Cost-effectiveness and Evaluation Advisory Committee Meeting

DATE: August 27, 2025

TIME: 8:30AM – 12:00PM

LOCATION: Microsoft Teams
Join the meeting now
Meeting ID: 271 211 262 550 8
Passcode: GE7jf2Q9

AGENDA

TIME	TOPIC	PRESENTER(S)	Electric/ Gas/Both	Link or Page
8:30am – 8:45am	**Welcome/Agenda Review** 1. Agenda check 2. Introductions 3. Announcements	**Jonathan Belais, NEEA Staff**		
8:45am – 9:00am	**MRE Newsletter** NEEA staff will provide a brief overview and answer any questions regarding the upcoming market research and evaluation activities outlined in the quarterly newsletter. **Objective**: Committee awareness of market research and evaluation activities	**Zdanna King, NEEA Staff**	Both	Coming soon…
9:00am – 10:00am	**Code Baseline and Key Assumption Review, Summary of IEc Recommendations and NEEA Next Steps** Overview of IEc recommendations and NEEA's initial responses, discussion with CEAC members **Objective**: Inform and solicit questions and feedback from committee members	**Meghan Bean and Christina Steinhoff, NEEA Staff**	Both	3
10:00am – 10:15am	**BREAK**			
10:15am – 10:35am	**MPER 1 for ERTU** Overview of key findings **Objective**: Inform	**Kirstin Moreno, NEEA Staff**	Both	Report
10:35am – 10:55am	**MPER 1 for HP HVAC** Overview of key findings **Objective**: Inform	**Kirstin Moreno, NEEA Staff**	Electric	Report
10:55am – 11:20am	**Oregon Residential Code Compliance Evaluation** Overview of key findings	**Meghan Bean, NEEA Staff**	Both	Coming soon…

	Objective: Inform			
11:20am – 11:50am	**Dual Fuel Res HVAC Program** Refresher on Dual Fuel Residential HVAC Program Concept for milestone advancement and overview of key metrics **Objective:** Committee awareness of key metrics and baseline assumptions	**Deborah Sunada and Wylie Hampson, NEEA Staff**	Both	7
11:50am – 12:00pm	**Q2 2025 Key Assumptions Update / Accessing Documents via the new Funder Portal** Staff will answer committee questions on key assumption updates included in meeting materials and demonstrate process for accessing documents via the new Funder Portal. **Objective:** Inform and answer committee questions	**Kathryn Bae, NEEA Staff**	Both	10
12:00pm	**WRAP UP**			

Memorandum – *Agenda item*

August 13, 2025

TO: Cost-Effectiveness and Evaluation Advisory Committee (CEAC)

FROM: Meghan Bean, Principal MRE Scientist; Chris Cardiel, Sr. MRE Scientist
Christina Steinhoff, Principal Analyst

SUBJECT: Recommendations from Third-Party Review of NEEA Code Baseline and Assumptions

NEEA engaged Industrial Economics (IEc) and Resource Refocus (together "the IEc team") to review NEEA's baseline assumptions for building energy codes in the Northwest. This work is occurring as part of NEEA's commitment to continually assess and seek methodological refinement to the inputs for its savings calculations. This review builds on findings and recommendations from the most recent Codes Market Progress Evaluation Report #5, NMR Group's Independent Assessment of NEEA Approaches to Estimating Influence Over State Energy Code, and discussions with the CEAC in 2024 and 2025 about the evaluation methodology NEEA employs to assess influence on advancing energy codes.

This memo provides an overview of the project's research objectives, the IEc team's recommendations (as provided to NEEA in an interim memo), and NEEA's initial responses. NEEA staff will provide more detail on the project's findings, recommendations, and next steps at the August 27, 2025 CEAC meeting. At the meeting, NEEA staff will facilitate a discussion with CEAC members to solicit feedback and answer questions. The IEc team's full report will be publicly available in September 2025.

As discussed in greater detail below, IEc recommends updates to NEEA's approach for establishing Natural Market Baselines (NMBs) for building energy code advancements (see Recommendation #4). NEEA believes that it is reasonable to accept these recommendations. It is important to note that, if these recommendations are accepted, the updates would only affect NEEA's savings estimates for codes adopted after 2024 in reports that use an NMB, including NEEA's Business Plan and some funder reports.[1] The approach for funders that use the Northwest Power Plan baselines would not change.

