

# Products Coordinating Committee (PCC)

## Q2 2024 Meeting Agenda



### Day 1

**DATE:** Monday 24<sup>th</sup> June

**TIME:** 12:30 – 4:10 pm Pacific Standard Time

**LOCATION:** Hybrid, NEEA Office (700 NE Multnomah Street, Suite 1300, Portland, OR 97232)

**TEAMS LINK:** [Day 1 - Click here to join the meeting](#) (Meeting ID: 226 545 423 16 | Passcode: ghsbJq)  
(if needed) Call-in audio only: Phone: 971-323-0545 Phone Conference ID: 617 118 923#

**ISCC OBJECTIVE + DESIRED OUTCOME:** Collaboration on coordination and optimization of NEEA programs and related activities by (1) identifying and managing through potential implementation challenges between NEEA and local utility activities, and (2) identifying and seizing leveraging opportunities that can drive amplified market influence.

### Day 1 – Monday, 24 June

(All Times Pacific)

			Page #
12:30 - 1:00 (30 mins)	<b>Welcome, Agenda, Packet Review &amp; Introductions</b>	Anouksha Gardner	1-3
1:00 - 2:30 (90 mins)	<b>Regional Priority Topic</b> <ul style="list-style-type: none"> <li><b>Advanced Heat Pumps</b> – <i>Coordination on planned or ongoing field studies/pilot studies/data collection</i></li> </ul> <p><i>Desired Outcome: Committee members are aware of residential heat pump research and pilot studies conducted by utilities in the region.</i></p>	Suzi Asmus All	5
2:30 – 2:40	<b>BREAK</b>		
2:40 – 4:00 (80 mins)	<b>Regional Roundtable</b> <i>Committee members and NEEA program staff share program and organization updates, highlight areas of possible interest and coordination with others.</i> <p><i>Desired Outcome: All are updated on each other’s activities and better understand what’s happening across the region.</i></p>	All	--
4:00 – 4:10 (10 mins)	<b>Recap, Next Steps, Adjourn</b>	Anouksha Gardner	--

# Products Coordinating Committee (PCC) Q2 2024 Meeting Agenda



## Day 2

**DATE:** Tuesday 25<sup>th</sup> June

**TIME:** 9:30 – 12:00 pm Pacific Standard Time

**LOCATION:** Hybrid, NEEA Office (700 NE Multnomah Street, Suite 1300, Portland, OR 97232)

**TEAMS LINK:** [Click here to join the meeting](#) (Meeting ID: 272 255 437 805 | Passcode: 8aW3Ag) (if needed) Call-in audio only: Phone: 971-323-0545 Phone Conference ID: 865 007 997#

## Day 2 – Tuesday, 25 June

(All Times Pacific)

			Page #
9:30 - 9:45 am (15 mins)	<b>Welcome</b>	Anouksha Gardner	--
9:45 – 11:15 am (90 mins)	<b>Regional Priority Topic</b> <ul style="list-style-type: none"> <li>• <b>Advanced Heat Pumps - Heat Pump Measure Development Updates by Regional Technical Forum (RTF)</b></li> </ul> <i>Desired Outcome: Committee Members are updated on RTF measure development activities</i>	Suzi Asmus RTF Staff	6
11:15 – 11:25 am	<b>BREAK</b>	All	
11:25 – 11:35 am (10 mins)	<b>Q3 Topic Check In</b> <ul style="list-style-type: none"> <li>• <b>Heat Pump Water Heaters</b></li> <li>• <b>Any additional relevant topics</b></li> </ul> <i>Desired Outcome: Committee members confirm there is enough interest in this topic to hold time on the Q3 agenda and to invite any other relevant topics.</i>	NEEA Staff	--
11:35 – 11:55 am (20 mins)	<b>Coordinating Committee Assessment</b>	Alisyn Maggiora Anouksha Gardner	7-8
11:45 - 11:55 am (10 mins)	<b>Housekeeping</b> <ul style="list-style-type: none"> <li>• Announcements &amp; Upcoming Meetings/Events</li> </ul>	Anouksha Gardner	--
11:55 – 12:00 pm (5 mins)	<b>Recap, Next Steps, Adjourn</b>	Anouksha Gardner	--

# Memorandum- *Agenda Items*



June 10<sup>th</sup>, 2024

TO: Products Coordinating Committee (PCC)

FROM: Anouksha Gardner, Stakeholder Relations Manager

SUBJECT: **Meeting Packet Agenda Items. Informational Updates and Additional Information**

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## MEETING PACKET APPROACH

This packet continues the “tiered” approach:

- Tier-1 memos for active agenda items
- Tier-2 memos for informational updates on items not currently requiring agenda time.
- Tier-3 materials provided as additional detail for those interested, accessible via links in the Tier 1 and Tier-2 memos. All other Tier 3 materials are listed below.

## AGENDA ITEMS (Tier 1)

- Page 1-2: Meeting Agenda
- Page 3: Meeting Packet Information
- Page 4: Topic Preparation Highlights
- Page 5: Memo: Regional Priority Topic Advanced Heat Pumps – Coordination on planned or ongoing field studies/pilot studies/data collection
- Page 6: Memo: Regional Priority Topic - Heat Pump Measure Development updates by Regional Technical Forum (RTF)
- Page 7-8: Memo: Coordinating Committee Assessment
- Page 9: Memo: Q3 Heat Pump Water Heaters Regional Priority Topic Check In

## INFORMATIONAL UPDATES (Tier 2)

- Page 10: Electric Portfolio, 2024 Flowchart
- Page 11: 2024 Products Coordinating Committee Annual Workplan

## PROGRAM ACTIVITY REPORTS

- Page 12-15: Heat Pump Water Heater
- Page 16-20: Advanced Heat Pumps
- Page 21-24: Retail Products Portfolio
- Page 25-28: High-Performance Windows

## ADDITIONAL LINKS (Tier 3)

- Committee Materials (*meeting notes include links to recordings, packet, and slides*)
  - Q2 2024 ISCC [Agenda Packet](#), and [Slides](#)
  - Q1 2024 PCC [Meeting Notes](#), [Agenda Packet](#), and [Slides](#)
  - 2024 Workplan: [Integrated Systems \(ISCC\)](#) | [Products \(PCC\)](#)
  - Charters: [RPAC](#), [ISCC](#), [PCC](#)
- [Q1 2024 Market Research and Evaluation Newsletter](#)
- [Q1 2024 Emerging Technology Newsletter](#)
- [Q1 2024 Codes, Standards and New Construction Newsletter](#)

# PCC Q2 2024 – Meeting Topic Preparation Highlights



## Preparation for All Committee Items:

- Review packet, including agenda, informational updates and all memos. See additional preparation for specific agenda items below.

