

2019

Q1

Market Research and Evaluation Quarterly Newsletter

IMPORTANT UPDATES:



What's New!

Last quarter we said a heartfelt and bittersweet goodbye to Corinne McCarthy, who is pursuing another wonderful opportunity in marketing research. But the newsletter must go on! So without further ado:

In this edition of the Market Research and Evaluation Quarterly Newsletter, we're bringing you the latest on Market Research and Evaluation efforts, including recent reports and learnings from our Market Research Online Communities (MROCs). This quarter we also include some current examples of how our research links to work that our in-house Market Intelligence team provides to NEEA staff. See page 15 for more information on work they have done to support Ductless Heat Pumps (DHPs) and Heat Pump Water Heaters (HPWHs).

Cheers to this new insight and to the many new and informative findings from 2019!

~ Susan Hermetet ~

Director of Technology, Planning, and Evaluation

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Questions about this report may be addressed to:

Dulane Moran, Principal Evaluation Lead
dmoran@neea.org

***PLANNING:** MRE projects from inception through proposal selection

***FIELDING:** MRE projects from kick-off through the completion of field work

***REPORTING:** MRE projects in the analysis/synthesis stage through report posting

Market Research On-line Communities (MROC)

WHAT ARE MROCs?

At the beginning of 2018, NEEA launched its Market Research Online Community (MROC) pilot to determine if this methodology would support efficient research of certain market actors through online discussions and ongoing market research activities. The goal of the MROC is to uncover market insights more quickly and at a lower cost than through multiple, more traditional market research efforts.

Currently, there are two separate MROCs:

- the Residential MROC, which focuses on market actors that are associated with multi-family dwelling units.
- the Commercial MROC, which focuses on market actors that are associated with commercial office buildings.

WHO ARE MROC MEMBERS TODAY?

We have adjusted the MROCs, suspending recruitment of building owners and property managers in the middle of 2018 as our efforts did not yield fruitful returns. To continue building on participant numbers, we shifted our focus to recruiting builders, architects, and engineers who we believe to be influencers in the retrofit and upgrade decision-making process. This proved to be productive as we were able to recruit these new market actors at a higher incidence. Market actors in professions that tend to spend more time at desks are comparatively easier to recruit for extended online engagement.

MROC Participants by Market Actor Group to Date			
	Property Managers	Building Owners	Builders, Architects, Engineers
Residential	37	9	45
Commercial	27	1	72

HOW DO WE ENGAGE MROC PARTICIPANTS?

Ongoing engagement is key to a successful MROC.

The engagement activities that have been deployed in the MROCs are:

- Online discussions – ongoing ‘banter’ as well as focused topics
- Surveys – addressing specific topics or programs
- Quick Polls – a brief, easy question that is generally relevant to all members.
- Photo/Video Activities – photo or video submissions related to a topic intended to drive discussion amongst members. These activities are designed to provide input from MROC participants that are organic, real-world and spontaneous.

Market Research On-line Communities (MROC)

WHAT ARE WE LEARNING?

When a new MROC participant is recruited, we gather information about them and learn about their roles and responsibilities, what their teams look like, where they go for information and how their decision-making processes work. We try and understand their motivators and challenges. In both MROCs, Property Managers prioritize problem-solving and tenant satisfaction. The Property Manager's role in the decision-making process on capital projects, such as appliance purchases or windows replacement, is generally more of an influencer or information gatherer. This is the case for both multi-family and commercial properties. Their influence is in recommendations made to the final decision-makers, usually the building owner, a board/committee or a financial representative.

A number of early learnings and themes have emerged from the MROC work in 2018. Below are a few highlights:

- Most multi-family properties operate with constrained resources and do not typically replace appliances in bulk (tending toward more one-for-one replacements).
- We validated the hypothesis that multi-family properties tend to prioritize lower cost upgrades that have more consumer appeal, such as carports or attractive finishes.
- Property managers influence commercial building system selection, but their involvement varies by system type and owner.

WHAT CAN WE LOOK FORWARD TO?

2019 Focus for the Residential MROC

The 2018 MROC work indicated that multi-family is not a strategic market for NEEA's broad investment of Super-Efficient Dryers resources, so the Residential MROC will shift focus from multi-family to primarily single-family or owner-occupied developments. The MROC will broaden its technology focus from Super-Efficient Dryers to include Heat Pump Water Heaters and Heat Pump-Based HVAC systems.