Research Objectives

Co-*Created Savings* represent energy savings above the *Natural Market Baseline*—that is, market adoption of energy efficiency above what would have occurred naturally without intervention by NEEA in partnership with utilities, the Bonneville Power Administration, Energy Trust of Oregon, and others.

To report Co-Created savings for building energy codes, NEEA estimates code-to-code savings rates and applies these rates to the code-compliant population of new construction buildings. Currently, NEEA

[1] NEEA also provides savings reports to its funders that align with *the Northwest Power and Conservation Council's power plans.*

assumes that energy code updates in the Northwest and at the national level (International Energy Conservation Code, IECC) occur approximately 10 years earlier than they would have without NEEA and its partners' involvement, the equivalent of 2-3 code cycles. To quantify this in the *Natural Market Baseline,* NEEA reports these savings as Co-Created Savings for 10 years after construction starts under a new code. NEEA applies this approach to all Northwest states and to both the residential and commercial sectors.[2]

This overall approach was reviewed and supported by CEAC in 2014. However, the code landscape has changed considerably since that time. For example, there are many more parties representing a broader array of interests involved in the code development and adoption process, and states' code processes and priorities are likely influenced by new factors, such as state-level carbon reduction goals. Therefore, NEEA contracted with the IEc team to assess whether:

1. Tracking 100% of the *Total Regional Savings* as *Co-Created Savings* for 10 years after construction starts is still the most reasonable way to calculate code-related savings.
2. It is appropriate to apply the same approach to all four Northwest states and to both the residential and commercial sectors.

Further, NEEA requested that any proposed adjustments to its current approach be transparent, defensible, and implementable within the constraints of NEEA's current savings reporting timeline.

Methods

The IEc team:

- Reviewed NEEA documentation and prior evaluations.
- Conducted interviews with NEEA staff, stakeholders involved in each Northwest state's code development process, and a national code expert.
- Conducted a literature review of code baseline development, code influence evaluation, and code savings reporting approaches used by utilities and other organizations across the country.

Recommendations and NEEA Responses

Recommendation #1: Rather than apply a uniform baseline assumption across all states and sectors (residential and commercial), NEEA should conduct analyses to establish separate baseline assumptions for each energy code update, state, and sector. Based on the interviews conducted, it is clear that the pace of, and barriers facing, code development differ in each state. As such, IEc recommends assessing the role of NEEA and its partners separately for each state and sector.

NEEA Response: NEEA is prepared to accept this recommendation with CEAC input. If this recommendation is accepted, NEEA would develop separate baselines for each code cycle, state, and

[2] This approach does not apply to NEEA's 2021 Power Plan Savings estimates. For reporting Power Plan savings, NEEA uses the baseline assumptions from the Northwest Power and Conservation Council's 2021 Power Plan.

sector, beginning with codes adopted after 2024[3]. Accepting this recommendation would require an increase in NEEA staff time to document strategies and activities for each code cycle, state, and sector separately. In addition, the scopes and budgets of Codes Market Progress Evaluation Reports (MPERs) would increase to include separate assessments (see Recommendation #4 for more information).

Recommendation #2: As part of the process to establish the baseline assumption for each code cycle, state, and sector, NEEA should more clearly define, document, and communicate the role of its partners. There is a lack of existing documentation on who NEEA's partners are by state and sector. The energy savings that NEEA calculates are intended to reflect the collective work of NEEA and its partners, so it is critical for NEEA to clearly define who its partners are. IEc recommends that NEEA provide a summary of the partners and their roles along with any reports of Co-Created code savings.

NEEA Response: NEEA is prepared to accept this recommendation with CEAC input. NEEA has already begun to refine its definition of code influence partners and better document partners for each code cycle, state, and sector. This has required and will continue to require an increase in NEEA staff time. This increased documentation and transparency may create some efficiencies for future MPERs, as NEEA's partnerships will be better documented and defined and key contacts will already have been identified prior to the evaluation kick off.

Recommendation #3: Adjustments to NEEA's baselines should be made to reflect the amount of time that savings are tracked for the code. NEEA's NMB approach answers the question: "When would a code of similar stringency have been adopted without NEEA and its partners' work?" This framing emphasizes the acceleration effect – that is, how much *sooner* each state adopts the code, compared to when it would have adopted the code without NEEA and its partners' involvement.

NEEA Response: NEEA is prepared to accept this recommendation with CEAC input. See the discussion under Recommendation #4 for more information on how this would be implemented.

