Northwest **Power** and **Conservation** Council

June 5, 2018

MEMORANDUM

TO: **Council Members**

FROM: **Ben Kujala**

SUBJECT: **Presentation on Bonneville's Energy Efficiency Goals and Integrated Program Review process**

BACKGROUND:

Presenter: Kim Thompson, Vice President, Energy Efficiency, Bonneville

Summary: Kim Thompson will discuss Bonneville's goals for energy efficiency going into the Integrated Program Review process. She will connect what Bonneville has learned from the Resource Program with the proposals in the IPR.

Background: The Integrated Program Review allows interested parties to see and comment on all relevant Federal Columbia River Power System capital and expense spending level estimates in the same forum. The IPR occurs every two years, or just prior to each rate case, and is the public review for the costs that will be recovered through rates the following two-year rate period. Topics to be covered within the process include transmission, federal hydro, facilities, information technology, energy efficiency, fish and wildlife, grid modernization and other programs.

More Info: https://www.bpa.gov/Finance/FinancialPublicProcesses/IPR/Pages/IPR-2018.aspx

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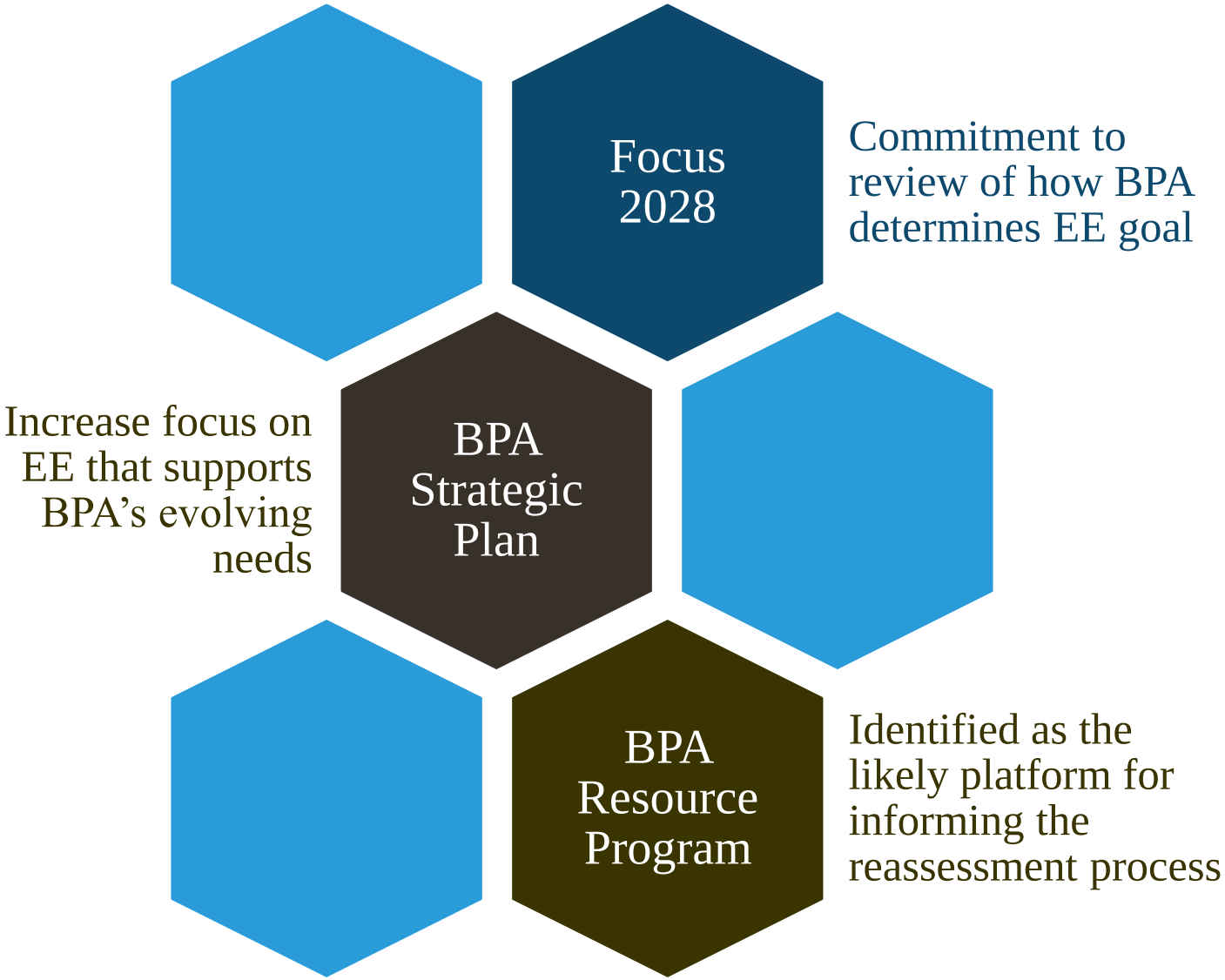
Bonneville
POWER ADMINISTRATION

BPA 2018 Resource Program and 2020-21 Energy Efficiency Goal & Budget

JUNE 12, 2018

Background


Focus 2028
Commitment to review of how BPA determines EE goal
Increase focus on EE that supports BPA's evolving needs
BPA Strategic Plan
BPA Resource Program
Identified as the likely platform for informing the reassessment process

Summary

A robust investment in energy efficiency remains a cost-effective way to meet BPA's power needs

BPA has new insights into the savings that provide higher value to our system

BPA is integrating these insights with the energy efficiency goals established in the Seventh Power Plan

