

Audio instructions

Welcome to BPA's Webex Meeting!

Note: **Your audio is muted upon entry.**

Audio connection **Preferred choice**

Use computer audio

Call me at +1

Call in Call me at

Don't connect to audio

Note: The incoming call may be listed as **POTENTIAL SPAM**.

Second choice: In the example above, instead select **Call in** and use your phone to call into the webinar. A window will pop-up with your meeting **Call in** information.

Call In

Call in from another application

- Call**
US Toll
+1-415-XXX-XXX
[Show all global call-in numbers](#)
- Enter**
Access code **XXX XXX XXXX #**
Attendee ID **XXXXXX #**

Last choice: Use Computer for Audio. Connect a headset to your computer for best results.

BONNEVILLE

Viewing BPA Computer's ap...

PRESENTATION

ENERGY EFFICIENCY

Mute Start video Share ...

Participants Chat ...

Use to mute and unmute

Use to express emotion

Use to view participant list and chat panel

Strategic Energy Management Persistence Study Results



March 2, 2023



Agenda

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BACKGROUND

Teams

BPA Core Team

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POWER ADMINISTRATION



Contractor Team



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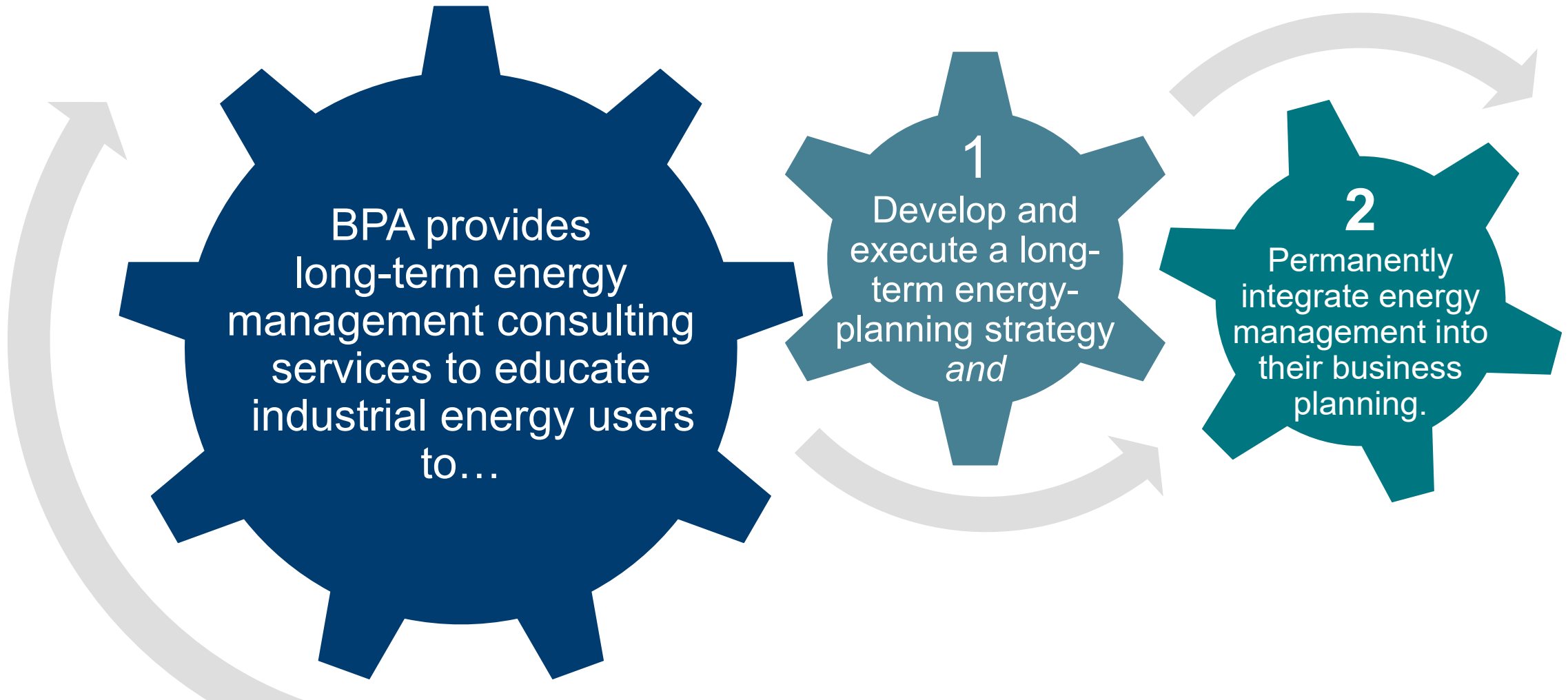


