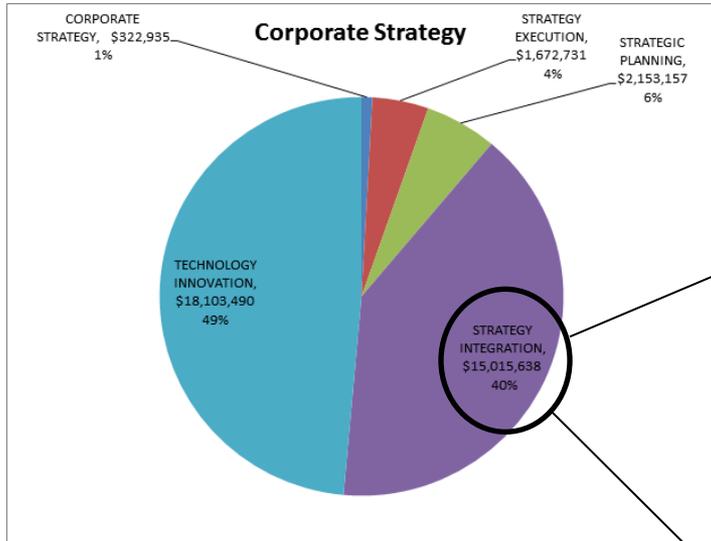


Integrated Program Review Corporate Strategy

June 18, 2014

Strategy Integration

Corporate Strategy Integration Breakdown



Description	FY16 IPR Baseline	FY16 IPR Request	FY17 IPR Baseline	FY17 IPR Request
Staffing (BFTE)	\$1.5M	\$1.8M	\$1.5M	\$1.8M
Supplemental Labor (CFTE)	\$0.3M	\$1.1M	\$0.3M	\$1.1M
Service Contracts	\$2.9M	\$11.5M	\$3.0M	\$12.7M
Travel/Training	<\$0.1M	<\$0.1M	<\$0.1M	<\$0.1M
Misc. (Materials & Equipment, etc.)	<\$0.1M	<\$0.1M	<\$0.1M	<\$0.1M
Total	\$4.7M	\$14.4M	\$4.8M	\$15.6M

Corporate Strategy Integration Drivers

- The main drivers for the increase in the SR budget are due to:
 - An increase of 2 BFTE that were vacant positions recently filled internally (climate change and program management)
 - An increase in supplemental labor (5 CFTE) to aid in the NWPP MC efforts (project management support), renewable integration, and administrative support
 - The majority of the increase is due to keeping the entire agency funding for the NWPP MC effort in the Strategy Integration budget

Northwest Power Pool Market Committee Costs

- The IPR forecast for the NWPP MC effort is divided into three main categories
 1. NWPP MC Support Costs for Phased Approach
 2. Market Operator Costs
 3. Market Participant BPA Start-up and Ongoing Costs

Description	FY 16 IPR Forecast	FY17 IPR Forecast
1. NWPP MC Phased Approach Forecast	\$1.0M	\$0M
2. Market Operator BPA Share Forecast	\$3.0M	\$3.0M
3. Market Participant BPA Forecast		
Start Up Total	\$3.5M	\$3.5M
Ongoing Total	\$0M	\$2.1M
TOTAL NWPP MC Forecast	\$7.5M	\$8.6M