### Day 1

#### ➤ REGIONAL PRIORITY TOPIC for Advanced Heat Pumps

##### *Committee Research Share-out*

*Topic format is expected to be a share-out from Committee Members on recently completed, planned or ongoing field studies, pilot projects or data collection related to residential heat pumps*

Review Tier 1 memo on p.5 and **come prepared to:**

- (1) Learn more about the work, objectives, findings, timelines, outcomes, and find common objectives in the respective research from presenting committee members.
- (2) Some desired outcomes for the presentation will include:
  - ✓ Regional awareness of heat pump research and pilots that may help inform committee member program management.
  - ✓ Gain valuable input and feedback on research from peers.

#### ➤ ROUNDTABLE

Committee Members & NEEA Program Managers will share highlights from their work, programs and/or organization since the June meeting.

*Specific topics for Committee Members to consider highlighting include:*

- Questions/thoughts on NEEA program activity reports
- Program and organizational updates
- Any questions of your peers?

### Day 2

#### ➤ REGIONAL PRIORITY TOPIC for Advanced Heat Pumps *Heat Pump Measure Development updates by Regional Technical Forum (RTF)*

*Presentation from Regional Technical Forum (RTF) staff on the work they are doing to update their residential heat pump measures.*

Review Tier 1 memo on p.6 and **come prepared to:**

- (1) Bring questions for the RTF staff about their residential heat pump measure work.

#### ➤ REGIONAL TOPIC CHECK-IN FOR Q3 *Heat Pump Water Heaters*

*A review of the regional priority topics slated for Q3 (12<sup>th</sup> September) 2024 and check-in regarding committee collaborators and relevance of topic.*

Review Tier 1 memo on p.9 and **come prepared to:**

- (1) Hear asks from our Program managers for data and co-collaborators
- (2) Bring any Ad-hoc topics you'd like to discuss in Q3

# Memorandum – Agenda Item (Tier 1)

June 10<sup>th</sup>, 2024

TO: Products Coordinating Committee  
 FROM: Suzi Asmus, Senior Program Manager, Advanced Heat Pumps  
 SUBJECT: Advanced Heat Pumps – Committee Research Share-out

## Our Ask of You:

**Review the information below** and reach out to [Suzi Asmus](#) if you have questions or if you have research or pilot projects to share with the committee during the Q2 meeting and haven't already confirmed this with Suzi. Members are welcome to submit slides to accompany their share out. Please submit these by June 19 to [Suzi Asmus](#). Members are also invited to bring questions for the group that will help you inform your work further.

## Brief Overview:

### Preparation for the Q2 Products Coordinating Committee Topics:

Per the [2024 PCC workplan](#), NEEA program staff and committee members will share with one another any recently completed, planned, or ongoing field studies, pilots or data collection related to residential heat pumps. In the March PCC meeting, members indicated they have heat pump research on cold climate, extended capacity, peak capacity, and load efficiency to share. These and other heat pump areas of focus are welcome.

The Committee will use this time in June to share work, objectives, findings, timelines, outcomes, and to learn from one another or find common objectives in their respective research. Those presenting are also encouraged to bring questions for the group that will help you inform your work further.

## Desired Outcomes:

1. Regional awareness of heat pump research and pilots that may help inform committee member program management.
2. Committee members conducting research and pilots can gain valuable input and feedback on their research from peers.

Please contact [Suzi Asmus](#) if you have questions about this memo.

## PROGRAM LIFECYCLE STATUS



# Memorandum – Agenda Item (Tier 1)



June 10<sup>th</sup>, 2024

TO: Products Coordinating Committee  
FROM: Suzi Asmus, Senior Program Manager, Advanced Heat Pumps  
SUBJECT: Residential Heat Pumps – Regional Technical Forum Heat Pump Measure Updates

**Our Ask of You:**

Review the information below and reach out to [Suzi Asmus](#) if you have questions. The Committee members are invited to bring questions for the RTF staff about their residential heat pump measure work.

**Brief Overview:**

During the Q1 2024 Products Coordinating Committee meeting, members expressed interest in inviting Regional Technical Forum (RTF) staff to present on their work updating residential heat pump measures. RTF staff have agreed to present and will host a dialogue on the topic.

In November 2023, NEEA hosted an Advanced Heat Pump Charette to explore new and changing opportunities for residential heat pump programs in the Northwest. RTF staff attended the charette to inform their 2024 workplans with the Air Source Heat Pump Subcommittee and building a roadmap to update residential heat pump measures. (If you missed the Charette Key Takeaways webinar in February, you can watch [it here.](#))

On March 15 the RTF presented to, and solicited feedback from, the [Air Source Heat Pump Subcommittee](#) on the technical details of residential centrally ducted air source heat pump conversions from electric forced air furnaces measures. Results of this subcommittee meeting were then reported out at the April 23 RTF meeting. You can find the presentation [here.](#)

Please contact [Suzi Asmus](#) if you have questions about this memo.

**PROGRAM LIFECYCLE STATUS**



# Memorandum – *Agenda Item (Tier 1)*



June 10<sup>th</sup>, 2024

TO: Products Coordinating Committee (PCC)  
FROM: Anouksha Gardner & Alisyn Maggiora, Stakeholder Relations  
SUBJECT: NEEA’s 2024 Coordinating Committee Assessment

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**Our Ask of You:**

Review the following coordinating committee assessment and come prepared to discuss the opportunities for improvement presented below.

**Background:** In 2019, the alliance conducted a streamlining effort that transitioned NEEA’s three sector advisory committees into two coordination committees. Since that time, continuous improvement efforts have continued year-over-year leading to more streamlined meetings and the introduction of an annual planning process to co-create regional priority topics and increase value exchange.

As part of NEEA’s 2024 Stakeholder Satisfaction Survey, respondents were asked to provide input on the overall effectiveness of the coordinating committees and to identify further opportunities for improvement. NEEA staff also solicited one-on-one input from both committee members and other NEEA staff who contribute to coordinating committee meetings. Overall, stakeholder feedback on the committee process was very positive. However, there were some areas identified for further improvement related to meeting timing, length and materials.

