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April 4, 2017

### MEMORANDUM

**TO: Council members**

**FROM: Charlie Grist, Tina Jayaweera, and Kevin Smit**

**SUBJECT: Briefing on Final Bonneville 2016-2021 Energy Efficiency Action Plan**

### **BACKGROUND:**

**Presenter:** Allie Mace, BPA Planning and Evaluation Manager and Danielle Walker, BPA Planning Specialist

**Summary:** Allie Mace and Danielle Walker will brief the Council on Bonneville's Final 2016-2021 Energy Efficiency Action Plan (EE Plan). They will also discuss its activity related to Bonneville-related Seventh Plan Action.

The EE Plan is the agency's roadmap for achieving savings towards the Council's Seventh Plan. The EE Plan outlines how savings are achieved through a variety of programs, market transformation, and momentum savings. The Action Plan also identifies the budget needs required through 2019 in alignment with the BPA Integrated Program Review – the process BPA uses to set budgets for each rate case period. The Action Plan includes an overview of sector program strategies, evaluation, emerging technology and an introduction into BPA's demand response efforts.

The final EE Plan concludes that the combined Bonneville, utility, and NEEA resources and actions are expected to achieve about 580 aMW of savings over the six-year period. The forecast mix of savings from BPA-funded programs and expected utility customer self-funded programs are largely unchanged from the draft plan. There is a slight increase in

forecast savings from NEEA market transformation programs. BPA's expected savings from momentum savings is large and unchanged, but the final plan states BPA's intention to closely monitor changes to federal standards under the new administration and to adjust its activities and savings assumptions as warranted. BPA budget levels (\$455 million over the first four years) are unchanged from the draft and include a \$5 million annual reduction in funding beginning 2018 due to an assumed increase in utility self-funding.

One helpful addition to the EE Plan includes a more balanced analysis of risks and opportunities in each of six sector-based strategies along with a discussion of BPA's approach to addressing each. The final plan addresses many of the Council staff over-arching comments on the draft. However, there are several elements, related to contingency planning and Seventh Plan Action items, which were not addressed in the Energy Efficiency Action Plan document. These include: Verifying and incorporating utility self-funding plans, monitoring the effectiveness of Bonneville efficiency incentives (EEI), and linking elements of the Energy Efficiency Action Plan to Seventh Plan action items, particularly distribution system savings MCS-2.


**Relevance:** Bonneville's implementation of its energy efficiency program and obligations is a key element of the Council's Power Plan.

**Workplan:** A.1.1. Conservation - Coordinate with regional entities to ensure the regional goal for cost-effective conservation is achieved.

**Background:** The Council reviewed and commented on the draft EE plan in October and November, 2016.

**More Info:**

- Link to [Final EE Plan](#)
- Link to Council Comments on the draft EE Plan



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**ee**  
**ACTION PLAN**  
*Council Meeting  
April 2017*

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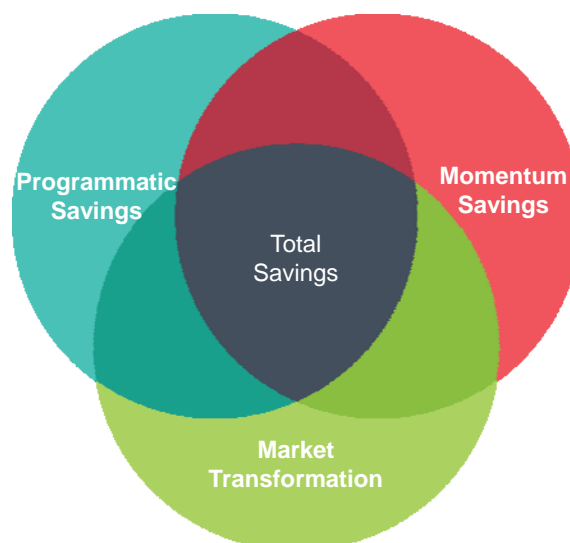
**BPA**  
**ENERGY EFFICIENCY**

## BPA's Energy Efficiency Program

- BPA partners with its customer utilities to support energy efficiency programs across all sectors
- Offers a broad portfolio of measures for reimbursement, regional programs and technical support
- Public power has acquired more than 1700 aMW of savings since 1980
  - Achieved over 600 aMW in the 6<sup>th</sup> Plan

