Cost-effectiveness and Evaluation Advisory Committee Meeting

DATE: August 26, 2026

TIME: 9:00am-12:00pm

LOCATION: **Microsoft Teams**

[Join the meeting now]

Meeting ID: 239 629 160 196 42

Passcode: ah7aK72B

AGENDA

Time	Topic	Presenter(s)	Link or Page
9:00 AM (10 min)	**Welcome / Agenda Review** 1. Agenda check 2. Introductions 3. Announcements ***Objective:*** *Orient committee members to the meeting and today's agenda.*	Jonathan Belais, NEEA Staff	
9:10 AM (45 min)	**Energy Use Studies 101** NEEA staff will provide an overview of the Energy Use Studies team and its studies (CBSA, RBSA, MSSA, and EULR), how the data are used for market sizing and modeling, and how committee members can access study information and data. ***Objective:*** *Build committee understanding of NEEA's energy use studies and their applications.*	Mike Psaris, NEEA Staff	
9:50 AM (40 min)	**Heat Pump Water Heater (HPWH) MPER #8 Findings Overview** NEEA staff will present key findings from the eighth Market Progress Evaluation Report (MPER) for the HPWH initiative, including market share, installer awareness and recommendation rates, and purchaser satisfaction. ***Objective:*** *Inform the committee of MPER #8 findings and provide opportunity for questions.*	Meghan Bean, NEEA Staff	Link
10:30 AM (10 min)	**MRE Update** 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	Meghan Bean, NEEA Staff	Link

Time	Topic	Presenter(s)	Link or Page
10:40 AM (10 min)	**BREAK**		
10:50 AM (30 min)	**Key Inputs and Assumptions Update and Fans Baseline Review** Standing quarterly update on new and updated key inputs and assumptions, including the update to business plan carbon savings targets (busbar rather than site-level savings). NEEA staff will also review the completion of Apex Analytics' third-party review of the Efficient Fans program's naturally occurring baseline forecast and associated findings. ***Objective:*** *Provide opportunity for the committee to review and advise on methods and assumptions that affect savings reporting.*	Elizabeth Daykin, Evan Hatteberg, NEEA Staff	3
11:20 AM (30 min)	**Funding Allocation Method for Dual-Fuel Funded Market Transformation Programs** NEEA staff will present the proposed method for applying NEEA's existing dual-fuel funding allocation guidance to Market Transformation programs advancing through Program Advancement, ahead of bringing Advanced Performance DOAS (gas) assumptions to CEAC in Q4. ***Objective:*** *Gather committee feedback on whether the proposed allocation method is clear, reasonable, and appropriate.*	Elizabeth Daykin, NEEA Staff	11
11:50 AM (10 min)	**WRAP UP**		

Memorandum

August 19, 2026

TO: Cost Effectiveness Advisory Committee

FROM: Elizabeth Daykin, Senior Manager, Planning and Analysis, 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) every quarter, introducing new and updated assumptions and data sources used for 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 three 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] Link to the funder portal: https://neea.sharepoint.com/sites/FunderPortal

Figure 1: System of Documentation for Key Inputs and Assumptions

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

Updates for committee review this quarter:
For the Q3 CEAC meeting, NEEA has one update to carbon savings targets for the committee's consideration.

Business Plan Carbon Targets

The Northwest Energy Efficiency Alliance (NEEA) is updating its business plan carbon savings targets to use busbar savings rather than site level savings.

NEEA updated its business plan carbon targets to use busbar savings to estimate its carbon savings targets instead of site-based savings. Previous estimates were too conservative and did not account for line losses. This update increases carbon savings by 11.3%. The updated carbon savings range is 780-900 thousand tons of CO2.

Contact Evan Hatteberg, ehatteberg@neea.org, with questions regarding this update.

Memorandum

August 19, 2026

TO: Cost-effectiveness and Evaluation Advisory Committee

FROM: Evan Hatteberg, Senior Technical Market Analyst

SUBJECT: Efficient Fans Market Baseline Review

The Northwest Energy Efficiency Alliance (NEEA) will inform the Committee about the completion of Apex Analytics third party review of NEEA's Efficient Fans program's fan efficiency baseline.

Background

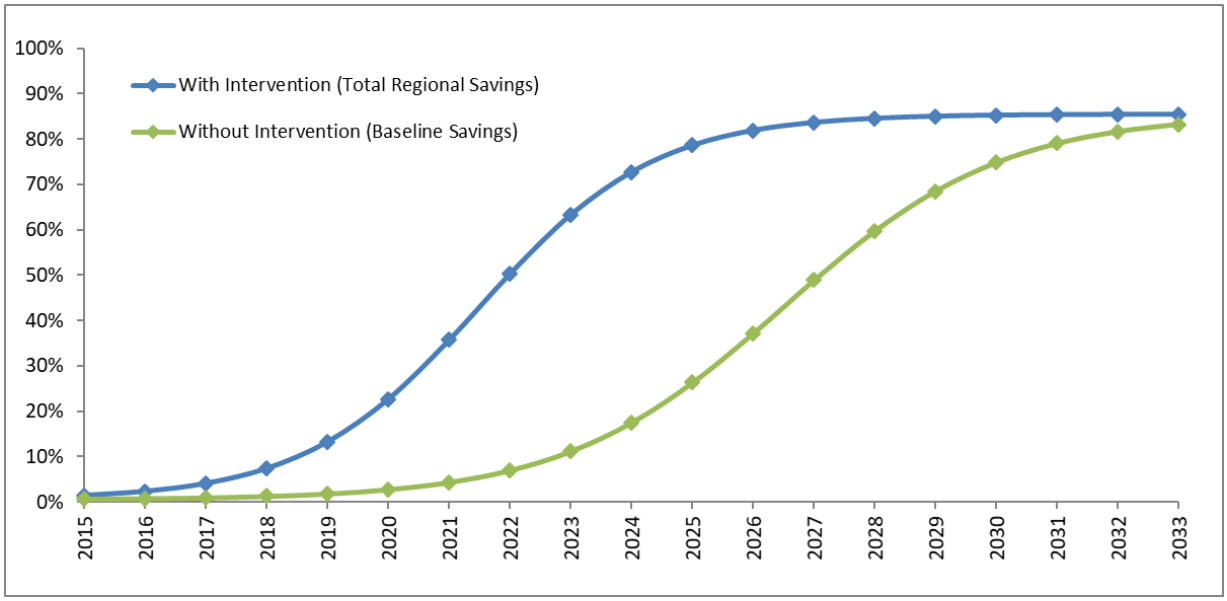
Naturally Occurring Baseline

NEEA tracks the progress of Market Transformation efforts throughout the Northwest region (Idaho, Montana, Oregon, and Washington) and groups estimated savings into the following categories:

1) **Total Regional Savings:** Savings associated with all market changes
2) **Baseline Savings:** Savings from naturally occurring market change without intervention funded by NEEA and its partners, including utilities, Bonneville Power Administration, and Energy Trust of Oregon
3) **Co-Created Savings:** Total Regional Savings above Baseline Savings

The chart below provides an example of the market shares of energy efficient products used to calculate Total Regional Savings and Baseline Savings.

