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November 8, 2022

MEMORANDUM

TO: Council Members

FROM: Kevin Smit, Tina Jayaweera

SUBJECT: Update on NEEA Accomplishments and Plans

BACKGROUND:

Presenter: Susan Stratton, Executive Director NEEA

Summary: The Northwest Energy Efficiency Alliance (NEEA) was created in 1996 to drive market adoption of energy-efficiency products, services, and practices for the benefit of utilities and consumers and the region. NEEA is a vehicle for Bonneville and regional electric and natural gas utilities to band together to produce results that would be difficult to accomplish without the collective voice of 140 utilities and 13 million customers. The scope of NEEA's work includes scanning for emerging technologies, assessing opportunities for market leverage, conducting research and product testing, providing data and analysis for regional and national code and standards organizations, and managing a portfolio of market transformation initiatives for both electric and natural gas energy efficiency.

Susan Stratton will summarize NEEA's accomplishments, both in the past year as well as over its 25-year history, brief the Council on NEEA's 2023 operations plan, and discuss strategic and business planning currently in progress for the 2025-2029 business cycle.

Relevance: Since its creation in 1996, NEEA has delivered over 1,400 aMW of cost-effective energy efficiency through market transformation and the cost of

savings from NEEA programs has been very low – about 2.7 cents per kWh. In addition, the importance of NEEA's work in market research, emerging technologies, and codes and standards are all highlighted in the 2021 Power Plan's Conservation Program.

Background: The creation of the Northwest Energy Efficiency Alliance (NEEA) was the outcome of the 1996 Comprehensive Review of the Power system facilitated by the Council. The region's utilities, Bonneville, and stakeholders decided to band together collectively to drive market adoption of energy efficiency products, services and practices for the benefit of utilities and consumers and the region.

More Info: <https://neea.org/about-neea>



2022 NEEA Annual Update Northwest Power and Conservation Council

Susan E. Stratton

Executive Director, Northwest Energy Efficiency Alliance

November 16, 2022

CLASSIFICATION LEVEL: INTERNAL





Today's Agenda

- Current 2020-2024 Business Plan Progress
- Alliance Portfolio Overview and 2022 Milestones
- 2025 - 2029 Strategic and Business Planning Approach



Big Picture

- The alliance enters 2023 during a very dynamic time for both the economy & the energy sector
- 2023 brings opportunity & some change
- NEEA's electric portfolio trajectory stays strong



Emerging Technology



Emerging Technology



Need to Know

- A significant portion of Emerging Technology takes place within NEEA programs
- Innovation around efficiency is skyrocketing
- Technology features other dimensions of efficiency: decarbonization, grid resilience, and load flexibility



Emerging Technology

Focus Areas

- Continue regional coordination
- Expand extra-regional engagement
- Continue to focus on HVAC & water heating

Key Activities

- Refresh Regional Emerging Technologies Advisory Committee (RETAC) to better support the 2021 Power Plan & track other dimensions of EE important to our funders
- Support program advancements
 - Power Drive Systems
 - Exterior LLLC





Emerging Technology Scanning

- Power drive systems (technical potential, test method, performance spec.)
- Exterior LLC with integrated storage
- High efficiency HVAC
 - Includes ERV/HRV
- Commercial heat pump water heaters
- Variable speed heat pumps
 - Includes advanced capabilities