Recommendation #4: Based on an independent qualitative assessment of NEEA and its partners' role in a specific code cycle, state, and sector, NEEA should adjust code baselines to reflect the number of code cycles (one[4], two, or three[5]) that NEEA and partners' work accelerated code adoption. Qualitative assessment enables consideration of the wide-ranging and long-term nature of NEEA and its partners' work

[3] 2024 Washington State Energy Code; 2026 Oregon Residential Specialty Code; 2026 Oregon Energy Efficiency Specialty Code; 2024 International Conservation Code for Montana and Idaho.

[4] The IEc team believes it is appropriate to report savings for a minimum of one code cycle if the NEEA Codes team plays a role in developing and/or influencing code updates given NEEA and its partners' historical work to set up a strong foundation for building energy code advancement in the Northwest.

[5] The IEc team recommends that NEEA assume an acceleration of no greater than three code cycles. While interviews indicated broad support for a significant acceleration of state code development in the 2010s due to NEEA and its partners' work, IEc did not hear support for the same timeframe of influence based in the current codes landscape.

in state codes development, adoption, and compliance, including Market Transformation programs, above-code programs, training activities, and historical activities. It also ensures that the long-term influence of NEEA and its partners, including NEEA's role as a national leader and early advocate of more stringent code adoption to promote energy efficiency in the Northwest, can be considered in cases where short-term quantitative metrics may not capture this long-term effect. Qualitative assessment can be completed cost effectively and within a timely fashion through NEEA's Codes MPERs. Assessment by an independent evaluator is consistent with best practices and will help to assure third parties that the results of the assessment are credible and unbiased. IEc will provide a standard framework for use by NEEA's independent evaluators to guide their assessment of the role of NEEA and its partners. In developing the framework, the key objective is to clearly document NEEA's theory of change for each state and sector then conduct an ex-post analysis to qualitatively assess how well NEEA and its partners effectuated the activities identified to address barriers in each market, consistent with NEEA's Codes logic model.

NEEA Response: NEEA is prepared to accept this recommendation with CEAC input. IEc's recommendation provides a transparent, replicable approach to demonstrate the value of Market Transformation investment in code advancements. If NEEA accepts this recommendation, it will implement and refine this approach over a series of code cycles and MPERs, beginning with codes adopted after 2024 and MPER #7. This process would involve detailed tracking of NEEA's strategies, activities, and partners for each code cycle, state, and sector through State Code Road Maps and other documentation developed by the NEEA Codes team. Documentation for all code updates that have occurred since the previous MPER will be provided to the third-party evaluator to assess using the framework developed by the IEc team. NEEA and its evaluators will continue to refine this framework over multiple MPERs, and NEEA will share major updates with CEAC.

Although the revised approach to developing code baselines would start with codes adopted during NEEA's 2025-2029 Business Plan, NEEA believes the effects on Cycle 7 energy savings would be minimal. IEc recommends that NEEA track savings for a minimum of one code cycle if the codes team plays a role in developing and/or influencing code updates. A third party will determine how many additional code cycles to report the savings. Because the codes team is currently working on the next iteration of codes in all four states, NEEA believes that it will be able to report savings from the codes currently in its Business Plan forecast.

As discussed above, implementing this recommendation would require additional NEEA staff time and would increase the scope and budget of Codes MPERs.

Memorandum – *Agenda item*

August 27, 2025

TO: Cost-effectiveness and Evaluation Advisory Committee

FROM: Wylie Hampson, Market Analyst; Deborah Sunada, Program Manager

SUBJECT: NEEA Residential Dual Fuel Program Updates

The purpose of this memo is to provide an overview of Dual Fuel Residential HVAC Program, and the input assumptions used to estimate preliminary technical achievable savings potential and benefit-cost ratios. On September 10, 2025, NEEA staff will seek the Natural Gas Advisory Committee's approval to move this program through the Concept Advancement milestone of the Initiative Lifecycle, NEEA's overall framework to facilitate planning, implementation, and evaluation of market transformation programs. The Concept Advancement milestone represents a decision to allocate resources to define if the market transformation is worth pursuing and what NEEA's role is. In our Q3 2025 Cost-effectiveness and Evaluation Advisory Committee meeting, members of the Dual Fuel Residential HVAC Program will debrief the committee on the program concept and preliminary estimates for select portfolio metrics.