**Opportunities for Continuous Improvement in the Coordinating Committee Process:**

Based on stakeholder input, NEEA staff have identified some potential improvements to the coordinating committee process for members to consider. Any changes aligned on by coordinating committee members would be implemented in 2025. Potential improvements include:

- Reducing meeting frequency – propose shifting from four meetings to three per year.
- Increasing flexibility within meeting agendas by adding more time for ad hoc topics, including those more broadly related to market trends or utility needs.
- Ensuring one hybrid meeting each year for each committee.
- Discussing ways to streamline the packets.
- Officially adopting a sector-based structure for the coordinating committees (i.e., residential and commercial/ industrial) to better align with the organizational structure within utilities. Note: with recent changes to program assignments, the committees are technically organized into residential and commercial groups right now, which NEEA calls ‘Products’ and ‘Integrated Systems.’ A name change may also be proposed as a result.

In developing these potential changes, staff applied the following guiding principles.

- Committee meetings should continue to prioritize regional convening as well as identifying coordination opportunities for NEEA and utility staff.
- Any recommended changes should not require additional time commitments from committee members beyond current topic coordination approaches.
- The committee structure should prioritize having the right people in the room.
- NEEA staff should remain flexible and maintain a flexible process to adapt to changing realities throughout the year.

**Next Steps:**

Time	Task
May/June	Discuss assessment insights and share proposed improvements with coordinating committees
June/July	Internal recommendation review/feedback; <b>CC members discuss w/ Anouksha in 1:1s</b>
August 22	Present proposal to RPAC for consultation and feedback
August/September	Share RPAC feedback; confirm final adjustments w/ coordinating committees
November/December	Share final proposed changes to implement in 2025 with RPAC

Please contact [Alisyn Maggiora](#) or [Anouksha Gardner](#) if you have questions about this memo.



# Memorandum – Agenda Item (Tier 1)

June 10<sup>th</sup>, 2024

TO: Products Coordinating Committee  
FROM: Emily Rosenbloom, Sr. Program Manager, Heat Pump Water Heaters (HPWH)  
SUBJECT: Check-in on HPWH Agenda Topic for Q3

**Our Ask of You:**

Review the brief overview below and confirm interest in this topic for the Q3 agenda. If there is another topic related to HPWH that is of greater importance to you, please provide that feedback in the meeting or direct to [Emily Rosenbloom](#).

**Brief Overview:**

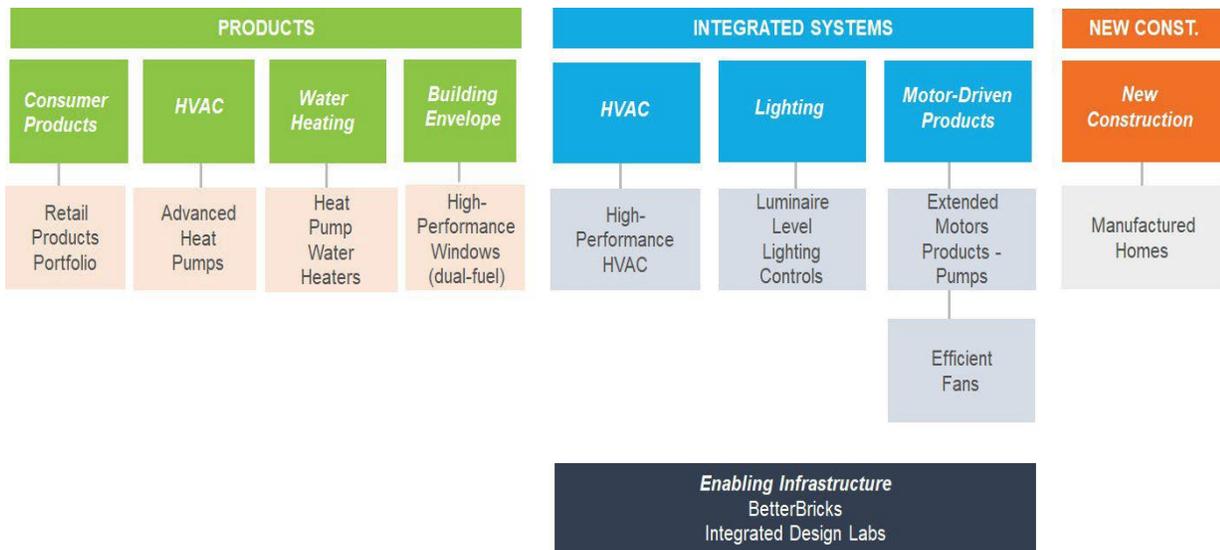
Installer awareness across the four states plays a critical role in increasing consumer adoption of HPWHs. While recent findings from Market Progress Evaluation Report (MPER) #7 show that installers are increasingly aware of HPWHs. A key element in preparing for the updated water heating standard is continuing to build Northwest installer and Do-It-Yourself audiences’ familiarity and technical capabilities with installing HPWHs. Per the [2024 PCC workplan](#), NEEA staff are prepared to share out on current market activities targeting this barrier while also inviting others to share out on relevant activities, research and pilots.

Please contact [Emily Rosenbloom](#) if you have questions about this memo.

**PROGRAM LIFECYCLE STATUS**



# Electric Portfolio, 2024



# Products Coordinating Committee (PCC) 2024 Annual Workplan

Link: [Products Coordinating Committee Annual Workplan](#)

