



2020-2021 Strategic Energy Management Persistence Evaluation Research Plan



June 17, 2021

Utilities with sample sites

Utility	Primary sites	Backup sites
Clark PUD	1	0
Clatskanie PUD	1	0
Cowlitz PUD	1	0
EPUD	1	0
Seattle City Light	2	3
Snohomish PUD	6	2
Tacoma Power	3	0
Total	15	5

Agenda

Why Evaluation?

Background and objectives

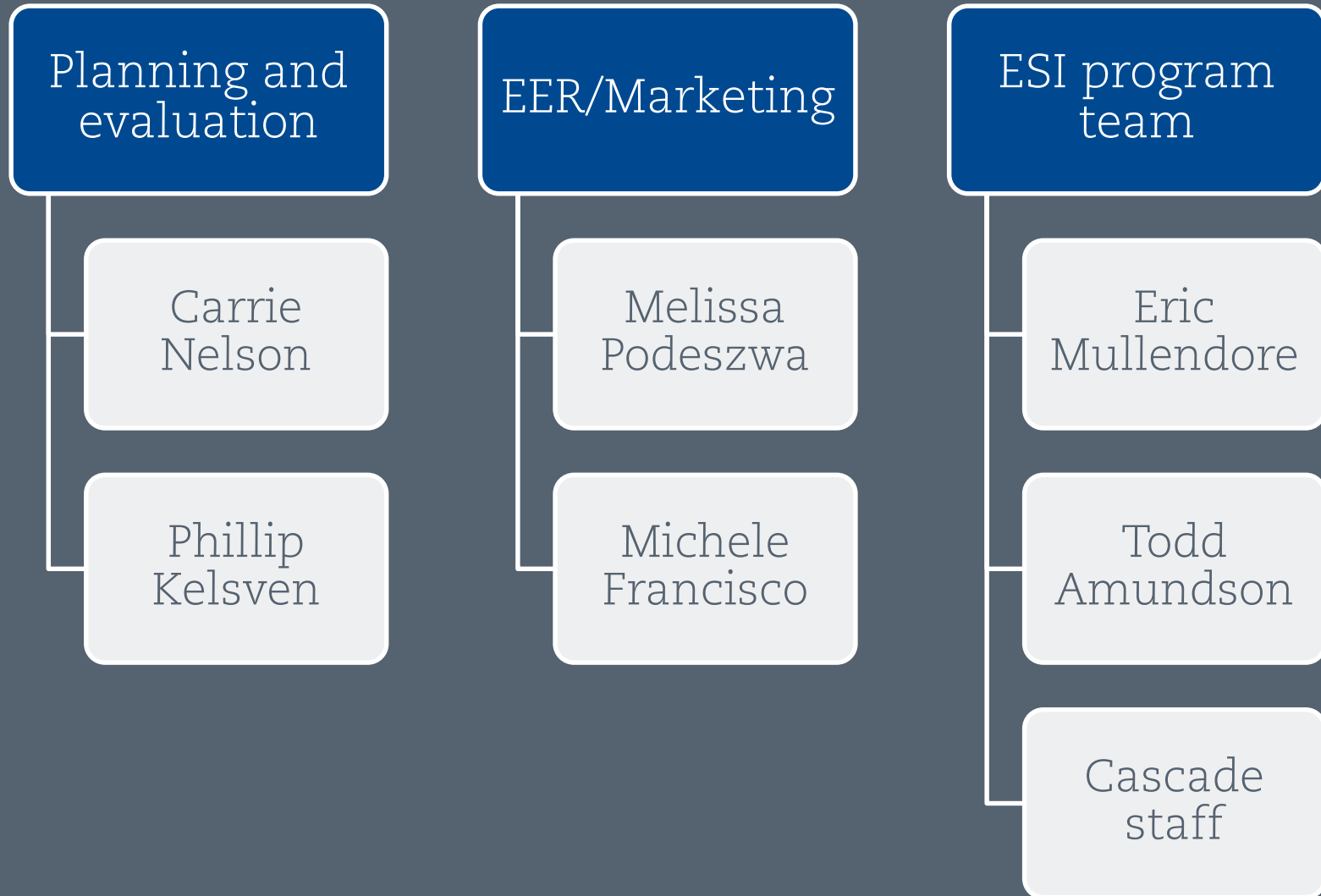
Sample design

Data collection and analysis

Contact protocols and schedules

Next steps and Q&A

BPA core team



Contractor team



Why evaluation?

A large teal-colored tree graphic with a thick trunk and a dense canopy of leaves, serving as a background for the central text.

**What do
we all
want?**

Energy efficiency programs that save customers money and energy.

To be trustworthy stewards of their money.

Evaluation

What did we achieve?

How do we improve?