2019 Focus for the Commercial MROC

A number of activities are planned for the Commercial MROC this year. Activities planned for Q1 2019 include:

- A survey of Builders, Architects and Engineers on HVAC and DOAS (Dedicated Outside Air System) products.
- Awareness and message testing around commercial window attachments
- A survey of all participants on Lighting and LLLC products.

HOW DO I LEARN MORE?

If you would like more information that is not covered here, please feel free to contact Meei Lum at MLum@NEEA.org or Amy Webb at AWebb@neea.org.

At a Glance

MARKET RESEARCH & EVALUATION PROJECTS

Residential

Commercial

Natural Gas

Stock Assessments

	PLANNING*	FIELDING*	REPORTING*
 Ductless Heat Pumps		✓	
Heat Pump Water Heaters		✓	
Residential Code			✓
Residential Lighting Data Collection and Analysis		✓	
 Retail Product Portfolio		✓	
Commissioning			✓
High Performance HVAC		✓	
Luminaire Level Lighting Controls			✓
Motor Rewinds			✓
Reduced Wattage Lamp Replacement		✓	
Oregon Commercial Code Evaluation			✓
Standards Evaluations			✓
 Washington Commercial Code Evaluation	✓		
Natural Gas - Commercial - Rooftop Units	✓		
 Natural Gas - Water Heating and HVAC			✓
Commercial Building Stock Assessment		✓	

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Residential

FIELDING

Ductless Heat Pumps (DHP)

NEEA kicked off the 8th Market Progress Evaluation Report (MPER) for the Ductless Heat Pump (DHP) initiative in early December. This MPER is will be a “transition” MPER, because it is the last MPER before NEEA anticipates transitioning the DHP program out of active market development and into long-term monitoring and tracking (LTMT). NEEA has targeted late 2019 or early 2020 for a decision on whether the initiative is ready to transition, and this MPER will provide a key input to the discussion.

In helping to determine whether the DHP initiative is ready to transition, this MPER will meet three objectives:

1. Deliver a “retrospective” summary of previous research completed to date for the initiative.
2. Identify indicators of market diffusion that can be tracked over time. The MPER will also lay out an evaluation plan for how to track these indicators in LTMT.
3. Benchmark key market progress indicators to provide a baseline for comparison in LTMT.

Key research activities planned for this MPER include:

- Interviews with program staff and utility partners
- Interviews with supply chain market actors, including manufacturers and distributors
- A DHP regional cost analysis
- Regional mapping of DHP installers
- An online installer survey

We anticipate a final report in August 2019, but a few interim deliverables are planned. These include a summary of the initiative’s history, or “retrospective”, and a memo identifying the diffusion indicators and developing the framework for the LTMT evaluation plan. Both of these deliverables are expected in March.

Find the [DHP Initiative's 7th MPER](#) on NEEA's website.

MRE Project Manager: Amy Webb
 awebb@neea.org
 503.688.5448



Residential

FIELDING

Heat Pump Water Heaters (HPWH)

The Heat Pump Water Heater Initiative kicked off its 5th Market Progress Evaluation Report (MPER) in early December. NEEA has contracted with NMR Group to conduct this work. Based on results from the 4th MPER and other critical knowledge gaps, the team prioritized the following research objectives for MPER 5:

1. Review the logic model and associated market progress indicators (MPIs) with an emphasis on validating program strategies to address critical barriers, including supply chain resistance to installing HPWHs and how to address challenging installation scenarios.
2. Explore the rate of installer recommendations of HPWHs and the potential effect on customer decision-making and confirm that installer recommendations increase the likelihood of purchase.
3. Assess consumer likelihood to consider purchasing a HPWH.

To meet these objectives, this MPER will field several research activities, including:

- Interviews with HPWH distributors
- Mystery shopping calls to installers and distributors
- An online installer survey
- An online survey of water heater and HPWH users

NEEA anticipates a final report in June 2019.

MRE Project Manager: Amy Webb
awebb@neea.org
503.688.5448



Residential

FIELDING

Retail Product Portfolio (RPP)

NEEA Staff are working with a team from Apex Analytics and Research Into Action to complete a formative evaluation of the Retail Products Portfolio to support the program's expected shift to market development in 2019. As part of this project, the Apex team is reviewing baseline and planning assumptions and specific product-level strategic interventions identified for eight consumer products. They will also complete comprehensive market analyses informed by detailed sales data acquired through the program.

