Natural Gas Advisory Committee
Q2 2025 Meeting (Hybrid)

DATE: Wednesday, April 16, 2025

TIME: 10:30am – 3:00pm Pacific

LOCATION: Virtual (via Microsoft Teams, link below)

WEBINAR: Click here to join the meeting (Meeting ID: 232 331 341 320 | Passcode: 3cQ74j6k)
(if needed) Call-in audio only: 971-323-0535 | Phone Conference ID: 885 316 806#

AGENDA (All Times Pacific)

10:30-10:40 (10 min)	**Welcome, Agenda Packet Review**	Alisyn Maggiora	**p. 1-2**
10:40-11:05 (25 min)	**COMBINED: Introductions + Committee Round Robin** • Share-out on recent key activities/developments *Desired Outcome: Committee is aware of relevant activities/ developments across our organizations.*	All	
11:05-11:30 (25 min)	**Portfolio Update** • NEEA staff will share an overview of the Natural Gas portfolio status and highlights of market progress. This is a preview of content that will be presented to the Cost Effectiveness Advisory Committee (CEAC) on April 30 & May 1 • Includes an update on the CEAC Dual Fuel Measurement Workgroup and NEEA's working guidelines *Desired Outcome: Committee is informed about the portfolio status.*	Ryan Brown	**p. 3**
10 min	**BREAK**		
11:40-12:10 (30 min)	**Dual Fuel Residential HVAC Concept Development Update** • Overview of the Program Concept, including draft MT theory and product definition • What to expect for "Concept Advancement" milestone (Q3) *Desired Outcome: Committee is primed on program concept and milestone timing and expectations. Any committee questions or concerns regarding the program concept are identified.*	Emily Moore Deborah Sunada	**p. 4-5**
12:10-12:30 (20 min)	**High-Performance HVAC Program Overview** • Program Market Transformation theory and key market interventions • High Efficiency Dedicated Outside Air System (DOAS) Opportunity *Desired Outcome: Committee is informed about the current, electric High-Performance HVAC program and the potential opportunity to expand the program to include gas high efficiency DOAS.*	Dave Hammond	**p. 6**
12:30 -1:30	**LUNCH**		

1:30-1:45
(15 min)
	Housekeeping, Looking Ahead
	• Product Council Updates
	• Previous Meeting Notes & Action Items: Feb 4
	• Looking ahead
	  ○ Efficiency Exchange
	  ○ Neea.org website changing
	  ○ Upcoming meetings
	
	Desired Outcome: Committee refreshed on previous meeting notes/action items and aware of significant upcoming items.
		Noe Contreras
		Alisyn Maggiora	

1:45-2:45 (60 min)	**Quarterly Report Highlights** • Review Q1 Quarterly Progress Report *Desired Outcome: Committee apprised of gas portfolio developments.*	Noe Contreras Mark Rehley Melissa Mejia Jason Jones Deborah Sunada	**p. 7-15**
2:45-2:55 (10 min)	**Public comment, wrap up and adjourn**	Alisyn Maggiora	

Informational Updates:

- None

Additional Resources:

- Market Research and Evaluation Newsletter
- Codes & Standards Newsletter
- Emerging Technology Newsletter
- Recent NGAC Meeting Materials
  - Feb 4 Packet, Slides, Notes
- NGAC Charter

2025 NGAC MEETING DATES:

Quarter	Day(s)	Date(s)	TIME (PST)	LOCATION
Q1	Tues	Feb 4	9-4	Virtual
Interim Webinar	Wed	March 12	1-2	Virtual
Q2	Wed	April 16	9-4	Virtual~~-Cedarbrook Lodge (SeaTac)~~
Interim Webinar	Thurs	June 5	1-2	Virtual
Q3	_	**No Q3 Mtg**	_	_
Interim Webinar	Wed	Sept 10	**1-2:30?**	Virtual
Q4	Tues	Oct 28	9-4	NEEA / Hybrid
Interim Webinar	Wed	Dec 10	1-2	Virtual

Memorandum – *Agenda Item*

April 9, 2025

TO: Natural Gas Advisory Committee (NGAC)

FROM: Ryan Brown, Manager, Planning and Analysis

SUBJECT: Market Progress and Energy Savings Portfolio Update

Our Ask of You:

Please review the memo and bring any questions, recommendations, feedback, or concerns to the Q2 NGAC meeting, or contact me at the email below.