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## EE Acquisition



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FROM SEVENTH PLAN  
TO ACTION PLAN

B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

## The Power Plan is our EE Compass

New Technologies

Existing & New Initiatives

Expiring Technologies

Cost Effectiveness

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

## From 7<sup>th</sup> Plan to EE Action Plan

Power Plan Goals

Program Strategies

Utility Forecasts

Customer Interests

Program Costs


Market Research

BPA EE Action Plan


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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N


## Purpose



UNWRAP THE COUNCIL SAVINGS POTENTIAL



EXPLORE OPPORTUNITIES AND ASSESS BUDGET NEEDS

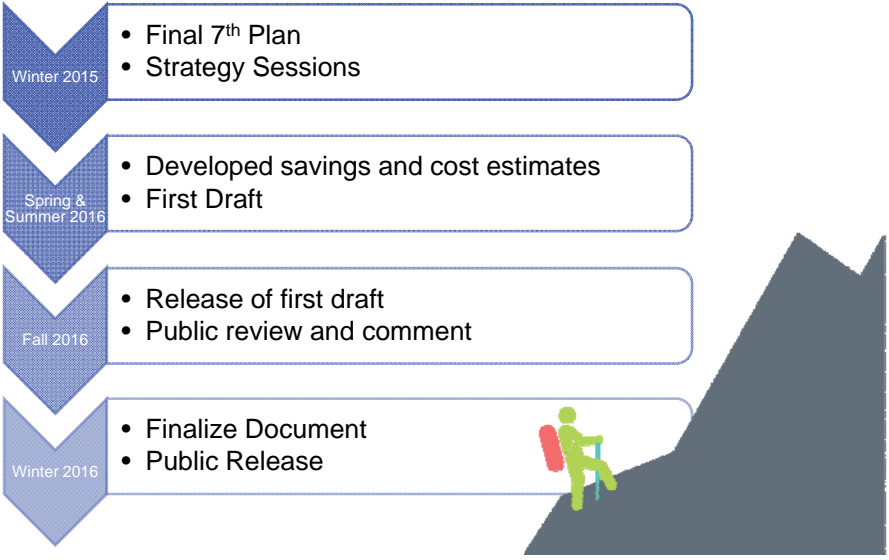


DEVELOP A ROAD MAP

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N


## Our Journey



- Winter 2015
  - Final 7<sup>th</sup> Plan
  - Strategy Sessions
- Spring & Summer 2016
  - Developed savings and cost estimates
  - First Draft
- Fall 2016
  - Release of first draft
  - Public review and comment
- Winter 2016
  - Finalize Document
  - Public Release

B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

## EE Action Plan Overview



- Savings and Cost
- Sector Strategies
- Emerging Technologies
- Momentum Savings
- Evaluation
- Demand Response