Northwest Power Pool Market Committee Benefits

Benefits Flowing to BPA Customers

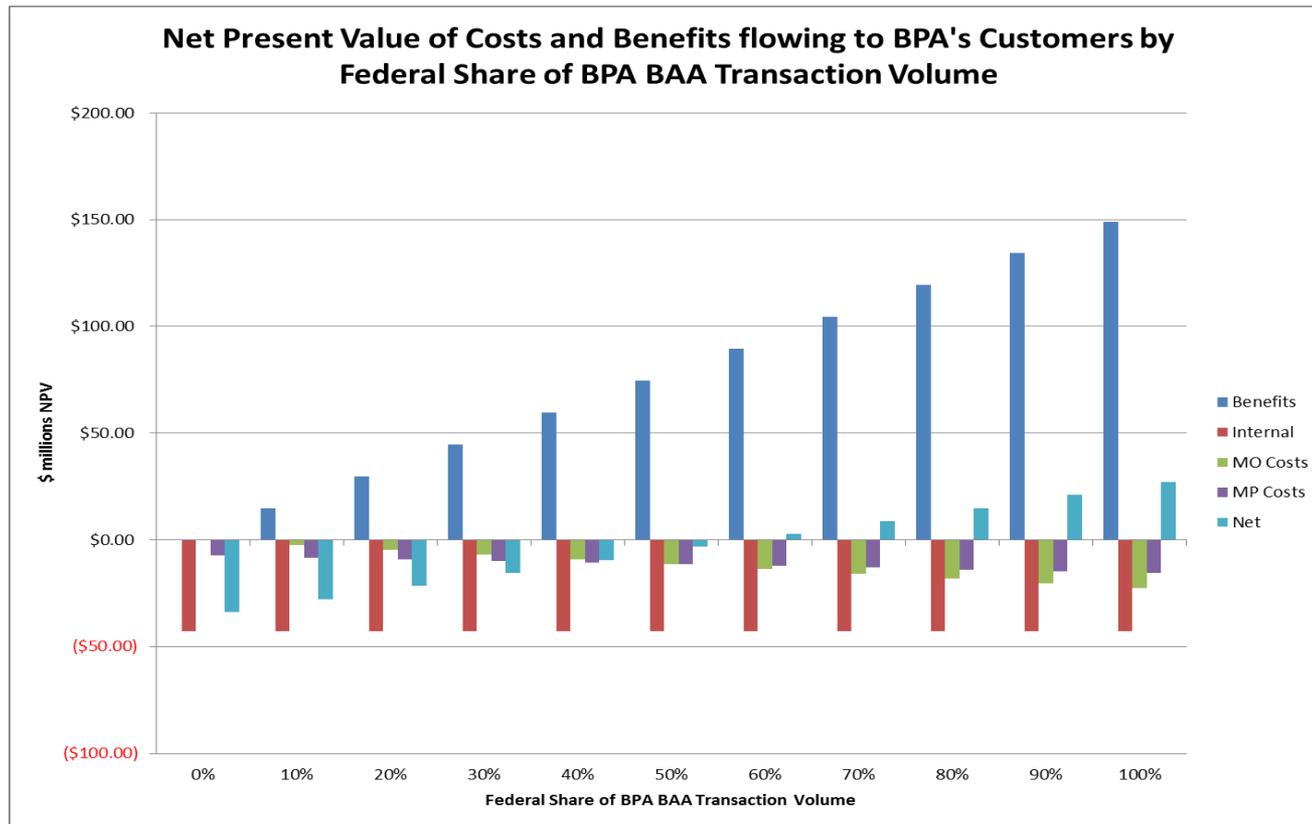
- BPA is currently working to refine the Phase 1 net economic benefit analysis from the BPA BA to customer classes. The information will be used to support BPA's development of a Record of Decision at the end of 2014 to inform BPA's business decision to enter into a member services agreement and proceed into Phase 5 (SCED).

BPA's Approach to Further Quantifying Cost/Benefits Allocation to Customers:

- Estimate the federal share of the benefits and costs in the BPA BAA, so that non-federal parties can carry their attendant shares of the costs and benefits
- Split the federal share of benefits and costs on a forecasted basis between Power Services and Transmission Services
- Evaluate Fed and Non-Federal services each customer type currently takes from BPA power and transmission
- Develop a baseline using current state transmission and power revenue forecast between now and 2030
- Overlay projected transmission and power delta revenue forecast based on a SCED assumed costs and benefits
- Coordinate with BPA rates staff to identify alternative rate treatments for cost/benefits analysis across power and transmission customer groups
- Model under range of impacts

Northwest Power Pool Market Committee Benefits, cont.

- Discussions are currently under way with Transmission & Power rates to suggest approaches for allocating dollars to rate pools in consultation with stakeholders – actual allocations will be determined during contested rate proceeding(s) in future years. BPA is also considering portions potentially applicable to business lines and rate pools in consultation with stakeholders.