BPA Resource Program

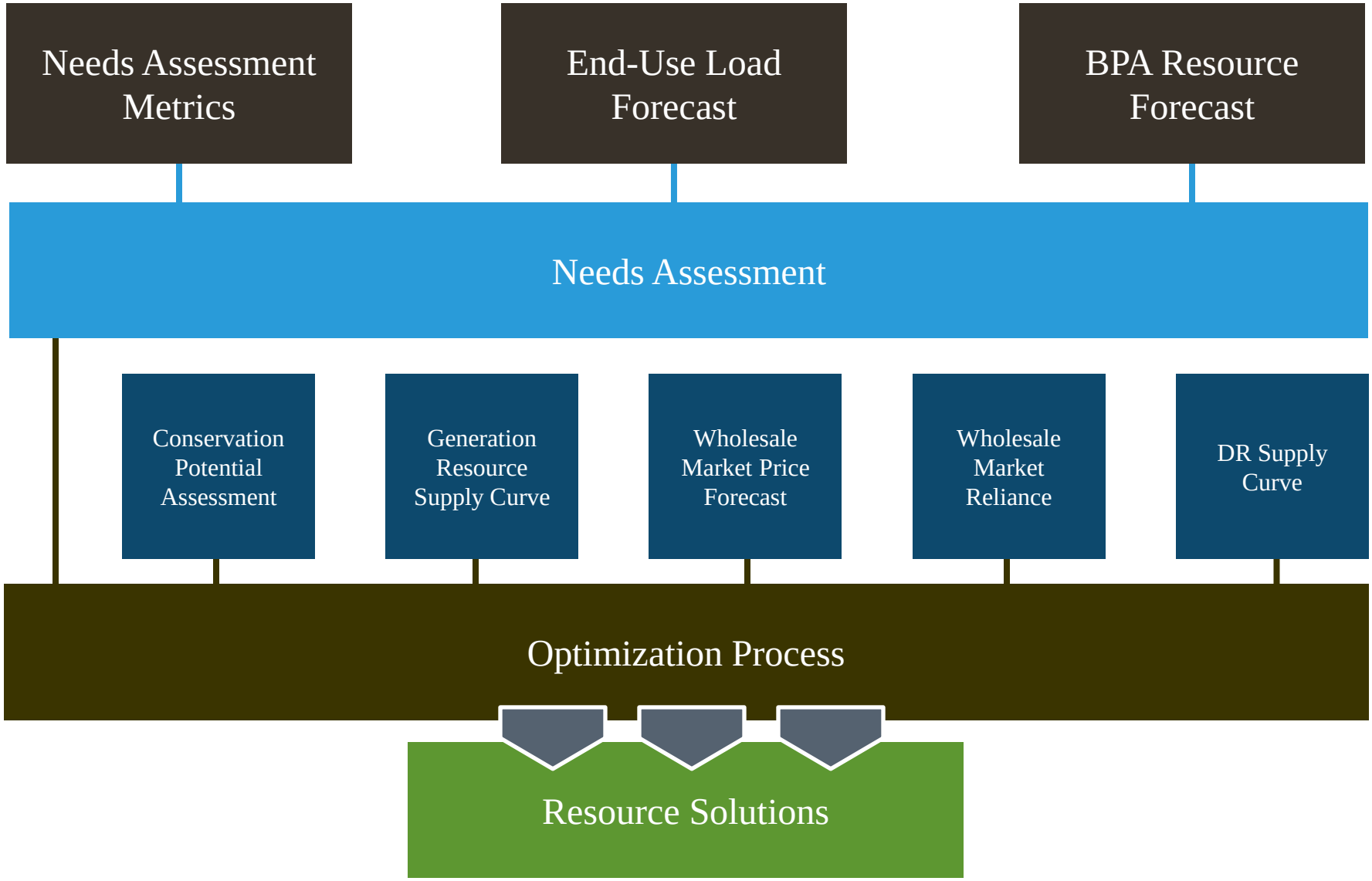
Overview

- Begins with a forecast of BPA load obligations and existing resources and then determines needs
- Identifies and evaluates potential solutions to meeting the needs (energy efficiency, demand response, wind, solar, natural gas plants, etc.)
- Outlines potential strategies for meeting those needs

The Resource Program is not:

- A decision or policy document such as an administrators record of decision
- A requirement of law or a regulating body such as FERC or NERC

Resource Program Overview



BPA Energy and Capacity Needs

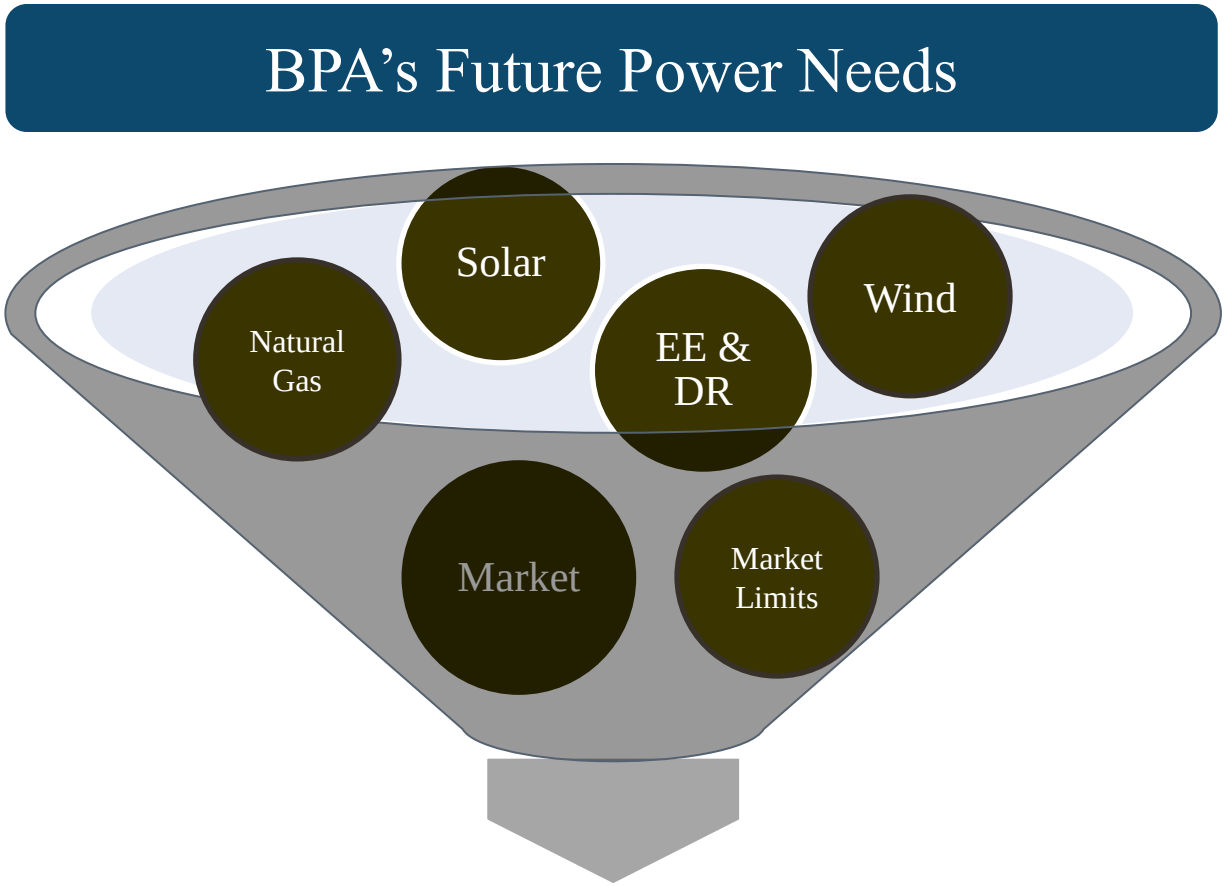
BPA is forecasting to have energy and capacity needs

