25].

- Firestone: No.
- Tripamer: So, behavior stuff could still be driving the results?
- Firestone: Right. Another thing, ETO matched non-program sites geographically, which (it is hypothesized) could mean the same builder's program and non-program homes are in the same subdivision. Because of this, spillover in construction practices could be a big factor.

Geraghty confirmed that nonprogram is new but not in program?

- Firestone: Yes.
- Grant: Was WA just gas?
- Firestone: Yes, for an Energy Trust program.

Baylon said the Idaho Power approach kind of makes sense [Slide 29]. He asked how many homes were in treatment and control groups.

- Firestone: T = 240; C = 1200.
- Baylon: Nice thing about Idaho Power is you don't have options in the code so there will be some consistency.

Grant asked how adjustment factors will work without appliances and water heaters since design home will have those and they naturally impact billing analyses.

- Firestone: We're working on our approach. We'll have to be careful to avoid double-counting.
- Anthony: Were water heaters part of the ex-ante savings used in the evaluation?
- Firestone: The baseline was code for the Energy Trust study and efficient case was as-built.

- Anthony: Could non-program homes participate in water heater programs outside of the new homes program?
- Firestone: It's possible. That would be good, in a way, because we capture water heater program savings in the water heater measure. So, it would be correct for the protocol to not also count that impact.

Tripamer asked why the participation rate is shown [Slide 31]. He asked if the adjustment factor already does that.

- Firestone: You're right that the adjustment factor gets to the market average among non-program homes. But we need the average of the whole market, including program homes.
- Tripamer: Suppose programs get 15% participation each year. Then savings go to zero. But that doesn't properly credit the fact that code keeps pushing higher.
- Firestone: Part of this is a more fundamental issue of current practice. We do use backwards-looking adjustment factors that may reflect a different part of the code cycle. Evaluations could hopefully help with this. I think you're getting at the question of how actual consumption compares to simulated consumption. Evaluations try to check how simulated and actual compare. I don't think this is about participation rate.
- Tripamer: I just find it very hard to believe that builders would keep pushing up with building practices without the program. It feels like the current practice discount is somehow double counting?

Baylon thought Tripamer was on to something, specifically, if the region really needs a protocol for the two jurisdictions that are pushing code requirements up. He said as a practical matter, it's impossible to know which components of meter consumption are due to which building components. Baylon said they might be different but we're not comparing the simulated consumption to metered consumptions, which concerned him.

- Firestone: The adjustment factor is trying to queue up whatever errors are in the simulated value.
- Baylon: The only way that would work is if all exogenous variables are similar or if you got lucky. I suggest we inform the adjustment factors for water heaters by other means to help separate issues.
- Firestone: We're pulling out water heaters from the protocol and pointing to the UES. The new homes protocol will specify using the same water heater in actual and reference cases to avoid double counting.
- Anthony: I'm still concerned that the adjustment factors will naturally include water heaters and other components but we're planning to use them just for shell and HVAC.
- Firestone: I agree we need to be very careful about this.
- Grant: Would we use the same adjustment factor regardless of simulation software selection?
- Firestone: Yes.

Anthony confirmed that shell and HVAC savings will get a (1-0.35) factor in OR and WA [Slide 34].

- Firestone: Right, unless the program has specific local data.
- Grant: The Energy Trust study is already dated and code has moved on. Are we seeking updates to today's values?
- Firestone: That's the reason we're proposing to require evaluations.
- Tripamer: I'm still confused about how the non-program adjustment factor doesn't handle the current practice adjustment already.
- Firestone: (stepped through a water heating example).
- Tripamer: This still feels off. The better programs do, the more the current practice adjustment pushes savings to zero. But programs are making a real impact here, so I think this is getting things wrong. Maybe we could just pick a different number for the current practice adjustment.
- There were discussions on whether this is a fundamental Guidelines issue versus a calculation issue. Smit moved the RTF along suggesting further discussion offline.

Geraghty thought that it makes sense to shed a bunch of painstaking work for very little improvement to uncertainty [Slide 40].