## Products Coordinating Committee 2024 Annual Workplan

### Snapshot of Regional Priority Topics

*Click on the dates in the table heading to review additional details*

Q1 Meeting 21 <sup>st</sup> March, Thursday	Q2 Meeting Day 1 24 <sup>th</sup> June, Monday	Q2 Meeting Day 2 25 <sup>th</sup> June, Tuesday	Q3 Meeting 12 <sup>th</sup> September, Thursday	Q4 Meeting Day 1 3 <sup>rd</sup> December, Tuesday	Q4 Meeting Day 2 4 <sup>th</sup> December, Wednesday
<a href="#">WATER HEATING: Heat Pump Water Heaters (HPWH)</a>  <b>Inform from NEEA</b> <b>Topic:</b> Customer Messaging to Support Consideration Marketing Campaign <i>(45 minutes)</i>	<a href="#">HVAC (Residential) Advanced Heat Pumps</a>  <b>TOPIC:</b> Coordination on planned or ongoing field studies/pilot studies/data collection. <i>(90 minutes)</i>	<a href="#">HVAC (Residential) Advanced Heat Pumps</a>  <b>TOPIC:</b> Overall future of heat pump rebate offerings <i>(60-90 minutes)</i>	<a href="#">WATER HEATING: Heat Pump Water Heaters (HPWH)</a>  <b>Topic:</b> How to increase Installation Competency (this encompasses both the DIY audience & contractors) <i>(60-90 minutes)</i>	<a href="#">CONSUMER PRODUCTS: Retail Products Portfolio (RPP)</a>  <b>Topic:</b> ENERGY STAR and affordability: Present findings from research on pricing differentials between ENERGY STAR and non-ENERGY STAR products in the refrigerator, clothes washer and clothes dryer categories and, if needed, strategies to address these differentials. <i>(60 minutes)</i>  <a href="#">HVAC (Residential) Advanced Heat Pumps</a>  <b>TOPIC:</b> Coordination on Installer Training content/requirements <i>(TBD)</i>	<a href="#">Annual Planning Session either in 2024 Q4's Day 2 or 2025 Q1</a>

## PCC Q2 2024 HEAT PUMP WATER HEATERS (HPWH) ACTIVITY REPORT

### KEY UPDATES:

- **PROGRAM:**
  - Announced [Hot Water Innovation Prize](#) at ACEEE Hot Water Forum.
  - [DOE Published a final rule](#) to the Consumer Water Heater Standard. The updated standard will apply to all manufactured product beginning in 2029 and will transition the majority of electric storage water heaters to heat pump technology.
- **MARKET RESEARCH:** Staff response was amended to Market Progress Evaluation Report #7. The staff response memo highlights key findings and how they will be incorporated into current and planned program activities.
- **TECHNOLOGY RESEARCH:** Several new products are coming to market and have submitted product assessment data sheets for inclusion on the Advanced Water Heater Specification (AWHS) QPL. These products include both unitary and split systems.

### RESOURCES FOR UTILITIES:

- [Advanced Water Heater Specification](#)
- [Qualified Products List](#)
- [Training](#) Tools
- [Sales and Marketing](#) materials

Program Overview	
Program Manager	Emily Rosenbloom
Product Group	Water Heating
MT Goal	Influence adoption of a federal standard Final Rule requiring HPWHs for all electric storage tanks 40 gallons or larger by 2025, ensuring HPWH is the dominant technology for electric water heating for tanks 40 gallons or greater.
Program Status	<ul style="list-style-type: none"> <li>• Market Development (2014-current)</li> <li>• <a href="#">Market Progress Evaluation Report #7</a></li> </ul>
Product Description	Storage electric water heaters utilizing heat pump technology
Sector(s)	Residential
Target Market(s)	
Key Market Actors	<ul style="list-style-type: none"> <li>• Manufacturers of water heaters</li> <li>• Distributors</li> <li>• Retailers</li> <li>• Contractors</li> <li>• Installers</li> <li>• Homeowners</li> <li>• Electric Utilities</li> </ul>
Implementation Contractors	<ul style="list-style-type: none"> <li>• Evergreen Energy Partners</li> <li>• C+C</li> <li>• Energy350</li> <li>• Summit Conservation Services</li> </ul>

## GOAL 1) Increase installer experience and confidence with installing HPWHs in retrofit and emergency installations.

### Recent Progress

- Through May, The Program delivered twelve technical in-person HPWH trainings to over 140 individual installers. The trainings covered installers in Idaho, Montana, Oregon, and Washington. Many of the trainings were delivered in collaboration with local utilities and others were delivered at contractors' offices/shops and followed a more casual "shop talk" format.
- Finalized Key Installer Benefits, developed market facing collateral and developed outreach plans. The three offerings as part of the Key Installer offering are:
  - Fully paid HPWH installation for a customer or employee for the purposes of training.
  - Stocking incentive to encourage installers to have on hand HPWHs for emergency replacements.
  - Call back fund to help reticent installers feel comfortable specifying a new product knowing that the program will support them in the unlikely event of a call back.
- Began revisions for the installer side of HotWaterSolutionsNW.org, including conducting research and starting development of the new user experience (UX) design with the objective of increasing installer confidence in (and comfort with) installing HPWHs.
- Delivered seven newsletters to installers and distributors across the region. Newsletters covered the following topics; Proper sizing HPWH, HPWH tiers explained, Using Yellow Energy Guide Labels as a sales tool, Recommended installation location by region, HPWH Myth Busters, Case study for incorporating HPWH as a successful business model

### What's Ahead

- Recruit Installation companies to participate in the Key Installer offering. The Program aims to recruit 20 companies across the four-state region. Recruitment is in part being conducted in collaboration with regional distributors and also through outreach efforts led by Evergreen Energy Partners on behalf of Hot Water Solutions.
- Conduct outreach to technical high schools and community colleges to evaluate opportunity to incorporate Hot Water Solution HPWH training into current curriculum.
- Review technical resources on the installer side of HotWaterSolutionsNW.org for update when new installer website launches in Q4.
- Continue to deliver monthly newsletter to installers and distributor partners

### Coordination & Leveraging Opportunities

- Continue to coordinate with utilities on regional trainings and recommendations for Key Installer participants.

## GOAL 2) Prepare for DOE's new consumer water heater standard final rule and continue efforts to reduce barriers to market acceptance of the new standard.