- BPA is energy limited with the biggest forecasted deficits in the winter and smaller deficits in the early spring and late summer

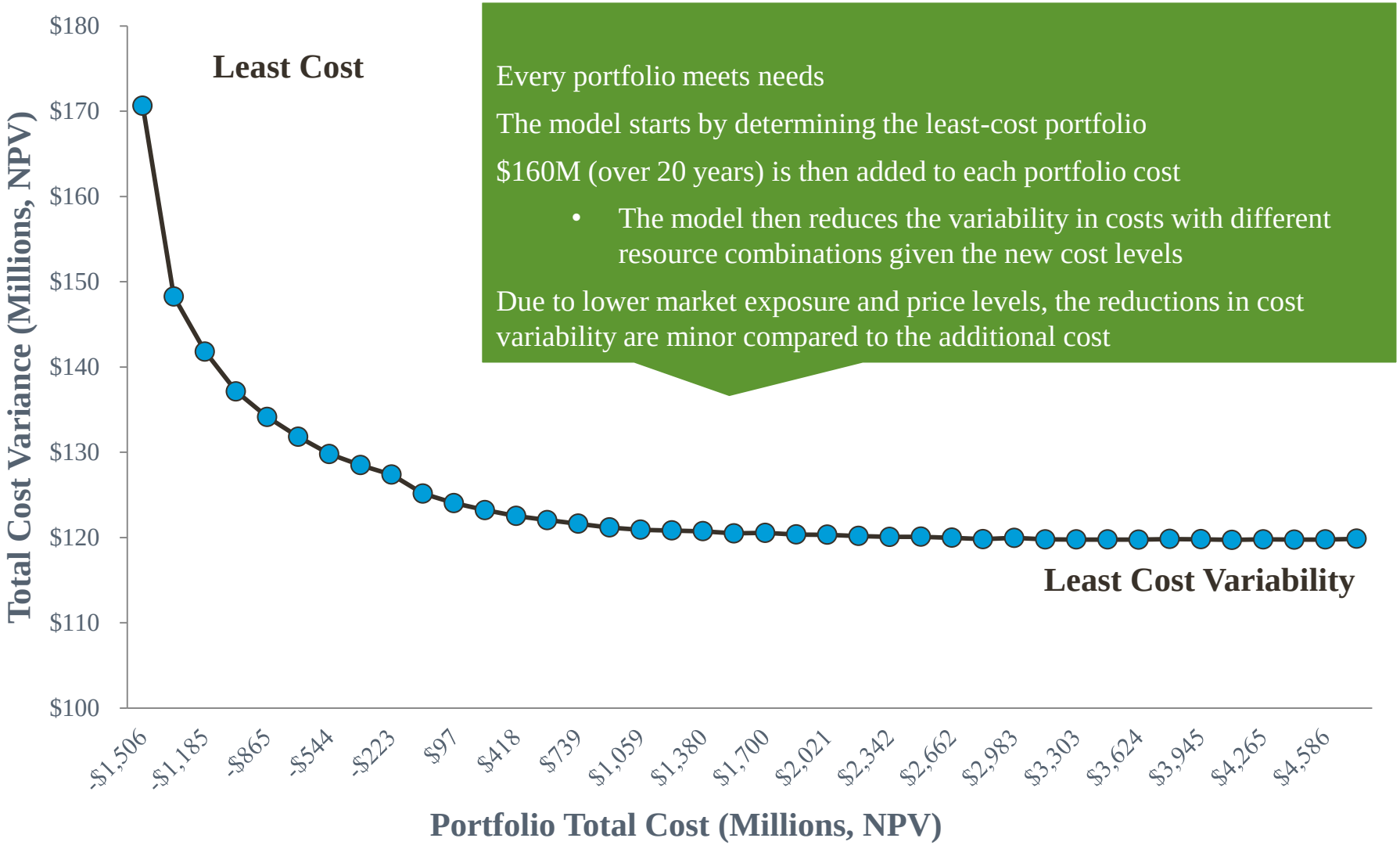
- BPA is forecasting to have a capacity deficit in late summer by 2025 but is not forecasting a winter capacity deficit through 2039

