



## 2019 Annual Report for Cascade Natural Gas

### INTRODUCTION

The Northwest Energy Efficiency Alliance (NEEA or "the alliance") is a nonprofit organization working in collaboration with Cascade Natural Gas, other natural gas utilities and energy efficiency organizations to accelerate the innovation and adoption of efficient natural gas products throughout the region. With funding and engagement from Cascade Natural Gas and these other entities, the alliance intervenes in the market to create lasting change by removing barriers and leveraging opportunities to accelerate the adoption of cost-effective energy efficiency.

This report summarizes the alliance's 2019 market transformation activities and outcomes on behalf of Cascade Natural Gas. As 2019 was the last year in NEEA's 2015-2019 Business Plan, this report is structured consistent with the alliance's 2015-2019 strategic goals:

- **Strategic Goal 1:** Fill the energy efficiency pipeline with new products, services and practices
- **Strategic Goal 2:** Create market conditions that will accelerate and sustain the market adoption of emerging energy efficiency products, services, and practices.

For additional information about alliance programs or to read the 2019 Operations Plan, please visit [neea.org](http://neea.org).

### NATURAL GAS MARKET TRANSFORMATION

By pooling resources through the alliance and working in collaboration with the region, Cascade Natural Gas is accelerating the development and market adoption of efficient natural gas products, services and practices in the Northwest. The goal of this effort is to deliver more energy efficiency options to Cascade Natural Gas customers and increase the efficiency of natural gas use in the region. In 2019, NEEA's Natural Gas efforts focused on increasing the number of manufacturer relationships to support a portfolio of products, expanding partnerships to influence market development, and finding and leveraging synergies between gas and electric programs.

#### FILLING THE ENERGY EFFICIENCY PIPELINE

**Scanning** – NEEA staff scan the market to identify promising new energy-efficient natural gas products, services and practices. In 2019, NEEA staff reviewed more than 15 natural gas projects or products, including: combination systems for space and water heating, a gas absorption heat pump for heating and domestic hot water, gas heat pumps and a commercial tankless water heating system. Additional information about each of these products is available through the Regional Emerging Technology Advisory Committee database, which is housed on Conduit:

<https://conduitnw.org/Pages/Community.aspx?rid=29>

**Conducting Product Research:** In 2019, the alliance commissioned and published two reports examining emerging natural gas technologies, which are available on [neea.org](http://neea.org):

- [Lab Testing of Tankless Water Systems](#)
- [Condensing Rooftop Unit Field Study: Baseline and Final Report – 2018/2019 Heating Season](#)

## **NATURAL GAS MARKET TRANSFORMATION PROGRAMS**

**Efficient Gas Water Heaters** – The Efficient Gas Water Heater program is working to develop the market for efficient gas water heating products, bring a gas heat pump water heater (GHPWH) to market and ultimately influence the passage of a federal standard by 2030. In 2019, the program worked closely with major manufacturers and technology providers to encourage them to bring a viable, highly efficient product to market more quickly. The program initiated a co-funded North American gas heat pump water heater field demonstration in coordination with energy efficiency organizations, a major manufacturer and multiple utilities across North America. The goals of this forthcoming demonstration project are to verify cold climate product performance of GHPWHs, inform utility program development and prepare for market entry of the first commercialized product (anticipated in 2022). The program also engaged with water heater installers to gain a better understanding of sale and purchase motivations, consumer perspectives and supply chain infrastructure. Finally, in 2019 the alliance posted the first version of the [Natural Gas Advanced Water Heating Specification on neea.org](#). The specification provides guidance to manufacturers and market actors to ensure cold climate performance, provide manufacturer development direction; and inform utility programs.

**Combination Water and Space Heating Systems** – The Combination Water and Space Heating (Combi) Systems program seeks to encourage continued innovation and development of Combi units. Program efforts centered around demonstrating the performance and adaptability of Combi Systems to provide space conditioning and water. In 2019, the program provided co-funding, technical support and strategy recommendations to incentivize technology innovation and development of high-efficiency Combi units. Additionally, the program initiated field testing throughout the region to identify and understand installation issues, gauge customer satisfaction and validate energy savings.