Brief Summary / Update

Each year upon completion of the Annual Reporting period, NEEA provides a portfolio update on the market progress and related energy savings from NEEA's market transformation efforts. The primary audience for this is the Cost Effectiveness and Evaluation Advisory Committee (CEAC), however NEEA staff will provide a shortened version of the content to inform the Natural Gas Advisory Committee of the key points related to the portfolio.

This agenda item will include an overview of the reportable savings during the 2020-2024 Business Plan period and a discussion of the evolution of the Natural Gas market transformation portfolio. If you would like more detail after this meeting, please get in contact with your organization's CEAC representative or attend the Q2 CEAC meeting on April 30th & May 1st.

Please contact Ryan Brown (rbrown@neea.org) if you have questions.

Memorandum – *Agenda Item*

April 9, 2025

TO: Natural Gas Advisory Committee (NGAC)

FROM: Deborah Sunada, Senior Program Manager (NEEA)

SUBJECT: Update on Dual Fuel Residential HVAC Program Concept (Q3 2025 CA Vote)

Our Ask of You:

Please review the memo and bring any questions, recommendations, feedback, or concerns to the Q2 NGAC meeting, or contact me at the email below.

Brief Summary / Update

In Q3, NEEA staff will seek NGAC's support to move the Dual Fuel Residential HVAC program through the Concept Advancement Initiative Lifecycle (ILC) milestone. Over the last several months, the team has been exploring potential dual fuel system configurations, as well as the potential efficiency, carbon and load flexibility capabilities, and the potential market transformation opportunities. The team now has a preliminary draft Market Transformation (MT) theory and product definition to begin socializing with NGAC.

While dual fuel systems today can improve the system's heating efficiency from 95% to over 200% resulting in significantly lower energy costs and carbon emissions, typical installations vary widely in efficiency and cost. Contractors and customers are typically unaware of the choices that result in optimal operation.

NEEA can help to address market barriers by partnering with manufacturers, distributors, and utilities to build awareness and communicate the value proposition to contractors and customers. Since initial cost can be a barrier, NEEA can also work with the supply chain improving availability of cost competitive equipment and enable confident selection and design of efficient dual fuel systems by developing a dual fuel system rating and specification.

Another potential benefit of dual fuel systems implemented at scale is load flexibility capabilities that could provide essential gas or electric grid capacity at times of peak demand. Over time, the program can work to drive manufacturers to develop systems with grid-enabled controls that can switch between fuels. To encourage broad adoption and use of these systems, NEEA will leverage codes, standards, and specifications, and partner with utilities creating rates and incentives. These activities will enable both consumers and utilities to fully benefit from residential dual fuel HVAC technology.

NEEA's long-term market transformation goal is that dual fuel systems with grid-enabled controls will be the dominant choice for gas customers, delivering energy efficiency, grid capacity, cost savings, and year-round comfort.

Preliminary Product System Description

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, known as a dual fuel system. The system requires a controller (which could be as simple as a thermostat) that determines when to operate HP over 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

Questions for NGAC members

- What questions do you have about the proposed Dual Fuel program concept? Any concerns that we should be aware of as we develop the milestone documentation?

Please contact Deborah Sunada (dsunada@neea.org) if you have questions about the Dual Fuel Residential HVAC program concept.

PROGRAM LIFECYCLE STATUS

Memorandum – *Agenda Item*

April 9, 2025

TO: Natural Gas Advisory Committee (NGAC)

FROM: Dave Hammond, Senior Program Manager

SUBJECT: Gas High Efficiency DOAS Opportunity Update

Our Ask of You:

Please review the memo and bring any questions, recommendations, feedback, or concerns to the Q2 NGAC meeting, or contact me at the email below.

Brief Summary / Update

The High Performance HVAC (HP HVAC) program is based on a system approach that includes the following key components:

1) High efficiency HRV/ERV that features 82% or greater sensible effectiveness
2) High-performance heating and cooling system
3) Ventilation fully separated from heating and cooling
4) Right-sized heating and cooling

This approach has been demonstrated to reduce HVAC energy use by 40-85% and has focused strictly on projects that utilize electric heating & cooling equipment as the primary HVAC system. This electric-based system approach is known as Very High Efficiency Dedicated Outdoor Air System (VHE DOAS). The HP HVAC program team has developed a potential gas version of this system approach, known as Gas High Efficiency DOAS (GHE DOAS).

The goal of this agenda item is to inform the committee of the HP HVAC program activities to date and discuss the proposed next steps for expanding the program to include GHE DOAS. We will use this time to review the program MT theory, describe how current VHE DOAS momentum can support the expansion into GHE DOAS and call out the unique challenges and opportunities specific to GHE DOAS.