- Currently, BPA is not forecasting the need for additional balancing reserves

Optimization Model



Efficiency Frontier



Every portfolio meets needs

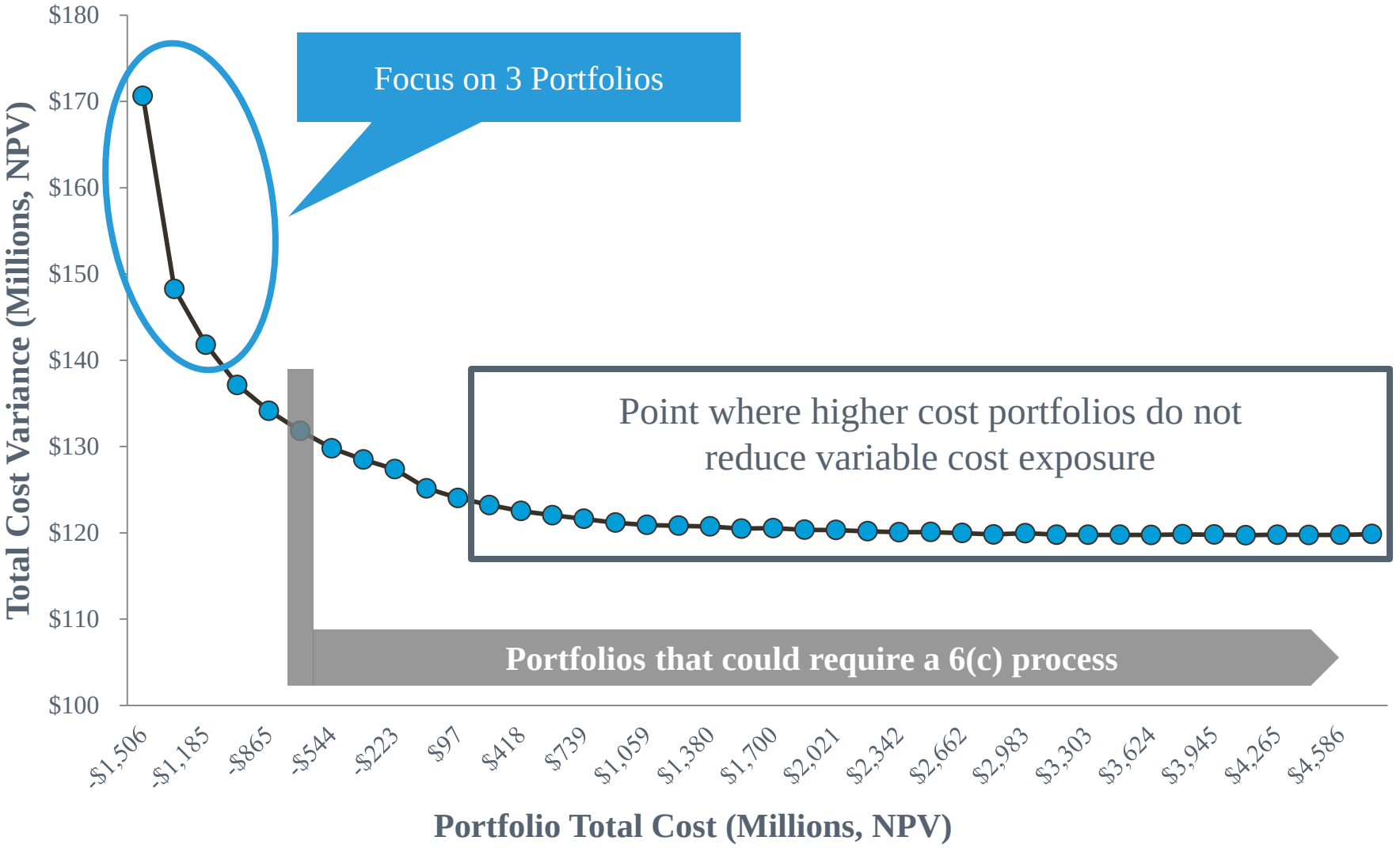
The model starts by determining the least-cost portfolio

$160M (over 20 years) is then added to each portfolio cost

- The model then reduces the variability in costs with different resource combinations given the new cost levels

Due to lower market exposure and price levels, the reductions in cost variability are minor compared to the additional cost