Impact evaluation



Savings reliability
with independent
verification



Program
improvement
opportunities

Background and objectives

Overview of FY21/22 evaluation areas



Custom and C/I/Ag Lighting

Engineering-based
evaluation of projects




Strategic Energy Management

Persistence assessment to inform
measure life and (if feasible)
assessment of how capital
measures affect SEM savings

Schedule

		FY21				FY22				FY23				FY24			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Option 1 Utilities																	
Industrial	Custom																
C/Ag	Lighting																
C/Ag	Custom																
Option 2 Utilities																	
Industrial	Custom																
C/I/Ag	Lighting																
C/Ag	Custom																
ESRP																	
ESRP	Federal																
Strategic Energy Mgmt																	
SEM	Persistence																
SEM	Capital																





SEM Persistence evaluation objectives

1

Determine how long SEM-initiated measures are operational



2

Develop estimates of effective useful life for changes initiated during SEM engagement

Sample design

Sampling strategy

BPA policies strive for relative error of 10% at the 90% confidence level (90/10), with a minimum of 80/20

The sampling unit is a site

Sample size to achieve 90/10 is 15 primary sites (5 backup sites)

For SEM, the sample frame is defined as sites that were active in SEM between 2015 and 2017 (excluding Track and Tune sites) – to balance the goals of getting recent projects and having enough time to examine persistence



Sampling strategy

**We will sub-sample
SEM measures at
each site, with a
focus on the most
influential
measures (in terms
of energy savings)**

- There is an avg. of 11 SEM measures for each site (range of 2-38)
- We will subsample up to 20 per site (up to 300 total measures)

Data collection and analysis



Data collection process

Change inventory

Based on SEM program data, develop a list of SEM measures for each site, detailed review of reports and tracking data

Verification plan

Determine the least obtrusive method to determine measure status, measure start and end date, reason measure is no longer in operation

ESI program staff review

Review and comment on inventory and verification plan

Collect measure data

Coordinate with ESI team and utilities to contact end use customers and collect needed data (via on-site visit or phone/email survey)

Site-specific data to support analysis



Customer data collection



- Using telephone and email for discussions
- Asking customers to answer any outstanding questions
- Scheduling (in-person) site visits where possible to directly observe persistence of measures

Due to COVID-19,
we will adapt our approach as needed

Site-level analysis process



SEM persistence report

Available
April 2022

Estimated useful
lifetimes for
sampled
measures, for
projects, and in
aggregate

Also, how often SEM
measures failed due to
COVID-19

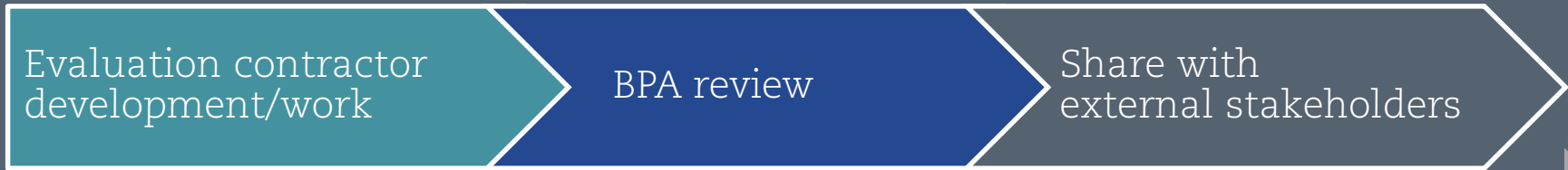
Possible
recommendations

- How to estimate SEM savings lifetime based on the types of changes made by participants
- Any improvements on how to extend measure persistence of savings
- For future research and data collection, if relevant

Schedule and contact protocols

SEM persistence schedule

	2021										2022				
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	
Project Kickoff															
Project File Data Collection															
Customer Contact Notifications and Data Collection															
Analysis															
Report & Webinar															



Contact principles



Early notification

of projects, timelines, and requirements
(Utilities should notify customers of study soon)



Utility feedback

Share details of the
evaluation plan and data request



Reasonable timelines

for data collection;
escalation protocol if timelines missed



You will be notified at least 1 week

before the evaluation team
contacts your customers

Utility notification



- ✓ Notification email
- ✓ Research plan webinar
- Sampled site list
- Please notify your customers at beginning of project

Project documentation



- We have collected nearly all project documentation from ESI/BPA
- If needed, we will use NDAs
- Evaluation team may interview your project engineer



Customer contact

Please notify your customers at beginning of project



- 1 week prior to contacting your customer, evaluation lead will notify utility with general description of information collected from site
- Evaluation team will follow safety and privacy requirements
- If needed, we will use NDAs with your customers

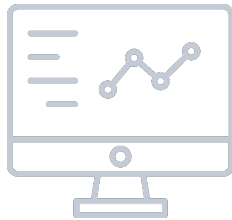
Utility communications



Emails



Ad hoc meetings



Webinars



**Announcements
and updates**

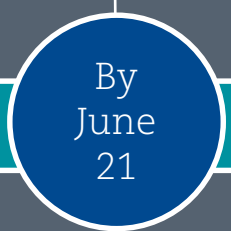
Next steps



Email notification from BPA



You receive customer-specific information



You notify selected customers in the evaluation sample that they may be contacted by the evaluation team

Evaluation team will gather data from BPA, utilities and your customers (notifying you at least one week beforehand)



Webinar

Questions?

Thank you!

www.bpa.gov/goto/evaluation

evaluation@bpa.gov

Bonneville
POWER ADMINISTRATION