- Grant: It might be worth collecting county-level IECC climate zone instead of state-wide values.
- Firestone: Good point. The NEEA Axis database does capture data by county.

MOTION
I, Jamie Anthony, move to extend the sunset date of the New Homes Standard Protocol to July 31, 2026.
Miller seconded.

Vote on the Motion. The motion carries. (22 yes, 0 no, 1 abstain).

LUNCH

Update Small Saver, Proven UESs: Display Case Evaporator Fan Motor Retrofit and Walk-in Evaporator Fan Motor Retrofit
Denis Livchak, RTF CAT Presentation
Staff presented the materials with discussion centering on expanding the scope of the measure to include a replace on burnout upgrade. After much clarifying back and forth, the RTF approved the update.

Baylon asked if the measure is always a replacement, or if it's ever an actual install of a new efficient motor to replace a burned-out inefficient motor [Slide 14]. He reiterated, asking why this is just a retrofit.

- Thomas: That's the scope of the current measure. I don't know why current practice wasn't included.
- Baylon: They didn't think of it. I was there when the measure was developed. They were just interested in retrofits.

- Thomas: We could consider adding a current practice measure. You could include that in the motion. The CAT/Staff don't try to expand scope unless we're asked.
- Baylon: Do you need an estimate of current practice?
- Thomas: Livchak will talk about 2nd period savings. We have to estimate current practice for that.
- Smit: The current practice baseline is already fairly efficient. Is it worth having a measure for it?
- Baylon: I'm wondering the same.

Baylon was not sure how, or if, current practice influences the efficient calculation [Slide 27]. He said it suggests we know that when there is a replacement motor, we have a current practice estimate. Baylon thought that could be used for a replace on burnout measure.

- Grant: Can you use this measure if one motor fails and three motors still work?
- Thomas: This measure applies to the three that still work.
- Baylon: That says that current practice is an efficient motor.
- Livchak: Current practice is a blend of efficient and inefficient.
- Baylon: So, you can use that to estimate savings.
- Smit: You don't get the first period savings for the motor that dies.
- Thomas: We could add current practice. It's just not a measure application currently. This measure came out of the Smart Grocer program, which did retrofits.
- Baylon: That program didn't care about current practice. They got the same savings for everything. That was a long time ago and that program was somewhat sketchy by today's standards. But we should capture savings for all of the motors that are replaced.
- Smit: We'll put that in the parking lot.

Baylon confirmed that there are no savings for a burnt-out motor [Slide 29].

- Livchak: Yes, our measure is only for working motors.
- Baylon: If you allow for the burned-out motor, you'd use this current practice baseline?
- Smit: Yes, that's right.

Anthony confirmed that both the first and 2nd period savings are in the RTF workbook.

- Livchak: Yes.

Grant suggested a consolidation approach moving back to [Slide 20]. He noted that there's no identifier for display case versus walk in, but the fan HOUs are different between the two. Grant said in the 20W+ display case row, it's getting the walk-in hours of use.

- Livchak: Yes, that's a pretty unpopular category. Display cases are typically lower wattage, while walk-ins are typically higher. But within this unpopular category, most would go into walk-ins.
- Grant: It's only a 5% difference, but I'm calling it out so we're aware.

Grant pointed to the 2nd savings period in the last row of [Slide 33] saying it doesn't follow the same pattern of increasing savings as the first period. He wondered why.

- Ben Mabee, BPA: It looks like it's a current practice difference.

- Douglass: In the other rows, it looks like 2nd period savings are higher than 1st period savings. Why?
- Livchak: I'll check the workbook. It shouldn't be like that. Second period savings should be significantly lower.

Grant called this great work, adding that savings issue should be caught in QC [Slide 46]. He wondered what to call this measure suggesting "Refrigerator Evap. Fan."

- Thomas: That's in the proposed motion. Commercial Refrigeration Evaporator Fan Motor Retrofit.