Efficiency Frontier Results

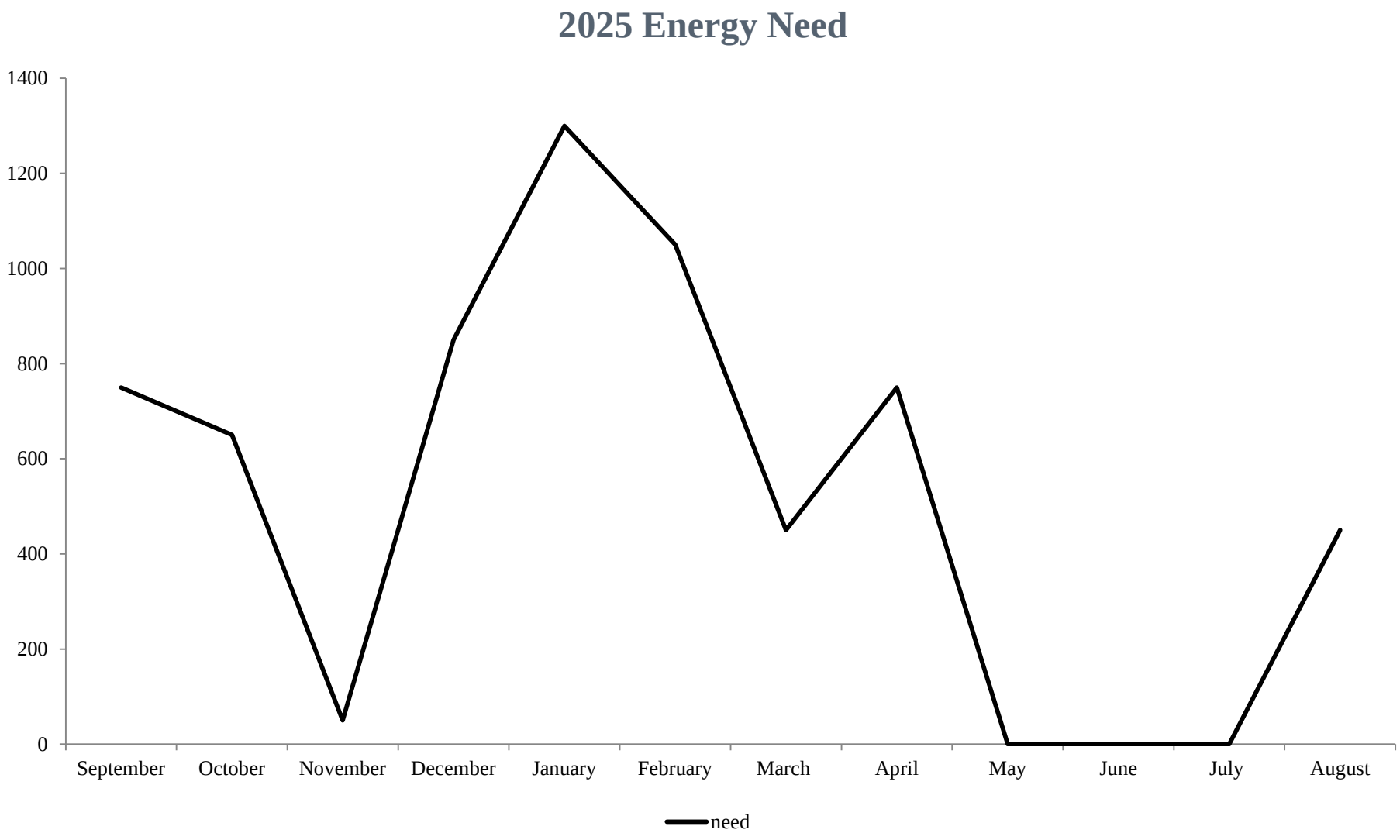


Resource Program Results - 2021

Total Acquisitions – Cumulative 2020-2021				
Portfolio	Max Monthly Market Purchases (aMW)	Energy Efficiency Acquired (aMW)	Highest EE Cost Bundle ($/MWh)	Demand Response Acquired (MW)
1	775 aMW	121 aMW	$25/MWh	40 MW
2	737 aMW	154 aMW	$40/MWh	131 MW
3	729 aMW	161 aMW	$50/MWh	131 MW

More EE and DR acquired as market purchase reliance is reduced

How EE Helps Meet Our Energy Needs



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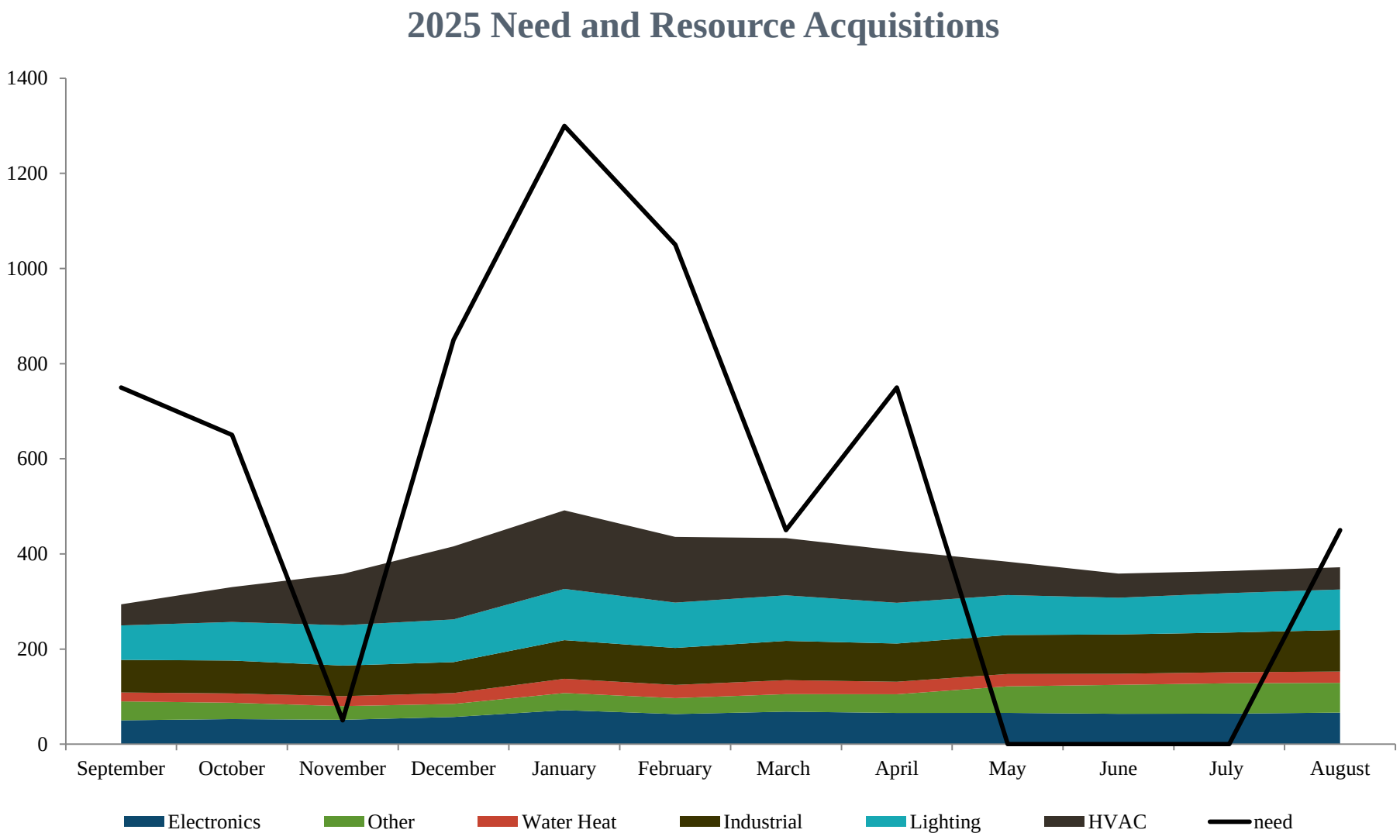