Figure 1: Market Share Savings Type Example



NEEA's Effort in the Fans Market

Since 2018, the Northwest Energy Efficiency Alliance (NEEA) has been actively involved in understanding and promoting energy-efficient fan technologies. Early efforts included market investigations, evaluating fan efficiency metrics, and ultimately advocating for the Fan Energy Index (FEI) as the standard for efficiency at both federal and state regulatory levels. In 2019 and 2020, NEEA collaborated with the Regional Technical Forum (RTF) to develop unit energy consumption metrics for commercial and industrial fans. However, further research into market actors, FEI, and program design has been limited since then.

Initially, efficient fans were considered under NEEA's Extended Motor Products (XMP) program, but market research revealed the fan market operates differently from pumps and circulators, particularly in terms of sales channels. While XMP focuses on distributors, fans are primarily sold through manufacturers and their representatives, with minimal overlap. Recognizing this, NEEA shifted its approach and in 2021 partnered with the Air Movement and Control Association (AMCA), by becoming an associate member of that organization. Since the efficient fans program moved into program development in 2022, NEEA has partnered with two fans manufacturers to collect market data and has begun contracting with manufacturer reps to advance fan efficiency in the region.

Baseline Approach

To develop the naturally occurring baseline forecast, NEEA develops

1. the market condition prior to NEEA's market intervention (the starting point); and
2. the adoption forecast of energy efficient products without intervention by NEEA and its partners (utilities, Bonneville Power Administration, and Energy Trust of Oregon).

These steps result in a market forecast representing baseline savings.

NEEA's efficient fans initiative is targeted to influence fans that are not included in another piece of equipment, or are sold separately and installed in another piece of packaged equipment that is not rated by existing efficiency metrics (e.g., AFUE, HSPF, SEER). The program includes fans as small as 0.70 kW Fan Electric Power (FEP) and as large as 150 Horsepower.

To develop baseline efficiency estimates, NEEA used historical data provided by its manufacturer partners as well as the DOE technical support document (TSD) and Notice of Proposed Rulemaking (NOPR) developed for fans and blowers in 2023.[1,2] The TSD and NOPR were part of a DOE fans and blowers standard that was proposed in 2024, but was later withdrawn in 2025.

Prior Market Condition

To estimate savings, NEEA will use the FEI of the efficient product relative to the FEI baseline by the fan classes identified by the DOE TSD. Table 1 shows the calculated weighted average FEI of Fans Sold in NEEA's region across all historical data provided to NEEA. NEEA plans to use these values to represent baseline efficiency prior to NEEA's market transformation efforts.

Table 1: Weighted Average FEI by DOE Fan Category

DOE Category	Weighted Average FEI
Axial Inline	0.92*
Axial Panel	1.10

[1] Technical Support Document: Fans and Blowers. Department of Energy. 2023. https://www.regulations.gov/document/EERE-2022-BT-STD-0002-0133

[2] Notice of Proposed Rulemaking: Fans and Blowers. Department of Energy. 2023. https://www.regulations.gov/document/EERE-2022-BT-STD-0002-0140

DOE Category	Weighted Average FEI
Axial Power Roof Ventilator	1.02†
Centrifugal Housed	1.23
Centrifugal Unhoused	1.30
Centrifugal Inline	1.10
Radial Housed	N/A†
Centrifugal Power Roof Ventilator - Exhaust	1.04
Centrifugal Power Roof Ventilator - Supply	0.99*†

* Will be set at 1.00 effective 2026 due to California regulation

† Due to small sample size these fan categories will be updated as additional data becomes available

No Radial Housed fans were tracked in the data and the sample sizes for Axial Power Roof Ventilator, and Centrifugal Power Roof Ventilator – Supply Fans were small. For these reasons, if new data becomes available for these fan types NEEA will update the corresponding baselines.

Market Forecasting

NEEA reviewed historical fan efficiency weighted by horsepower and found a flat market trend from 2020 to 2024. This trend is consistent with the DOE TSD for Fans and Blowers which found that the market had not changed significantly since 2012.[3] Given the lack of change observed in the market since 2012, and withdrawal of the proposed standard, NEEA forecasts no ongoing change in baseline market efficiency. While the baseline forecast does not include ongoing change, there are regulatory changes NEEA forecasts will make one-time changes in the baseline market efficiency. Those forecast assumptions are:

1. California fan regulations will force a minimum average FEI of 1.00 across all fan classes by 2026.[4]
2. Absent the intervention of NEEA and its partners, a federal standard would eventually take effect in 2035 and be consistent with the withdrawn 2023 standard. See Appendix A for detailed proposed standard.

Third Party Review

NEEA contracted with Apex Analytics, LLC (Apex), to conduct an independent review of the program's naturally occurring baseline forecast for efficiency levels of commercial and industrial stand-alone fans. The purposes of this review were to ensure that NEEA's savings modeling assumptions for the program are reasonable and to identify any recommendations for improvement. Between October 2025 and February 2026, Apex reviewed NEEA's data sources, documents and calculations and then provided feedback and recommendations.

Based on the findings from the review, Apex reached the following conclusions:

- NEEA's approach to estimating the natural occurring baseline for stand-alone fan efficiency levels is reasonable and predicted market factors that are likely to affect future efficiency levels also appear sensible.
- The fan sales data on which NEEA's baseline forecast is largely based represent the best available source of information but may not be fully representative of the Northwest market due to variance in sales patterns and product types across manufacturers.

[3] Technical Support Document: Fans and Blowers. Pg 8-23. Department of Energy. 2023. https://www.regulations.gov/document/EERE-2022-BT-STD-0002-0133

[4] California Commercial and Industrial Fans and Blowers Regulations

Apex recommended that NEEA apply its proposed natural occurring baseline forecast without significant changes and that NEEA reassess market trends when and if historical sales data become available from additional stand-alone fan manufacturers.

For more detail see the full report on NEEA.org: https://neea.org/resource/commercial-and-industrial-fans-naturally-occurring-baseline-review/

Contact Evan Hatteberg, ehatteberg@neea.org, with additional questions.