MOTION
I, David Baylon, move that the RTF combine the Display Case Evaporator Fan Motor Retrofit UES and the Walk-in Evaporator Fan Motor Retrofit UES into the Commercial Refrigeration Evaporator Fan Motor UES and update the measure as presented, and: Add an upgrade option using the same current practice baseline as the pre-condition measure's second period. Set the Category at Proven, Set the Status as Active, Set the sunset date to April 21, 2031.
Grant seconded.

Grant asked if the intent is there's no longer early replacement just replace on burnout.

- Baylon: No, the opposite. The measure applies to all motor replacement.
- Grant: Then you need both options.
- Thomas: The proposed motion just changes the title. Not the measure.
- Baylon: My intent is that the current practice baseline 2nd period savings would remain.
- Grant: Baylon is suggesting having both early replacement applications and current practice applications. The motion should reflect that.
- Baylon: But the important detail is that we'd continue to have the same savings, even if it's a replace on burnout.

Smit clarified that people in the room are suggesting two applications, while Baylon is proposing one.

- Baylon: No, I'm saying use the same current practice for both types.
- Geraghty: It makes sense to give some savings to the motors that have burned out, while the others are being replaced.
- Baylon: I'm proposing to use the current savings for all motors.
- Geraghty: The right way to do this is to use the current practice baseline for the burned-out motors. Is that what you want?
- Baylon: I want the current practice adjustment to apply to burnt-out motors.

Marks noted that this is a Small Saver that the RTF is trying to simplify. He asked why the room is going down this rabbit hole to track working versus non-working motors, saying it makes this unnecessarily complicated.

- Baylon: When you're called out to replace an evaporator motor, I'd like you to be able to replace all of the motors and get savings for all of them.

Baylon confirmed that the motion on the screen is his intent.
Grant seconds, assuming the intent is to have an early replacement and a replace on burnout application.

Lisa Gartland, ODOE, said, generally, when one motor fails, the others should be the same age. She asked if all are about at the end of life if one fails.

- Smit: We're saying you'd get current practice savings for the burnt out motor and early replacement savings for the remaining motors.
- Gartland: Got it.
- Mabee: I can't imagine that people are differentiating between the burnout and not-burnt out. They're just replacing all of the motors.
- Baylon: That's my intent. You get the same savings for all four motors in the example.
- Mabee: We're probably already doing that in practice.
- Brown: What are we voting on? Baylon just said that his intention is different than the proposal wording.
- Smit: The proposed motion is clear as written.

Vote on the motion. The motion carries. (19 yes, 2 no, 2 abstain).

BREAK

Update Proven UES: Residential Gas Water Heaters
Laura Thomas: RTF Manager Presentation
After hearing the presentation, the RTF approved the updates.

Grant stated that the measure is applicable to existing Single Family and Manufactured Homes [Slide 15]. He asked about a difference in occupancy between the two types wondering why staff did not differentiate.

- Thomas: The measure does account for occupancy.
- David Bopp, RTF CAT: Yes, but it doesn't differentiate between the two home types. It uses the same occupancy assumption.
- Douglass: Single Family and Manufactured Homes might be pretty close in occupancy.
- Bopp: We are using RBSA 2022, which has very few Manufactured Homes, so our current occupancy estimates are heavily weighted towards Single Family.

Grant pointed to the bullet that says "may value endless hot water as well as space savings" on [Slide 26], asking if that means the physical space and not space heating energy.

- Thomas: Correct.
- Noe Contreras, NEEA: Do the savings shapes reflect updated operational costs?
- Thomas: We don't update fuel costs until the next Plan comes out. We're still in 2021 Plan assumptions.
- Contreras: That's very different than current gas costs.
- Thomas: Noted.

MOTION
I, Mark Jerome, move that the RTF approve the Residential Gas Water Heater UES as presented, and: Keep the Category at Proven, Keep the Status at Active, Set the sunset date to April 30, 2031.
Miller seconded.