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>• NEEA and contracted subject matter experts reviewed the DOE Consumer Water Heater Final Rule to identify key elements and areas to seek clarification from DOE.</li> <li>• Developed presentation material for regional webinar to explain standard final rule to funders and key regional stakeholders. Webinar schedules for June 18<sup>th</sup>.</li> <li>• Drafted info sheets for target market actors (installers, distributor partners and utilities) to explain final rule, the benefits to their business/line of work, and the impact to the Northwest.</li> <li>• Developed interview guide to complete with Key Installers after they have completed a fully paid for installation to better understand their experiences with straightforward HPWH installations.</li> <li>• Developed creative, messaging and presented proposed consumer consideration RPAC for vote in May.</li> </ul>	<ul style="list-style-type: none"> <li>• Finalize and distribute Water Heater Standard info sheets to identified stakeholders.</li> <li>• Begin scoping future research with installers to continue to investigate and measure installer motivations for workarounds, what workarounds installers use – and why they chose to do so.</li> <li>• Deploy consumer consideration campaign in July and track performance metrics to optimize impact throughout the four-month campaign period.</li> </ul>	<ul style="list-style-type: none"> <li>• Participate in webinar on June 18<sup>th</sup>. Provide feedback to the Program about additional resources that would aid in understanding the Final Rule. Email <a href="mailto:productcouncil@neea.org">productcouncil@neea.org</a> for invitation.</li> </ul>

### KEY 2024 OPERATIONS PLAN ACTIVITIES

Click [here for link](#) to current Operations Plan (pg 87-92)

### GOAL 3) Improve product suitability for challenging installations and customer acceptance.

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>• Compiled industry feedback to proposed changes of the Advanced Water Heating Specification. Changes to the residential portion of the specification were minimal. Significant changes for the commercial side include streamlined listing of commercial HPWHs (CHPWHs), alignment with Regional Technical Forum (RTF) requests, and inclusion of a pathway for integrated CHPWHs.</li> <li>• Announced Hot Water Innovation Prize at Hot Water Forum in Atlanta. Networked with potential Hot Water Innovation Prize funders and manufacturer participants, including Rheem, AO Smith, and Bradford White.</li> </ul>	<ul style="list-style-type: none"> <li>• Respond and incorporate feedback from industry. The finalized specification AWHs v8.1 will be posted and become active in July.</li> <li>• Complete Hot Water Innovation Prize guidebook and rules document. Conduct informational webinar for interested Manufactures in June and co-funders in August.</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

## Position in NEEA's (Program) Initiative Lifecycle



## MARKET ACTORS AND TIMING

		Market Actors										
		Manufacturers	Manuf Reps/ Sales Agencies	Distributors	Retailers	Builders/ Developers	Contractors/ Installers	Architects/ Engineers	Designers/ Specifiers	End Use Customers/ Building Owners & Managers	Other (specify)	Utility Role
Key Program Activities	Lab & Field Testing											
	Data Collection & Assessment	Q1-Q4		Q1-Q4			Q1-Q4					Q4
	Incentives									Q2-Q4		Q2-Q4
	Market Channel Dev	Q1-Q4	Q1-Q4	Q1-Q4	Q3-Q4		Q1-Q4					
	Market Evaluation											
	Market Research											
	Marketing		Q1-Q4	Q3-Q4			Q3-Q4			Q3-Q4		Q3-Q4
	Technical Support			Q1-Q4			Q1-Q4					
	Training			Q1-Q4			Q1-Q4					Q1-Q4
	Technical Research											
Other (specify)												

= Potential Coordination Opportunities (see Coordination & Leveraging Opportunities on p.2-3 for details)

# PCC Q2 2024 ADVANCED HEAT PUMP ACTIVITY REPORT

## NEEA IDENTIFIED COORDINATION & LEVERAGING OPPORTUNITIES SUMMARY (SEE P. 2-3 FOR DETAILS)

- ❖ [Join](#) an Advanced Heat Pump Coalition working group to participate in conversations with national partners and utility programs.
- ❖ Reach out to NEEA to learn more about how heat pump improvements like cold climate, low load efficiency and minimizing supplemental heat improvements can benefit utility program goals
- ❖ If you are interested in the connected commissioning technical or program discussions, contact Program Manager [Suzi Asmus](#).

## KEY UPDATES

- **PROGRAM:** On April 4, 2024, the U.S. Department of Energy (DOE) issued a Notice of Proposed Rulemaking (NOPR) proposing to amend the Federal test procedure for central air conditioners and heat pumps (CAC/HPs) to incorporate by reference the industry standards recommended last summer by AHRI’s Unitary Small Equipment Standards Technical Committee (USE STC). NEEA contributed to the technical committee and to the proposed changes.
- Low Load Efficiency research study completed. and Product Manager, Christopher Dymond presented results at the April 2 Product Council meeting. Find the recording [here](#). The proposed metric was confirmed as best indicator of part-load performance. “Virtual teardown” revealed no clear incremental cost impact of superior part-load performance.
- The Rating Representativeness Phase 2 lab testing completed. Results show load-based testing is superior to current AHRI metrics, but unclear if load-based testing is justifiable as a federal standard.

## RESOURCES FOR UTILITIES:

- Check out the [Quality Installation Best Practices](#) resources developed by Consortium for Energy Efficiency and co-funded by NEEA.
- [NEEP Cold Climate ASHP Product List](#)
- April 2 Product Council recorded [presentation](#) on Advanced Heat Pump Low Load Efficiency improvement updates.
- NEEA’s heat pump reports on [NEEA.org/resources-reports](#)

Program Overview	
Program Manager	Suzi Asmus
Product Group	HVAC
MT Goal	By 2030 the average residential and small commercial HVAC system installed in NW is 30% more energy efficient than the average system installed in 2020 through improved standards, ratings, and EnergyStar specifications, and through new product improvements that reduce dependence on contractor practices.
Program Status	Market Development (August 2023)
Product Description	Variable speed air source heat pumps (2 or more speeds), available in several system configurations: central forced air, ductless, whole home multi split, micro, manufactured home packaged, packaged terminal and dual fuel. Systems must: 1) Meet EPA ENERGY STAR v6.1 certification requirements for heat pumps 2) Include one or more efficiency improvement
Sector(s)	Residential
Target Market(s)	All residential heat pump sales ≤65,000Btu
Key Market Actors	<ul style="list-style-type: none"> <li>• National and other extra-regional efficiency partners</li> <li>• HVAC manufacturers</li> <li>• HVAC distributors</li> </ul>
Implementation Contractors	<ul style="list-style-type: none"> <li>• Cadeo Group</li> </ul>
Program Partners	<ul style="list-style-type: none"> <li>• AHRI, BC Hydro, CEE, CSA, DOE, EnergyStar, EPA, Lincoln Electric System, Mass Save, MEEA, MN CEE, NEEP, NRCAN, NYSERDA, ORNL, PG&amp;E, PNNL, Purdue University, Southern California Edison, UL, Xcel Energy</li> </ul>

**KEY 2024 OPERATIONS PLAN ACTIVITIES** – click [here](#) for link to current Operations Plan (p 57-60)

In 2024, the program team is continuing its focus on improving standards and ratings, working with manufacturers to build in product improvements to increase installed efficiency, and reduce reliance on contractor practice. The program team is continuing validation work on identified improvements and building national alignment around identification, differentiation, and wider adoption of these advanced heat pumps.