Appendix A: DOE Proposed Energy Conservation Standard

Table I-1 Proposed Energy Conservation Standards for GFBs

Equipment Class	With or Without Motor Controller	Fan Energy Index (FEI)*
Axial Inline	Without	1.18 * A
Axial Panel	Without	1.48 * A
Axial Power Roof Ventilator	Without	0.85 * A
Centrifugal Housed	Without	1.31 * A
Centrifugal Unhoused	Without	1.35 * A
Centrifugal Inline	Without	1.28 * A
Radial Housed	Without	1.17 * A
Centrifugal Power Roof Ventilator - Exhaust	Without	1.00 * A
Centrifugal Power Roof Ventilator - Supply	Without	1.19 * A
Axial Inline	With	1.18 * A* B
Axial Panel	With	1.48 * A* B
Axial Power Roof Ventilator	With	0.85 * A* B
Centrifugal Housed	With	1.31 * A* B
Centrifugal Unhoused	With	1.35 * A* B
Centrifugal Inline	With	1.28 * A* B
Radial Housed	With	1.17 * A* B
Centrifugal Power Roof Ventilator - Exhaust	With	1.00 * A* B
Centrifugal Power Roof Ventilator - Supply	With	1.19 * A* B

*A is a constant representing an adjustment in FEI for motor hp, which can be found in Table I-2. B is a constant representing an adjustment in FEI for motor controllers, which can be found in Table I-2

Table I-2 Constants for GFB Proposed Energy Conservation Standards

Constant	Condition		Value
A	Motor hp < 100 hp		$A = 1.00$
	Motor hp ≥ 100 hp and ≤ 250 hp		$A = \frac{\eta_{mtr,2023act}}{\eta_{mtr,2014ref}}$
B	With Motor Controller	FEPact of < 20 kW (26.8 hp)	$B = \frac{FEP_{act} - Credit}{FEP_{act}}$; where: $Credit = 0.03 \times FEP_{act} + 0.08$ **[SI]** $Credit = 0.03 \times FEP_{act} + 0.08 \times 1.341$ **[IP]**
		FEPact of ≥ 20 kW (26.8 hp)	$B = 0.966$

$\eta_{mtr,2023}$ is the motor efficiency in accordance with table 8 at 10 CFR 431.25, $\eta_{mtr,2014}$ is the motor efficiency in accordance with table 5 at 10 CFR 431.25, which DOE is proposing to adopt into 10 CFR 431.175, and FEP_{act} is determined according to the DOE test procedure in appendix A to subpart J of part 431.

Newsletter / June 16

Q2 2026: Market Research & Evaluation

Introduction

Happy Spring, Readers!

I enjoyed connecting with many of you in May at Efficiency Exchange (EFX) in Boise, and I hope to see you at EFX in Wenatchee next year.

The NEEA Market Research & Evaluation (MRE) team is hard at work planning, managing and sharing the findings of over 20 studies. This quarter, I'd like to highlight our baseline and key assumption reviews, which provide third-party assessments of the inputs used to calculate energy savings reported for NEEA's Market Transformation programs. These evaluations assess key assumptions used in energy savings calculations, including validating the assumed market conditions without NEEA intervention (Naturally Occurring Baseline), evaluating data sources and estimates, and reviewing NEEA's approach to categorizing product classes.

The Q2 2026 newsletter includes information on baseline/key assumptions review for six programs and products:

- *Advanced Performance DOAS (formerly High-Performance HVAC)*
- *Luminaire Level Lighting Controls*
- *Efficient Fans*
- *Televisions*
- *High-Performance Dryers*
- *Heat Pump Water Heaters*

- Meghan Bean, Manager, Market Research & Evaluation

For Questions:
Meghan Bean, Manager, Market Research & Evaluation
mbean@neea.org

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PROJECT STAGE DEFINITIONS

MRE projects can develop rapidly, spanning more than one stage in each quarter reported on in the newsletter. In cases where multiple stages are anticipated, we categorize the project in the furthest attainable phase for this quarter.

- *PLANNING: MRE projects from inception through proposal selection*
- *FIELDING: MRE projects from kick off through completion of field work*
- *REPORTING: MRE projects in the analysis/synthesis stage through report posting*

Integrated Systems (HVAC, Lighting, Motors)

ERV/HRV Ownership and Maintenance Market Research — *Kirstin Moreno*

Product Group: *Commercial HVAC*

Project Stage: *REPORTING*

Description	*Both of NEEA's commercial HVAC programs (Advanced Performance RTUs [formerly Efficient Rooftop Units] and Advanced Performance DOAS [formerly High-Performance HVAC]) rely on energy recovery ventilators (ERVs) and heat recovery ventilators (HRVs) as key components that contribute to energy savings. Market feedback indicates that concerns about this equipment being complicated or time-consuming to maintain may limit broader adoption.* *To investigate the real-world experience of owning and caring for ERV/HRVs in commercial HVAC applications, the market research contractor conducted 13 in-depth interviews and seven site visits with market actors including manufacturer representatives, building owners, facilities managers and service contractors.* *Fuel Type: Natural Gas (Advanced Performance RTUs)* *Fuel Type: Electric (Advanced Performance DOAS)*
Research Objectives	• *Gather perspectives on operational considerations for installing, commissioning, cleaning and maintaining ERVs/HRVs.* • *Assess ERV/HRV cleaning and maintenance in real-world applications.*
Timing	*This work kicked off in Q3 2025 and concluded in Q2 2026.*
Third-Party Contractor	*MarketWise Advising, LLC*
Link to Report	*ERV/HRV Ownership and Maintenance Market Research*

Integrated Systems (HVAC, Lighting, Motors)

Market Progress Evaluation Report (MPER) #1 — *Meghan Bean & Nithya Bengali*

Program: *Advanced Heat Pumps*

Project Stage: *FIELDING*

Description	*NEEA is conducting the first Market Progress Evaluation Report (MPER) for the Advanced Heat Pump program. The evaluation contractor is reviewing secondary documents, conducting in-depth interviews with key market actors including manufacturers, market influencers and participants in federal rule-making processes, and analyzing program progress to date.* *Fuel Type: Electric*
Research Objectives	• *Document the strategies and activities the Advanced Heat Pump program is pursuing for each of the efficiency improvements the program targets.* • *Document the status of key market progress indicators (MPIs) identified by NEEA.*
Timing	*This work kicked off in Q4 2025 and will conclude in Q3 2026.*
Third-Party Contractor	*Michaels Energy*

Integrated Systems (HVAC, Lighting, Motors)

Installation Contractor Market Research — *Anu Teja & Meghan Bean*

Program: *Advanced Heat Pumps & Dual-Fuel Residential HVAC*

Project Stage: *REPORTING*

Description	*NEEA is conducting market research with residential HVAC installation contractors to inform strategy for the Advanced Heat Pump program and the Dual-Fuel Residential HVAC program, which is currently in Program Development.* *Fuel Type: Dual-Fuel*
Research Objectives	*Conduct HVAC installer focus groups to gather in-depth, qualitative information on:* • *Descriptions of the typical heat pump selection and sales processes, addressing dual-fuel, single-speed and variable-speed configurations, including communication with purchasers/end-users.* • *Installers' attitudes toward and decision-making regarding installing supplemental heat in centrally ducted heat pumps.* • *Installers' commissioning practices for heat pump installations.* • *Which features installers would value in a new connected commissioning product.*
Timing	*This work kicked off in Q4 2025 and will conclude in Q2 2026.*
Third-Party Contractor	*Evergreen Economics*

