



December 6th



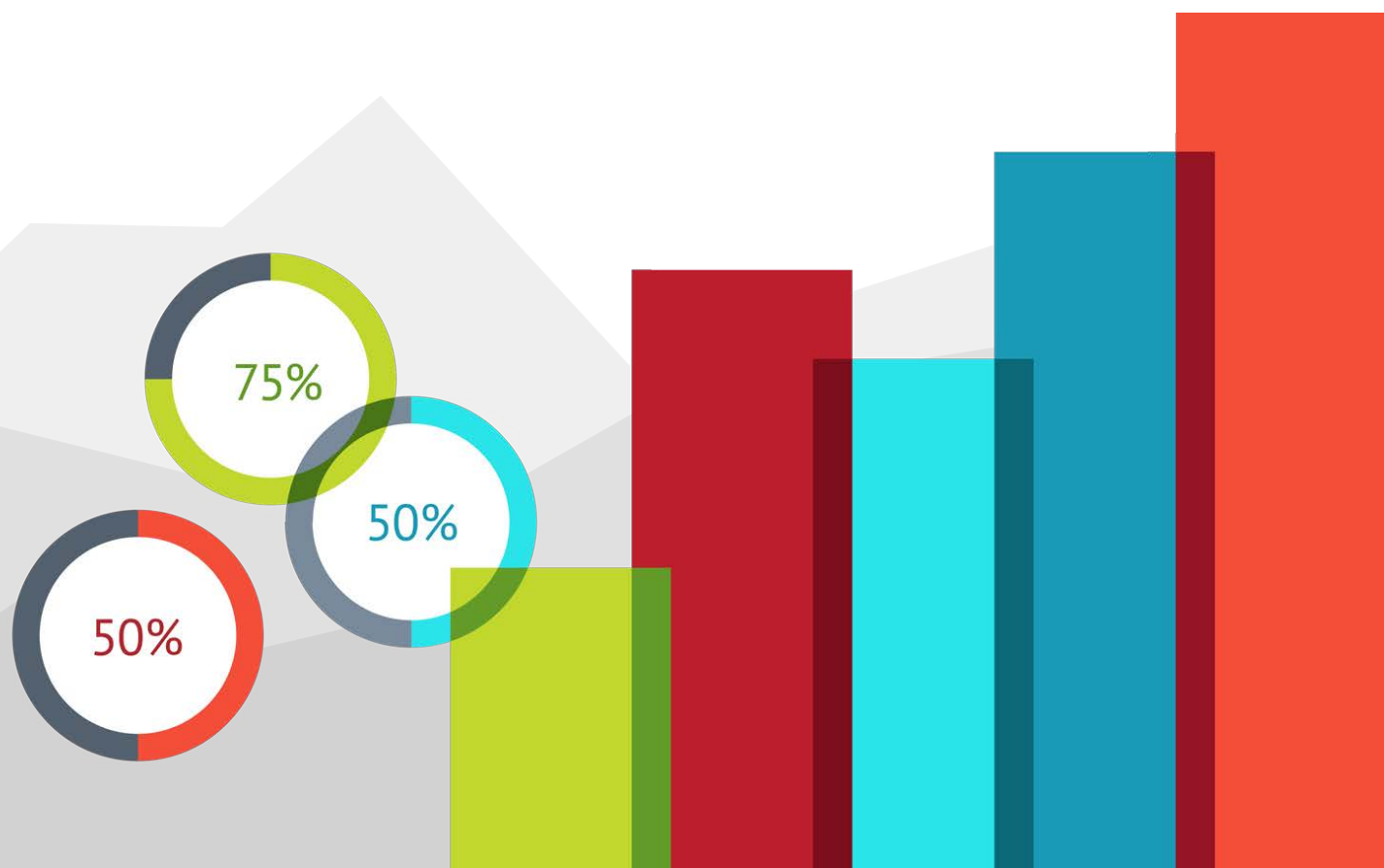


ETHAN

MANTHEY



2018 Non-Residential Lighting Sales Data Collection





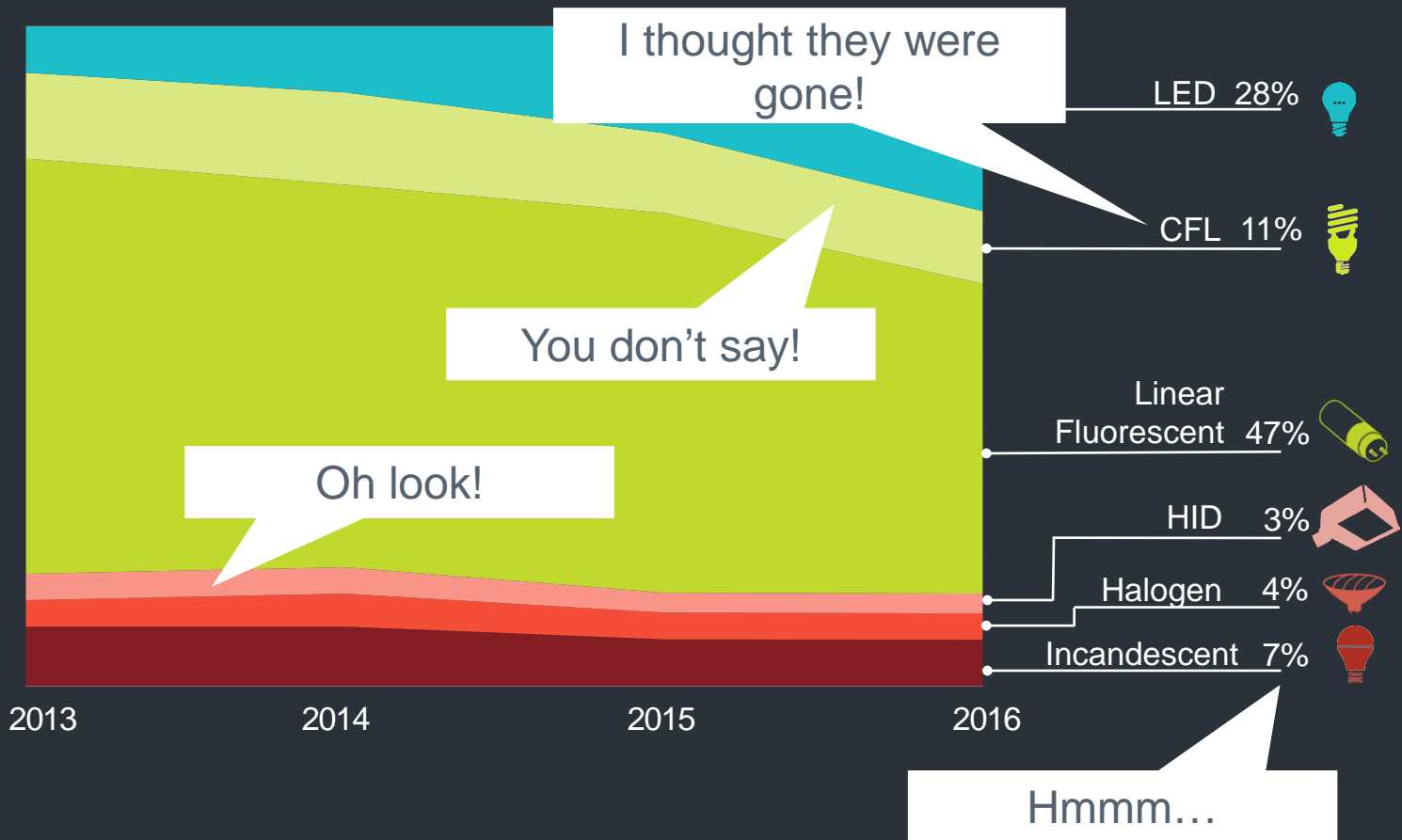
Bonneville
POWER ADMINISTRATION



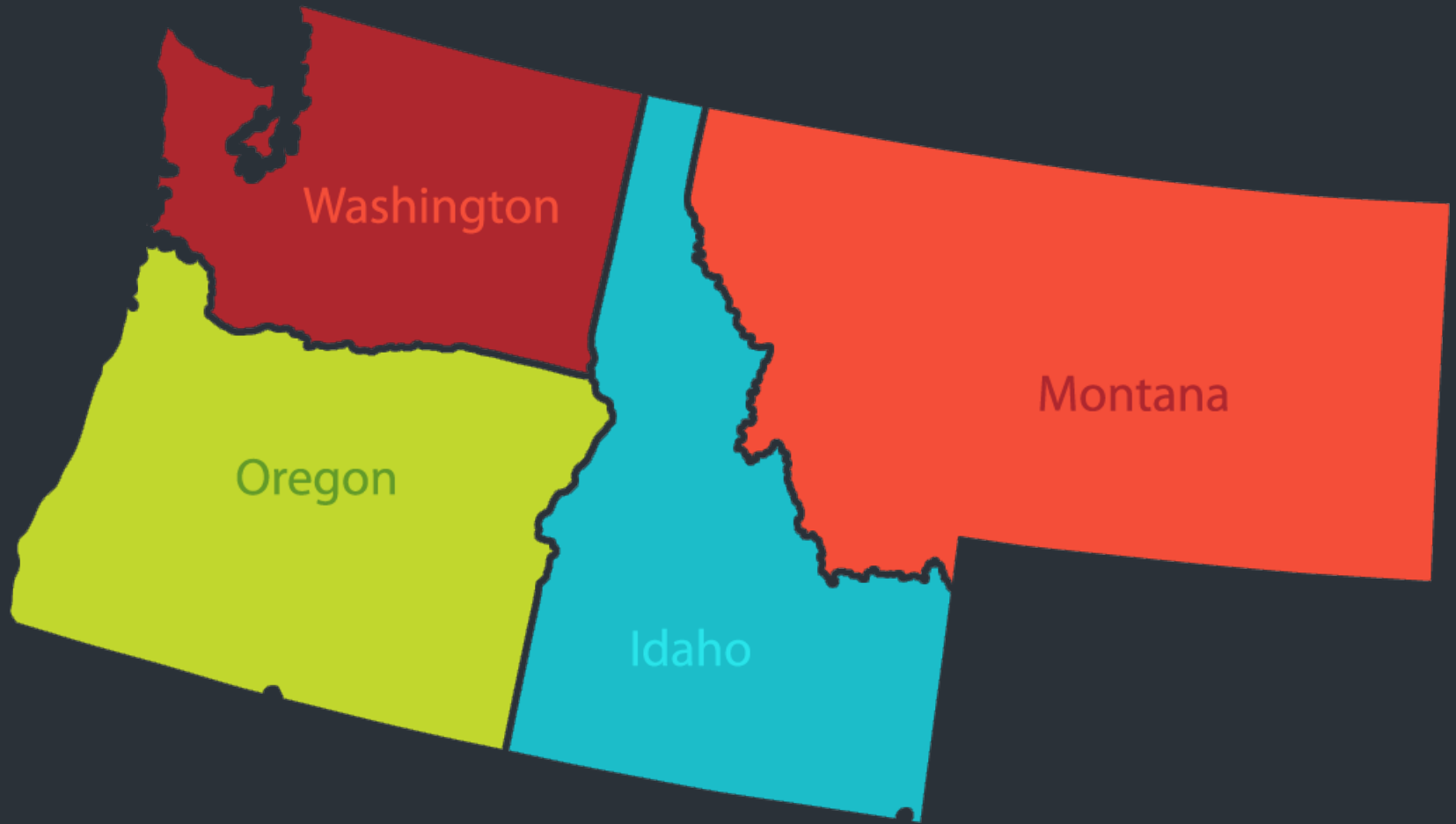
what we learned