Mike Baker

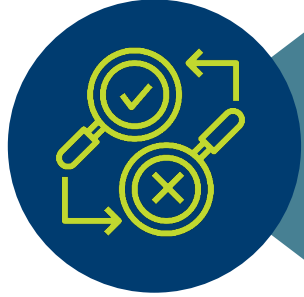
Santiago Rodríguez-Anderson

BPA's Strategic Energy Management Program

BPA began offering its SEM program to industrial facilities in 2010



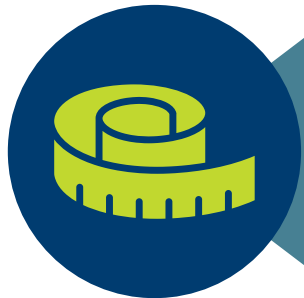
SEM Persistence Study



An **in-depth evaluation** of the SEM program was completed in 2016. However, the issue of persistence was not addressed beyond the sampled participation period by that evaluation.



Persistence refers to the **lifetime of a specific measure** listed in the SEM plan, defined as how long the measure continues to be in operation (also referred to as effective useful life).



BPA typically identifies SEM as a "measure," which includes all of its constituent activities. The purpose of this study was to assess the life of all of the activities that were likely to directly save energy, and not activities that are purely informational or organizational.

SEM Persistence Evaluation Objective



Estimate the effective useful life for measures associated with BPA's SEM program



METHODOLOGY

Overview of Study Methodology





Sample Design

Random sample
drawn from
population of
44 sites
active in SEM from
2015 to 2017



Sample
consisted of
15 sites
(achieving **90/10
confidence level**)



Database Development

PROCESS



Request
annual
program
completion
reports
(2011 – 2019)



**Enter key
fields**
from the
reports into
a database



Screen
measures
(e.g.,
duplicates)