Vote on the motion. The motion carries. (23 yes, 0 no, 0 abstain)

New Measure Proposals
David Bopp, RTF CAT, Logan Douglass, RTF CAT, Denis Livchak, RTF CAT Presentation
Staff presented the proposals. There was robust conversation on how to prioritize new measures, including adding in technical potential and rough cost effectiveness estimates. The RTF approved resources for three proposals.

Grant asked if this is only about EE, and not DR, measures [Slide 3]. He also asked if the new measure proposal form is online.

- Thomas: Yes, and yes. We haven't received any new DR measure proposals through the website. And the new measure proposal form is on our website.

Grant asked how long the deeper assessment would take [Slide 4].

- Thomas: That would be very measure dependent. It could require subcommittee, or it could be really quick.
- Anthony: What about cases where Council says to go get savings, but the RTF doesn't have a measure for them?
- Thomas: Council measures can get added to the queue without a new measure proposal.

Smit agreed saying if there's something obvious in the potential assessment, let us know. He added that it's not an automatic process.

- Grant: Could that be automated? Could the Council recommend that the RTF looks at cost-effective measures with adequate potential?
- Smit: We could consider that.

Anthony asked about the estimated technical potential on [Slide 9].

- Thomas: It's not there yet. I'm trying to limit scope of these exercises.
- Anthony: I think that should be the first thing to do, a shoot from the hip estimate of regional potential and cost-effectiveness to see if it's worth going for.
- Thomas: Regional potential could be part of the initial scoping. Cost-effectiveness would require more work than we have been scoping for this.

Bob Davis, Independent, said staff need to disaggregate interior from exterior leakage. He admitted that that can be tricky to determine, but insisted savings depend on it.

- Bopp: They've been using multiple blower doors. Could we estimate savings without that expensive, intensive effort? I haven't dug into that issue in this limited scope.

- Davis: A building approach may be better than a unit approach for Multifamily.
- Bopp: Yes, this is a whole building measure.

Grant did not think a rough pass at cost-effectiveness is a good idea.

- Thomas: I agree. And I'm trying to set up boundaries for the CAT so that this first pass is really quick. It's not reading all of the evaluations, for example.
- Baylon: Puget Sound Energy has had this measure for the last decade, and it was presented to the RTF in 2012 or 2013. The idea was that they could get a defensible infiltration number. They've done that with the blower door testing. Yes, it was expensive. But Puget Sound Energy has been doing it for a long time. We could use that evaluation data to assess the impact of a successful air sealing measure. Also, in Minnesota, they don't have open corridors because it's too cold. They've done whole building blower door tests. They are there, and it's been done.

Geraghty asked for a definition of a low-rise building.

- Bopp: One to three stories and five or more units.
- Geraghty: Are they pre-1995?
- Bopp: That's what Puget Sound Energy has been using. That's where they see potential. That's the spec that's been proposed to us.
- Baylon: That's about when open corridors stopped being built.

Anthony suggested ranking measures if the RTF is looking at five at a time as a way to prioritize what should be done first. He suggested learning regional potential and likely uptake. As an example, he pointed to LED lights, calling them great and suggesting that should be prioritized.

- Thomas: The RTF doesn't determine which new measures we work on when. I decide that, based on available resources. Sometimes, a new measure can be cost effective, or have a lot of potential, and it still doesn't fit into our workload. Cost-effectiveness means one thing for the Council and Bonneville, and other things for other programs in the region.
- Anthony: I'm interested in really rough estimates. A range. A shot from the hip. Anything.

Jerome said he has been involved in the Puget Sound Energy work and will recuse himself from the vote.

Chase looked at cost allocation and predicted getting a big bang for our buck. He called it a good measure which will help a lot of low-income households.

Tripamer said that people at Bonneville noted other savings mechanisms for the work on [Slide 14] pointing to moving plants closer to lights. He thought guidance on this would be valuable as this is a growing measure that is gaining steam at Bonneville.

Brown thought that due to high, current practice LED use, it seems a bit late for the RTF to get into this measure. He suggested keeping this in mind when other lighting measures come up before asking if this could just be added to other RTF measures.