Integrated Systems (HVAC, Lighting, Motors)

Dual Fuel Residential HVAC Market Characterization — Anu Teja

Program: Dual-Fuel Residential HVAC

Project Stage: FIELDING

Description	NEEA is conducting a market characterization study on dual-fuel systems. Fuel Type: Dual-Fuel
Research Objectives	The key research seeks to gain insights into: • Challenges and perceived barriers associated with selecting and purchasing a new dual-fuel system. • Motivators for making a purchase decision. • Barriers to dual-fuel system adoption. • The value proposition for adopting a dual-fuel system. • Dual-fuel system perception, information sources, importance of website content and selection and purchase behaviors.
Timing	This work kicked off in Q1 2026 and will conclude in Q4 2026.
Third-Party Contractor	E Source

Integrated Systems (HVAC, Lighting, Motors)

Market Progress Evaluation Report (MPER) #2 — *Kirstin Moreno*

Program: *Advanced Performance DOAS (formerly High-Performance HVAC)*

Project Stage: *FIELDING*

Description	*NEEA's Advanced Performance DOAS program seeks to transform the market for very high efficiency dedicated outside air systems (DOAS) for electrically heated commercial buildings across the Northwest. This study is the second Market Progress Evaluation Report (MPER) of the program's Market Transformation efforts.* *The MPER will comprise expert review of educational and marketing materials, surveys with NEEA trainees, HVAC designer interviews, designer surveys, a web scan, web traffic review and document review.* *Fuel Type: Electric*
Research Objectives	• *Assess Market Transformation progress as measured by program market progress indicators (MPIs).* • *Facilitate review, both by experts and by potential users, of NEEA's new case studies and curriculum on non-energy/associated benefits of advanced performance DOAS and assess attendees' learning from upcoming trainings based on these materials.* • *Characterize the current alternatives to advanced performance DOAS.* • *Determine which systems or solutions compete with advanced performance DOAS.* ○ *Explore the design strategies specifiers and designers employ in jurisdictions with more stringent commercial HVAC code requirements.* • *Describe the perceived benefits and drawbacks of advanced performance DOAS as compared to other options specifiers consider and choose.*
Timing	*This work kicked off in Q2 2026 and will conclude in Q3 2027.*
Third-Party Contractor	*NMR Group (partnered with Apex Analytics LLC)*
Link to Previous MPER	*High-Performance HVAC Market Progress Evaluation Report #1*

Integrated Systems (HVAC, Lighting, Motors)

Advanced Performance DOAS Baseline and Key Assumptions Review — *Kirstin Moreno*

Program: *Advanced Performance DOAS*

Project Stage: *FIELDING*

Description	*To support the potential expansion of the electric Advanced Performance Dedicated Outdoor Air Systems (DOAS) program to include gas, NEEA is conducting a third-party review of NEEA's newly developed Naturally Occurring Baseline for gas Advanced Performance DOAS and key assumptions for savings rates, market adoption tracking and incremental costs.* *Fuel Type: Natural Gas*
Research Objectives	• *Review and validate NEEA's Naturally Occurring Baseline for gas Advanced Performance DOAS.* • *Review and validate NEEA's key assumptions for gas Advanced Performance DOAS.*
Timing	*This work will kick off in Q3 2026.*
Third-Party Contractor	*Cadmus Group*

Integrated Systems (HVAC, Lighting, Motors)

Commercial RTU Replacement Lead Time Market Research — *Kirstin Moreno*

Program: *Advanced Performance RTUs*

Project Stage: *FIELDING*

Description	*NEEA is engaging a contractor to conduct market research to better understand processes, timelines and other factors relevant to like-for-like and emergency commercial rooftop unit (RTU) replacement, which is the core target market of the Advanced Performance RTUs program. Participants will comprise commercial HVAC contractors and distributors.* *Fuel Type: Natural Gas*
Research Objectives	• *Describe typical processes, timelines, frequency and roles involved in near-emergency/temporary RTU replacement and emergency RTU replacement.* • *Describe typical circumstances, frequency, process, timeline and roles involved when RTU replacements trigger structural review of the building rooftop.* • *Analyze and outline the decision-making process for replacing gas pack RTUs with either all-electric or dual-fuel heat pump RTUs, including decision points, roles involved, timeline and other considerations including service upgrades and equipment weight.* • *Describe how RTU market actors navigate code requirements, like-for-like code exceptions and permitting in all real-world replacement scenarios.*
Timing	*This work kicked off in Q2 2026 and conclude in Q4 2026.*
Third Party Contractor	*Swift Strategy*

Integrated Systems (HVAC, Lighting, Motors)

Market Progress Evaluation Report (MPER) #2 — Kirstin Moreno

Program: *Advanced Performance RTUs*

Project Stage: *FIELDING*

Description	*NEEA's Advanced Performance Rooftop Units (RTU) program is actively working to transform the market for efficient RTUs in gas-heated commercial buildings across the Northwest. This study is the second evaluation of the program's Market Transformation efforts.* *The evaluation contractor will conduct a document review as well as conduct surveys and interviews with HVAC contractors and distributors, manufacturer representatives and efficient RTU adopters.* *Fuel Type: Natural Gas*
Research Objectives	• *Assess Market Transformation progress as measured by program market progress indicators (MPIs).* • *Describe adopters' perception of advanced performance RTUs' value proposition and document their HVAC decision-making priorities.*
Timing	*This work kicked off in Q2 2026 and conclude in Q3 2027.*
Third-Party Contractor	*Apex Analytics, LLC*
Link to Previous MPER	*Efficient Rooftop Units Market Progress Evaluation Report #1*

Integrated Systems (HVAC, Lighting, Motors)

LLLC Key Assumption Review — Zdanna King

Program: *Luminaire Level Lighting Controls (LLLC)*

Project Stage: *REPORTING*

Description	*The Luminaire Level Lighting Controls (LLLC) program conducted a third-party assessment of the regional market share represented by NEEA's aggregated LLLC sales and rebate data. This study reviewed NEEA's calculations for describing LLLC regional market share and conducted secondary research to explore additional data sources that could be used to update NEEA's assumptions and calculations.* *Fuel Type: Electric*
Research Objectives	*Review the LLLC program's estimates of market share represented by its aggregated and anonymized sales and rebate data to substantiate and, if necessary, recommend revisions to this key assumption.*
Timing	*This project kicked off in Q3 2025 and concluded in Q1 2026.*
Third-Party Contractor	*Cadmus Group*
Link to Report	*Luminaire Level Lighting Controls Key Assumption Review*