Technology Innovation

Seismic

- Reduce the seismic acceleration by: 50% for 500 kV equipment; 30% for 230 kV and 115 kV equipment & 10% for 69 kV equipment
- Created tools for equipment designers to validate models of seismic mechanics & perform representative analysis and design approach



Value Delivered = \$ Hundreds of Millions
Faster System Restoration



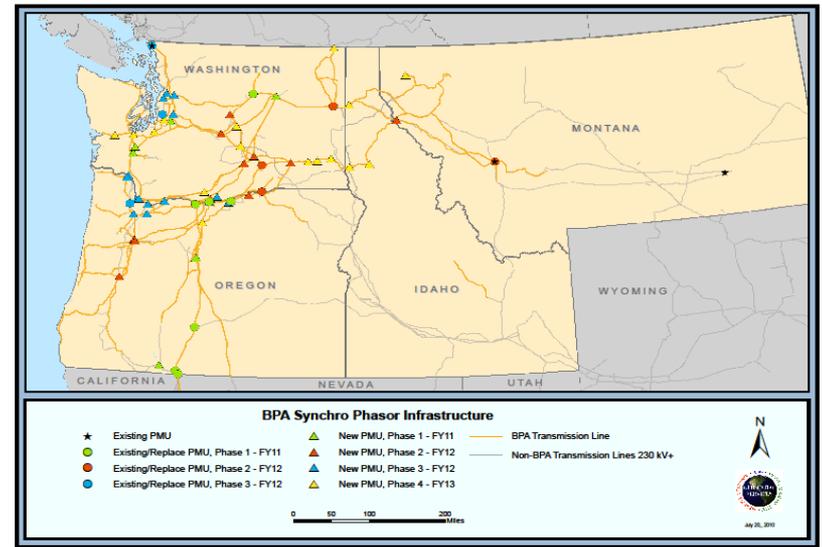
Conductor Shunt

- Increased capacity with “splice shunts” instead of new wire
- Reduced outage time
- One BPA crew vs. multiple
- Implementations
 - Ross-Lexington: \$4 million saved
 - Taft-Hot Springs: \$13 million saved
 - Walla Walla-Pend: \$15 million saved
- Additional applications in progress and pending

Value Delivered = \$32 Million in First Cost Savings

Synchrophasors

- SCADA @ BPA = 2 seconds
- Synchrophasors = 60 / second (120 times faster)
- \$30 million Capital investment completed 2013
- Platts Global Energy Award for Industry Leadership in Grid Optimization (Dec 2013)