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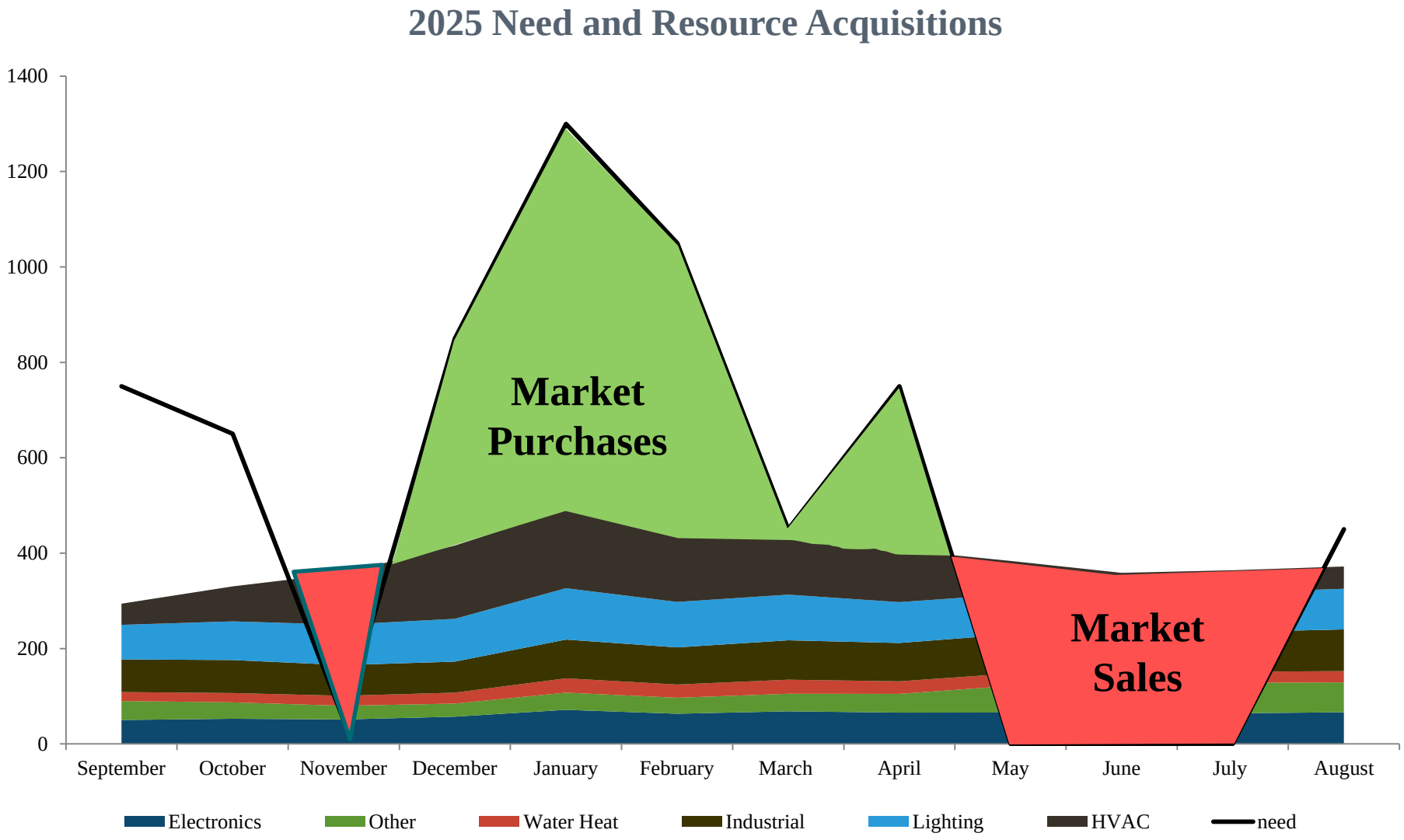