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

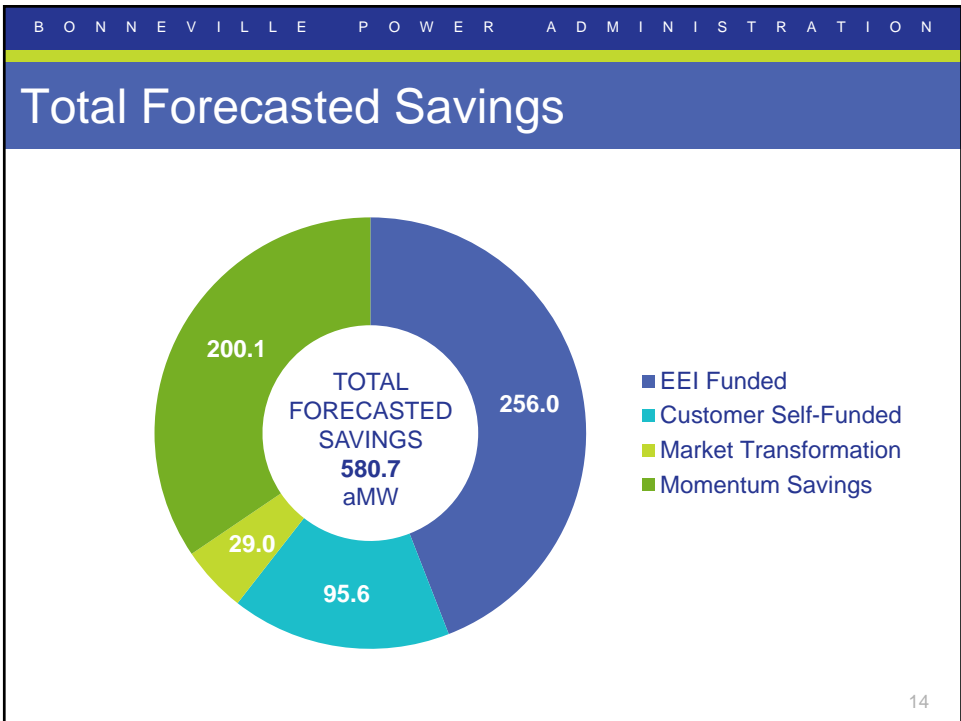
## Key Strategic Themes

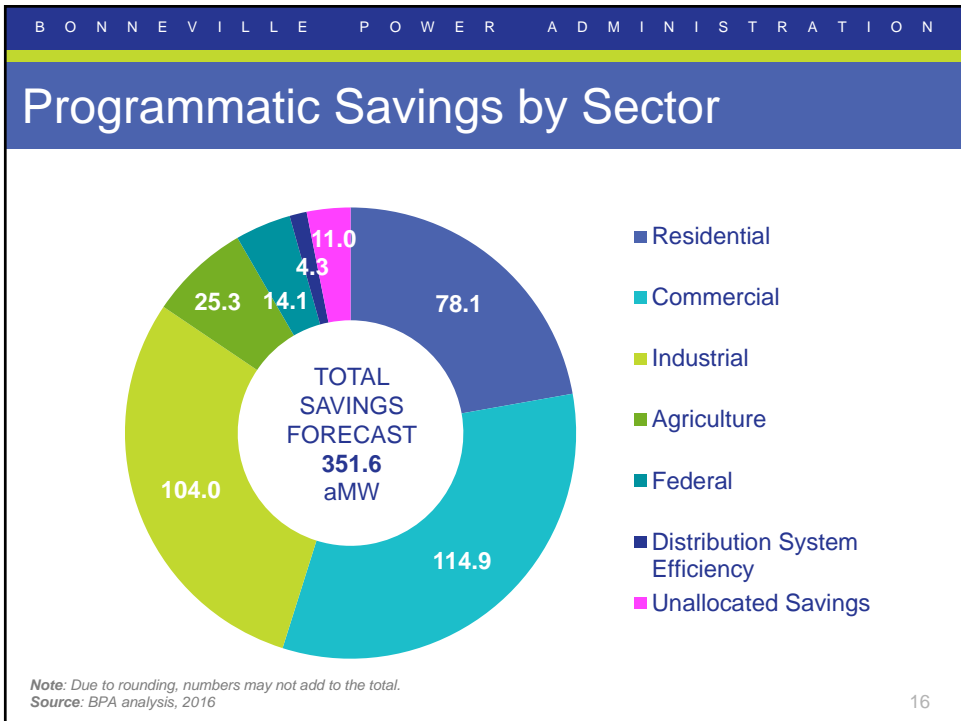
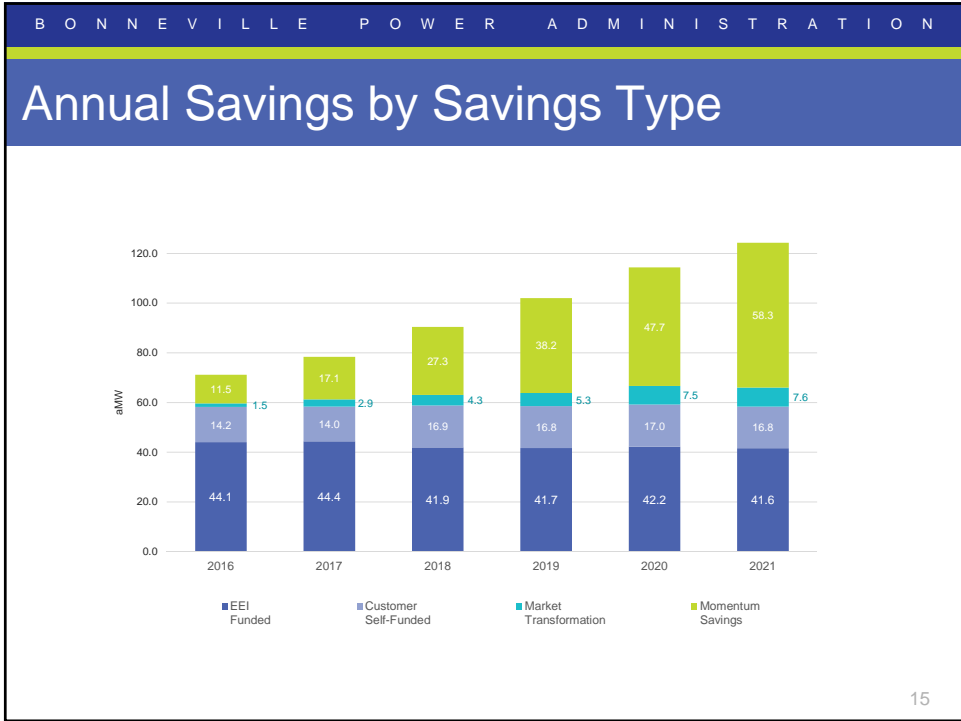
- 1 Focus on delivery and making programs accessible and useful for BPA's customers
- 2 Identify & prioritize new technologies
- 3 Leverage existing regional efforts