Program Concept

Northwest residential consumers now seek year-round comfort, especially as our region experiences an increasing number of days above 90 degrees. For single-family homes using a gas furnace as their primary heating source, pairing a heat pump with the gas furnace (a "dual fuel system") and following a few simple design practices can improve the system's heating efficiency from 95% to over 200% resulting in significantly lower energy costs and carbon emissions. Plus, a largely unrealized benefit of dual fuel systems is control capabilities allowing the ability to dynamically shift between the use of gas and electricity for heating. This grid-enabling feature could maximize customer value and provide essential electric or gas grid flexibility at times of peak demand.

While typical installations vary widely in efficiency, contractors and customers are typically unaware of the choices that result in optimal operation when it comes to sizing and switchover temperature settings. NEEA can help to address these market barriers by partnering with manufacturers, distributors, and utilities to build awareness and communicate the value proposition to contractors and customers of optimally designed and installed dual fuel systems.

The efficient product the program expects to focus on in the near-term is a residential forced air ducted gas furnace combined with a heat pump. The system requires a controller (which could be as simple as a thermostat) that determines when to operate the heat pump over the furnace.

Examples of critical design specifications and set point recommendations include:

- HP sized for cooling with a balance point of 30°F
- Switchover temperature set to 35°F degrees
- Demand response signals accepted

Over time, desired improvements with manufacturer engagement could include:

- Relevant improvements from the electric portfolio Advanced HP program, such as low load efficient operation and connected commissioning
- Optional configuration of tankless gas water heater with hydronic air handler in place of the gas furnace (that enables simultaneous operation)
- Expanded demand response capabilities enabling the utility to request that the forced air ducted furnace operate instead of the HP, superseding any local control

Technical Achievable Potential and Benefit Cost Ratios

The potential residential dual fuel HVAC market is primarily made up of existing houses that contain centrally ducted gas furnaces, which are being used as their primary heating source. The intention of the dual fuel program is to ensure that once a customer chooses to pair an air source heat pump with their gas heating system, that they are selecting the proper sizing and using the best practices to get the most energy efficiency out of it. Forecast uncertainty is driven by how many gas customers adopt air source heat pumps and how properly those systems are installed—especially regarding sizing and switchover settings, which significantly affect efficiency.

Heat pump type, size, and temperature switchover settings can all have significant impacts on dual fuel system performance and efficiency. The efficient product the program expects to focus on right now is a dual fuel system with the heat pump switchover temperature set to 35° F, while the baseline product is an identical dual fuel system, but the switchover temperature is set to 40° F.

The Larson Energy Research group conducted an analysis on behalf of NEEA to identify how different dual fuel system configurations perform in terms of reduced energy use and reduced emissions. The results of this analysis show that heat pumps with switchover temperatures set to 35° F could save an average of 155 therms/year in heating zone 1, and 203 therms/year in heating zones 2 and 3, compared to heat pumps with switchover temperatures set to 40° F.

Residential Building Stock Assessment data from 2022 shows that there are about 1.49 million single-family homes in Washington and Oregon that use gas furnaces as their primary heat source and are potentially capable of installing dual fuel systems. NEEA preliminarily estimates that 375,322 of these homes will adopt properly installed and sized dual fuel systems over a 20-year period. Based on the unit savings previously identified, this adoption is projected to result in about 60 million therms of energy savings.

Since both the base case and the efficient case involve dual fuel systems, there is no incremental equipment cost, resulting in a $0 difference. However, ensuring that dual fuel systems are properly sized, and the settings are optimized for performance and efficiency, requires extra labor from the HVAC installer. NEEA assumes an extra hour of labor, which costs $149 according to the Regional Technical Forum (RTF) labor cost assumptions. This brings the total incremental cost to $149. Using the RTF's ProCost tool, NEEA finds a benefit cost ratio of 2.95 in heating zone 1, and 3.25 in heating zones 2 and 3. These estimates align with guidance provided by the Cost Effectiveness Advisory Committee's Dual Fuel Measurement Workgroup.

In the Program Development phase of the Initiative Lifecycle, NEEA will conduct additional market research and analysis to further inform market size, market penetration, and ramp rate for this technology. While the overall heating energy consumption will decrease, there is clear recognition that there will be an increase in electric consumption due to customers adding electric cooling and supplementing their gas heat with electric heat. It is currently assumed that the heat pump electricity use for heating is during non-peak periods, but more work is being done to gain a better understanding of dual fuel load shapes. Future development to demand response capabilities and other system integrations will hopefully lessen this impact. While evaluating the current base case scenario for dual fuel residential systems, the overall site energy use (gas and electricity) is expected to reduce and can be expressed in BTUs.