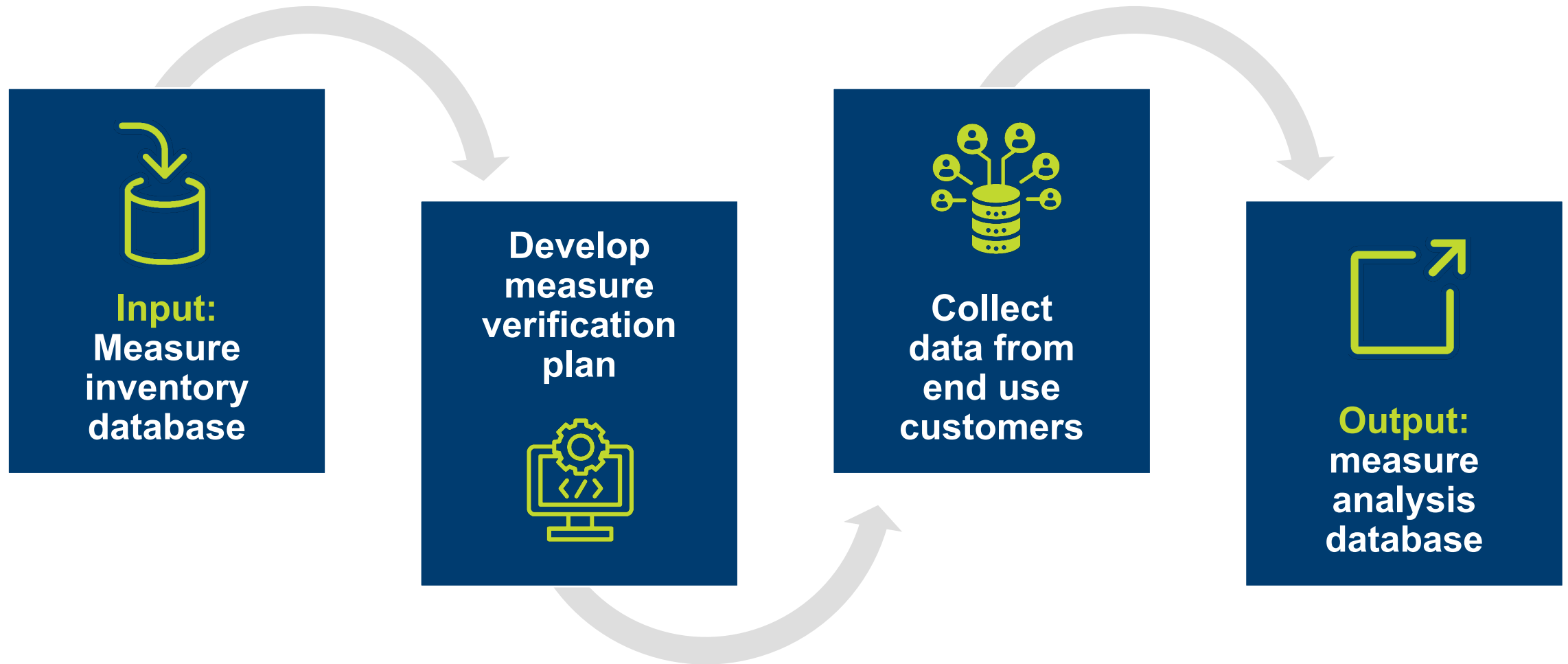


**Measure
inventory
database
for sample**
(n=108
measures)

OUTPUT OF PROCESS



Data Collection





Measure Survival Analysis

Inputs (from analysis database):

Create “time-to-event” variables

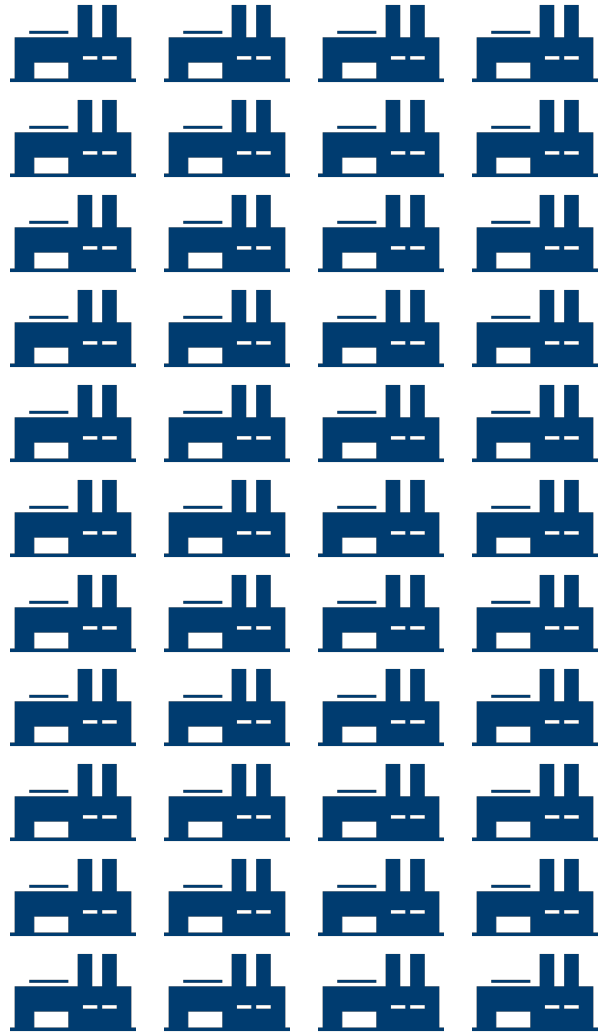
Specify a survival function
(the probability the measure does not fail)