- Thomas: We have midstream lighting, code-compliance Standard Protocol, and a retrofit Standard Protocol. I'm not sure this fits into those.
- Marks: Retrofits have gone by the wayside. Most have already converted to LED. There are some new construction and retrofits from other agriculture applications. Also, BPA customers can't get reimbursed for this, so we're self-funding.

Grant pointed to an available DR play, saying lighting is on a day/night cycle, and that could be shifted. He said that work was done, and the data would support an EE measure.

- Marks: We tried the DR play, and it didn't work well. They're limited by power supply. They want to grow as much as possible within their limits.

Andrew Paul, Avista Corporation, said there's a lot here, adding that Avista does them all of the time and that they're good savers. He admitted that it's mostly new construction, as there are not many HIDs left out there. He approved of using the 1000W HID code baseline for now.

Paul then said that LED efficacy is better now and cost has gone down. He pointed to LED-to-LED custom projects, saying there's lots of money involved and it's easy to M&V. Paul said his utility is working with vendors to improve light spectrum, shave time off of the 10-12 week grow cycle, and other things with controls.

Anthony recalled doing one custom project with solar thermal plus an auxiliary heat pump saying it worked out well [Slide 19]. He wondered if that would be considered.

- Thomas: We don't have a spec. The RTF would need to help us define a spec.
- Anthony: Is solar thermal off limits?
- Smit: We'd have to think about that.

Grant said pools are complicated with lots of variables, pointing to the work he has done in both residential and commercial settings [Slide 24]. He said doing pool heaters gets you 90% of the work needed for pool covers. Grant added that pool covers can add a lot of heat and remove evaporation.

- Thomas: We were stuck on the behavioral piece.
- Grant: Plus, market saturation is high for commercial.
- Eva Urbatsch, Puget Sound Energy: Every time we've suggested this, the pool owners balked at the increase of labor required.

Tripamer asked for more information on behavior concerns.

- Thomas: The savings depend on how much people use their cover.
- Jerome: My sister bought an expensive pool cover and doesn't use it.
- Firestone: Another question for residential: is the pool being heated without the cover?
- Tripamer: Evaluation would tell you that.
- Thomas: Agreed. We're saying we don't think it's worth it. But the RTF could choose otherwise.
- C. Douglass: If research found good savings, we'd do it. But we don't know if there's any savings.

Kim Johnson, OK PUD, wrote in the question pane: Is the pool measure for residential or commercial?

- RTF Admin: It has not been defined yet but currently considering for both residential and commercial.

Grant called the work on [Slide 26] an old measure, adding that he's looked at it since 2008. Grant added that it's been required by code since 2018 or so. He admitted that it's a good measure but warned that there might be low remaining potential.

- Livchak: You're talking about roof top controls?
- Grant: It's all commercial spaces. New construction is out. Existing construction might be mostly tapped out by now because it's so cost effective.

Baylon said use of demand control in parking garages has been in the code since 1986 or so [Slide 31]. He said before that, there was a ventilation standard which dates back to the 1960s or 1970s and has been baked into parking garage design for 40-50 years. He said he'd be surprised if there's any potential left in parking garages. Baylon said there may be potential from better controls or more efficient fans, but not from DCV.

- Smit: Thanks. We dropped this from Power Plans a couple of cycles ago.

Marks said he'd recommend DCV for non-kitchen move to the do not allocate [Slide 32]. He said the remaining potential is more complex and perhaps custom project worthy.

- Brown: I agree with the sentiment for DCV but recommend taking it to the next step in the process that Thomas laid out.

MOTION
I, Gregory Brown, move that the RTF: Allocate resources to developing the potential measures for: Low Rise Multifamily Air Sealing, Pool Heaters, Demand Control Ventilation (Non-kitchen applications) and Do not allocate resources to the following: LED Grow Lights and Controls, Pool Covers.
Davis seconded.

Geraghty wondered why this is all the RTF had to review if there are hundreds of suggestions.

- Thomas: These few were easy to address. Others will come later.