Please contact **Dave Hammond (dhammond@neea.org)** if you have questions about the **High Performance HVAC** Program.

PROGRAM LIFECYCLE STATUS*

*Electric-based system (VHE DOAS) is currently in Market Development. The Program Advancement milestone was approved by the electric-focused Regional Portfolio Advisory Committee (RPAC) in 2022.

Natural Gas Progress Report

Northwest Energy Efficiency Alliance (NEEA)

Q1 2025 Highlights

Northwest Energy Efficiency Alliance
700 NE Multnomah, suite 1300
Portland, Oregon 97232
p 503.688.5400
neea.org
info@neea.org

Scanning

- Commercial Water Heating
  - Finalizing modeling with GTI Energy: The draft will simulate the performance of absorption Gas Heat Pumps (GAHP), Dual-Fuel Heat Pumps (GAHP + Boiler, Storage gas water heater, or Tankless gas water heater) and all electric solutions. It will estimate potential energy savings in several commercial buildings.
  - Engaging manufacturers and experts: Inviting manufacturers and subject matter experts with commercial water heating products and experience to better understand total system performance.
  - Identifying potential field-testing sites: Working to identify potential field-testing sites.

- Dual-Fuel Res HVAC
  - Residential Dual-Fuel Technology Demonstration: metering in place for 13/15 sites.
  - Lab testing of simultaneous heating dual-fuel combi delayed to Q2 2025.
  - GTI Energy has installed and commissioned hybrid systems. The lab testing is underway for the 2024/2025 heating season. GTI Energy will monitor the systems' performance and comparing operations cost, GHG emissions, energy efficiency across these three different systems. Project is supported by the Utilization Technology Development.
  - Program roadmap and plan for 2025 established, looking to initiate consumer behavior and contractor behavior research, continue identifying technology, and developing at least 1 new pilot test for 2025.
  - Concept Advancement milestone vote planned for Q3 2025.

Codes, Standards, and New Construction

Codes & Standards

Standards

- In the first quarter of 2025, the Department of Energy has released several dockets for delaying effective dates for more than seven standards that were officially published through the second ½ of 2024. Simultaneously, several congressional review act (CRA) based bills focused on these standards have started moving through congress. The CRA allows congress to review publicly developed final rules completed within the last 60 legislative days. A CRA for the energy conservation standard for instantaneous gas water heaters is through the House and now in the Senate, and this may result in rolling back the new efficiency conservation standard for instantaneous gas water heaters.
- NEEA staff have submitted comments encouraging DOE to maintain effective dates because the standards are based on rigorous analysis that quantifies significant benefits for consumers, and we will continue to monitor progress or changes to existing standards.

Washington Codes:

- Commercial Code: The State Building Code Council's (SBCC) Commercial Energy Technical Advisory Group (TAG) began reviewing code change proposals submitted for the 2024 Washington State Energy Code-Commercial (WSEC-C). These proposals were due on January 14, and the TAG is about midway through its review of the roughly 200 proposals submitted – dozens of which by NEEA and its collaborators.
- Residential Code: The SBCC's Residential Energy TAG developed the Integrated Draft for the 2024 Washington State Energy Code-Residential (WSEC-R). This document generally melds the most efficient elements of the 2021 WSEC-R and the 2024 IECC. The SBCC then voted to open the public comment period for 2024 WSEC-R code change proposals. 2024 WSEC-R proposals are due May 19, 2025.

Montana Codes:

- Montana is expected to begin reviewing the 2024 IECC later this year, but there were no code development updated this quarter.

Oregon Codes:

- Commercial Code: The 2025 Oregon Energy Efficiency Specialty Code (OEESC) was formally adopted on January 1, 2025 and will become fully effective on July 1, 2025. The 2025 OEESC is based on ASHRAE Standard 90.1-2022 but contains amendments that reduce energy efficiency.

- Residential Code: The Building Codes Division (BCD) announced its process and schedule for updating the Oregon Residential Specialty Code (ORSC) at the Q1 Oregon Energy Code Stakeholder Panel meeting. BCD plans to convene a working group this spring to develop a first draft for the 2026 ORSC, upon which the public will have the opportunity to submit code change proposals this summer.