sales data is awesome



Regional Representation



Floor Space



Lamps Shipment



Branches

24

2017
Distributors

205

Branches

30
%

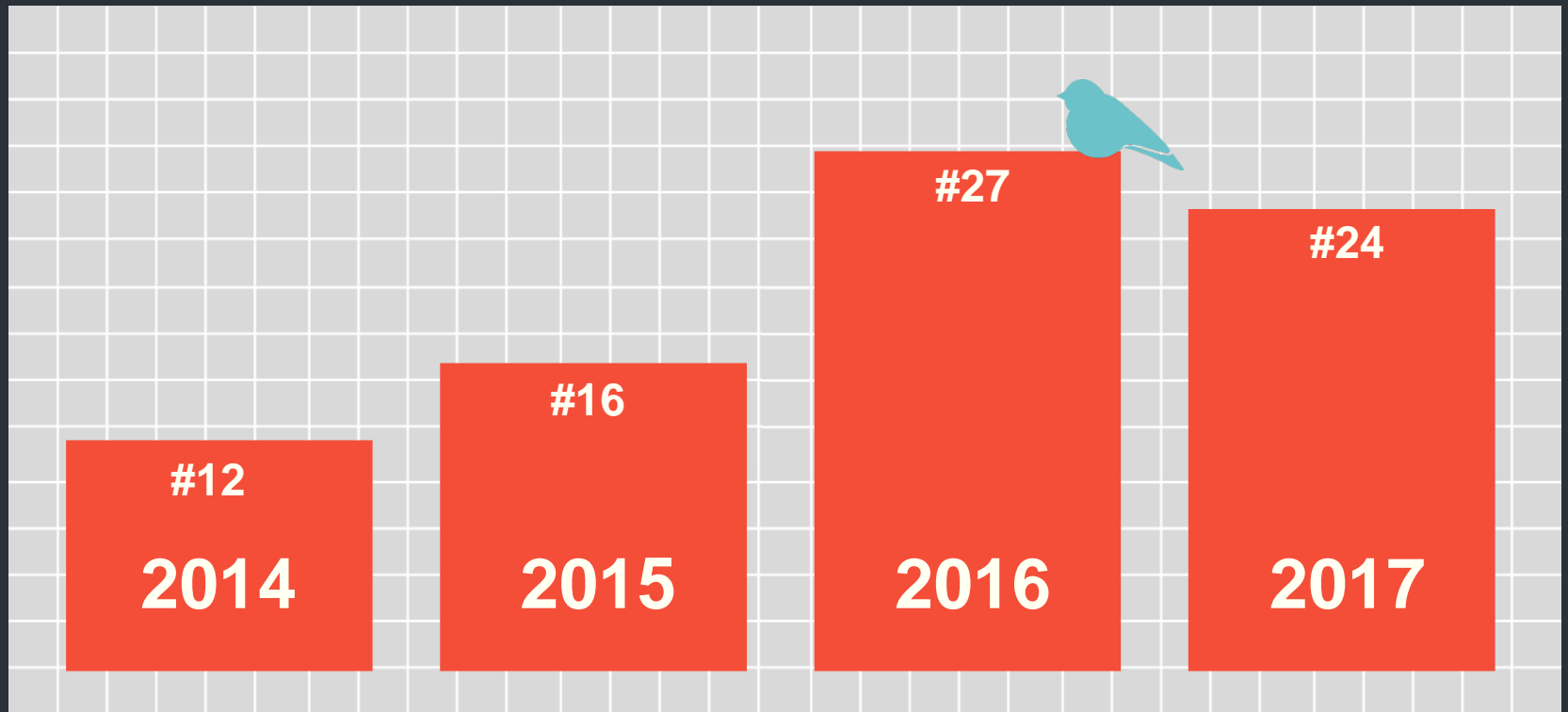
Market Share
Representation

10
16

Years Covered

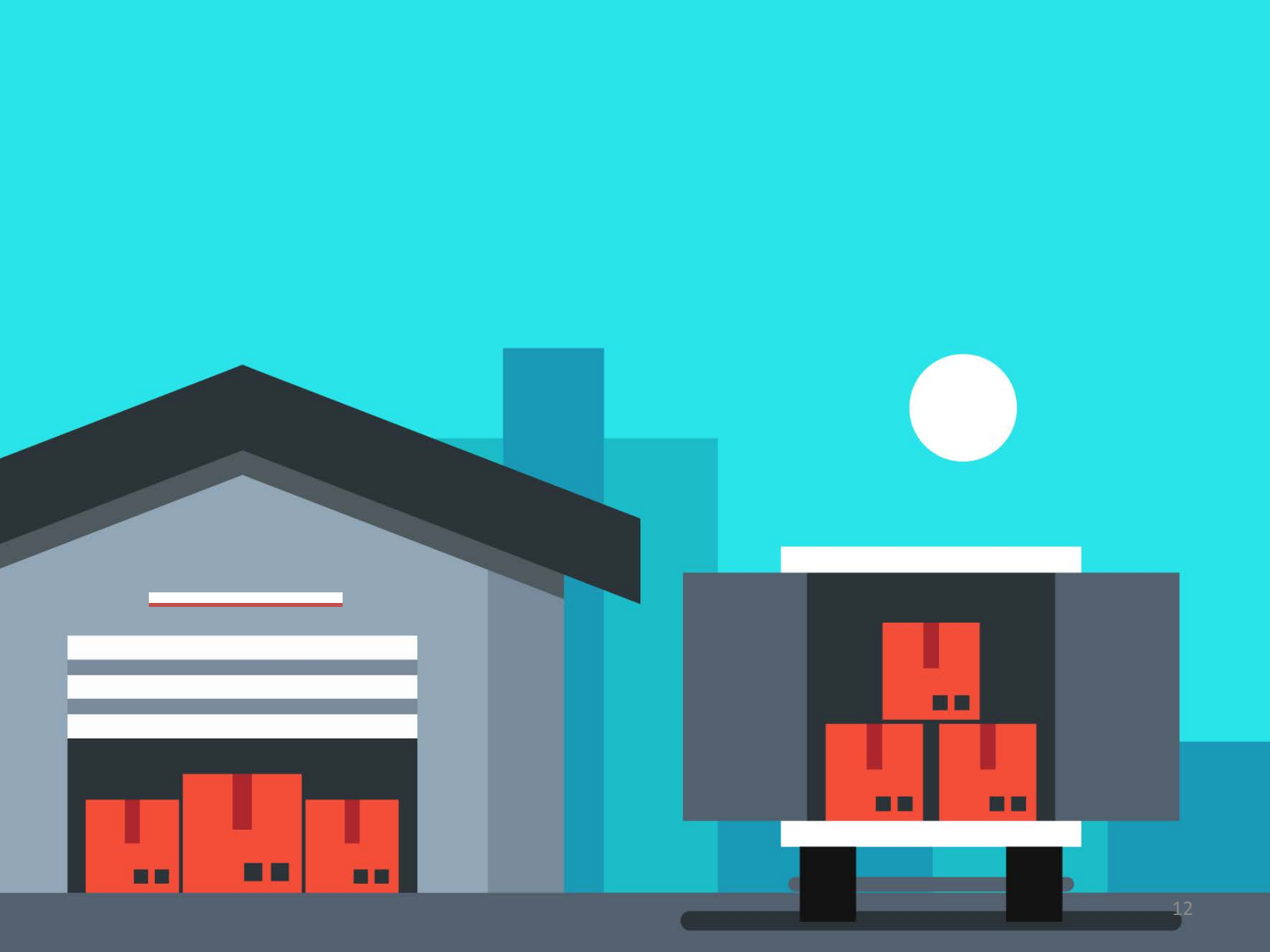