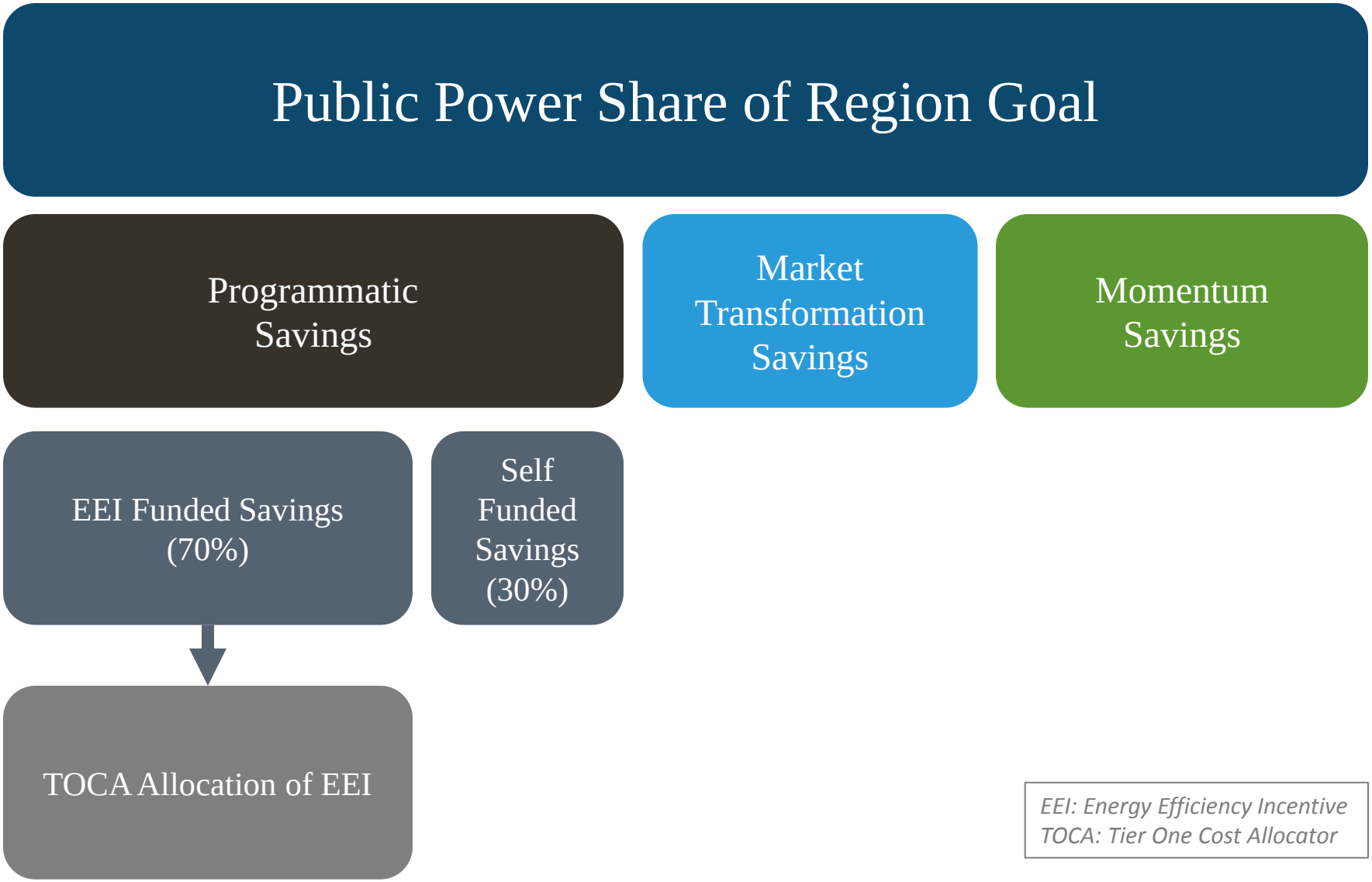
Resource Program Takeaways

BPA can continue to meet its obligations with a mix of EE, DR and market purchases

EE is a significant component of a least-cost acquisition portfolio

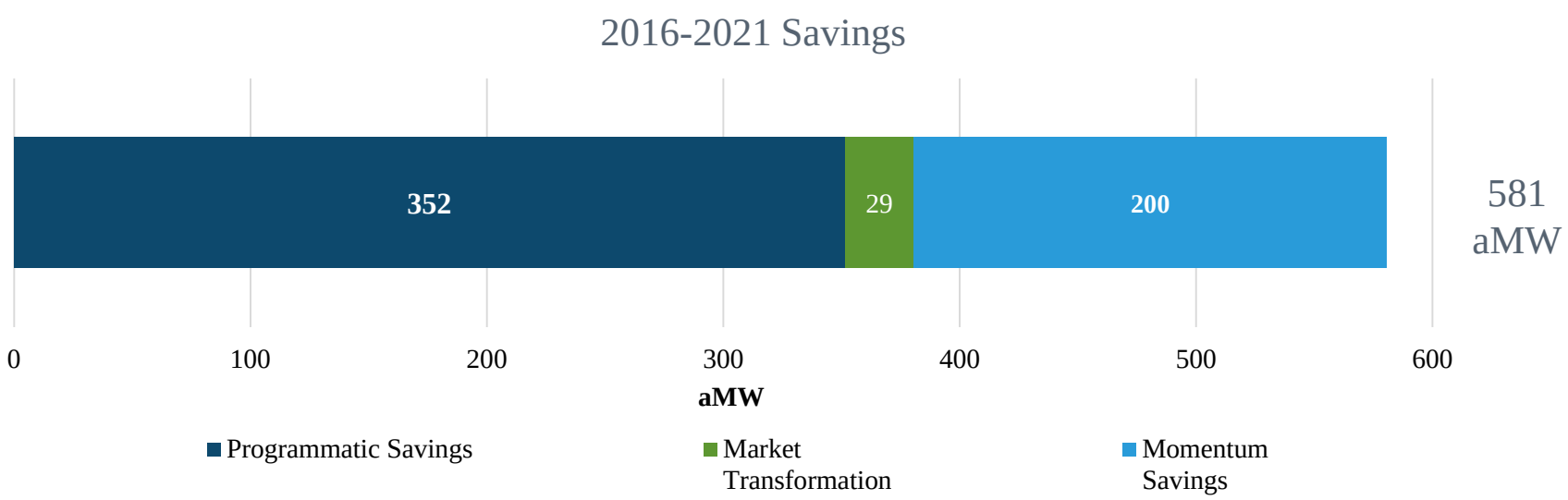
Some energy efficiency provides a greater contribution to our needs