**GOAL 1) Increased national partner alignment on advanced heat pumps strategy**

**Target: Program and policy thought leaders participation from NW, East, Midwest, California, Canada, and national partners (Participation could include: Active participation in Advanced Heat Pump Coalition, clear alignment with NEEA for public rulemakings, RTF measure updates, CEE Tier changes, research co-investment)**

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>• NEEA collaborated with northwest utilities and Regional Technical Forum staff on identifying regional cold climate heat pump measure priorities.</li> <li>• Air-Conditioning, Heating, and Refrigeration Institute (AHRI) members convened and collaborated on addressing Low Load Efficiency, Connected Commissioning, and No Duct Losses.</li> <li>• Advanced Heat Pump Improvement education and presentations given at: Air Conditioning, Heating and Refrigeration Expo, Dry Climate Forum, National HVACR Educators and Trainers Conference, Efficiency Exchange 2024, Utility Energy Forum, NEEA Product Council, and ad hoc presentations with northwest and extra regional utilities.</li> <li>• In Q1 2024, Consortium for Energy Efficiency Residential HVAC Committee members supported several proposals in alignment with NEEA for updating the tax credit tier to recommend to the Board for approval. These proposals include: 1. Require OpenADR or CTA2045. 2. Replace Northern and Southern tax tiers with one national Tier, 4. Remove the 17F capacity ratio option from Cold Climate tier.</li> </ul>	<ul style="list-style-type: none"> <li>• NEEA will continue to collaborate with utilities, efficiency partners and the Regional Technical Forum to align on regional priorities for residential heat pump measures.</li> <li>• NEEA is establishing collaboration with Air Conditioning Contractors of American (ACCA), New York State Energy Research and Development Authority (NYSERDA), Pacific Northwest National Laboratory (PNNL), U.S. Department of Energy, National Renewable Energy Laboratory (NREL), Oak Ridge National Laboratory (ORNL) and eight heat pump manufacturers to form a technical working group to define what a sufficient connected commissioning system should include and what a commissioning report should provide.</li> <li>• NEEA and Northeast Energy Efficiency Partnerships (NEEP) are engaging AHRI on publishing certified heat performance data currently voluntarily reported on the NEEP cold climate air source heat pump list.</li> <li>• CEE will consult industry partners in Q3 2024 on new tax credit tier criteria and Board will vote in Q4 2024.</li> </ul>	<ul style="list-style-type: none"> <li>❖ <a href="#">Join</a> an Advanced Heat Pump Coalition working group to participate in conversations with national partners and utility programs.</li> </ul>

**GOAL 2) Advanced validation of prioritized improvements**  
**Target: Validate energy savings and cost for LLE and CCC**

### Recent Progress

- Low Load Efficiency research study completed. and Product Manager, Christopher Dymond presented results at the April 2 Product Council meeting. Find the recording [here](#). The proposed metric was confirmed as best indicator of part-load performance. “Virtual teardown” revealed no clear incremental cost impact of superior part-load performance.
- The Rating Representativeness Phase 2 lab testing is complete. Results show load-based testing is superior to current AHRI metrics, but it is unclear if load-based testing is justifiable as a federal standard.
- Cold climate heat pump data analysis from BPA’s High-Performance High-Capacity Heat Pump field testing has begun. NEEA will use this data to inform quantifying part load efficiency and identifying strategies for minimizing use of electric resistance heat.

### What’s Ahead

- NEEA will be conducting Low Load Efficiency lab testing during summer 2024. Six units will be tested in UL labs. Testing includes units from LG, Lennox, Midea, Mitsubishi, Fujitsu and Daikin
- NEEA is continuing to develop a base case heat pump performance field test project.
- NEEA is convening stakeholders to define connected commissioning. A technical group with manufacturer partners and broader efficiency program group with regional and national partners.

### Coordination & Leveraging Opportunities

- ❖ If you are interested in participating in the connected commissioning technical or program discussions, contact Program Manager [Suzi Asmus](#).

**GOAL 3) NEEA improvements begin being adopted into federal test procedure and other national standards and specifications.**  
**Target: US Department of Energy publishes new test procedure that includes elements of the load-based and climate-specific testing and rating procedure**

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>With NEEA's influence, in 2023, AHRI's Unitary Small Equipment Standards Technical Committee (USE STC) (see Goal 1 above) included in their proposed changes to the test procedure and rating standard elements four of NEEA's identified improvements: adaptive defrost, standby losses, crankcase heater and low load efficiency. In April 2024, The US Department of Energy issued a Notice of Proposed Rulemaking to adopt the AHRI proposed changes. NEEA and other AHRI committee members submitted comment letters of support by June 4.</li> <li>At the January 2024 Consortium for Energy Efficiency (CEE) meeting, ResHVAC committee agreed to draft revised tax credit level specifications to include the following recommendations supportive of NEEA's program: 1. Require OpenADR or CTA2045. 2. Replace Northern and Southern tax tiers with one national Tier, 4. Remove the 17F capacity ratio option from Cold Climate tier.</li> <li>NEEA provided comments to EPA on the update of the ENERGY STAR Most Efficient 2024 heat pump criteria to align with CEE (see above).</li> </ul>	<ul style="list-style-type: none"> <li>The U.S Department of Energy will likely issue a Notice of Proposed Rulemaking for federal minimum efficiency standards in Q3 2024. NEEA will submit a comment letter and coordinate with other advocates and manufacturers.</li> <li>NEEA is participating in the U.S. Department of Energy development of concepts for supporting connected commissioning research and certification.</li> <li>NEEA will continue to support RTF in updating and creating new heat pump measures.</li> </ul>	<ul style="list-style-type: none"> <li>❖ Reach out to NEEA to learn more about how heat pump improvements like cold climate, low load efficiency and minimizing supplemental heat improvements can benefit your 2024 program goals</li> </ul>