2017 annual distributor survey

Distributors



Supports Development of Model





Three goals for 2018

1

Retain and build participation

2

Even stronger data

3

Continue to provide value

Our Team

Elaine Miller, NEEA



BPA w/ Cadeo



Evergreen Consulting



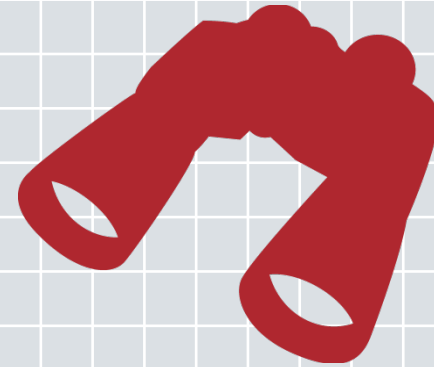
YES



How We Get Their Attention



**Incentive for
their Staff Time**

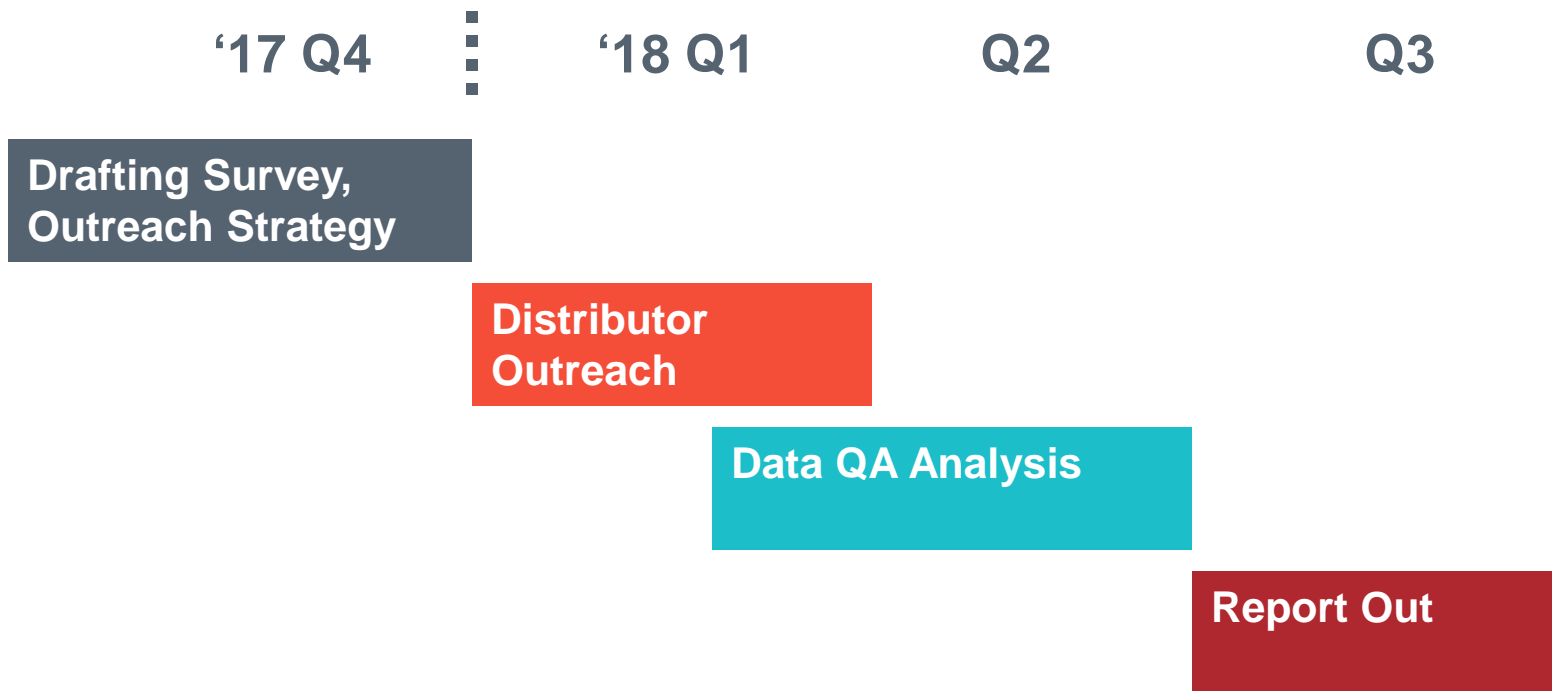


Market Intel

How We Get Their Attention



Timeline







JESSICA

AIONA

An illustration on a teal background showing two stylized human figures in grey. The figure on the left is larger and has a speech bubble coming from its mouth. The figure on the right is smaller. A speech bubble is positioned between them, pointing towards the larger figure. Below the figures is a document icon with horizontal lines representing text.

