

Henry Lorenzen
Chair
Oregon

Bill Bradbury
Oregon

Guy Norman
Washington

Tom Karier
Washington



Northwest Power and Conservation Council

W. Bill Booth
Vice Chair
Idaho

James Yost
Idaho

Jennifer Anders
Montana

Tim Baker
Montana

June 6, 2017

MEMORANDUM

TO: Council Members

FROM: Kevin Smit, Senior Analyst

SUBJECT: Update on MCS-1 – Hard to Reach EE Markets Analysis

BACKGROUND:

Presenter: Kevin Smit

Summary: The Council will be briefed on the progress of action item MCS-1 from the Seventh Power Plan Action Plan. MCS-1 is titled “Ensure all Cost-Effective Measures are Acquired.” The focus of MCS-1 is on identifying segments of the population that are currently underserved by existing efficiency programs and then identifying ways (i.e., program improvements) to improve participation from those segments.

MCS-1 calls for “Bonneville and the regional utilities to determine how to improve participation from any underserved segment.” The first part of this effort is to identify, using data, which markets are underserved and by how much. In essence, this means identifying the gaps in our regional energy efficiency efforts. Reducing or eliminating these gaps is important for ensuring that the region achieves the energy efficiency goals identified in the Plan.

Council staff have stepped in to coordinate the efforts to identify the underserved markets, including the formation of a regional working group who have agreed to conduct research this year and provide those results to Council Staff. Members of the working group include BPA, Energy Trust

of Oregon, several investor-owned utilities, and several large public utilities.

Relevance: This action item is from the Model Conservation Standards (MCS) section of the Action Plan. MCS-1 calls for a deliverable (report) by the end of 2017.

Workplan: A.1.1 Coordinate with regional entities (e.g. NEEA, BPA, utilities, regulators) to ensure the regional goal for cost-effective conservation is achieved.
A.1.3 Work with regional entities to ensure the model conservation standards are implemented.

Background: The Council's Seventh Power Plan includes numerous action items as part of the Action Plan in Chapter 4, as well as the Model Conservation Standards found in Chapter 17. MCS-1 focuses on "hard to reach" or "underserved" energy efficiency markets, and received significant attention during the development of the Action Plan. Council members, staff, and many constituents provided input into this action item.

MCS-1 Update
7th Plan Action Item on Energy Efficiency for
Hard to Reach Markets

Council Meeting

Kevin Smit
June 13-14, 2017


Northwest Power and Conservation Council 

Agenda

MCS-1 – “Ensure All Cost-Effective Measures are Acquired”

- Goals of MCS-1
- Context
- What it says
- What we are doing
- What to expect

Ivane Goliadze

Northwest Power and Conservation Council 

Goal of MCS-1

MCS-1: Ensure All Cost-Effective Measures are Acquired

Secure proportional savings from underserved populations

“Bonneville and the regional utilities should determine how to improve participation in cost-effective programs from any underserved segments.” (MCS-1, first paragraph)

Context for MCS-1

- Significant interest in making sure programs are reaching underserved populations
 - Received input from many organizations during Plan development
 - Substantial effort and discussion went into this Action Item (over 2 pages long)
 - Continues to receive interest
- Some misconceptions about what it says and doesn't say
- Our primary interest is in identifying possible gaps



What do we think is happening?

“There are segments of the population that . . . participate in programs at lower rates than others.”

- *Seventh Power Plan, Chapter 17 - Model Conservation Standards*



MCS-1 – A Few Terms

- **Terms**
 - Hard to reach
 - Underserved
 - Gaps
 - Untapped potential
 - Equity

For our purposes, we use these interchangeably. Depends on perspective

MCS-1 Goals 2017-2022

Two key parts to MCS-1:

1. Determine, using data, what segments are underserved and by how much
2. Determine how to improve participation from underserved segments

“Ideally, the customers in the HTR segments should participate in similar proportion to non-HTR customers, assuming similar savings potential”
- MCS-1 First Paragraph

What are the HTR Segments?

- We don't know, yet
- MCS-1 listed several possibilities:
 - Low income
 - Mid-income
 - Customers in rural regions
 - Small business owners, tenants
 - Multifamily tenants
 - Manufactured home dwellers
 - Small and rural utilities
- But, remember the first step. Use data to determine/show if any of these are underserved



Goals 2017-2022

MCS-1: Ensure All Cost-Effective Measures are Acquired

Secure proportional savings from underserved populations

Action Item MCS-1

- 1) Use data to identify underserved segments
- 2) Report findings to Council by end of 2017

Quick History of Work to Date

- **February 2016** Council releases Power Plan, significant interest in MCS-1
- **November 2016** CRAC meeting, sharing case studies
- **February 2017** Senior Utility Managers Met with Council Staff
 - Committed to conduct or support research
 - Formed the working group
- **May 11, 2017** Working group meeting