Memorandum

August 21, 2025

TO: Cost Effectiveness Advisory Committee

FROM: Kathryn Bae, Principal Market Analyst, NEEA

SUBJECT: Key Inputs and Assumptions Quarterly Update

This is a standing agenda item that is brought to the Cost Effectiveness and Evaluation Advisory Committee (CEAC) quarterly. During this time, we bring forward new and updated assumptions and data source updates that inform the organization's market transformation savings and cost effectiveness calculations.

Background on this standing agenda item:

The Cost Effectiveness and Evaluation Advisory Committee (CEAC) primary functions[1] include:

1. Review and advise regarding NEEA cost-effectiveness and savings information to inform annual reporting, and
2. Review and advise regarding market transformation cost and savings measurement and estimation methods.

NEEA staff provide various touchpoints for committee members throughout the year to support the committee in their execution of these charter objectives.

NEEA maintains a system of documentation and communication that includes three primary means for committee members to access documentation: methodology documents posted to a funder portal[2], data provided in funder reports, and meeting materials and presentation content at each quarterly CEAC meeting (Figure 1).

[1] In addition to the two responsibilities listed above there are 3 more in the charter:
3. Review evaluation findings that affect cost and savings information to inform annual reporting.
4. Work with your organization to provide NEEA staff with relevant incentive data for regional tracking and reporting purposes.
5. Review and advise regarding new market research and evaluation methodologies.

[2] Funder Portal has moved to NEEA's SharePoint system, and all committee members will be receiving instructions to log in.

Northwest Energy Efficiency Alliance
700 NE Multnomah Street, Suite 1300, Portland, OR 97232
503.688.5400 | Fax 503.688.5447
neea.org | info@neea.org

Figure 1: System of Documentation for Key Inputs and Assumptions

Funder Portal NEEA SharePoint	**Funder Reports** Emailed Directly[3]	**CEAC Meeting Materials** Emailed in Packet
Updated in April	*Updated Q1/Q2, upon request*	*Updated Quarterly*
Operational Guidelines Overview on energy savings & cost effectiveness calculations	**Annual Report** Memo summarizing annual savings results and market updates.	**Annual Summary** Memo summarizing portfolio savings & cost effectiveness results as well as program updates.
Estimation Approaches & Data Sources List of approaches and data sources NEEA uses to estimate savings & cost effectiveness	**Customized Workbook** Workbook with annual savings values, variance summaries, methodology descriptions, measure-level units and other key assumptions specific to the individual funder requests.	**Key Assumptions Update** Updates to key assumptions (baselines, savings rates, units estimates, etc.), along with contact information for follow-up questions.
Methodology Documentation Report on energy consumption calculations, data sources and technical assumptions		**Presentations** Slides describing results & updates to inputs used in NEEA's savings and cost effectiveness analyses.

Updates for committee review this quarter:

For the Q3 CEAC meeting, NEEA has updates for the committee's consideration for the following programs:

- Commercial New Construction: Montana 2021 IECC
- Residential New Construction: 2021 Oregon Residential Specialty Code
- Standards: Battery Charger, Portable AC and Air Compressors

Please continue reading below for more details on these updates and come to the meeting prepared to ask clarifying questions and advise NEEA on any recommended improvements you would like to share.

[3] NEEA is working on providing access to the funder reports through NEEA's SharePoint system

Commercial New Construction: Building Energy Codes

NEEA aggregates and leverages the power of the region to identify and vet emerging technologies and create the market conditions necessary for the technologies to take hold. This work supports decisions and practices for commercial buildings to become more energy efficient, making commercial buildings more affordable to operate. The alliance helps the region instill these voluntary interventions by informing codes that represent Northwest business needs.

Key Assumptions Update

Montana adopted several mid-cycle amendments to the 2021 International Energy Conservation Code (IECC) for commercial buildings, which went into effect September 21, 2024. NEEA determined that the amendments to secondary sidelit daylight zone and automated receptacle provisions have material impact on the commercial building energy use compared to the 2021 IECC model code.