This project will:

- Validate the interventions, opportunities and data gaps identified in the product strategy documentation for each RPP-qualified product
- Assess NEEA's product strategy approach to confirm longitudinal tracking of: the portion of models qualified; and the portion of sales qualified
- Identify gaps related to product performance or market adoption, and potential opportunities to influence ENERGY STAR specifications, test procedures and/or federal standards
- Investigate the market trends that are driving shifts in sales of clothes washers, particularly agitator/non-agitator sales.

The project is designed to produce quarterly deliverables that provide a summary assessment of each product. At the end of the project (expected in Q2, 2019), a summary chapter with overarching recommendations and lessons learned will be produced, supported by sections that provide a deeper dive into the specifics of each product.

NEEA staff will work with the Apex team to finalize draft chapters on refrigerators and freezers in early January. The Apex team will provide draft chapters on laundry equipment (clothes washers and electric dryers) by early February, and will wrap up with air cleaners, sound bars, room air conditioners and TVs by late March. There is no regional primary data collection planned for this project.

MRE Project Manager: Dulane Moran
dmoran@neea.org
503.688.5413



Residential

FIELDING

Residential Lighting Data Collection and Analysis

MRE has contracted with Apex Analytics and DNV GL to conduct an in-store shelf survey in January 2019, and analyze those data in combination with 2018 Nielsen lamp sales data. The analysis will produce the following results across all lamp technologies (incandescent, halogen, CFL, LED), applications (general purpose, decorative and mini-base, globe, reflector, three-way, Smart Lamps), and store types (grocery, drug, dollar, discount, mass merchandise, DIY, membership club, small hardware, and online):

- Lamp sales mix (market shares)
- Per lamp price (after incentives)
- Market wattage
- Efficacy (lumens/watt)
- Lifetime rated operating hours

Data analysis for 2018 will be completed by the end of March 2019. NEEA will use the results to calculate 2018 energy savings from CFLs and LEDs.

In addition, the formal report for results of the 2017 data analysis has been posted to neea.org and can be found [here](#).

MRE Project Manager: Jennifer Stout
jstout@neea.org
503.516.7370

REPORTING

Residential Code

Idaho and Montana field studies are completed. The Idaho study report is under review. The Montana draft is currently being drafted.

The Washington Residential New Construction study will be kicked off in Q1, 2019

MRE Project Manager: Steve Phoutrides
sphoutrides@neea.org
503.688.5488



Commercial

FIELDING

High Performance Heating, Ventilation, and Air Conditioning (HVAC)

Research into Action is in the final stages of data collection of the characterization work, which is being undertaken to provide background and guidance to the program team as it designs and implements its efforts to transform this market.

Review of the HVAC market literature and in-depth interviews (IDI) have been completed (IDIs were conducted with specifiers, contractors and sellers). A quantitative survey of building owners and managers will be conducted in January as the final stage of data collection. Reports will be finalized and posted in March.

MRE Project Manager: Steve Phoutrides
 sphoutrides@neea.org
 503.688.5488

Washington Commercial Code Evaluation

The Washington Commercial Code Evaluation study kicked off in late 2018. The objective of this study is to understand how new commercial construction is affected by commercial building code. The study will profile building characteristics in new construction, assessing the presence of code, and, to a lesser degree, looking at how buildings actually use energy.

NEEA staff are coordinating working groups on sample design and data collection. The data collection working group is reviewing the instrument and variables as well as the data collection protocols. We anticipate that over the course of the study, approximately 100 newly constructed commercial buildings in Washington will be visited. Recruitment and field work will begin as soon as the data collection instrument and protocols are finalized and tested – currently targeted for March 2019. In field data collection is expected to take approximately 18 months. The final report is expected in early 2021.

For more information on project scope, timing and recruitment efforts, contact Steve Phoutrides.

MRE Project Manager: Steve Phoutrides
 sphoutrides@neea.org
 503.688.5488



Commercial

FIELDING

Reduced Wattage Lamp Replacement (RWLR)

Work is underway for a Market Progress Evaluation Report (MPER) designed to support and inform the expected transition of RWLR out of market development and into long-term diffusion and tracking. Cadeo Group will be conducting this work, which should be complete by April 2019.