Anthony reiterated that he'd like to see rough estimates of tech potential, measure life, and more before making allocation decisions.

- Rushton: We have DOAS in our queue. Other DCV retrofit measures could be tough to develop.
- Davis: DCV was discussed a lot back in early 2000's. ARC uses it. What's happening without it? Are fans running all of the time? Are they on a schedule? Has the base case changed since the early 2000's when this was looked at? I don't know.

Chase said if the RTF is going to pass on pool heaters, he'd like to see work on pool covers. He said there are real space conditioning benefits for indoor pools and suggested either doing pools or not.

Gartland voiced support for DCV. She said with people working from home, there could be excessive ventilation in commercial buildings. Gartland then addressed pool covers asking if staff are considering humidity changes in spaces with pools. She said could be a big energy saver.

- Chase: That's what I'm alluding to.
- Brown: I made this motion as a starting place. I think amendments could help.

Tripamer addressed all of the other measure possibilities out there, saying it would be nice to know potential. He said then program uptake would lead to evaluation. Tripamer imagined a path where the RTF does a minimum viable effort to create a measure and flesh it out if there's uptake.

Smit called this a call to submit new measure proposals to the RTF.

Grant suggested talking to consulting firms that do potential studies. He said they've talked utilities through this and could help cheapen the effort based on established research.

- Thomas: It's not the resource. It's that I get a lot of requests for us to do new measures, but we don't get many new measure proposals. We have 450 measures on this list, and I need to sort through them all. It's hard to know what people will want. I would love feedback from companies who do this work. But it's not about the cost of developing measures, it's knowing what programs want.
- Anthony: I agree. We need a framework for making good decisions. Without that, we use up the limited resources that we have and get stuck talking about measures with very small potential. We should slow down. Let's identify our number one measure and spell out why it's number one. Is it potential? Popularity? I'd love to help develop this framework. Smit helped BPA with refrigeration work. We considered about 50 potential measures and narrowed it down to three really promising ones.

Tripamer suggested that the RTF consider a path for going slow, but also a fast track for other measures where we borrow heavily from other jurisdictions and come up with something quickly.

Grant pointed to an upcoming Conservation Resources Advisory Committee meeting saying there's very low-cost effective potential. He said we need new measures and thought it would be worth having a subcommittee go through all 450 potential measures. He admitted this work would be annoying, but productive, adding that it would take him two hours to go through 450 rows.

- Thomas: That sounds good.
- Jerome: We want to pick measures that we think there will be uptake on.

Vote on the motion. The motion carries. (14 yes, 4 no, 4 abstain)

Smit ended the meeting at 3:45.

Voting Record: April 21, 2026

Motion Language	Yea	Nea	Abs	Motion Passes?	Percent of Yea Votes		Number of Voting Members Present
					RTF Voting Members (40% min)	Members Voting (60% min)	
Motion: Approve the minutes from the March 17, 2026 meeting. (Ralph/Jerome)	19	0	0	Yes	66%	100%	19
Motion: Approve the agenda for the April 21, 2026 meeting. (Miller/Grant)	19	0	0	Yes	66%	100%	19
Motion: Extend the sunset date of the • Walk-in Evaporator Fan Motor Controller and Compressor Head Fan Motor Retrofit UESs to June 30, 2026 • Residential Dryers UES to September 30, 2026. (Miller/Marks)	20	0	0	Yes	69%	100%	20
Amendment: Amendment: Update cost data based on the most recent DOE TSD (Grant/Chase)	23	1	0	Yes	79%	96%	24
Motion: Approve the Efficient Pumps UES as presented, and: • Update the costs to the latest DOE TSD • Keep the Category at Proven • Keep the Status at Active • Set the sunset date to April 30, 2031 (Jerome/Douglass)	24	0	0	Yes	83%	100%	24
Motion: Extend the sunset date of the New Homes Standard Protocol to July 31, 2026. (Anthony/Miller)	22	0	1	Yes	76%	100%	23