Integrated Systems (HVAC, Lighting, Motors)

Commercial Lighting Market Research — *Zdanna King*

Program: *Luminaire Level Lighting Controls (LLLC)*

Project Stage: *PLANNING*

Description	*The LLLC program team recently completed an internal market research project on a commercial lighting product that is similar to LLLC but lacks connectivity — each fixture has at least one sensor, but the sensors are not connected to one another over Wi-Fi and most likely do not attain the same level of energy savings possible through LLLC. The program is conducting market research to determine how to market and message LLLC relative to this emerging product. This study will most likely use a combination of interviews with market experts and a review of secondary literature to address the research objectives.* *Fuel Type: Electric*
Research Objectives	*In development.*
Timing	*This work will likely kick off in Q3 2026 and conclude in Q4 2026.*

Integrated Systems (HVAC, Lighting, Motors)

Industrial Market Research — *Chris Cardiel*

Product Group: *Motor-Driven Systems*

Project Stage: *FIELDING*

Description	*NEEA is fielding a study of regional industrial market dynamics in the Northwest to inform programs within the Motor-Driven Systems Product Group (Efficient Fans and Extended Motor Products – Pumps) and NEEA's assessment of opportunities related to adjustable-speed drives.* *Fuel Type: Electric*
Research Objectives	• *Identify and prioritize industrial market barriers to uptake of highly efficient motor-driven equipment, including any similarities or distinctions by product type.* • *Document industrial market actor roles, motivations and path-to-purchase throughout the specification and selection process for motor-driven equipment, including any similarities or distinctions by product type.* • *Assess the degree to and ways in which industrial market actors consider energy efficiency to be a key factor in the selection of motor-driven equipment relative to other criteria.* • *Document industrial market actor usage of remote monitoring software, particularly as pertaining to rotating equipment.*
Timing	*This work kicked off in Q1 2026 and will conclude in Q3 2026.*
Third-Party Contractor	*MarketWise Advising, LLC*

Integrated Systems (HVAC, Lighting, Motors)

Market Progress Evaluation Report (MPER) #2 — *Chris Cardiel*

Program: *Extended Motor Products (XMP) – Pumps*

Project Stage: *FIELDING*

Description	*NEEA's XMP – Pumps program actively engages with manufacturer representatives, trade associations and other market actors to increase adoption of energy-efficient motor-driven products (specifically, clean water pumps and circulators at or below 50 horsepower) across the Northwest.* *In this second Market Progress Evaluation Report (MPER), specific methodologies include surveys with specifiers, contractors and end-users and in-depth interviews with manufacturers' representatives.* *Fuel Type: Electric*
Research Objectives	• *Build on the results of XMP – Pumps MPER #1 by tracking MPIs and reporting progress on near-term outcomes.* • *Conduct formative evaluation of market actor perceptions and attitudes (particularly trust and perceived relevance) regarding the Hydraulic Institute's Energy Rating label for pumps and circulators.*
Timing	*This project kicked off in Q3 2025 and will conclude in Q3 2026.*
Third-Party Contractor	*Apex Analytics, LLC*
Link to Previous MPER	*Extended Motor Products Market Progress Evaluation Report #1*

Integrated Systems (HVAC, Lighting, Motors)

Fans Naturally Occurring Baseline Forecast Review — Chris Cardiel

Program: Efficient Fans

Project Stage: REPORTING

Description	NEEA conducted a third-party review of its approach to establishing the Naturally Occurring Baseline (NOB) for the stand-alone fans market. Study methods included a review of relevant datasets and secondary materials as well as interviews with NEEA market analysts to understand the rationale underlying baseline assumptions. Fuel Type: Electric
Research Objectives	• Assess whether NEEA's approach to calculating the Fan Efficiency Index (FEI) baseline is reasonable in the absence of program intervention. • Evaluate the data sources used to estimate baseline performance (historical data provided by manufacturer collaborators and the U.S. Department of Energy technical support document and Notice of Proposed Rulemaking developed for fans and blowers in 2023) and identify any additional potential data sources. • Identify opportunities to improve NEEA's FEI baseline estimation methods.
Timing	This work kicked off in Q4 2025 and concluded in Q2 2026.
Third-Party Contractor	Apex Analytics, LLC
Link to Report	Fans Naturally Occurring Baseline Review

Products (Consumer Products, Water Heating)

Market Progress Evaluation Report (MPER) #3 — Zdanna King

Program: *Retail Product Portfolio (RPP)*

Project Stage: *REPORTING*

Description	*The third Retail Product Portfolio (RPP) Market Progress Evaluation Report (MPER) tracked the program's progress in overcoming market barriers from 2022 to 2024, based on document and sales data review, web-scraping analysis and in-depth interviews with program staff and external collaborators.* *Fuel Type: Electric*
Research Objectives	• *Document activities and outputs for each product in the RPP program (clothes washers, clothes dryers, refrigerators and televisions) and assess progress on applicable outcomes through measurement of market progress indicators (MPIs).* • *Explore how program activities have influenced manufacturers since the program's inception and recommend how this influence could be assessed in consistent and cost-effective ways beyond those already measured.*
Timing	*This work kicked off in Q2 2025 and concluded in Q2 2026.*
Third-Party Contractor	*Level 7 Market Research*
Link to Report	Market Progress Evaluation Report #3

Products (Consumer Products, Water Heating)

Televisions Key Assumptions Review — Zdanna King

Program: Retail Product Portfolio (RPP)

Project Stage: REPORTING

Description	NEEA's Retail Product Portfolio (RPP) program uses aggregated and anonymized sales data and market condition insights to create key assumptions necessary for reporting regional energy savings and developing a Naturally Occurring Baseline (NOB) of estimated energy-efficient television market penetration over the next 20 years. Study activities included document review and analysis to evaluate NEEA's key assumptions and NOB and identify recommendations. Fuel Type: Electric
Research Objectives	Evaluate several key assumptions used to inform NEEA's NOB and savings reporting for televisions, including: • Review NEEA's current assumption that all televisions meeting the 2023 Television Manufacturers' Voluntary Agreement also meet ENERGY STAR® (Version 9.1) specifications for 'standby' mode and make recommendations for improvement, if needed. • Review NEEA's approach for categorizing energy-efficient televisions represented in sales data and make recommendations, if needed, on how to refine this approach. • Review NEEA's average wattage estimates and Unit Energy Consumption calculations for televisions and conduct secondary research to make recommendations for revisions, if needed.
Timing	This project kicked off in Q4 2025 and concluded in Q2 2026.
Third-Party Contractor	TRC Energy Services, LLC
Link to Report	Televisions Key Assumptions Review

Products (Consumer Products, Water Heating)