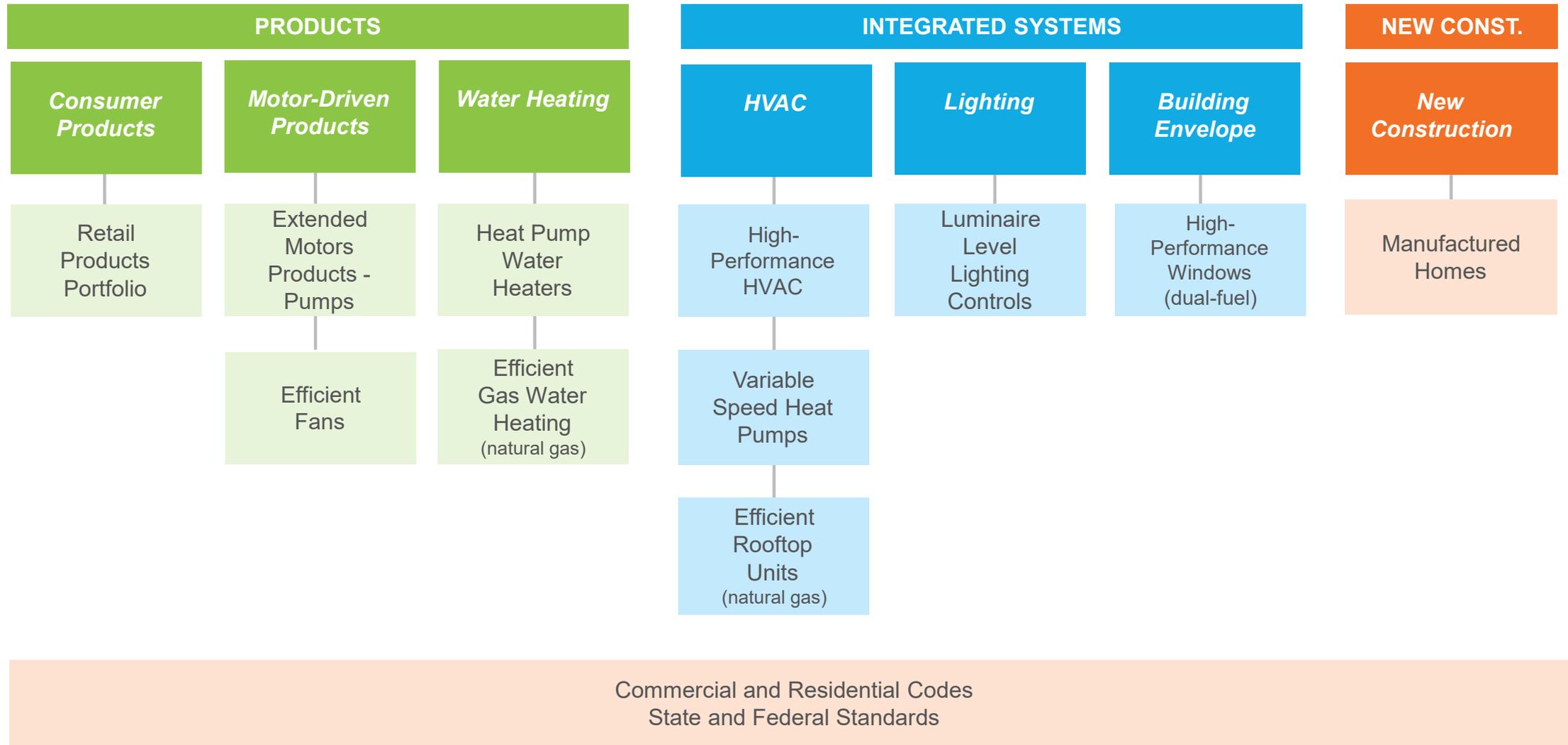


2023 Portfolio Highlights





Market Transformation Portfolio, 2023





Efficient Roof Top Units Move to Market Development

~35%

of the Northwest's heated
commercial building space

240,000+ RTUs



Natural Gas Portfolio

Gas Programs

- Efficient rooftop units
- High-performance windows (dual fuel)
- Efficient gas water heating

Gas Scanning

- Dual fuel (hybrid) residential HVAC
- Commercial gas heat pumps (water heating, space heating or combi applications)
- Residential gas heat pump space heating



HPWH Program Updates

- Sales and installation training expanding; converting to on-demand
- Cold climate installation demonstration recruiting in the field
- HPWH study showing efficiency in small spaces, low-cost interventions for installations





Federal HPWH Updates

- DOE issued proposal to update its test procedure for residential, and residential-duty commercial water heaters
- Update aligns with NEEA test procedure, the Advanced Water Heating Specification, technical and product definitions
- Includes connected water heaters in alignment with alliance's work on CTA 2045



2022 Market Transformation Milestones

We're all
in this
together

ENERGY STAR®



Televisions 9.0



- New TVs specification based on a NEEA-developed new test procedure
- Test procedure supported by manufacturers and the Consumers Technology Association (CTA)
- Specification reflective of actual energy use by TVs, enables NEEA to consider reengaging in incentives through Retail Products Platform in 2023

New HUD Code for Manufactured Homes

- First new energy efficiency standards for manufactured homes in 25 years
- New code largely based on Northwest data and experience



ENERGY STAR®

Windows 7.0

- Windows 7.0 specification includes the first major change in over a decade
- Direct result of NEEA leading PAWS national collaborative efforts around thin triple windows