DATA CENTER MARKET ACTOR INTERVIEWS

Goals

- Learn about:
 - The supply chain
 - Efficiency of IT and infrastructure equipment
 - Efficiency practices
 - Cloud computing adoption rates
 - Differences in small-scale and large-scale data centers
 - Data growth in the NW
 - Utility programs
 - Market trends



Market Actors

- Interview 20 market actors
- 5 interviews with broad industry experts
- 15 interviews with “niche” market actors:
 - Equipment manufacturers
 - Wholesale distributors
 - Data center owners/managers
 - Data center design/build firms
 - EE program managers

Who do you know?

Timeline

Interview Broad
Industry Experts
12/4-12/22

Identify Niche
Market Actors &
Refine Questions
12/22-1/5

Interview Niche
Market Actors
1/8-2/2

Write Findings
Memo
2/5-3/9



BONNIE
WATSON

HVAC Project Updates



Current HVAC Projects



1

*Momentum
Savings Market
Model*

2

*Market
Intelligence
Gathering*

3

*Field Study
Planning/CC&S
Baseline Update*

4

*NEEA Regional
Sales Data
Collection*

HVAC Momentum Savings Model



Objective

Build a market model to understand how total residential HVAC market energy consumption is changing over the 7th PP, and calculate momentum savings for the 7th PP.

Activities

1. Model Scoping and Methodology Development
2. Model Development Sprints
3. Final Model and Methodology Memo

Outcomes

- Momentum Savings Market Model Methodology

Sectors

- ✓ Residential

Timeline

Start:

October 2017

Model Method and Scoping:

December – Early 2018

Model Sprints:

Early 2018 – December 2018

Final Method and Model:

December 2018

End:

December 2018

Project Manager

Bonnie Watson

bfwatson@bpa.gov

HVAC Momentum Savings Model

Our Current Thinking

How do you model just one year of total market energy consumption for residential HVAC?

- Why we can't just follow in lighting model's footsteps
- Many factors that influence residential HVAC energy consumption. Over 40,000 permutations
- With this in mind, considering the options for model architecture and scope



HVAC Market Intelligence Project

Objective

Gather market intelligence about the HVAC market to inform the residential and commercial momentum savings model.

Activities

1. Technology Guide
2. Market Actor Interviews
3. Trade Show Interviews

Outcomes

- Technology guide
- Interview findings memo
- Trade show findings memo

Sectors

- ✓ Residential
- ✓ Commercial

Timeline

Start:

September 2017

Technology Guide:

January 2018

Interview Findings:

February 2018

Trade Show:

January - March 2018

End:

April 2018

Project Manager

Bonnie Watson

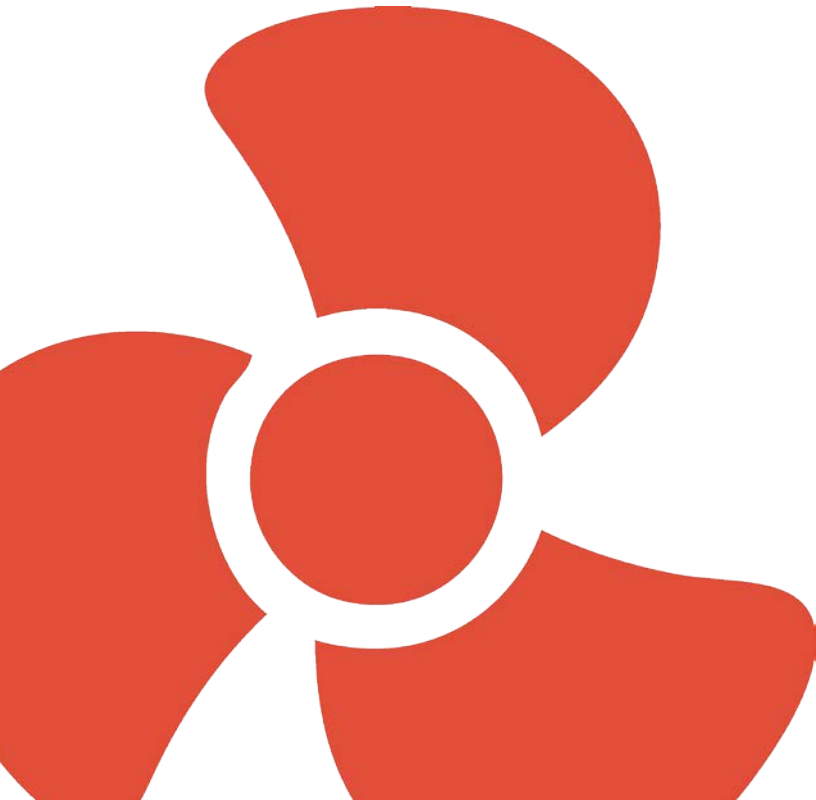
bfwatson@bpa.gov



HVAC Market Intelligence Project

Early Look: Interview Findings

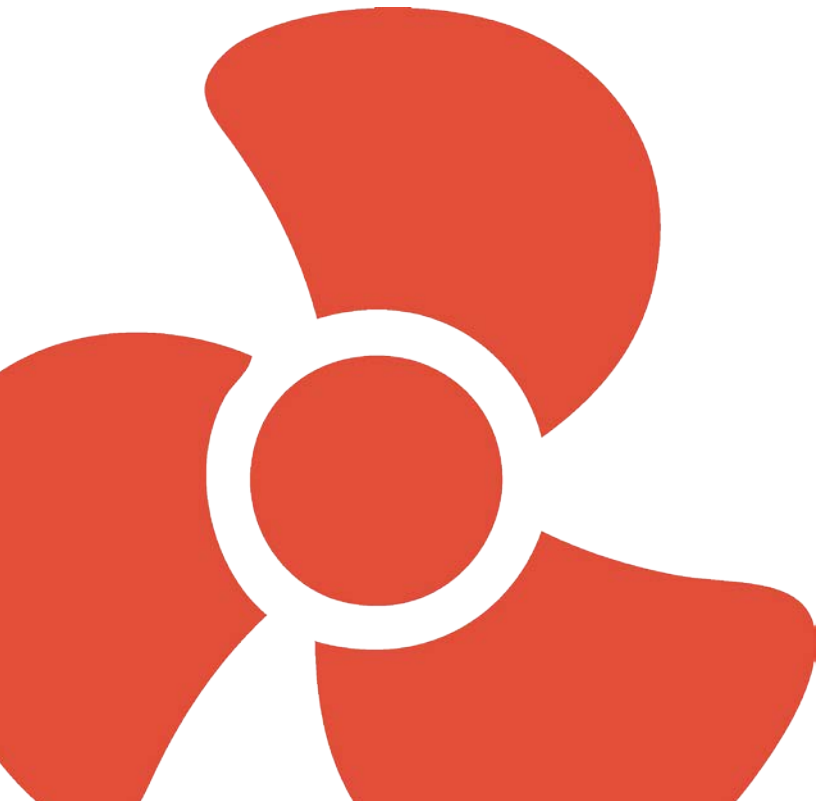
- Change in the market sales mix over last 3-4 years:
 - **Res:** Ductless growth continues; inverters are taking hold
 - **MF homes:** market not seeing much change across the board



HVAC Market Intelligence Project

Early Look: Interview Findings

- Change in the market sales mix over last 3-4 years:
 - **Com:** increases in VFDs, VRF, new refrigerants (e.g., CO₂), and cloud-based computing for remote performance monitoring (i.e. advanced controls).
 - **Light com:** automation is also starting to take hold.



HVAC Market Intelligence Project

Looking Ahead

Any things you're curious about that we could explore at the AHR Expo in Chicago?



HVAC Field Data Collection Planning



Objectives

1. Determine the residential CC&S current practice baseline for ASHP
2. Gather data to inform momentum savings model

Activities

1. Working Sessions
2. Research approach planning
3. Planning how to collect field data

Outcomes

- Research Plan
- Field Data Collection Protocol

Sectors

- ✓ Residential

Timeline

Start:

November 2017

Research Plan:

March 2018

Field Data Collection Protocol:

March 2018

End:

March 2018

Project Manager

Bonnie Watson

bfwatson@bpa.gov

HVAC Field Data Collection Planning

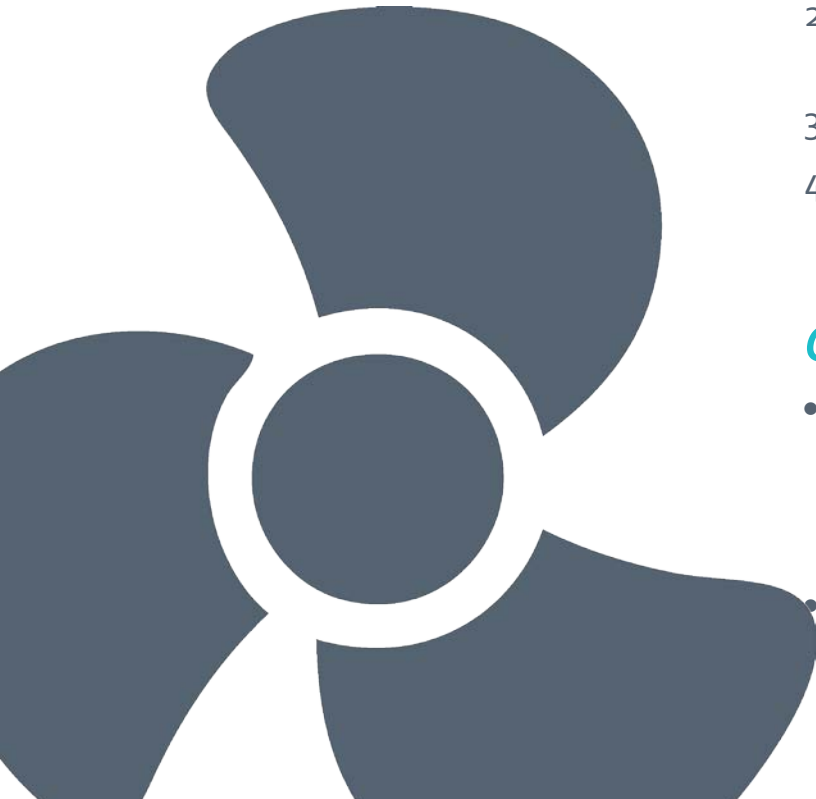
Our Current Thinking

How do we identify where new HVAC equipment is being installed in the PNW?

- Ask contractors?
- Permit data?
- Survey homeowners?



HVAC Distributor Sales Data Collection - NEEA



Objective

Collect full-category regional HVAC sales data for 2017 from NW HVAC distributors.

Activities

1. Data collection prioritization and research design
2. Pre-engagement planning
3. Data collection
4. Data cleaning and analysis

Outcomes

- Cleaned, anonymized full-category HVAC distributor sales data for 2017
- Presentation of sales data trends

Sectors

- ✓ Residential
- ✓ Commercial

Timeline

Start:

May 2017

Data Collection Plan:

October 2017

Data Collection:

November – February 2018

Results:

March 2018

End:

March 2018

Project Manager

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HVAC Distributor Sales Data Collection - NEEA



EFFICIENT
HVAC EFFORT

HELP HEAT UP THE EFFICIENT HVAC MARKET

Bonneville Power Administration, Energy Trust of Oregon, the Northwest Energy Efficiency Alliance and the NW Power and Conservation Council want to partner with Northwest distributors to collect HVAC and water heating unit sales data through a coordinated annual process. Please join us!

WHAT'S IN IT FOR YOU?

Your participation is essential for success. The partnership between regional energy organizations and distributors makes growing the markets for efficient HVAC technologies a reality.

As a participant, your organization will receive:

-  A customized report
-  \$1,000 to account for the time it takes to compile this data (if data is received within 6 weeks of commitment to participate and prior to December 15, 2017)
-  A seat at the table to help us develop future incentive programs for these technologies
-  Early insight into market direction and utility program support so you can align yourself with the future of HVAC



DATA HELPS US HELP YOU

Consider where the ductless heat pump market was in 2008. Consumer awareness was low, fewer than 4,000 units were sold per year in the Northwest, and there were no utility rebate programs. Without information from market partners, BPA, Energy Trust and NEEA wouldn't have been able to invest more than **\$60 million** to support the market growing to over 35,000 sales per year.

Last year, with data and input from regional partners, BPA began offering a rebate for a cutting edge new HVAC technology, variable refrigerant flow (VRF), at **\$800 per ton**. BPA is very interested in getting market uptake with this technology and is actively looking for opportunities to provide incentives for qualified VRF projects.

HVAC Distributor Sales Data Collection - NEEA

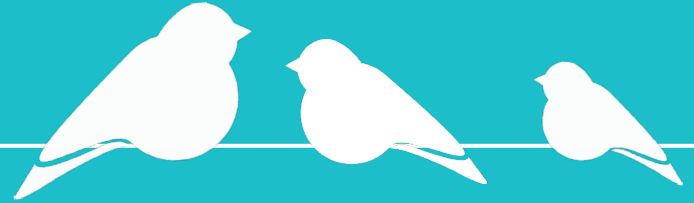


Outreach Tactics

- Leverage manufacturer relationships
- ORACCA meeting chats
- Other ideas?

Outreach Status

- 94% of contacts received email
- 77% of contacts received phone calls, 64% of these have resulted in conversations
- One distributor is confirmed as participating
- Another distributor indicated high likelihood of participation



**Thank
You**



THX!

See you January 3rd!