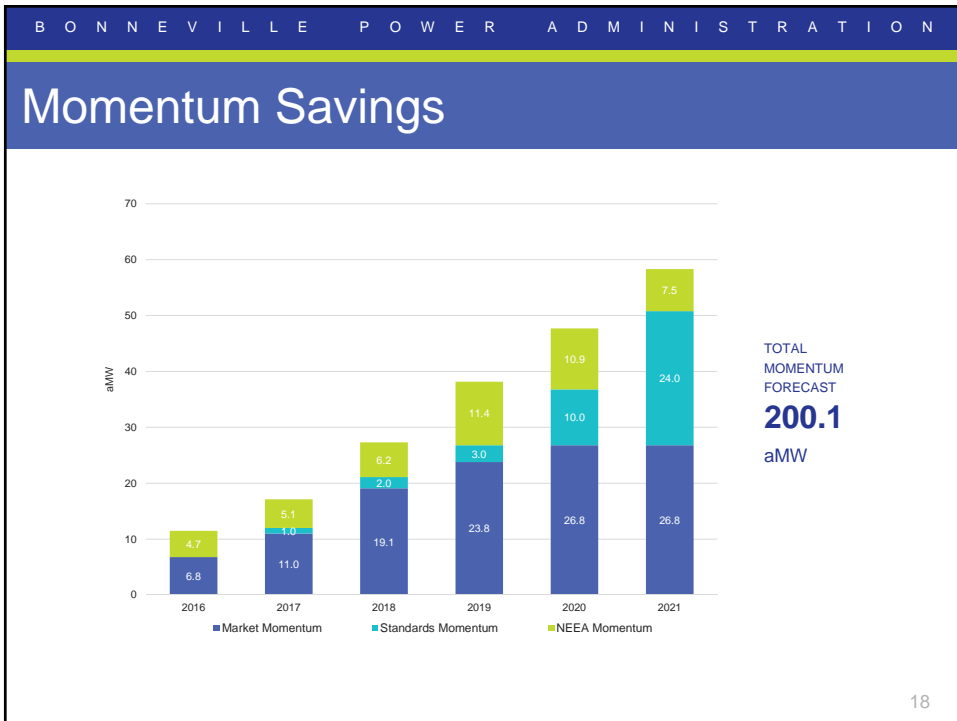
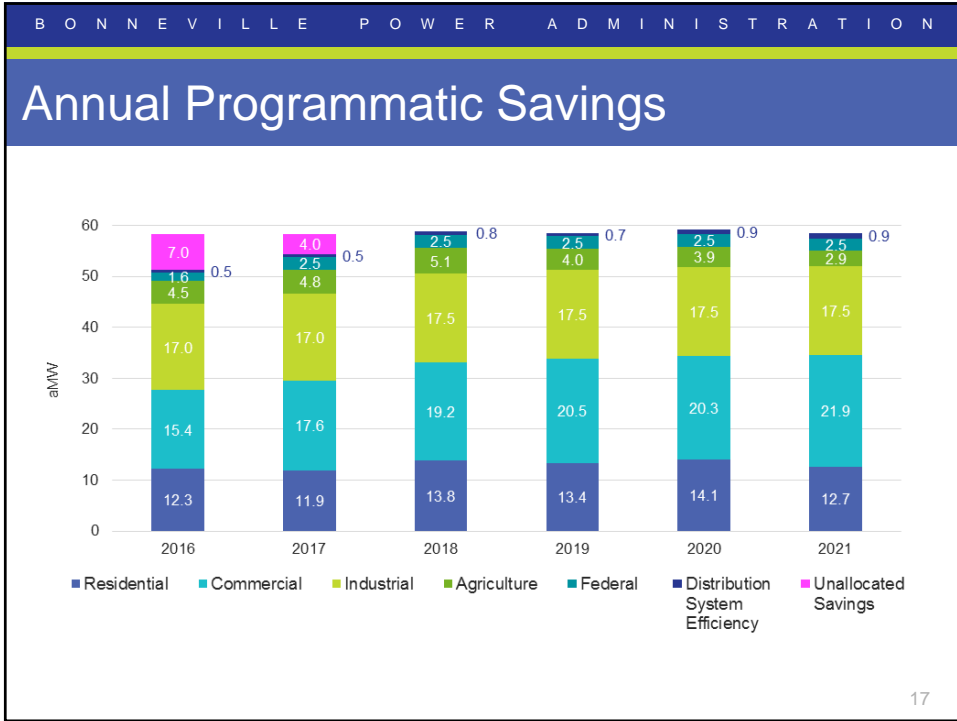
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# SAVINGS OVERVIEW