High-Performance Clothes Dryers Naturally Occurring Baseline (NOB) & Key Assumptions Review

Zdanna King

Program: *Retail Product Portfolio (RPP)*

Project Stage: *REPORTING*

Description	*NEEA is conducting a review of its two Naturally Occurring Baseline (NOB) models for high-performance clothes dryers, leveraging subject matter expertise, primary data collection and literature review.* *Fuel Type: Electric*
Research Objectives	• *Review NEEA's NOB for ENERGY STAR (Version 1) clothes dryers and make recommendations, as needed, to revise the NOB to account for potential delays in federal standard implementation and enforcement.* • *Assess if revisions are needed for NEEA's heat pump clothes dryer NOB to better reflect the market for combination laundry units, given that this NOB was developed using data from stand-alone dryer units.* • *Explore what NEEA's NOB approach may gain from developing separate baselines for compact and standard clothes dryer drum sizes and make recommendations for revisions, if appropriate.*
Timing	*This project kicked off in Q4 2025 and will conclude in Q2 2026.*
Third-Party Contractor	*Cadmus Group*

Products (Consumer Products, Water Heating)

Market Progress Evaluation Report (MPER) #8 — *Anu Teja*

Program: *Heat Pump Water Heaters (HPWH)*

Project Stage: *REPORTING*

Description	*The eighth market progress evaluation report (MPER) for NEEA's HPWH program tracked program progress toward its predefined market outcomes over the last 18 months. Specific data collection methodologies included quantitative web-enabled surveys of Northwest HPWH purchasers and installers to better understand customer satisfaction and track awareness and opinions of HPWHs over time.* *Fuel Type: Electric*
Research Objectives	• *Verify that strategic activities identified in 2024 were completed.* • *Track identified market progress indicators (MPIs) focused on measuring a specified set of program outcomes per the program logic model.* • *Identify the nature and prevalence of contractor callbacks and discern the degree to which the perceived likelihood of callbacks impact recommendations and installation of HPWHs.*
Timing	*This work kicked off in Q1 2025 and concluded in Q1 2026.*
Third-Party Contractor	*NMR Group, Inc.*
Link to Report	*Heat Pump Water Heater Market Progress Evaluation #8*

Products (Consumer Products, Water Heating)

Heat Pump Water Heater Baseline and Key Assumptions Review — *Anu Teja*

Program: *Heat Pump Water Heaters (HPWH)*

Project Stage: *REPORTING*

Description	*The Heat Pump Water Heater program team recently completed a third-party assessment of several components of the program's key energy savings assumption. The report provides suggested improvements based on current data and methodologies.* *Fuel Type: Electric*
Research Objectives	• *Review the current allocation of unit sales within the new construction and recommend any changes, if needed.* • *Evaluate whether the current use of Retail Product Portfolio (RPP) data is a sufficient stand-in for unit sales in the retail sector.* • *Review and describe the counterfactual baseline currently in use to compare realized savings relative to those attributable to federal standards.*
Timing	*This work kicked off in Q4 2025 and concluded in Q2 2026.*
Third-Party Contractor	*Larson Energy Research*
Link to report	*Heat Pump Water Heater Baseline and Key Assumptions Review*

Codes, Standards and New Construction

Oregon and Washington Residential Code Compliance Evaluations

Meghan Bean & Nithya Bengali

Activity: *Residential Codes*

Project Stage: *FIELDING*

Description	*NEEA is conducting code compliance evaluations to review assumptions underlying its estimation of energy savings from NEEA and its partners' involvement in Oregon and Washington code processes.* *The contractor will collect data from a variety of sources, including building energy permits, site visits to residential new-construction projects and virtual audits conducted with residents of new-construction homes.* *Fuel Type: Electric*
Research Objectives	• *Assess statewide compliance among single-family homes built under the 2023 Oregon Residential Specialty Code (ORSC) and 2021 Washington State Energy Code (WSEC).* • *Provide statewide findings regarding primary space and water heating fuel.* • *Provide an analysis of builders' choices regarding heating system and duct installation.*
Timing	*This work kicked off in Q2 2026 and will conclude in Q2 2027.*
Third-Party Contractor	*Industrial Economics, Inc.*

Market Diffusion

Manufactured Homes Market Diffusion Evaluation #1 — Anu Teja

Program: *Manufactured Homes*

Project Stage: *REPORTING*

Description	*Since 2015, NEEA's Manufactured Homes program has worked to increase the adoption of manufactured homes meeting the Northwest Energy Efficient Manufactured Housing Program™ (NEEM)+ specification.* *Following the recommendations of the 2023 Transition Market Progress Evaluation Report (T-MPER), NEEA scaled back its investment in the program. The organization will continue to monitor market diffusion of Manufactured Homes. NEEA is conducting its first Market Diffusion Evaluation study to track market progress now that the program is no longer directly engaged in the market.* *Fuel Type: Electric*
Research Objectives	• *Determine if manufacturers and retailers offer manufactured homes meeting efficiency specifications that provide whole-home energy savings of at least 10% over a home with market-average efficiency sold in the Northwest.* • *Track diffusion indicators to determine whether the market share of qualified homes remains steady or increases, at least three manufacturers offer qualified homes, and qualified home sales are geographically distributed across the Northwest.*
Timing	*This project kicked off in Q4 2025 and concluded in Q2 2026.*
Third-Party Contractor	*Apex Analytics, LLC*
Link to Report	*Manufactured Homes Market Diffusion Evaluation Report #1*

Market Diffusion

Ductless Heat Pump Market Diffusion Evaluation #4 — Kirstin Moreno

Program: *Ductless Heat Pumps (DHP)*

Project Stage: *FIELDING*

Description	*NEEA actively worked to accelerate adoption of ductless heat pumps (DHPs) in the Northwest from 2008 to 2020. When NEEA scales back investments in a Market Transformation program, the organization continues to monitor market diffusion of the energy-efficient product or practice through a series of annual longitudinal evaluations called Market Diffusion Evaluations. This will be the fourth Market Diffusion Evaluation for the DHP program.* *A key activity of the study is to conduct phone and web surveys with HVAC installers.* *Fuel Type: Electric*
Research Objectives	• *Track diffusion of DHPs across the Northwest's residential HVAC market, specifically within the program's three 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.* • *Provide a recommendation to NEEA regarding whether Diffusion Evaluation #4 should be the last evaluation conducted for DHPs.*
Timing	*This project will kick off in Q3 2026 and conclude in Q1 2027.*
Third-Party Contractor	*OWL Research Partners*
Link to Previous Diffusion Evaluation	*Ductless Heat Pumps: 2025 Market Diffusion Evaluation #3*