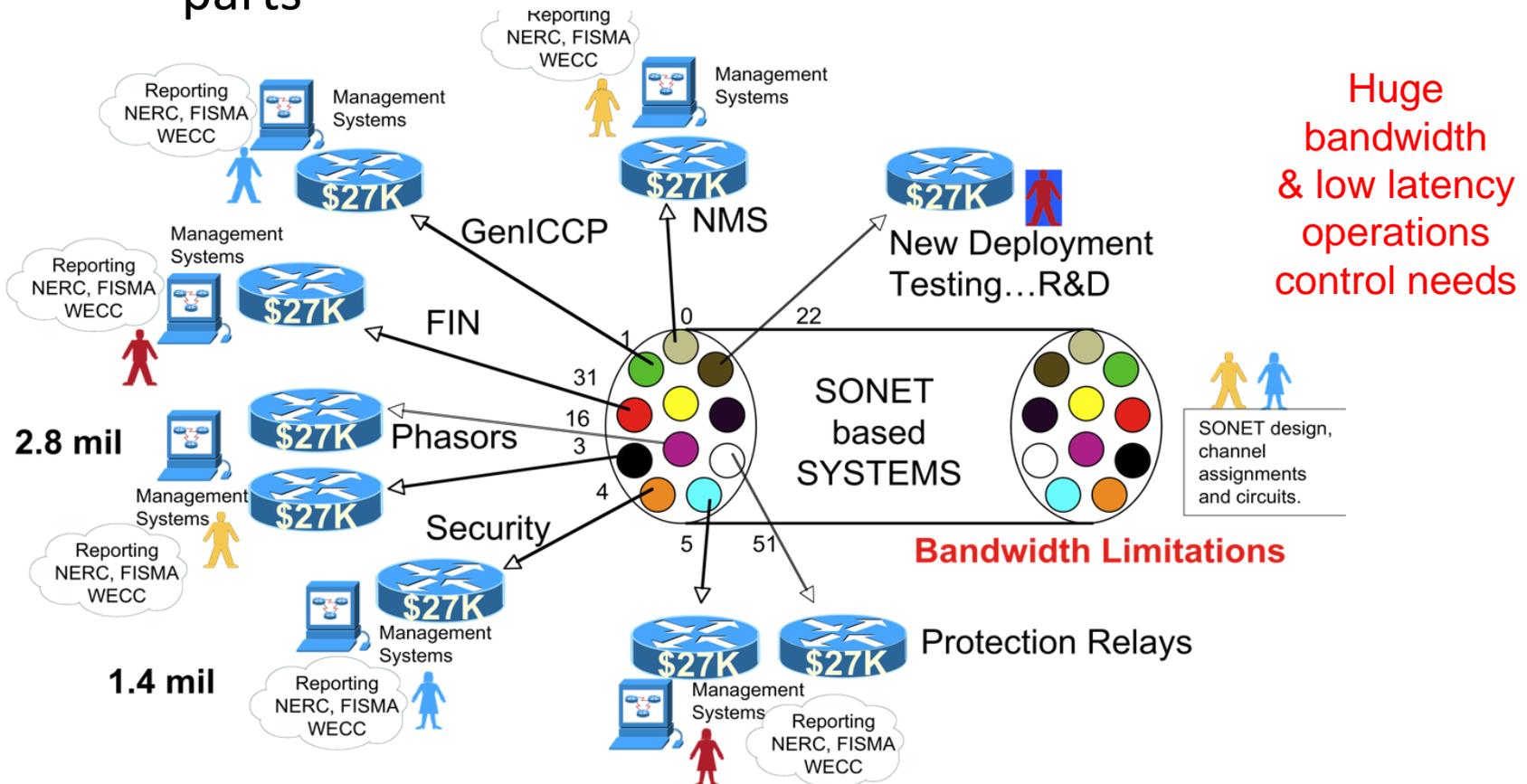


Value Delivered = \$30 million

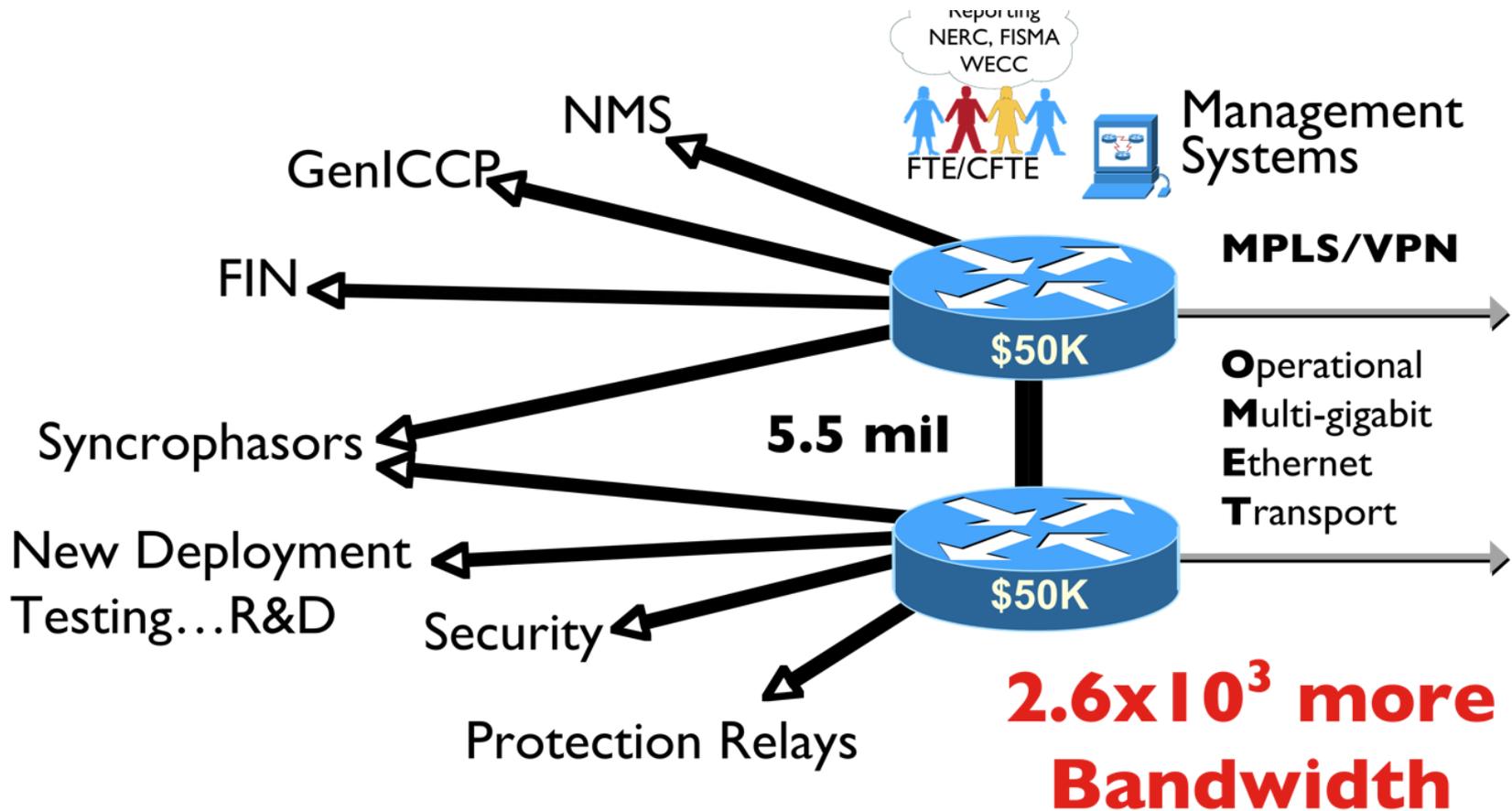
Additional Value Potential = Increased Reliability & Throughput