To quantify the effects on energy savings, NEEA proposed a methodology to modify the 2021 IECC model code's site energy use based on analyses performed by Pacific Northwest National Laboratory (PNNL). Energy 350 reviewed this methodology and determined it is appropriate for estimating the incremental changes in energy savings. The review of the methodology and the resulting site energy use can be found on NEEA's website: Code Savings technical Assumptions Review.

NEEA estimates that on average the 2021 IECC with Montana amendments is about 10% lower than the 2021 IECC model code.

For more information contact Kathryn Bae, Principal Market Analyst, at kbae@neea.org.

Residential New Construction: Building Energy Codes

NEEA aggregates and leverages the power of the region to identify and vet emerging technologies and create the market conditions necessary for the technologies to take hold. This work supports builder decisions and practices to become more energy efficient, making homes more affordable to operate. The alliance helps the region instill these voluntary interventions by informing codes that represent Northwest business needs.

Key Assumptions Update

NEEA recently completed a compliance study for 2021 Oregon Residential Specialty Code. The draft results of the study found that the code compliance rate was 91%. NEEA updated the compliance rate assumption to the latest findings from the previous assumption of 89%. NEEA also updated the fuel mix assumption for Oregon residential new construction, increasing the share of electric space heating from 41% to 46% based on the results of this study. The report is being finalized and is expected to be published in Q4 2025.

For more information contact Will Gehrke, Sr. Market Analyst, at wgehrke@neea.org.

Standards – Battery Charger, Portable AC and Air Compressors

NEEA's work supports long-term savings, ensuring that Northwest customers benefit from reduced energy costs and more products on the market that offer efficiency, energy savings and standardized, proven performance. A common long-term goal of NEEA's Market Transformation programs is to enhance energy savings opportunities for business and consumers by supporting manufacturer innovation that leads to equipment and appliance standards. NEEA compiles critical market data and insights that inform voluntary local, state, and federal standards. The information also helps manufacturers and other market actors assess opportunities and develop or innovate new technologies and features, helping make improved products more broadly available in the market.

Key Assumptions Update

On May 16th, the Department of Energy (DOE) announced its proposal to withdraw standards determinations for Battery Chargers, Portable ACs and Air Compressors. NEEA has removed savings from these standards in its savings forecast and will continue to monitor DOE standards and update forecasts as necessary. 48% of the forecasted savings for Air Compressors remains in the forecast as Washington implemented its own state-level standard which remains in effect.

For more information contact Evan Hatteberg, Sr. Technical Market Analyst, at ehatteberg@neea.org.

Memorandum

August 27, 2025

TO: Cost-effectiveness and Evaluation Advisory Committee

FROM: Kathryn Bae, Principal Market Analyst, NEEA

SUBJECT: Accessing NEEA's New Funder Portal

NEEA's Funder Portal provides a secure platform for Cost-effectiveness and Evaluation Advisory Committee (CEAC) members to access NEEA documentation related to operational guidelines, methodologies for calculating energy consumption, and data sources for estimating energy savings and cost effectiveness. Previously, Funder Portal was accessed through NEEA's website, and it is now accessible on SharePoint.

An account is required to access NEEA's SharePoint. Individuals who already have an account will receive an email containing the link to Funder Portal. Upon accessing the portal, users should sign in using their credentials (email address and password[1]).

For CEAC members who do not yet have an account, NEEA will distribute a Systems Use Agreement (SUA) via DocuSign (see Appendix for SUA). Following completion and signature of the SUA by the committee member, and subsequent countersignature by NEEA staff, the member will receive an invitation email with a link to Funder Portal. The invitation email will be similar to that provided on page 2. When prompted, the member should log in using their organization's email address and password[2].

Should any login issues arise, it is recommended to copy and paste the Funder Portal URL from the invitation email into a new Incognito or InPrivate browsing window. For further assistance or inquiries regarding access, please contact Dan Salvatore, NEEA IT staff, at DSalvatore@neea.org.

[1] This is the password required to log into the email account.

[2] This refers to the password required to access the existing email account. A separate password for login will not be required.

Northwest Energy Efficiency Alliance
700 NE Multnomah Street, Suite 1300, Portland, OR 97232
503.688.5400 | Fax 503.688.5447
neea.org | info@neea.org

From: Microsoft Invitations on behalf of NEEA <invites@microsoft.com>
Sent: Tuesday, August 19, 2025 3:11 PM
To:
Subject: Tech Salvatore invited you to access applications within their organization

Please only act on this email if you trust the individual and organization represented below. In rare cases, individuals may receive fraudulent invitations from bad actors posing as legitimate companies. **If you were not expecting this invitation, proceed with caution.**

Sender: Tech Salvatore (Tech.Salvatore@neea.org)
Organization: NEEA
Domain: neea.org

This message was provided by the sender and is not from Microsoft Corporation.