Questions? Contact Us

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At-a-Glance

Project	Stage
Integrated Systems (HVAC, Lighting, Motors)	
Commercial HVAC: ERV/HRV Ownership and Maintenance Market Research	Reporting
Advanced Heat Pumps: Market Progress Evaluation Report #1	Fielding
Advanced Heat Pumps & Dual-Fuel Residential HVAC: Installation Contractor Market Research	Reporting
Dual Fuel Residential HVAC: Market Characterization	Fielding
Advanced Performance DOAS: Market Progress Evaluation Report #2	Fielding
Advanced Performance DOAS: Gas High Efficiency DOAS Baseline and Key Assumptions Review	Fielding
Advanced Performance RTUs: Commercial RTU Replacement Lead Time Market Research	Fielding
Advanced Performance RTUs: Market Progress Evaluation Report #2	Fielding
LLLC: Key Assumptions Review	Reporting
LLLC: Commercial Lighting Market Research	Planning
Motor-Driven Systems: Industrial Market Research	Fielding
XMP – Pumps: Market Progress Evaluation Report #2	Fielding
Efficient Fans: Naturally Occurring Baseline Forecast Review	Reporting
Dual-Fuel Residential HVAC Market Characterization Study	Planning
Products (Consumer Products, Water Heating)	
RPP: Market Progress Evaluation Report #3	Reporting
RPP: Televisions Model Review	Reporting
RPP: High-Performance Clothes Dryers NOB & Key Assumptions Review	Reporting
HPWH: Market Progress Evaluation Report #8	Reporting
HPWH: Baseline and Key Assumptions Review	Reporting
Codes, Standards and New Construction	
Residential Codes: Oregon and Washington Residential Code Compliance Evaluations	Fielding
Market Diffusion	
Manufactured Homes: Market Diffusion Evaluation #1	Reporting
DHP: Market Diffusion Evaluation #4	Fielding

PROJECT STAGE DEFINITIONS

- *PLANNING: MRE projects from inception through proposal selection*
- *FIELDING: MRE projects from kick-off through the completion of field work*
- *REPORTING: MRE projects in the analysis/synthesis stage through report posting*



Memorandum

August 19, 2026

TO: Cost Effectiveness and Evaluation Advisory Committee

FROM: Elizabeth Daykin, Senior Manager, Planning and Analysis, NEEA

SUBJECT: Funding Allocation Method for Dual-Fuel Funded Market Transformation Programs

Background

NEEA's electric and natural gas portfolios include some Market Transformation programs that provide benefits to both electric and natural gas funders. During NEEA's most recent business planning process, staff developed internal allocation guidance that provides the governing framework for determining how costs should be allocated between electric and natural gas core funding when a Market Transformation program is advanced into both the gas and electric portfolios. To date, this guidance has been used internally to support business planning and allocation assumptions, including shared regional research activities such as CBSA. Because NEEA has not previously advanced a dual-fuel funded Market Transformation program through Program Advancement, this allocation guidance has not yet been discussed with CEAC in this context.

For Market Transformation programs that are advanced into both the electric and natural gas portfolios, the guidance states that the allocation ratio should be based on the "estimated economic value of the energy savings of the program." This approach is intended to equitably distribute the burden of costs and allocation of benefits between funders.

During this agenda item, NEEA staff will share the proposed calculation methodology for applying the existing allocation guidance to dual-fuel funded Market Transformation programs advancing through Program Advancement. NEEA is not seeking approval of the underlying guidance. Rather, NEEA is seeking CEAC feedback on whether the proposed method for applying the guidance is clear, reasonable, and appropriate to use when developing future program funding assumptions.

This discussion is relevant in Q3 because NEEA expects to bring key assumptions for the Advanced Performance Dedicated Outside Air Systems (Advanced Performance DOAS) program expansion to include natural gas heating systems to CEAC in Q4. The Advanced Performance DOAS program for electric heating is already in Market Development. NEEA now expects Advanced Performance DOAS (gas) to move through Program Advancement and enter Market Development. Because this is the first case in which NEEA needs to apply the dual-fuel funded Market Transformation allocation method at Program Advancement, NEEA is bringing the method to CEAC before final Advanced Performance DOAS (gas) assumptions are presented in Q4.

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The Q3 discussion is intended to focus on the allocation method rather than final values. NEEA staff will walk through the calculation methodology during the meeting and use CEAC feedback to inform how staff calculate and present the assumptions brought forward in Q4.

Context

NEEA's existing electric and natural gas allocation guidance provides the governing framework for allocating costs for dual-fuel funded Market Transformation programs that provide benefits for both electric and natural gas funders. The proposed application of the allocation method to dual-fuel funded Market Transformation programs should be consistent with three relevant principles from the guidance:

- Keep the alliance intact.
- Be fair and equitable to both direct and indirect funders.
- Equitably distribute the burden of costs and allocation of benefits.

For dual-fuel funded Market Transformation programs, the guidance states that the allocation ratio should be based on the estimated economic value of the program's energy savings. The allocation ratio is established at Program Advancement stage gates and may be updated annually only if there is a significant change, such as a policy change or loss of a significant funder.

Once established, the allocation ratio applies to all direct and labor costs charged to the program, including program activities, incentives, evaluation, planning, and market research.

Proposed Calculation Methodology

NEEA's Market Analytics and Planning team proposes to apply the existing guidance by calculating the relative economic value of electric and natural gas savings associated with the dual-fuel funded Market Transformation program. The resulting ratio would be used to allocate program costs between the electric and natural gas core funds. The key inputs used to calculate the ratio (technical achievable potential, avoided costs, and load shapes) are discussed in the next section.

Terminology

In this memo, technical achievable potential refers to the maximum savings realistically achievable over a 20-year period after accounting for measure applicability. Program potential refers to the savings expected from a specific program strategy, funding level, and intervention design over a 20-year period. NEEA staff propose using technical achievable potential for this allocation method because it provides a more stable and comparable basis of long-term Market Transformation benefits at Program Advancement, while program potential may change as budgets, strategies, and portfolio constraints evolve. Using technical achievable potential also keeps the allocation method consistent with other NEEA planning and Program Advancement metrics.

1. Technical Achievable Potential

NEEA staff propose using 20-year technical achievable potential as the savings basis because it provides a broader and more stable estimate at Program Advancement than program potential, which considers the ability of programs and administrators to ramp up program activity over time and barriers that can or cannot be addressed through program activity. While program potential can fluctuate as anticipated program budgets, strategies, and portfolio constraints change, technical achievable potential tends to provide a more stable basis for calculating the funding

allocation. This approach is also consistent with how NEEA evaluates relative opportunity across the region. Given that Market Transformation programs are long-term investments, NEEA staff propose using technical achievable potential as the starting point for allocating costs between electric and natural gas funding.

For some dual-fuel measures, electric and natural gas opportunity may be expected to develop relatively evenly across applicable markets. For others, including Advanced Performance DOAS, the relative importance of electric and natural gas use cases may evolve over time depending on portfolio needs, funding constraints, or market conditions. Using technical achievable potential provides a consistent starting point for allocating costs while recognizing that the allocation may need to be revisited if the program strategy materially shifts.