Idaho Codes:

- The Building Code Board (BCB) began holding public listening sessions to collect feedback regarding the proposed update to the 2024 I-codes (including the 2024 IECC). Four sessions (three in person, one hybrid) were held in March, and several more are scheduled in Q2. In addition, there is expected to be a presentation on the potential energy code update at the BCB's April meeting.

International Energy Conservation Code (IECC):

- The Residential and Commercial Consensus Committees formed topical subgroups and began reviewing the roughly 400 code change proposals submitted for the 2027 IECC. The committees are scheduled to finish reviewing these proposals by the end of Q2 2025.
- Following selection to the Commercial Consensus Committee last quarter, NEEA staff was selected to the Commercial HVACR & Water Heating subgroup and the Residential Modeling & Whole Building subgroup.

New Construction

NEEA staff continue to support utility programs participating in the Performance Path above-code new construction program. In the first quarter, NEEA staff interviewed utilities around the region who offer residential new construction programs. The goal is to understand the value and needs of the performance path program and to explore prescriptive alternatives that leverage code points and options. This work will continue through 2025 as NEEA staff and the utility new construction collaborative works with the RTF and collectively to update program design and savings potential. Data continues to collect monthly data on homes built and rated. Additionally, training resources are developed and distributed through NEEA's BetterBuiltNW newsletter and website https://betterbuiltnw.com.

Other Updates

- Highlights from the North American Gas Heat Pump (GHP) Collaborative include:
    - Commercial GHP Committee:
        - Released the Request for Proposals (RFP) for the Commercial Water Heating Market Characterization. NEEA will lead the RFP selection process and oversee planning and implementation of the research (see the 2025 goal under the Advanced Commercial Water Heating program, below).
        - The Commercial Committee finalized the 2025 scope and funding request to members.
        - A report out of 2024 achievements and progress will be shared during the next Commercial Committee meeting, scheduled for April 11.
- Alliance staff attended multiple meetings/workshops highlighting Northwest progress, identifying opportunities to collaborate and gaining industry insight. Events included:
    - ACEEE Hot Water Forum & Hot Air Forum
    - CEE Winter Program Sessions (Virtual)
    - ASHRAE Winter Conference
    - AHR Expo

Advanced Commercial Water Heating

2025 Goal	Key Success Metric	Status	Progress and Next Steps

Engage with manufacturers to understand their go-to-market strategies and support midstream training initiatives.	Engage three GHP manufacturers and three EHP manufacturers to support the development of midstream training initiatives (Threshold: Engage one GHP manufacturer and one EHP manufacturer to support the development of midstream training initiatives)	On Target	• Continued engagement of three GHP manufacturers (Robur, Vicot, and SMTI).
			  ○ SMTI's NW manufacturing rep, Proctor Sales, currently has GHPs stocked at warehouse locations across the region.
			• Expanding engagement to manufacturers of commercial electric heat pump water heaters that could be integrated into dual fuel systems.
			  ○ Prioritizing Mitsubishi ($HEAT_2O$), ECO_2 System ($SANCO_2$) and Nyle (C90A) based on existing data.
			• Engaging channel partners to further stimulate midstream awareness.
			  ○ Finalizing dual fuel support scope with Ecotope.
			  ○ Continued Washington State code interpretation work.
			  ○ Recurring meetings with extra-regional partners to gather and compare learnings.

Execute and monitor field demonstrations to validate performance and savings, target market, challenges, and inform training opportunities.	Initiate one GHP field demonstration and one dual fuel demonstration (Threshold: Initiate one dual fuel demonstration)	On Target	• Dual fuel demonstration site has been identified and project is moving forward.
			  ○ Site is a transitional housing property in Portland, OR.
			  ○ Site visit analysis memo developed to support selection.
			• Met with decision makers for a viable GHP field demonstration lead.
			  ○ Site is a medical/administration building in Seattle, WA and a visit is scheduled for early Q2.
			• Leveraging various recruitment strategies, resulting in additional leads and ongoing engagement with respective market actors.

Model and lab test gas heat pump technology and dual-fuel configurations to further inform value proposition and savings potential.	Complete modeling effort and initiate performance validation lab tests (Threshold: Complete modeling effort)	On Target	• Expecting final modeling results by mid-Q2. ○ Energy modeling focused on simulating the performance of various commercial water heating technologies in select building types across climate zones.

2025 Goal	Key Success Metric	Status	Progress and Next Steps
Complete Market Characterization of Commercial Water Heating Systems in Select North American Regions in partnership with Canadian and U.S. Utilities	Complete study and receive final reports by EOY (Threshold: Complete study by EOY)	On Target	• Limited RFP released and shared selected contractor recommendation with North American Gas Heat Pump Collaborative. • "Market Research on Existing Water Heaters in Select Commercial Buildings" final report now available on neea.org.

