ACTION PLAN

Brown Bag
November 3, 2016
AGENDA

1. Overview
2. Seventh Plan
3. Sector Strategies
4. Savings and Costs
5. Next Steps
6. Discussion
EE PLAN

OVERVIEW
EE ACTION PLAN

DRAFT

THROUGH
NOVEMBER 18
Purpose

UNWRAP THE COUNCIL SAVINGS POTENTIAL

EXPLORE OPPORTUNITIES

DEVELOP A ROAD MAP
Our Journey

Fall 2015
- 7th Plan Supply Curves
- Strategy Sessions
- Developed Estimates

Winter 2016
- Reviewed and Revised
- Developed Draft
- Public Comment
- Edit and Finalize
Components of the Action Plan
What’s New

- Change to Self Funding
- Costs through 2019
- Unallocated Savings
- Demand Response
- Public Comment Period
## EE Action Plan Overview

<table>
<thead>
<tr>
<th>Category</th>
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<tbody>
<tr>
<td>Savings &amp; Cost forecast</td>
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<tr>
<td>Sector Strategies</td>
</tr>
<tr>
<td>Emerging Technology</td>
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<tr>
<td>Momentum Savings</td>
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<tr>
<td>Evaluation</td>
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<tr>
<td>Demand Response</td>
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</table>
EE Action Plan Key Conclusions

- BPA believes there is sufficient budget through 2019 to meet the public power share of the Council EE goals. While total forecasted savings are slightly under the Council target, the EE Action Plan estimates are conservative.

- Programmatic savings continue to provide the majority of savings towards the Council goals, accounting for nearly 65% of total estimated savings.
SEVENTH POWER PLAN
The 7th Power Plan

A REGIONAL SAVINGS GOAL

1400 aMW 6yrs

AT 42%
PUBLIC POWER SHARE OF 588 aMW
Savings and Goals
SECTOR PLANS
Strategic Themes

- Focus on delivery and making programs accessible and easy to use
- Identify and prioritize new technologies
- Leverage regional efforts
Residential Sector

RESIDENTIAL PROGRAM

**HVAC**
- Heat Pumps & Duct Sealing
- PTCS Registry & QA Inspections
- HVAC UES
- DHP & VSHP Growth
- Smart Thermostat UES Development

**NEW CONSTRUCTION**
- ENERGY STAR (NEEM Partnership) MH UES
- High Performance Manufactured Home’s UES
- ENERGY STAR/Built Green SF Homes UES
- Montana House UES
- ENERGY STAR (NEEM Partnership) Multi-Family UES

**WEATHERIZATION**
- Insulation UES
- Air Sealing UES
- Windows and Doors UES
- Non-Grant Low Income Weatherization/ Ductless Heat Pump UES

**LIGHTING, APPLIANCES & ELECTRONICS**
- Simple Steps – Retail Promotions, Direct Mail & Direct Install
- Lamps & Fixtures Showerheads
- Thermostatic Shutoff Valves (TSVs)
- Clothes Washers Efficient Dryers
- Advanced Power Strips RSAT
- ENERGY STAR Lighting & Appliances UES

**WATER HEATING**
- Heat Pump Water Heaters
- Showerheads
- Thermostatic Shutoff Valves (TSVs)
Opportunities
- Grow DHP applications to “whole home solutions”
- Smart thermostats
- DHPs in multifamily

Challenges
- Make PTCS easier for techs to maintain their higher levels of participation
- Keep up with pace of change in new HVAC technologies/applications in our processes/reqts.
Opportunities

• Window attachments: Attachments Energy Ratings Council to certify energy savings; may bring new low-cost weatherization opportunities

• Low-Income Workgroup is resulting in collaborative solutions to reach more low-income
Challenges

• Maintaining weatherization measures that are designed to bring efficiency to those falling behind code or baseline averages
• Designing programs for new construction that can adapt to the pace of technology and code advancement
Residential Lighting and Appliances

- **Opportunities**
  - Large volume continues
  - Online opportunities

- **Challenges**
  - Rapidly changing market
  - Scalability, how do we make it big?
New Commercial Program
- Proactive Field Services - Local Utility Control
- Comprehensive Building Approach
- Integrated Trade Ally Networks

Commercial SEM
- Piloting focused initiative with Tacoma Power, Seattle City Light, and Snohomish PUD
- Available to BPA’s other utilities as well.
Commercial

- **BPAQ Measures**
  - All Commercial Sector BPAQ measures have been overhauled to ensure implementation viability
  - Targeted focus on HVAC and building shell
  - Best case scenario – prescriptive commercial measures will only account for 10% of sector savings (lots of effort, thousands of installs, not much savings to show for it)

- **Streamlined Custom**
  - Smaller custom projects will be easier to submit and process
  - Easier / faster custom projects expected to make up 10-20% of sector savings goals.
Savings by Category
Savings by Sector

[Bar chart showing savings by sector with specific values for each year from 2016 to 2021]
Momentum Savings
NEEA Savings
SPENDING OVERVIEW
Total BPA Spending

BPA Spending – by Sector

TOTAL ESTIMATED SPENDING $ 297.0 M
Average Costs – EEI Costs + EEI Savings

Average Costs

$1.7M $/aMW
$0.20 $/kWh
$22.5 $/MWh (levelized)
Average Costs – EEI + All Prog. Savings

- **2016**: $58.2M, $76.1 per aMW
- **2017**: $58.4M, $77.4 per aMW
- **2018**: $58.8M, $71.8 per aMW
- **2019**: $58.5M, $71.8 per aMW

**Average Costs**
- $1.3M $/aMW
- $0.15 $/kWh
- $17.7 $/MWh (levelized)
Next Steps

Public Comment

Review and Finalize

Management Approval

Final Release (Jan 2017)
We want your feedback!

Public Comment Period Through
November 18

What a great plan!
Discussion and Questions
## Residential Details

### TOTAL SAVINGS (EEI + SF) [aMW]

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### Average Costs

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<th>2018</th>
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<td>$/kWh</td>
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<td>$M/aMW</td>
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## Commercial Details

### Total Savings (EEI + SF)

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<td>Heating and Cooling</td>
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<td>9.97</td>
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<td>19.20</td>
<td>20.47</td>
<td>20.31</td>
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### Average Costs

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<tr>
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<td>$0.17</td>
<td>$0.16</td>
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<td>$1.39</td>
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<tr>
<td><strong>Levelized cost ($/MWh)</strong></td>
<td>$19.66</td>
<td>$19.38</td>
<td>$17.94</td>
<td>$17.73</td>
<td>$18.68</td>
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### Agricultural Details

#### TOTAL SAVINGS (EEI + SF)

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<td>Pumps and Fans</td>
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<td>0.02</td>
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<td>1.82</td>
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<td>$/kWh</td>
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<td>$17.43</td>
<td>$14.80</td>
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<td>$15.15</td>
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