# PROGRAM STRATEGIES

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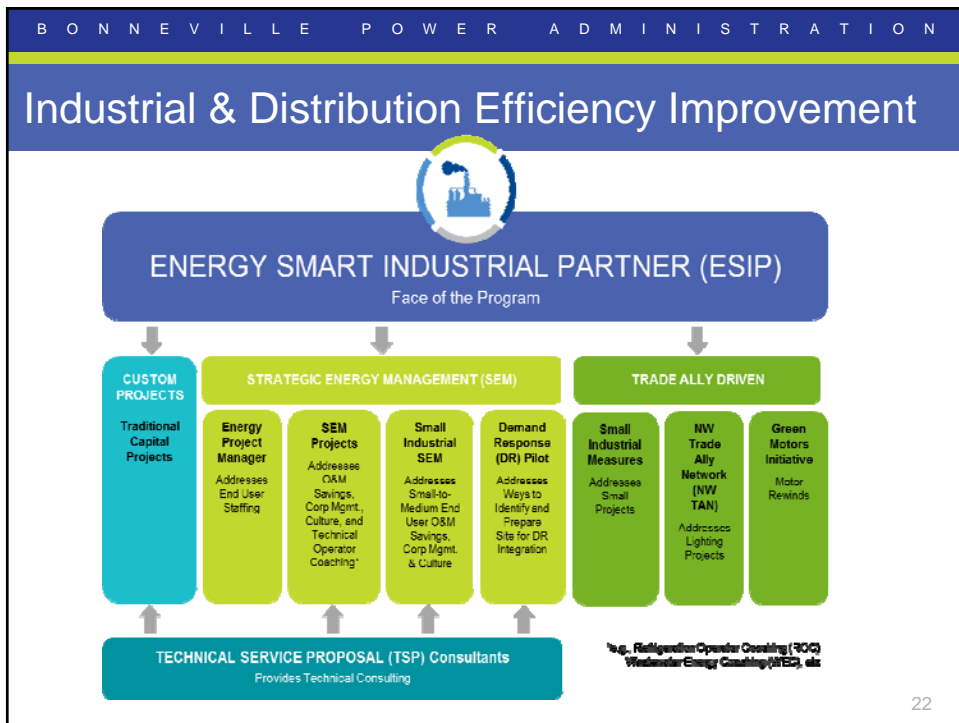
## Residential