TS **Message from Tech Salvatore:**

"https://neea.sharepoint.com/sites/FunderPortal/"

If you accept this invitation, you'll be sent to https://neea.sharepoint.com/sites/FunderPortal/.

Accept invitation

Appendix: Sample Systems Use Agreement

Systems Use Agreement – External Users

WHEREAS, the Northwest Energy Efficiency Alliance ("NEEA") is an organization promoting energy efficiency through its design, implementation, administration, and evaluation of various energy programs on behalf of regional utilities and other stakeholder organizations; and

WHEREAS, NEEA provides certain of its contractors and consultants and their subcontractors (referred to collectively as "External System Users") with access to various electronic systems and equipment (referred to collectively as "System Tools") which include but are not limited to: tracking and contact management systems, email capability, non-public websites, website management tools, website usage tracking and monitoring tools, laptops, PDA's, projectors, and flash drives;

NOW, THEREFORE, in consideration of my engagement, whether direct or indirect, temporary or permanent, paid or unpaid, as an External System User I agree to the following:

1. **Acceptable System Use**. I understand that NEEA may provide me with access to various System Tools for the sole purpose of carrying out work that directly relates to my engagement with NEEA. I agree that I will not use these System Tools for any purpose that does not directly relate to my NEEA engagement. Prohibited uses of NEEA-provided System Tools include but are not limited to:

a. Using tools for work or activities not directly related to services requested by NEEA
b. Entering into System Tools data that is false or intentionally misleading
c. Failing to enter data as prescribed in users' guides, training, or other instruction by NEEA
d. Tampering with, disabling, or circumventing security, monitoring, or anti-virus features
e. Hosting or storing of personal data or data files
f. Loaning or allowing the use of tools to another party
g. Viewing or sending of materials of a political nature
h. Viewing or sending of materials of a pornographic nature
i. Use in any illegal activity.

2. **Use of System Data**. I understand that I may be provided access to system data that may be of a confidential or sensitive nature. I understand and agree that this data can only be used for purposes that directly relate to my engagement with NEEA. I agree not to use System Tools for researching clients, researching potential clients, marketing, mailing, data-mining, or as input into analyses or reports, where such activity does not directly relate to my engagement with NEEA, without NEEA's prior written consent. I understand that I may be required to agree to a separate nondisclosure agreement that may put additional restrictions on how I can use System Tool data.

3. **Passwords and Sharing Access**. I agree not to share my personal password to any System Tool with any other person. I also agree not to login and then allow another person to use my assigned account without prior NEEA approval. I understand that in some cases I may be provided with a group account or password. In these cases, I agree not to share these group accounts or passwords with anyone else without NEEA's approval. I further agree to take reasonable care to keep all passwords secret. I understand that by violating password or account usage stipulations my account may be immediately disabled or revoked.

4. **Notification of Improper Use**. I agree to immediately disclose to NEEA any improper use of NEEA's System Tools, or violation of this agreement, either by myself or by others.

5. **System Use Monitoring**. I understand that NEEA reserves the right to monitor my use of System Tools. I understand that NEEA is not required to provide advance notice of any monitoring and may start, stop, or modify its monitoring at any time.

6. **Term**. I understand that my obligations under this agreement shall remain in force for as long as I physically possess, or have account access, to System Tools. I agree to immediately return all physical equipment and cease all system access upon termination of my NEEA engagement or upon request by NEEA. I understand that NEEA may remove my system access or may request the return of physical equipment at any time.

7. **Failure to Abide by Agreement.** I understand that failure to abide by this agreement may result in NEEA disabling my system access, requesting the return of all NEEA equipment, and/or termination of my engagement. These actions are solely at NEEA's discretion.

The parties agree that the remedy at law for any breach or threatened breach by a party may, by its nature, be inadequate, and that the other parties will be entitled, in addition to damages, to a restraining order, temporary and permanent injunctive relief, specific performance, and other appropriate equitable relief, without showing or proving that any monetary damage has been sustained.

8. **Agreement Updates**. I understand that NEEA reserves the right to modify this agreement from time to time as needed. I understand that any material changes to this agreement will require me to resign and that a refusal to resign may constitute grounds for NEEA to discontinue my engagement.