Operations Telecommunications

- Used for SCADA, etc
- Needs to be used for smart grid, synchrophasors, etc
- Current technology reliable but low bandwidth and many parts



Multi-Gigabit Ethernet Transport for Operations



Value Delivered = \$37 million capital project approved.

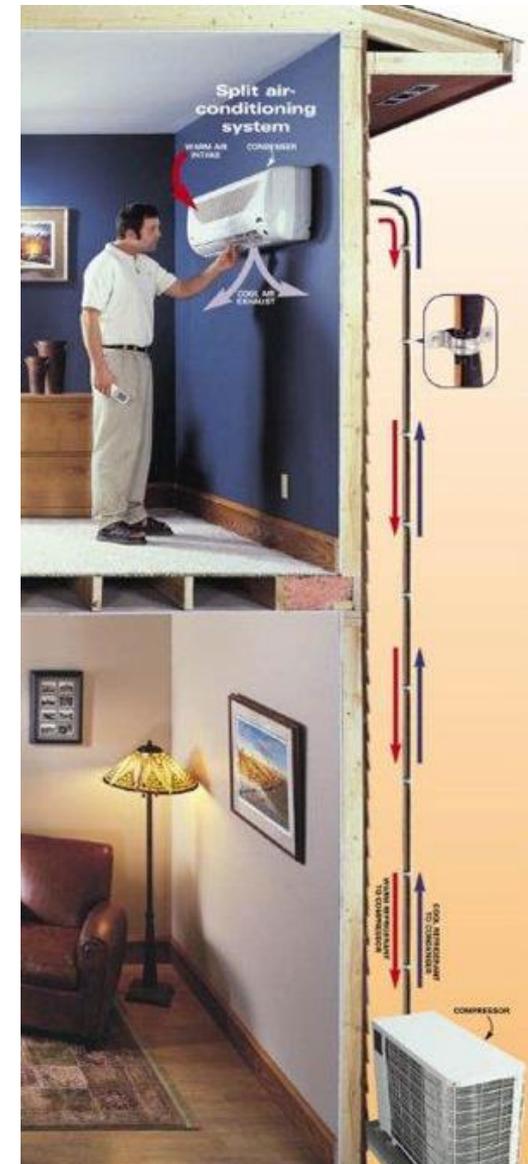
Successfully anticipated EoL for Sonet.