### RESIDENTIAL PROGRAM


HVAC	NEW CONSTRUCTION	WEATHERIZATION	LIGHTING, APPLIANCES & ELECTRONICS	WATER HEATING
<ul style="list-style-type: none"> <li>Heat Pumps &amp; Duct Sealing</li> <li>PTCS Registry &amp; QA Inspections</li> <li>HVAC UES</li> <li>DHP &amp; VSHP Growth</li> <li>Smart Thermostat UES Development</li> </ul>	<ul style="list-style-type: none"> <li>ENERGY STAR (NEEM Partnership) MH UES</li> <li>High Performance Manufactured Home's UES</li> <li>ENERGY STAR/Built Green SF Homes UES</li> <li>Montana House UES</li> <li>ENERGY STAR (NEEM Partnership) Multi-Family UES</li> </ul>	<ul style="list-style-type: none"> <li>Insulation UES</li> <li>Air Sealing UES</li> <li>Windows and Doors UES</li> <li>Non-Grant Low Income Weatherization/ Ductless Heat Pump UES</li> </ul>	<ul style="list-style-type: none"> <li>Simple Steps – Retail Promotions, Direct Mail &amp; Direct Install</li> <li>Lamps &amp; Fixtures</li> <li>Showersheds</li> <li>Thermostatic Shutoff Valves (TSVs)</li> <li>Clothes Washers</li> <li>Efficient Dryers</li> <li>Advanced Power Strips</li> <li>RSAT</li> <li>ENERGY STAR Lighting &amp; Appliances UES</li> </ul>	<ul style="list-style-type: none"> <li>Heat Pump Water Heaters</li> <li>Showersheds</li> <li>Thermostatic Shutoff Valves (TSVs)</li> </ul>

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

# Agriculture



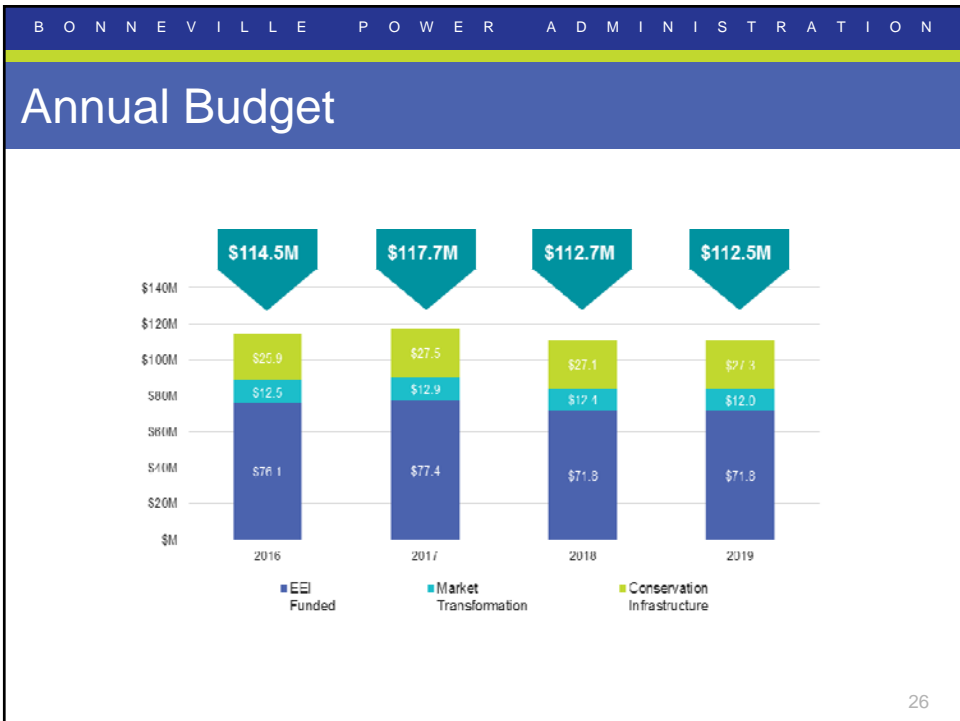
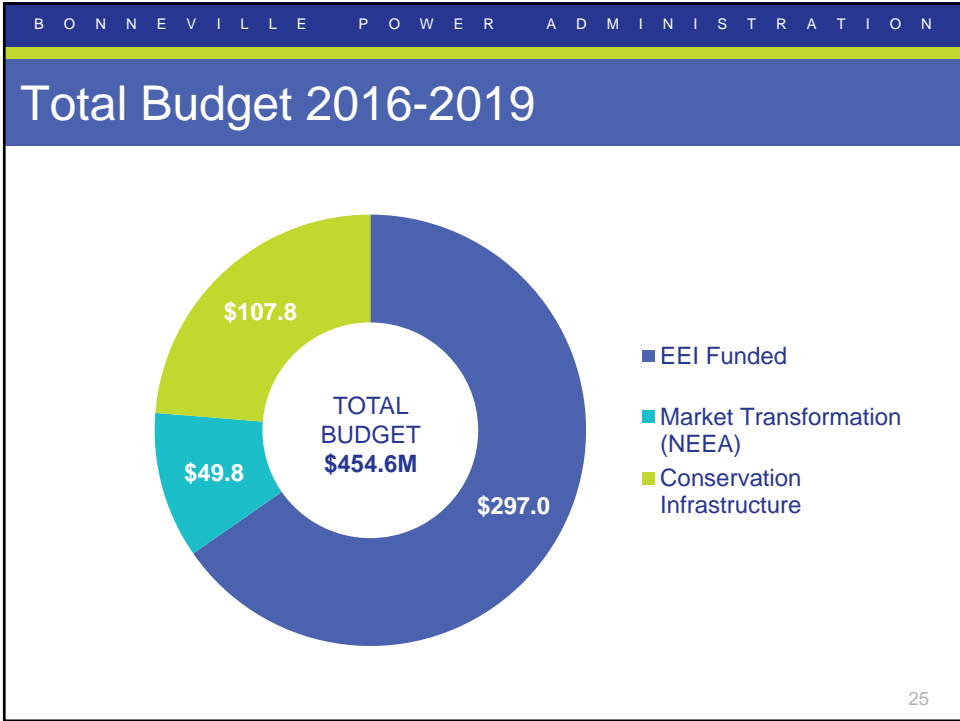
## AGRICULTURAL PROGRAM