Heat Pump Water Heaters

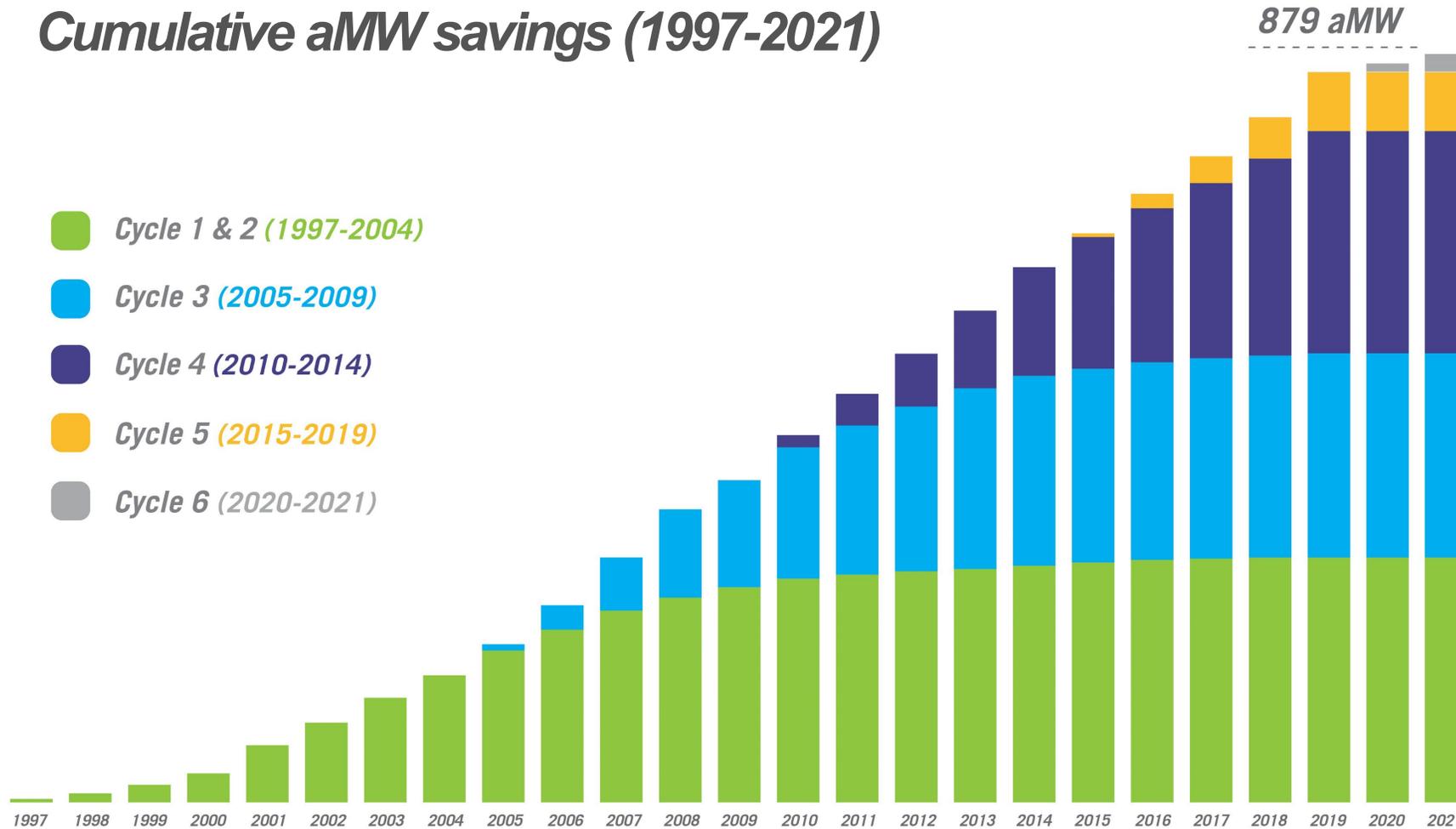
- Participated in joint input to the Federal Standards process
- The joint recommendation included major manufacturers, energy efficiency organizations and a consumer group
- If adopted, majority of electric storage water heaters will transition to heat pump technology and make important improvements to gas-fired water heater efficiency





Market Transformation Creates Long-Term Savings

Cumulative aMW savings (1997-2021)



879 aMW



End Use Load Research (EULR) and Building Stock Assessments





Northwest End Use Load Research (EULR)

- 374 homes across the Northwest installed; goal of 400 homes by year end
- 54 office and retail commercial buildings installed to date, including some high rise—70-100 to be completed in 2023
- Council and RTF are evaluating 15-minute public data for their workplan
- Load shapes demonstrate changes for COVID from beginning to present
- Metering of end uses includes items of interest for electrification: HPs, HPWHs, EVs





Residential Building Stock Assessment

- Single family site visits concluding early November
- Multi-family recruiting continuing into Q1 2023 because of COVID delays
- Data and reports publishing on [neea.org](https://www.neea.org) mid-2023





Commercial Building Stock Assessment

- NEEA conducts CBSA every 5 years
- Will release RFP in 2023
- Final data/report in 2025/2026





Cycle 7 Planning Timeline (2025-2029)





Questions?

» Thank you!