Key objectives of the MPER include:

- Producing a summative story of the initiative, which includes documenting the progress, innovations, and lessons learned over the life of the initiative do-date.
- Ensure that the plan for tracking market diffusion is sufficient and can support calculations of long-term energy savings
- Identify and leverage lessons learned from RWLR that can be applied to subsequent initiatives in the commercial sector, particularly for other products that might be appropriate for a distributor-based engagement strategy.

This project kicked off in mid-December and will include in-depth interviews with distributors and manufacturers involved in commercial lighting generally and RWLR specifically as well as comparison research designed to identify innovations and lessons learned from distributor-based programs operating in other regions.

MRE Project Manager: Dulane Moran
dmoran@neea.org
503.688.5413



Commercial

REPORTING

Luminaire Level Lighting Controls (LLLC)

As part of the existing Commercial Market Research Online Community (MROC), NEEA staff worked with the team from Maru/Matchbox to conduct an online qualitative discussion. Nine unique participants engaged in the discussion, which occurred in mid-December. This information will help the LLLC team develop compelling value propositions, inform training content to address key focus areas, and create effective engagement strategies in reaching influential market actors.

The objective of this research is to gain a deeper understanding of lighting designers and specifiers:

- their roles and responsibilities
- information sources that are valuable to them
- their opinion and use of LLLCs
- their challenges with LLLC recommendations
- their input on LLLC training material.

MRE Project Manager: Meei Lum
mlum@neea.org
503.688.5418

Standards Evaluations

TRC Energy Services has completed evaluations of NEEA participation in the adoption of federal standards for Commercial Unitary Air Conditioners (CUAC) and Walk-in Coolers and Freezers (WiCF).

These studies assessed NEEA activities to help establish the CUAC and WiCR standards and estimated the region's share of savings that resulted to the combined influence of all energy efficiency stakeholders on the energy savings from the adoption of these standards.

Both evaluations will be posted by the end of January 2019.

Upcoming Standards Evaluations:

Next up for standards evaluations: Beverages and Vending Machines Q1:2019 and Ceiling Fans Q3:2019.

MRE Project Manager: Steve Phoutrides
sphoutrides@neea.org
503.688.5488



Commercial

REPORTING

Oregon Commercial Code Evaluation

The vendor selected to execute this evaluation is Ecotope.

The objective of this evaluation is to understand how effective the commercial building codes in OR have been, and where there is room for improvement. This will be done by collecting information to measure and analyze Energy Use Intensity (EUI).

All data has been collected including building characteristics and billing. The project is in data analysis. Report for the study will be completed in June 2019.

MRE Project Manager: Steve Phoutrides
sphoutrides@neea.org
503.688.5488

Commissioning

Cadmus is estimating regional market penetration and energy savings for 2018 based on updated square footage of new and existing building commissioning. The report for 2018 will be posted in May 2019.

Motor Rewinds

Cadmus is estimating regional energy savings for 2018 based on updated numbers of standard and green motor rewinds. The report for 2018 will be posted in May 2019.

MRE Project Manager: Jennifer Stout
jstout@neea.org
503.516.7370



Natural Gas

PLANNING

Condensing - Roof Top Units (C-RTUs)

NEEA has heard that C-RTUs are installed at a higher rate in commercial buildings in Canada than in the US, particularly in the Northwest. NEEA is planning research to confirm this hypothesis and further understand reasons behind the installations.

The research should help to inform the following:

- Gain a high-level understanding of market share of unitary rooftop systems (including condensing gas systems) in the commercial sector
- Uncover decision factors for selecting new heating equipment, and which organization staff/roles are the final decision makers
- Discover awareness levels of condensing gas heating equipment and how they compare to the US
- Learn about experiences using condensing gas heating equipment, including challenges around the condensation line
- Determine perceived benefits and barriers of condensing gas heating equipment
- Distill reasons for selecting/not selecting condensing gas systems for a commercial installation.

MRE Project Manager: Anu Teja
ateja@neea.org
503.688.5421

REPORTING

Natural Gas - Water Heating and HVAC

In mid-2018 NEEA contracted with ILLUME Advising to complete in-depth market research on decision making processes by installers and distributors around HVAC and water heating systems. The principle research objectives of the study were to:

- Gain an understanding of installer perspectives of decision-making processes for installation of these systems
- Grasp the dynamics at play within the supply chain and its interdependencies
- Identify the motivations, challenges and unmet needs of installers in the course of their work.