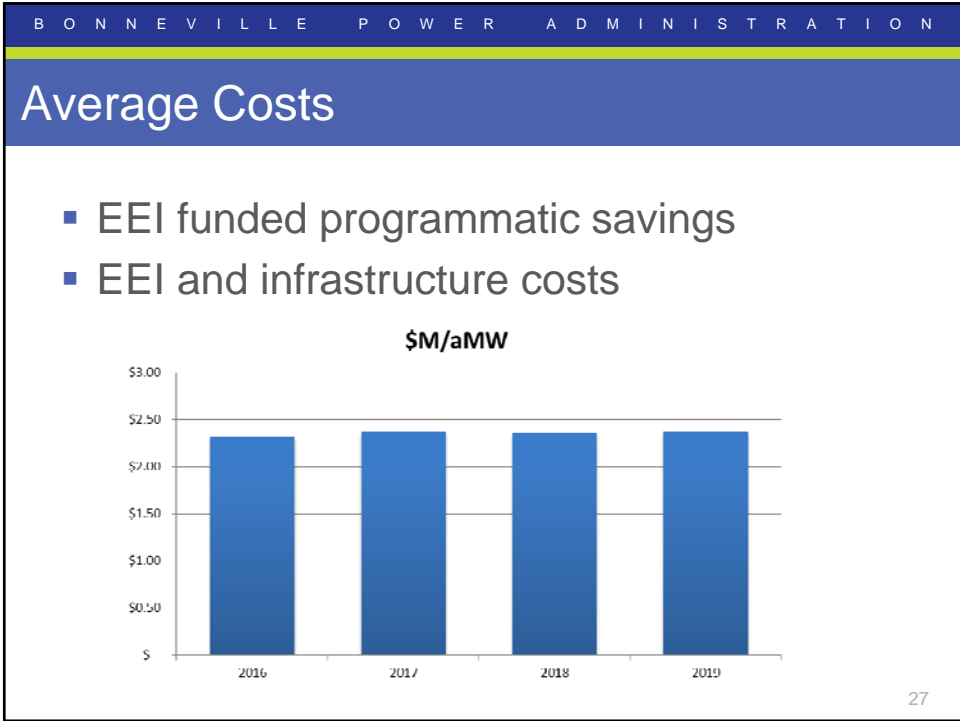
<b>PUMP TESTING</b> <ul style="list-style-type: none"><li>Use BPA Pump Test Screening Tool</li><li>Use FT Vendor / Consultant</li><li>Report on Deemed Rebate List</li><li>May lead to Custom Project</li></ul>	<b>SPRINKLER HARDWARE</b> <ul style="list-style-type: none"><li>Menu of Measures</li><li>Report on Deemed Rebate List</li></ul>	<b>TURBINE PUMP VFDs</b> <ul style="list-style-type: none"><li>Eligible on only 20-600 hp</li><li>Need utility kWh data</li><li>Report on Deemed Rebate List</li></ul>	<b>VACUUM PUMP / AIR COMPRESSOR VFDs</b> <ul style="list-style-type: none"><li>Use VFD Calculator for Savings</li><li>Report on Deemed Rebate List</li><li>May become Custom Project</li></ul>	<b>SCIENTIFIC IRRIGATION SCHEDULING</b> <ul style="list-style-type: none"><li>Works with SIS Consultants or NRCS</li><li>End of season use BPA Calculator for Savings</li><li>Report on Deemed Rebate List</li></ul>	<b>LIGHTING</b> <ul style="list-style-type: none"><li>Use Non-Residential Lighting Calculator</li></ul>	<b>CUSTOM PROJECTS</b> <ul style="list-style-type: none"><li>Traditional Capital Projects</li><li>Use BPA Custom Project (CI) Calculator</li><li>May include multiple measures</li><li>Project over 200,000 kWhs require Data Logging</li></ul>
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WORK WITH GROWERS