Plus critical bandwidth

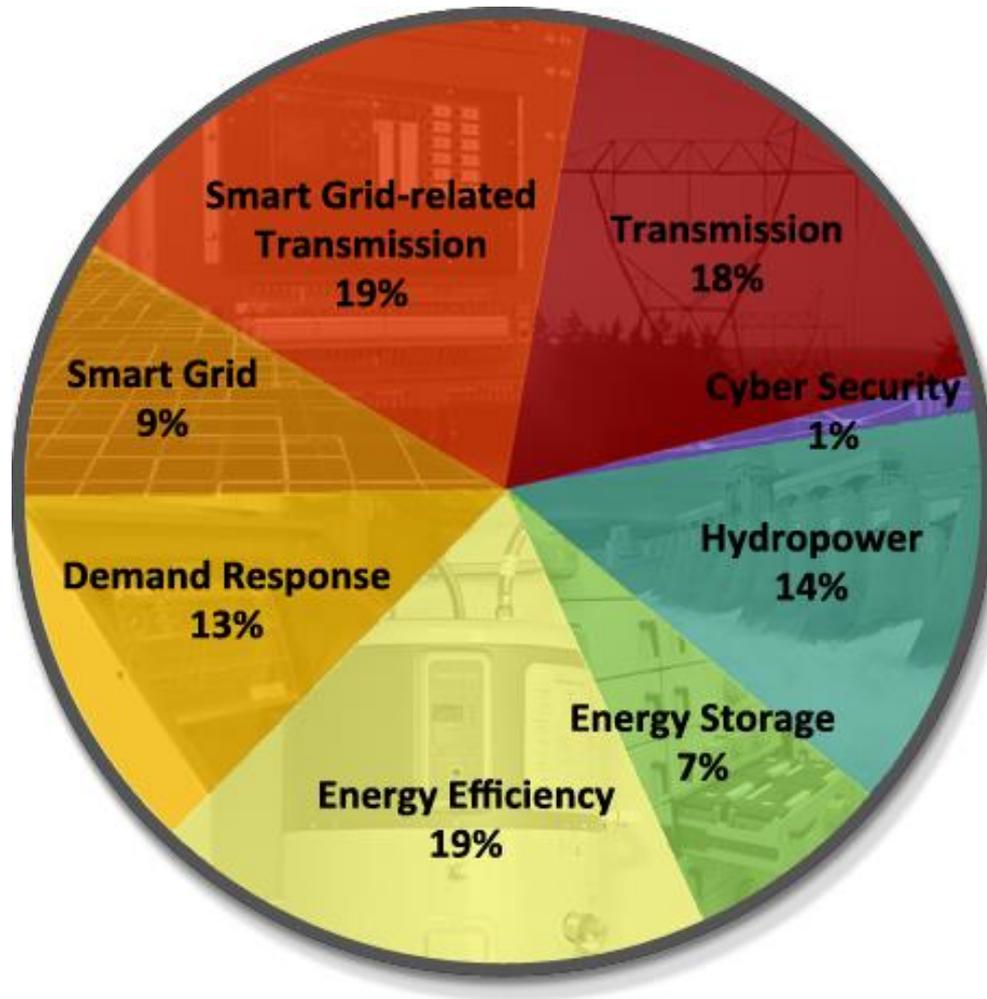
Ductless Heat Pumps

- Heat Pump technology assessment capability
- Installed more than 21,000 ductless heat pumps into homes in the Pacific Northwest
- Success resulted in expansion of program for small business applications
- Projected regional savings of 81 average megawatts (\$52 million) by 2029.