A final report is due out in Q1 2019. This ethnographic research has provided information that will enable the Natural Gas team to identify key leverage points with the supply chain. The ride alongs that spanned several days and enabled researchers to closely observe daily work activities, record installations in process, and probe on techniques in installation and business practices. Some qualitative interviews were conducted with homeowners at the time of installations and by phone.

MRE Project Manager: Anu Teja
ateja@neea.org
503.688.5421



Stock Assessments

COMMERCIAL BUILDING STOCK ASSESSMENT (CBSA)

Updates:

The CBSA team disseminated sample to all regional utilities in November and December and are now turning attention fully to recruitment and field work.

One lesson we have learned during the pre-test and in prior large-scale studies in the commercial sector is that site recruitment can be a challenge. The NEEA project manager will be actively engaging with regional utilities to access support at each organization to ensure we maximize our recruitment success and work together to meet study objectives on time and on budget.

This is a complex project with multiple streams of information and deliverables. NEEA will be hosting quarterly webinars to inform stakeholders of project progress and any emerging issues. The Q1 webinar is scheduled for XX (Jan 23?). To be added to the distribution list for future webinars, please contact cbsa@nea.org.

Task	Year	2018				2019			
	Quarter	1	2	3	4	1	2	3	4
Prepare Virtual Catalog									
Develop Data Collection Tool									
Customer Contact Protocols									
Customer Contact Workgroup									
Study Integrity Workgroup									
Final Sample Design									
Train Assessors									
Notify Utilities of Pre-Test									
Collect Pre-Test Data									
Notify Utilities of Full Sample									
Recruit Sample Sites									
Conduct On-Site Assessments									
Analyze Data									
Finalize CBSA Database									





Market Intelligence

A LOOK AT HOW WE COUPLE RESEARCH & ANALYSIS TO MOVE PROGRAMS FORWARD

Ductless Heat Pumps - Installer Drive Time Analysis

Background: Almost 3 years ago, NEEA staff took a random sample of 100 actual DHP installations to develop a profile of candidate homes for future installations. After compiling this profile, an analysis of drive times around an installer (15, 30, and 45 minutes away) was created to identify profiles and overlaps between installer locations and possible candidates.

Now: NEEA staff has conducted a similar analysis with drive times based on proximity to more than 20 cities in the Northwest. Information that is available on these candidate homes includes:

- % Owner occupied
- Heating type
- Median income
- Home value
- Average electric utility bill
- Number of people

Why this matters: by helping to focus their marketing efforts, this analysis is allowing manufacturers and installers to reach people they would not have been able to before and should result in claimed savings for stakeholders, directly or indirectly.

Market Intelligence Analyst: Aaron James
ajames@neea.org
503.688.5465

Water Heater Consumer Profile

NEEA staff determined to develop an analytical playbook to better target customers for heat pump water heater installations. With the help of a key plumbing contractor, NEEA staff was able to sift through address level sales data dating back to 1998 to determine heating type, location of install, model number, and whether or not the install was a heat pump.

The team worked to

- Identify trends within the heat pump water heaters that were sold based on vintage and other factors
- Correlate address level information with existing demographic data
- Locate where electric installations took place and classify relevant/similar subdivisions based on vintage and other naming conventions to find the most similar residences

Insights:

- Older couples with higher incomes tended to have more heat pump water heaters already installed
- Named subdivisions or name plats did not necessarily correlate with similar home vintage

In early 2019, NEEA staff intends to help create a targeted list to allow installers to have already identified more easily good heat pump water heater homes.

Market Intelligence Analyst: Mike Psaris-Weis
mpсарis-weis@neea.org
503.688.5420

CONTACT US:

Amy Webb

Project Manager, MRE

awebb@neea.org
503.688.5448



Anu Teja

Sr. Project Manager, MRE

ateja@neea.org
503.688.5421



Dulane Moran

Principal Evaluation Lead, MRE

dmoran@neea.org
503.688.5413



Jennifer Stout

Project Manager, MRE

jstout@neea.org
503.516.7370



Meei Lum

Project Manager, MRE

mlum@neea.org
503.688.5418



Steve Phoutrides

Project Manager, MRE

sphoutrides@neea.org
503.688.5488



TOGETHER We Are Transforming the Northwest