**Condensing Rooftop Units** – The Condensing Rooftop Unit (C-RTU) program aims to transform the commercial HVAC market by establishing a minimum efficiency level of 90 percent for commercial warm air furnaces found in rooftop units. In 2019, the C-RTU program completed a pilot project that began in 2018 and published the [C-RTU field study report](#). This report will be used to inform manufacturer engagement and provide C-RTU installation guidance for market actors. Also in 2019, the program team was a key member of an international technical subcommittee dedicated to revising the CSA Group test procedure (CSA P.8) for commercial gas-fired package furnaces. Currently, the test procedure rates RTUs solely by the performance of their gas burner (operating thermal efficiency). While this methodology is representative of the efficiency of one component of a commercial gas-fired RTU, it is not representative of the efficiency of the unit as a whole. The revised version will account for efficiency gains inherent in increased insulation, condensing furnaces, damper controls and heat recovery measures incorporated with an RTU. With the interest of keeping the test reasonable, the committee has done this without adding to the manufacturer test burden. This revised version will allow utilities and other supply chain partners to easily differentiate gas-fired RTUs based on the installed energy efficiency of the entire packaged unit.

## **DATA, RESEARCH AND ANALYSIS**

The alliance pools regional resources to conduct research and evaluation and provide data and analytical services for the benefit of Cascade Natural Gas customers.

### **EVALUATION AND MARKET RESEARCH**

**Market Research and Evaluation** – The alliance commissions annual independent third-party evaluations of its market transformation programs. It also conducts robust market research to inform market transformation program design and provide critical data and analysis. In 2019, NEEA staff published 21 market research and evaluation reports, all of which are publicly available at [neea.org](http://neea.org).

**Regional Building Stock Assessments** – In 2019, the alliance completed fieldwork activities for the Commercial Building Stock Assessment (CBSA). The CBSA is a comprehensive study of existing Northwest commercial buildings and the elements within those buildings that impact energy use. Results inform utility energy efficiency programs as well as regional power planning efforts. The final database, a summary report, summary tables and all other deliverables will be completed in Q2 of 2020. Additionally, initial planning for the next Residential Building Stock Assessment (RBSA), a comprehensive study of residential buildings in the region, will begin in late 2020. The RBSA and CBSA are comprehensive inventories of existing Northwest buildings managed by NEEA staff approximately every five years.

## **REGIONAL COLLABORATION AND COORDINATION**

### **REGIONAL COLLABORATION**

**EFFICIENCY EXCHANGE** – In May 2019, the alliance co-hosted the annual Efficiency Exchange conference in collaboration with Bonneville Power Administration and the Northwest Power and Conservation Council. The regional conference, which provides a forum for energy efficiency professionals to share knowledge, explore emerging innovations and discuss the direction of utility efficiency programs, drew more than 380 attendees, with 90 session presenters and organizers on topics ranging from energy benchmarking, smart thermostats, emerging technologies, and the time value of energy efficiency.

**CONDUITNW.ORG** – Developed in partnership with the Bonneville Power Administration, the Conduit website community facilitates information-sharing, coordination and collaboration among energy efficiency stakeholders in the Northwest. At the end of 2019, Conduit transitioned from its state as an online community to a file and resource sharing platform. Although Conduit sunset its online community aspects in 2019, it has retained its core functionality and activities that have been identified as critical to regional market transformation efforts. These include the RETAC Database, Efficiency Exchange website, and the file sharing functionality for regional working groups.

### **REGIONAL COORDINATION**

Alliance Natural Gas market transformation programs are coordinated through the Natural Gas Advisory Committee, whose membership includes representatives from Cascade Natural Gas staff. Cascade Natural Gas is also represented on NEEA's Board of Directors. NEEA staff are grateful for the

time and energy Cascade Natural Gas staff dedicate to participating in these forums and on NEEA's Board of Directors, including:

**Board of Directors:** Monica Cowlshaw

**Cost Effectiveness Advisory Committee:** Phillip Hensyel

### ***ADDITIONAL INFORMATION***

For additional information, NEEA's [2019 Quarterly Performance Reports](#), [newsletters](#) and the [2018 Annual Report](#) are available online at [neea.org](http://neea.org).

NEEA staff encourage stakeholder participation and appreciate input at all NEEA board meetings, Committee meetings and energy efficiency events around the region. The next NEEA Board of Directors meeting is June 22, 2020. Meeting details will be posted on [neea.org](http://neea.org) in advance.

Please direct questions or comments about this report to [info@neea.org](mailto:info@neea.org).