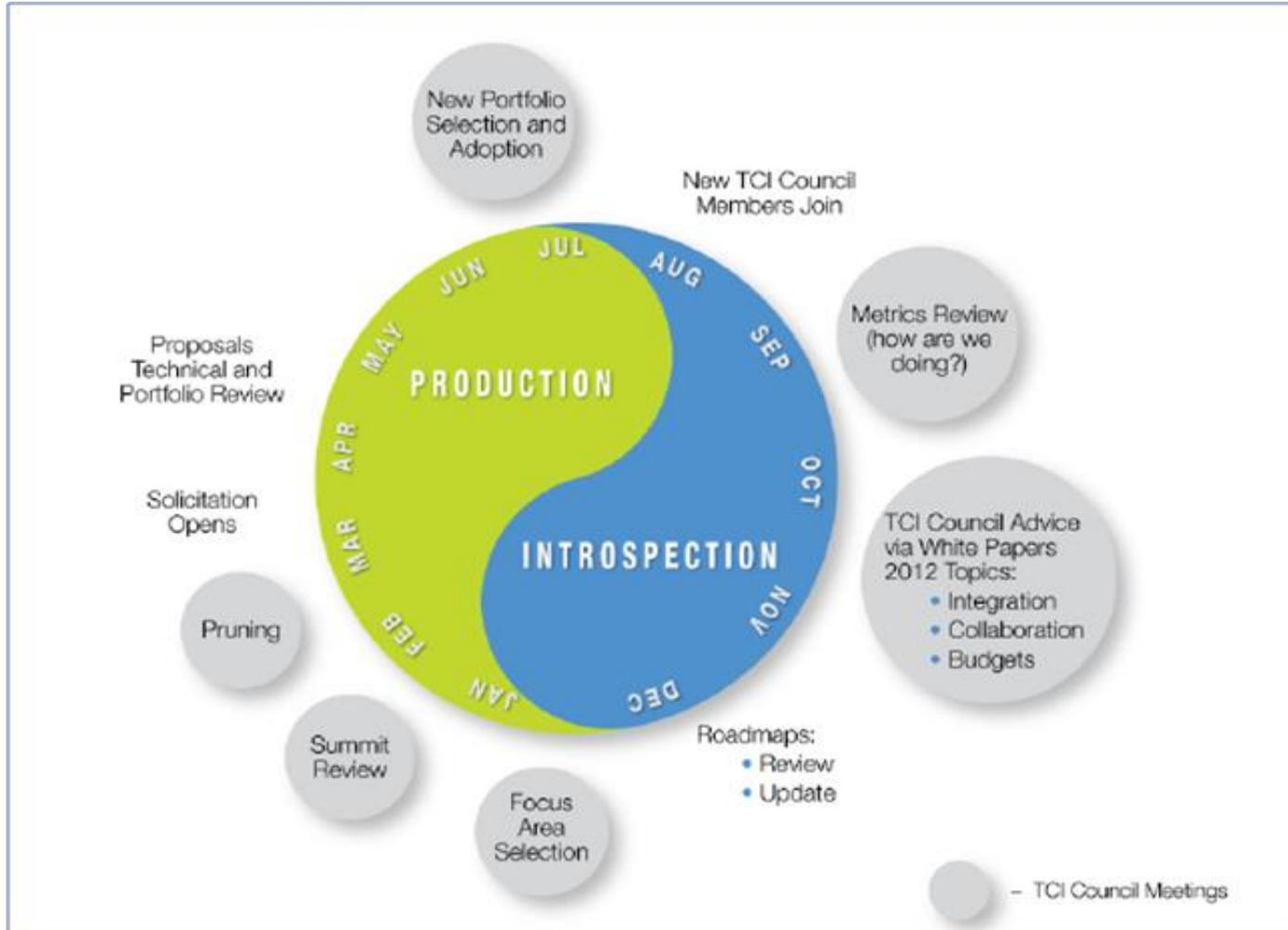
Value Delivered =
\$Millions in Least Cost Energy



Current Portfolio Distribution



Disciplined Approach



Proposed Spending Information

<i>*thousands of dollars</i>	2012 (SOY)	2013 (SOY)	2014 (SOY)	2015 (IPR)	2016 (IPR)	2017 (IPR)
RD&D*	\$ 12,395	\$ 11,865	\$ 12,912	\$ 14,926	\$ 15,037	\$ 15,090
TI Office	\$ 1,600	\$ 1,600	\$ 1,600	\$ 1,600	\$ 1,600	\$ 1,600
BEF (formerly in P - moved to ST)	\$ 1,333	\$ 1,360	\$ 1,376	\$ 1,400	\$ 1,430	\$ 1,450
TI Total Budget	\$ 15,328	\$ 14,825	\$ 15,888	\$ 17,926	\$ 18,067	\$ 18,140

Financial Disclosure

Financial Disclosure

This information has been made publicly available by BPA on June 16, 2014 and contains information not reported in agency financial statements.