### Program Lifecycle



## MARKET ACTORS AND TIMING

		Market Actors										Utility Role
		Manufacturers	Manuf Reps/ Sales Agencies	Distributors	Retailers	Builders/ Developers	Contractors/ Installers	Architects/ Engineers	Designers/ Specifiers	End Use Customers/ Building Owners & Managers	Other (EE orgs, DOE, EPA, etc.)	
<b>Key Program Activities</b>	Lab & Field Testing	Q2-Q4									Q2-Q4	Q4
	Data Collection & Assessment Incentives	Q1-Q4	Q1-Q4	Q1-Q4						Q3-Q4	Q1-Q4	Q2-Q4
	Market Channel Dev	Q1-Q4	Q1-Q4			Q1-Q4						
	Market Evaluation											
	Market Research										Q1-Q4	
	Marketing											
	Technical Support	Q1-Q4										
	Training											
	Technical Research	Q1-Q4									Q1-Q4	Q1-Q4
	Other (specify)											

 = Potential Coordination Opportunities (see Coordination & Leveraging Opportunities on p.2 for details)

## PCC Q2 2024 RETAIL PRODUCT PORTFOLIO (RPP) ACTIVITY REPORT

### NEEA IDENTIFIED COORDINATION OPPORTUNITIES SUMMARY (SEE PAGE 4 FOR DETAIL):

- Utilities may offer incentives on RPP products and also have the opportunity to drive awareness through in-store signage.

### KEY UPDATES:

- **PROGRAM:** California Market Transformation Administration launched a pilot using the ESRPP platform in Q2 bringing the U.S. share of households participating in the program to 30.9%.
- **EVALUATION RESEARCH:** A research project on consumer connected products will begin in Q2 focused on consumer attitudes and behaviors with connected consumer products.
- **EMERGING TECH:** The new All-in-One combo washer/dryer units are being incented in the program as of Q2.
- **CODES AND STANDARDS:** DOE finalized a new refrigerator and freezer standard to take effect in 2029 and 2030. The efficiency level was in line with the multiproduct agreement submitted in September by the Association of Home Appliance Manufacturers (AHAM), the Appliance Standards Awareness Project, NEEA and other energy efficiency proponents.

### RESOURCES FOR UTILITIES (available by request):

- RPP 101 slide deck; overview of ESRPP strategies
- Retail sales data by territory for products in the portfolio.

Program Overview	
Program Manager	Anne Brink
Product Group	Consumer Products
MT Goal	Manufacturers respond to market changes and build energy efficiency into product design, creating permanent change to their processes.
Program Status	<ul style="list-style-type: none"> <li>• Market Development (September 2019)</li> <li>• <a href="#">RPP Market Progress Evaluation Report 2</a> complete</li> </ul>
Product Description	RPP offers midstream incentives on a portfolio of consumer products to influence retailer decisions and buying/assortment practices, as well as manufacturer production practices aimed at increasing the energy efficiency, availability, and consumer adoption of products sold via the retail channel. Data received from retailers in exchange for incentive funds leads to the development of individual market transformation strategies for each product category, as well as activities to improve the effectiveness of the initiative theory of market transformation.
Sector(s)	Residential
Target Market(s)	Residential, Mass Markets
Key Market Actors	<ul style="list-style-type: none"> <li>• National retailers</li> </ul>
Data and Channel Support Contractors	<ul style="list-style-type: none"> <li>• ICF</li> <li>• Energy Solutions</li> <li>• Navitas Partners</li> </ul>
Program Partners	<ul style="list-style-type: none"> <li>• EPA ENERGY STAR® Program</li> <li>• Other utilities and efficiency organizations</li> </ul>

**KEY 2024 OPERATIONS PLAN ACTIVITIES** – click [here](#) for link to current Operations Plan (p 74-78)

The Retail Products Portfolio (RPP) Program is a midstream retail program that partners with utility organizations and large retailers around the country to offer incentives for a portfolio of consumer products. In exchange for these incentives, participating retailers provide full-category sales data for each product in the portfolio, which NEEA and partners use to support stricter ENERGY STAR specifications and federal standards.

**GOAL 1) Effectively implement product-specific strategies**

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>□ DOE finalized a new refrigerator and freezer standard to take effect in 2029 and 2030. The efficiency level was in line with the multiproduct agreement submitted in September by the Association of Home Appliance Manufacturers (AHAM), the Appliance Standards Awareness Project, NEEA and other energy efficiency proponents.</li> <li>□ NEEA responded to the EPA's Dryer discussion guide which will influence ENERGY STAR version 2 specifications.</li> <li>• NEEA continued to test heat-pump dryer models.</li> </ul>	<ul style="list-style-type: none"> <li>• Continue testing new heat-pump dryer models.</li> <li>• Submit letter on air cleaner test procedure rule-making.</li> <li>• Completed data gathering for the field laundry study and are anticipating final report in Q3.</li> <li>• Commenting on the EPA's Most Efficient category in Q3.</li> <li>• Continue effective coordination with NEEA Codes &amp; Standards team.</li> </ul>	<ul style="list-style-type: none"> <li>• NEEA has not identified any opportunities at this time.</li> </ul>

**GOAL 2) Explore alternative opportunities to promote efficient TV's.**

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>• The team has analyzed existing data from the new TV test procedure, has developed a logic model and is planning on testing a mid-stream incentive with existing RPP retailers for Q4.</li> </ul>	<ul style="list-style-type: none"> <li>• The team will present a plan to potential retail partners in late Q2/early Q3.</li> </ul>	<ul style="list-style-type: none"> <li>• NEEA has not identified any opportunities at this time.</li> </ul>

**GOAL 3) Grow and strengthen ESRPP program through targeted recruitment and retention activities**

Recent Progress	What's Ahead	Coordination & Leveraging Opportunities
<ul style="list-style-type: none"> <li>• Dominion Energy, North Carolina joined the program Q1.</li> <li>• California MTA joined the program as a pilot in Q2 bringing the program's share of U.S. household participation to 30.9%.</li> </ul>	<ul style="list-style-type: none"> <li>• The program is engaging with several other potential program sponsors including utilities in New Hampshire.</li> </ul>	<ul style="list-style-type: none"> <li>• NEEA has not identified any opportunities at this time.</li> </ul>

**Position in NEEA's (Program) Initiative Lifecycle**



## MARKET ACTORS AND TIMING

		Market Actors						Utility Role
		Retailers	Manufacturers	ENERGY STAR	Extra-regional utilities		Other (specify)	
Key Program Activities	Lab & Field Testing							
	Data Collection & Assessment	Q1-Q4						
	Incentives	Q1-Q4						Q1-Q4
	Market Channel Dev	Q1-Q4	Q1-Q4	Q1-Q4	Q1-Q4			
	Market Evaluation	Q1-Q4		Q1-Q4	Q1-Q4			
	Market Research							
	Marketing							Q1-Q4
	Technical Support							
	Training							
	Technical Research		Q1-Q4					
Other (specify)								