*Note: Goal 1 language adjusted from 2025 Operations Plan to reflect change in focus. Original language was: *"Engage with manufacturers to influence product design, understand their go-to-market strategies, marketing, and promotion plans, certify and support products, and support midstream training initiatives."*

Activities, achievements, or events

- Visited Noritz and Facilities Research Group to view a restaurant dual fuel demonstration consisting of gas tankless water heaters and an electric heat pump. We toured their facilities and discussed collaboration opportunities.
- Visited GTI to tour facilities, view ongoing tests, and discuss project updates and potential future testing.
- Onsite with MacDonald Miller to discuss field demonstration collaboration opportunities.
- Visited Proctor Sales warehouse in Wilsonville, OR to attend a presentation and view GHP stock.

Efficient Rooftop Units (Efficient RTUs)

2025 Goal	Key Success Metric	Status	Progress and Next Steps

Encourage manufacturers to develop and promote Efficient RTUs for the light commercial market.	Work with a minimum of **four manufacturers** to develop new eligible equipment, two new price points, or two expanded product lines that serve the light commercial market. (Threshold: Work with a minimum of **two manufacturers** to develop new eligible equipment, or one new price point, or one expanded product line that serves the light commercial market.).	On Target	• Greenheck is bringing an RTU line to market in late 2025, early 2026 which will incorporate better cabinet insulation and ERV options. The team will be visiting the factory in Q2.
			• The team traveled to AHR Expo and met with HVAC manufacturers. Of note:
			  ○ Lennox is offering bolt-on ERVs as a factory-supplied option.
			  ○ York/Johnson Controls is offering a "seismic and wind certified" option for their Choice RTU line that will use double-wall cabinet construction.
			  ○ KCC (supplier for Trane Horizon RTUs) is exploring adding a new product line similar to the Horizon.
			• The team is continuing to prioritize collaboration Daikin and Aaon to promote their qualified product lines and provide tools to increase market share in the Northwest.
			• The program team continues to vet the Paragon product line by CaptiveAire to add to the compliant product list. In late 2024, CaptiveAire started offering a "quick ship" option to ship emergency replacement RTUs in 2-3 days, which is an important part of engaging with the replacement RTU market.

Create partnerships and support for efficient RTUs among market actors (manufacturers, manufacturer representatives, distributors, contractors) and utilities across the US and Canada.	By **Q2, six manufacturers/distributors/manufacturer reps** recruited to partner and submit data showing Efficient RTU sales (Threshold: By **Q4 four manufacturers/distributors/manufacturer reps** recruited)	On Target	• Regular meetings with distributors and manufacturer reps are ongoing. • One manufacturers rep has committed to supply 2024 RTU sales data. Team is working on formalizing the data request. • Outreach and Incentive Implementation vendor is providing increased supply chain engagement and is beginning to see more local interest.

2025 Goal	Key Success Metric	Status	Progress and Next Steps
Ensure a clear, cohesive set of value propositions for efficient RTUs throughout the supply chain.	Develop **eight new marketing assets** (trainings, flyers, case studies, etc.) by **Q3 2025**. (Threshold: Develop **six** new marketing assets by **Q4 2025**)	On Target	• Marketing team created a case study for the KBOO radio station project. Case study is posted on BetterBricks. • Program team is working with the High-Performance HVAC team to design a new BetterBricks landing page to direct contractors and building owners to NEEA's options for commercial HVAC. • Marketing Plan for remainder of 2025 being finalized.

Activities, achievements, or events

- The team continues to meet regularly with utilities and efficiency organizations across North America in partnership with CEE's Commercial AC and HP Committee for alignment of RTU efficiency measures across fuel types and climate zones. The project team is developing a roadmap for manufacturers to plan design improvements and will provide alignment on RTU efficiency measures.
- NEEA continues to work on RTU modeling efforts by creating more nationally representative models, such as including more climate zones throughout the United States. This expansion will also involve a more extensive range of packaged rooftop equipment, both electric and natural gas equipment, and a larger set of efficient measures. The goal of broadening the modeling efforts to cover a greater portion of the United States is to enhance our understanding of how measure and tier impacts vary by climate region, which could eventually inform the development of a national program applicable to the RTU market and representative federal efficiency metrics for this product. The work is currently underway and should be completed by Q2 2025.