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# ACTION PLAN BUDGET





# SEVENTH PLAN ACTION PLAN



B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

## Action Items – BPA Lead Efforts

Action Item	Description	BPA Engagement
BPA-1	Achieve BPA's share of the regional goal for cost effective conservation	Development of EE Action Plan and continuation of EE programs, momentum savings research, and support of NEEA
BPA-3	Continue efforts to establish demand response	DR potential assessment and commercialization plan being developed
BPA-5	Quantify the value of conservation in financial analysis and budget setting forums	Work is underway in follow up to the Focus 2028 effort, including identifying how to better quantify and communicate the benefits.

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

## Action Items – BPA Lead Efforts

Action Item	Description	BPA Engagement
BPA-6	Review BPA's implementation model	Resource Program Enhancement. Continued work in 2018
MCS-1	Hard to reach markets	BPA coordinating with Council on analysis of hard to reach markets
MCS-2	Capture distribution efficiency savings	Programs continue to support distribution efficiency opportunities and to share success stories.

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N		
Action Items – BPA Lead Efforts		
Action Item	Description	BPA Engagement
ANLYS-8	Non-energy impacts	BPA leading efforts to develop a work plan and study approach for the region.
RES-4	Expand regional demand response infrastructure	Sharing BPA's DER benchmarking and BPA DR Demonstration results; BPA technology pilot; BPA's expanded demonstrations and commercial purchases of DER (DR)

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N		
Action Items – BPA Participation		
Action Item	Description	BPA Engagement
BPA-4	Improve access to demand response data	BPA participating in Council DRAC committee and supported development of DR data template; Regional DER Potential Assessment
MCS-4	Develop a regional work plan to provide focus on emerging technologies to help ensure adoption	Participating in NEEA RETAC and supporting to ensure regional collaboration
REG-1	End Use Load Shape work plan by end of 2016	BPA co-leading Steering Committee, participating in workgroup and has committed funding
REG-2	Provide continued support for NEEA	BPA continues to support NEEA. Dan James new BPA Board member

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B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

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## Action Items – BPA Participation

Action Item	Description	BPA Engagement
REG-3	Collaborate on DR data collection	Participation in DRAC and development of DR data template: Regional DER Potential Assessment
BPA-10	Enhance Bonneville's load forecasting model (end use forecasting)	Collaborating and data sharing with load forecasting team
REG-5	Conduct regular conservation program impact evaluations	Ongoing effort. Projects include industrial energy management, residential delivery verification, and residential billing analysis.

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**THANK YOU**  
**Q&A**