 = Potential Coordination Opportunities (see Coordination Opportunities also noted on p.1)

# PCC Q2 2024 HIGH-PERFORMANCE WINDOWS (HPW) ACTIVITY REPORT

## NEEA IDENTIFIED COORDINATION & LEVERAGING OPPORTUNITIES SUMMARY:

- ❖ Consider direct involvement in Partnership for Advanced Window Solutions (PAWS) utilities working group if you have a strong interest in windows measures at your utility; working group provides connection to other utility program staff and access to program design resources. If you are interested, contact Steve Sylvestre at [ssylvestre@mncee.org](mailto:ssylvestre@mncee.org).

## KEY UPDATES:

- **PROGRAM:** The High-Performance Windows program is not planning any new activities in 2024 (e.g., further recruitment for Volume Builder Project, scaling up market channel activities with manufacturer engagement) to develop the program or prepare for a transition to Market Development. The program is focused on its streamlined goals for 2024 (see pages 2 -3 for more details).
- The [Lennar Case Study](#) posted to BetterBuilt<sup>NW</sup>
- **MARKET RESEARCH:** The [High-Performance Residential Windows Market Share Study](#) has been posted to neea.org.

## RESOURCES FOR UTILITIES:

- [BetterBuilt<sup>NW</sup>: Triple Pane Windows Bring Comfort to the Heart of a Tribal Community](#) (video)
- [Habitat for Humanity Case Study](#)
- [Triple-Pane Windows Flyer](#)
- [Partnership for Advanced Windows \(PAWS\) website](#)
- [PAWS Utility Playbook](#)
- [Storm Window and Insulating Panel Utility Playbook](#)
- [Now is the Time for Advanced Window Solutions](#)

Program Overview	
Program Manager	Tamara Anderson
Product Group	Building Envelope
MT Goal	Over 50% of windows sold in the Northwest have a U-Factor of 0.22 or less.
Program Status	Program Development
Product Description	High performance windows (HPW) are residential primary windows with two or more panes, a U-Factor of 0.22 or less, and a width and weight akin to standard double pane windows, making them easy to install in standard window sash and wall designs.
Sector(s) Target Market(s)	Residential New construction, existing homes, single family, multifamily, manufactured homes
Key Market Actors	<ul style="list-style-type: none"> <li>• Primary window manufacturers</li> <li>• Glass/IGU manufacturers</li> <li>• Residential builders</li> <li>• Window suppliers, distributors, and retailers</li> <li>• Window installers</li> </ul>
Implementation Contractors	<ul style="list-style-type: none"> <li>• none</li> </ul>
Program Partners	<ul style="list-style-type: none"> <li>• Partnership for Advanced Window Solutions (PAWS)</li> <li>• National Fenestration Rating Council (NFRC)</li> <li>• Lawrence Berkeley National Lab (LBNL)</li> </ul>

**KEY 2024 OPERATIONS PLAN ACTIVITIES** – click [here](#) for link to current Operations Plan (p.p. 36-39)

The overall Market Transformation theory focuses first on stimulating national builder and consumer demand for HPWs, which will motivate manufacturers to then meet that demand with scaled production and subsequent price declines. In addition, pushing the ENERGY STAR specification to HPW performance levels will serve as the longer-term diffusion mechanism to reach the large existing home and multi-family window replacement market. Over time, the program will push for HPW performance levels to be included in building codes with the long-term goal of over 50% of windows sold in the Northwest at 0.22 U-Factor or less.

**GOAL 1: Evaluate the alliance’s influence to-date via program efforts and participation PAWS on the market and ENERGY STAR Residential Windows Version 7 Specification.**

Recent Progress	What’s Ahead	Coordination & Leveraging Opportunities
<p>A limited RFP was posted and we’re in the process of choosing the best organization to support this effort, based on the proposals we’ve received.</p>	<p>Project Kick Off will happen in June, with secondary data review and interviews over the summer. The report will be completed by the end of Q3.</p>	<p>We’ll share the results of the study on neea.org.</p>

**Goal 2: Engage major manufacturers and/or window suppliers to acquire sales data and learn about their go-to market strategies for high-performance windows.**

Recent Progress	What’s Ahead	Coordination & Leveraging Opportunities
<p>NEEA is coordinating with Minnesota’s Center for Energy and Environment on national manufacturer engagement to consolidate the asks for data and to maximize the potential of success for both organizations.</p> <p>NEEA is also leveraging the relationship with former program implementer TRC to connect with local window suppliers / distributors for data acquisition.</p>	<p>Future Product Manager will support relationship building with manufacturers as part of overall Building Envelope work.</p>	<p>None at this time.</p>

**Goal 3: Continue the Volume Builder Project and complete an in-progress project with national production builder**

**Recent Progress**

[Lennar Case Study](#) completed and posted on BetterBuilt<sup>NW</sup>.

72 of 100 homes have been completed so far with High-Performance Windows purchased.

**What's Ahead**

Remaining purchases for High-Performance windows for 28 homes are expected to be completed in 2024.

Exit interview is scheduled for Q4 to document lessons learned.

**Coordination & Leveraging Opportunities**

None at this time.

**Program Lifecycle**



## MARKET ACTORS AND TIMING

		Market Actors										Utility Role
		Manufacturers	Manuf Reps/ Sales Agencies	Distributors / Window Suppliers	Retailers	Developers/ Builders	Contractors/ Installers	Architects/ Engineers	Designers/ Specifiers	End Use Customers/ Building Owners & Managers	Window Association	
Key Program Activities	Lab & Field Testing					Q1-Q4						
	Data Collection & Assessment	Q2-Q4		Q2-Q4							Q2-Q4	
	Incentives					Q1-Q4						
	Market Channel Dev					Q1-Q4						
	Market Evaluation											
	Market Research											
	Marketing											
	Technical Support	Q2-Q4				Q1-Q4						
	Training											
	Technical Research											
Other (specify)												
		= Potential Coordination Opportunities (see Coordination & Leveraging Opportunities on p.2-3 for details)										