For this allocation methodology, NEEA would use 20-year technical achievable potential as the basis for estimating savings. This approach is consistent with the Program Advancement stage gate because savings potential estimates become more refined as an initiative moves through the stage-gate process and because technical achievable potential reflects applicability and other market conditions while maintaining a stable basis for comparing the relative value of electric and natural gas savings.

In practice, technical achievable potential estimates consider the size of the applicable market, the number of units expected to turn over, the applicable share of the market that could reasonably adopt the measure, new additions to the stock, baseline energy consumption, and the energy consumption of the efficient measure. Consistent with the allocation guidance, the technical achievable potential estimate should also reflect relevant market and policy conditions, including fuel selection trends, fuel switching, and prohibitions or limitations on natural gas in certain markets or applications.

Because program strategy and portfolio constraints can evolve after Program Advancement, NEEA should revisit the allocation periodically and when there is a material change in program emphasis, such as a shift toward primarily electric or primarily natural gas applications. Staff can review approximately three years after Program Advancement as a practical check, while retaining the ability to revisit the allocation sooner if portfolio conditions change significantly.

2. Avoided Costs

NEEA will apply regional avoided cost assumptions for each fuel to convert 20-year technical achievable potential into estimated economic value. In keeping with NEEA's cost-effectiveness guidelines NEEA aligns its avoided costs assumptions with the Northwest Power and Conservation Council (NPCC) wherever possible and sensible.

Electric

The primary components of electric avoided costs are the value of energy conservation, and the value of avoided transmission, distribution, and generation capacity costs.

The value of the energy conservation by time segment depends upon the energy price by time segment. NEEA's uses the NPCC's electric energy price forecasts by time segment to estimate the values of electric savings. The avoided energy conservation values used by the NPCC also include the avoided value of carbon emissions. These values are available on the Regional Technical Forum (RTF) website https://rtf.nwcouncil.org/work-products/supporting-documents/procost.

In addition to the value of electricity conservation, savings occur because of the elimination of line losses. If utilities produced the equivalent power as opposed to conserved, then that electricity would have moved across power lines resulting in power line losses.

Measures can also reduce peak demand, allowing for avoided transmission, distribution and generation capacity costs. NEEA assumes regional winter peak demand occurs at 6 pm on weekdays from December through February. NEEA also estimates summer peak for an additional separate perspective in certain cases. For summer peaking, NEEA assumes the peak hours are 6 pm on weekdays, July through August. The monetary values of these avoided transmission, distribution and generation capacity costs are also available on the RTF's website https://rtf.nwcouncil.org/work-products/supporting-documents/procost.

Natural Gas

Similarly for natural gas, the avoided costs include both the commodity price of natural gas, the transmission and distribution costs, and the avoided cost of carbon. For the commodity price, NEEA aligns with the NPCC natural gas forecast. This is a wholesale price[1] forecast weighted from several sources, regionally vetted and reviewed every 2-3 years. The avoided cost of transmission and distribution also aligns with the NPCC and is based on the weighted average of deferred build out of transmission and distribution from stakeholder Integrated Resource Plans. The monetary values for these commodity and transmission and distribution costs are available on the RTF's website https://rtf.nwcouncil.org/work-products/supporting-documents/procost.

To estimate the avoided cost of carbon for natural gas NEEA calculates the CO2 equivalent pounds per therm of natural gas and uses the NPCC Social Cost of Carbon to estimate the monetary value of avoided emissions, which is available on the NPCC website https://www.nwcouncil.org/2021powerplan_global-assumptions-power-plan/.

3. Load Shape

For electric and gas savings, NEEA will apply an end-use load shape so the avoided cost value reflects when savings occur. Because avoided costs vary by time of year and time of day, the load shape is used to weight avoided costs based on the expected annual savings profile for the relevant end use. This step helps ensure the electric and gas avoided cost value used in the allocation calculation reflects the timing and system value of the savings, rather than treating all annual savings as having the same value.

The Regional Technical Forum (RTF) provides a database of saving shapes, from multiple sources. NEEA staff uses analyst judgment to select the most relevant saving shape to ensure the most accurate weighted avoided cost is used.

At a high level, the calculation would include the following steps:

1. Electric: estimate savings Estimate 20-year regional electric technical achievable potential using the electric funding footprint.	**1. Natural Gas: estimate savings** Estimate 20-year regional natural gas technical achievable potential using the natural gas funding footprint.

[1] The wholesale nature of the forecast may mean that other elements of a delivered cost could be missing from the calculation such as contract costs for local distribution companies.

2. Calculate average electric avoided cost Apply electric load shape to regional electric avoided costs to arrive at annual avoided cost.	**2. Calculate average natural gas avoided cost** Apply gas load shape to regional avoided cost to arrive at annual avoided cost.
3. Calculate electric economic value Electric value = electric technical achievable potential × electric avoided cost.	**3. Calculate natural gas economic value** Natural gas value = natural gas technical achievable potential × natural gas avoided cost.
4. Compare relative economic value Determine the relative share of total economic value attributable to each fuel.	
5. Allocate program costs Use the relative value ratio as the basis for allocating direct and labor costs between electric and natural gas core funding.	

Step three expressed as:

$$Electric\ Allocation\ Share = \frac{TAP_E * AC_E}{TAP_E * AC_E + TAP_G * AC_G}$$

$$Gas\ Allocation\ Share = \frac{TAP_G * AC_G}{TAP_E * AC_E + TAP_G * AC_G}$$

Where:

- TAP_E = 20-year regional electric technical achievable potential, based on the electric funding footprint
- TAP_G = 20-year regional natural gas technical achievable potential, based on the natural gas funding footprint
- AC_E = regional avoided cost, weighted average for the relevant electric savings shape
- AC_G = regional avoided cost, weighted average for the relevant natural gas savings shape

Questions for CEAC

Please come to the meeting prepared to provide feedback on the questions listed below, which are intended to focus CEAC's feedback on the proposed application method, not the underlying allocation guidance.

- Is the proposed calculation methodology clear and understandable?

- Does the methodology reasonably and transparently apply NEEA's existing guidance for dual-fuel funded Market Transformation programs advancing through Program Advancement?
- Does CEAC have feedback on using technical achievable potential, rather than program-specific market potential, as the savings basis for applying the allocation guidance at Program Advancement?
- Are there any assumptions or calculation steps that should be clarified before NEEA applies the methodology to Advanced Performance DOAS in Q4?
- Are there additional considerations CEAC recommends NEEA address when presenting the specific Advanced Performance DOAS assumptions in Q4?

Please reach out to Elizabeth Daykin, edaykin@neea.org, with any questions or comments.