Outputs: EUL estimates



STUDY FINDINGS

SEM Program: Site Characteristics



Industry	Total # of Sites	Sample (n)
Manufacturing	22	7
Wastewater	7	5
Public Administration	5	0
Refrigeration Storage	3	2
Transportation	2	0
Food Storage/Distribution	2	0
Distilling/Food Processing	1	1
Industrial Products	1	0
Mining	1	0
Total	44	15

SEM Program: SEM Measure Characteristics

Equipment Type	n
Production Processes	51
Support Services – Refrigeration	24
Support Services – All Others	33
Total	108

Measure Type	n
Operations	84
Physical Repairs	13
Routine Maintenance	11
Total	108

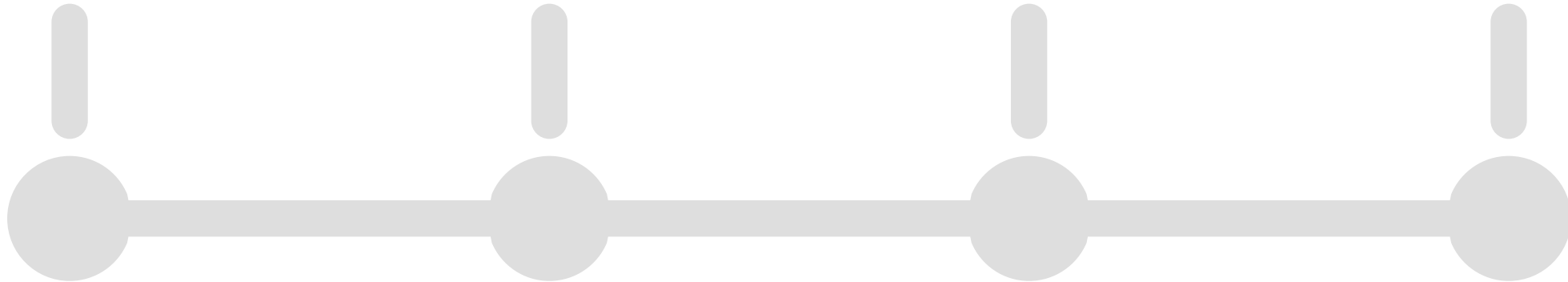
Key Findings

EUL =
8.5 years
(+/- 4.8 years)

only 13/108
measures were
no longer
in operation

On average,
measures were
removed within
1.7 years

EUL does not
differ based on
type of SEM
measure,
equipment type,
or industry type



Study Caveats



1

Our study was designed to inform measure life (whether the measure is still active or not) **which is distinct from measure savings persistence** (i.e., whether the measure is still saving in future years what it was intended to in year one).

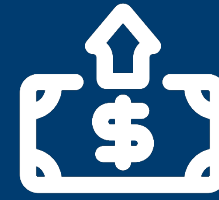
2

The study's data source is program completion reports, which may under-represent measure failures (i.e., that occurred during the first engagement year).

Recommendation



We recommend that BPA and its SEM program **comprehensively track SEM engagements in the SEM program database**



This would facilitate **more robust SEM program savings and effective useful life assessment**



Questions / Next Steps

What's Coming Up Next



Final report posted to BPA website

*BPA response to recommendations
(Memo addressing the evaluation findings,
recommendations and BPA plans for change)*

Thank You!



UTILITIES



**SEM
PARTICIPANTS**



**SEM PROGRAM
TEAM**