Motion: Combine the Display Case Evaporator Fan Motor Retrofit UES and the Walk-in Evaporator Fan Motor Retrofit UES into the Commercial Refrigeration Evaporator Fan Motor UES and update the measure as presented, and: Add an upgrade option using the same current practice baseline as the pre-condition measure's second period Set the Category at Proven Set the Status at Active Set the sunset date to April 30, 2031 (Baylon/Grant)	19	2	2	Yes	66%	90%	23
Motion: Approve the Residential Gas Water Heater UES as presented, and: • Keep the Category at Proven • Keep the Status at Active • Set the sunset date to April 30, 2031 (Jerome/Miller)	23	0	0	Yes	79%	100%	23
Motion: Allocate resources to developing the potential measures for: – Low Rise Multifamily Air Sealing – Pool Heaters – Demand Control Ventilation (non-kitchen applications) • Do not allocate resources to the following: – LED Grow Light and Controls – Pool Covers (Brown/Davis)	14	4	4	Yes	48%	78%	22

April 21, 2026, Meeting Attendance

* Designates Voting Member

Name	Affiliation
Jamie Anthony*	BPA
Landon Barber*	Idaho Power
David Baylon*	Independent
Jonathon Belmont	BPA

David Bopp	RTF Contract Analyst
Ryan Bottem	Public Generation Pool
Brittney Breen	Energy Trust of Oregon
Gregory Brown*	Tierra Resource Consultants
Frank Brown	BPA
Kyle Chase*	Jefferson PUD
Noe Contreras*	NEEA
Rebecca Cottrell	Idaho PUC
Michael Daukoru	Futee
Bob Davis*	independent
Joshua Dennis	WA UTC
Christian Douglass*	RTF Vice Chair
Logan Douglass	RTF Contract Analyst
Ryan Firestone	RTF Contract Analyst
Wesley Franks	WA UTC
Trevor Frick	Clark PUD
Lisa Gartland*	ODOE
William Gehrke	NEEA
Kevin Geraghty*	independent
Andrew Grant*	Cadmus
Jackie Goss	Energy Trust of Oregon
Jillian Greene	BrightLine Group
Connor Grossman	CLEAResult
Wylie Hampson	NEEA
Michael Hoch*	Energy Trust of Oregon
Aaron Ingle	NEEA
Mark Jerome*	CLEAResult
Kim Johnson	OK PUD
Mitt Jones	Evergreen Economics
Phillip Kelsven*	BPA
Cody Kleinsmith	Energy Trust of Oregon
Melissa Kosla	Acadis Consulting
Paul Kuck	Energy Solutions
Ben Latson	Energy Trust of Oregon
Dustin Levesque	Puget Sound Energy
Jake Lines	Brightline Group
Denis Livchak	RTF Contract Analyst
Ben Mabee*	BPA
Bruce Manclark*	Earth Advantage
Guncha Mandal	Puget Sound Energy

Rob Marks*	Snohomish County PUD
Eric Miller*	Independent
Lauren Mullen	Brightline Group
Holly Mulvenon	Puget Sound Energy
Andi Nix*	Energy Trust of Oregon
Nick O'Neil*	Energy 350
Brian Owens	CLEAResult
Andrew Paul*	Avista Corp
Todd Poehlman	CLEAResult
Joe Prijyanonda	ICF International
John Purvis	Clallam PUD
Laney Ralph*	NW Natural
Akanksha Rawal	E Too
Sean Reckert	Energy Trust of Oregon
Samuel Rosenberg*	Pacific Northwest National Lab
Josh Rushton	RTF Contract Analyst
Paul Sklar	RTF Contract Analyst
Kevin Smit	RTF Chair
Tess Studley	NEEA
Samantha Taylor	CLEAResult
Laura Thomas	RTF Manager
David Tripamer	BPA
Eva Urbatsch*	Puget Sound Energy
Garett Valenzuela	CPlusC
Danielle Walker	Brightline Group
Sarah Widder	NEEA
Alysa Wiyrick	Avista Corp