This agreement and its validity, construction and effect shall be governed by the laws of the State of Oregon.

IN WITNESS THEREOF the parties below have signed this Agreement as of the date below.

DATED: _____

_____	_____
Signature of External System User	Signature of NEEA Representative
_____	_____
Printed Name of External System User	Printed Name of NEEA Representative
_____	_____
Name of External System User's Direct Employer	Title of NEEA Representative

Memorandum

August 19, 2025

TO: Cost-Effectiveness and Evaluation Advisory Committee (CEAC)

FROM: Kirstin Moreno, MRE Scientist

SUBJECT: Ductless Heat Pump (DHP) Market Diffusion Evaluation #3 Final Report

Context: Evaluation at NEEA

The Northwest Energy Efficiency Alliance (NEEA) applies the principles of adaptive management in the evidence-based design of its Market Transformation programs. One of the purposes of NEEA's Market Progress Evaluation Report (MPER) and other evaluation reports is to provide key inputs to this continuous practice. Once a program is no longer in market development, NEEA conducts Market Diffusion Evaluations to track market share and continued diffusion of the technology into the market. Evaluation efforts are led by third-party evaluators and delivered at specific program milestones. NEEA's Market Research and Evaluation (MRE) team is the internal functional group tasked with scoping and managing these evaluations and communicating the insights back to internal program teams and alliance partners.

In the fall of 2025, NEEA contracted with OWL Research Partners to conduct the third Market Diffusion Evaluation, formerly known as Long-Term Monitoring and Tracking (LTMT), of its Ductless Heat Pump (DHP) program. The objectives of this memo are to provide a brief description of the methodologies used for the third DHP Market Diffusion Evaluation, to describe the key findings and major recommendations, and to provide a link to the final report for CEAC members to review in advance of the upcoming CEAC meeting.

Overview of DHP Market Diffusion Evaluation Methodologies

Since transitioning from active market development in 2020, NEEA has been monitoring the DHP market for signs of continued diffusion within the program's target markets (single family zonal, single family electric forced air, and manufactured homes with electric forced air) to confirm whether Market Transformation outcomes are being sustained. In addition to evaluating progress on the DHP Diffusion Indicators, this study assessed the validity of NEEA's interpretation of previous LTMT results that suggest sales in target markets are declining.

The study paired survey data collected from residential HVAC installers between November 2024 and January 2025 with data about incented DHP installations from local programs, NEEA's Residential Building Stock Assessment (RBSA), distributor sales data, and an interview with NEEA team members.

Key Findings

Findings from multiple sources, including the RBSA, distributor and utility data, and an HVAC Installer Survey, revealed that the overall residential DHP market is continuing to grow and gain market share over time, which indicates continued success since the transition away from active market development. Yet, despite this progress for the DHP market overall, the specific results for DHP Diffusion Indicators and target markets paint a more nuanced picture. Specific findings include:

- Single-family DHP installs are on the rise, but due to a combination of potential factors, target market growth has slowed.
- Total installed costs for DHPs continue to rise due to increasing labor costs but notably not due to equipment costs, which remained steady.
- An estimated 87% of HVAC installers in the region offer DHP installation, consistent with prior studies that found 83%-84% of HVAC installers offering the same service.

Key Recommendations The following recommendations aim to streamline future Market Diffusion Evaluation data collection and reporting, while better aligning study goals with current DHP market conditions:

- Simplify study approach and instrument which requires detailed recall in an effort to increase the response rate and only ask for what is truly needed for the diffusion analysis.
- Consider shifting the data collection timeframe to late spring or late summer/early fall for potentially better response rates.
- Diffusion Indicator 2 -- *The installed cost for a single-head system remains constant or decreases* – may need revision, as cost remains a barrier but does not appear to be strongly correlated to installation volume, and single-head installations no longer dominant the share of residential installs.

NEEA's Next Steps

NEEA is planning to field the fourth DHP Market Diffusion Evaluation earlier in the year than the third one was, starting in Q3 of 2026, and plans to simplify the HVAC contractor survey to increase the response rate. The team will also explore whether revisions to Diffusion Indicator 2 will be beneficial.

Our Ask of You

Please let us know if you have any questions or feedback on the DHP Market Diffusion Evaluation Report, which was posted to neea.org in June 2025, by contacting Kirstin Moreno at kmoreno@neea.org