Strategy for 2017 Report

- There won't be one large regional study to identify all the gaps
 - Primary concern is sharing customer-specific data
- Individual utilities in the working group will conduct their own studies and share the results
 - Important to recognize utility-specific gaps also
- Council staff will collect the results and produce report



“Coalition of the Willing” (Participating Entities)

- Level of interest and experience varies
- BPA “covering” many smaller utilities
- High level of collegial interaction among the analysts and program planners/designers
 - most want better designed programs to reach all customers

- Participating Entities:
- Puget Sound Energy
 - BPA
 - Energy Trust of Oregon
 - Seattle City Light
 - Snohomish PUD
 - Tacoma Power
 - Clark PUD
 - Idaho Power
 - PacifiCorp
 - Northwestern Energy
 - NEEA (data support)

Residential Data Sources

- **Utility Data (Program Participants)**
 - Measures adopted
 - Energy Usage
 - Meter numbers
 - Addresses
 - House type?
- **Non-Utility Data**
 - Assessor data
 - House Type
 - Year built
 - Heat fuel type
 - Heating system
 - Size of home
 - Address
 - Experian data
 - Income levels
 - Ethnicity
 - Number of people in home
 - Address
 - Etc.
 - Etc.

**Key Link:
Site
Address**



NEEA Data

These data are available to all NEEA members. These kinds of data relieve the utilities of soliciting the information

A collage of various data sources is arranged around a central text box. The sources include: 'Structure' (house image), 'Usage' (smart meter image), 'Demo' (house interior image), 'GIS' (map image), 'Construction' (wooden fence image), 'Marketing' (home for sale sign image), and 'Graphics' (smartphone image). Other images include a washing machine, a smartphone with a map, and a chalkboard with the text 'always be closing'.

NEEA Data Sources

- A few of NEEA Data Sets include:
 - Dunn & Bradstreet (financial)
 - RBSA & CBSA (physical characteristics)
 - Dodge (new construction)
 - Costar (leasable commercial space)
 - Zillow (real estate characteristics)
 - NEEA Program Data, RBSA metered data
 - Equipment sales (from distributors, retailers, mfgs)
 - Experian (age, gender, income, household size)
 - Census (population characteristics)
 - GPS – Tom Tom data (population within drive time)
 - GIS data (Platts), shape files (ability to define a region geographically)



How Do we Know Who's Underserved?

PROGRAM
high-income participants
all participants

VS.

POPULATION
high-income households
all households

Program participants,
by income

Income	Parts	All HH
Under \$50k	10%	40%
\$50-\$100k	20%	40%
Over \$100k	70%	20%

How you define the population matters. The working group is collaborating to define consistent metrics

Planned Research Activities: High Level

- **#1 High level** - all participants (not broken out by measure/program).
Back to 2014
- Overall (all participants/all customers)
 - Also sector characteristics: residential and commercial
 - example finding: programs touched 15% of residential customers and 80% of commercial customers
- All are doing this level so we will get a view across all utility programs



Sector Characteristics

- Residential characteristics to assess (compare distribution of participants to all customers by):
 - Income
 - Home type (*SF, MF, MH*)
 - Owner/renter
 - Urban/rural/suburban (if relevant)
 - Race/ethnicity/language (if relevant)
- Commercial Characteristics
 - Building type
 - Building size (sqft)
 - Owner/renter
 - # of employees
 - Urban/rural

Planned Research Activities: Measure Level

- **#2 Measure Level Work** - Measure-level analysis for select measures, e.g.,
 - Ductless heat pump
 - Insulation
 - Heat Pump Water Heater
 - Commercial Lighting
- This will give a view into how successful these measures are across key building characteristics
- But needs careful analysis since not all measure are applicable everywhere
- In the end should lead to better program marketing



Next Steps for MCS-1 Effort

Resulting from May Workshop

- June Willing participants finalize scope of gap analysis
- Sept 4 (week of) Interim status reports, CRAC Meeting
- Oct 16 Utility reports/results to Council staff
- Nov 15 Council staff share draft report
- Dec 12/13 Presentation to Council
- Dec 29 Final report released

Conclusion

- This action item generated significant interest during plan development
- Initially there was confusion and hesitation by utilities to tackle this item
- Council staff is facilitating an effort among 10 utilities to conduct assessments in 2017
 - Focused on identifying gaps
 - Produce a compilation of 'case studies', data mining methods & lessons learned
 - Template for ongoing gap analysis including more utilities & program operators
- For 2018 – Start to focus on capturing untapped potential found in gap analysis
 - Participants already sharing some of this

Thank You

Questions?