Current EE Program - Planning



EEI: Energy Efficiency Incentive
TOCA: Tier One Cost Allocator

BPA's Energy Efficiency Action Plan

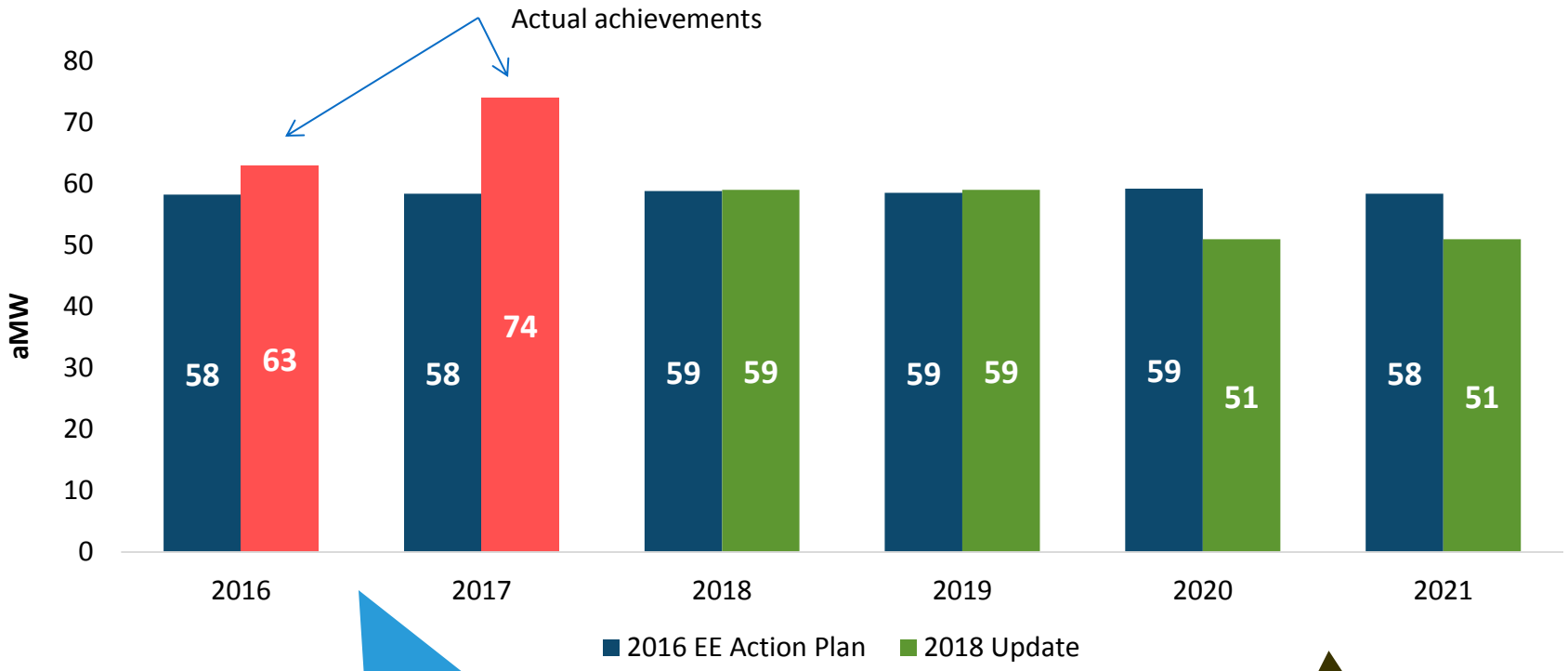


BPA's 2016 EE Action Plan projected achieving a total of 581 aMW of savings towards the 7th Plan goal

Of that, 352 aMW was expected to come through programmatic savings

Programmatic savings are savings achieved through utility EE programs, funding through EEI and customer self funding

Programmatic Savings Achievements



Public power exceeded EE Action Plan programmatic savings expectations in 2016 and 2017

This resulted in fewer programmatic savings needed in 2020 and 2021 to meet the EE Action Plan goal

Programmatic Savings and Costs 2020-21

Updated Savings and Costs		
2016 EE Plan	Updated EE Plan Savings	EEI Budget ($M)
118 aMW	101 aMW	$134 M

A EEI budget of $134 million was the forecasted funding amount needed to achieve 101 aMW of programmatic savings.

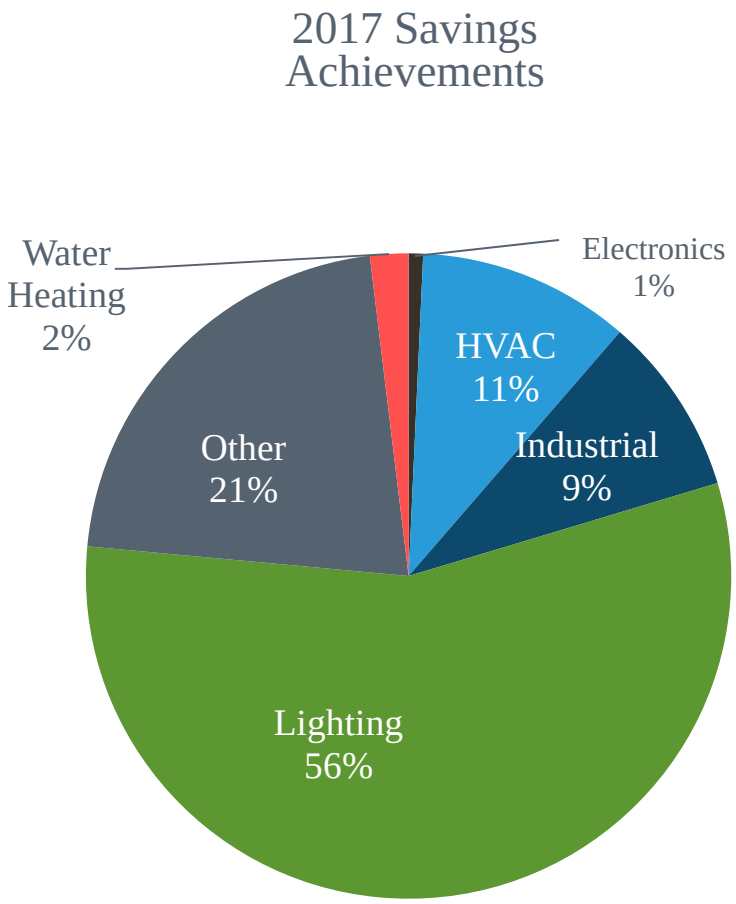
Current EE Program - Implementation

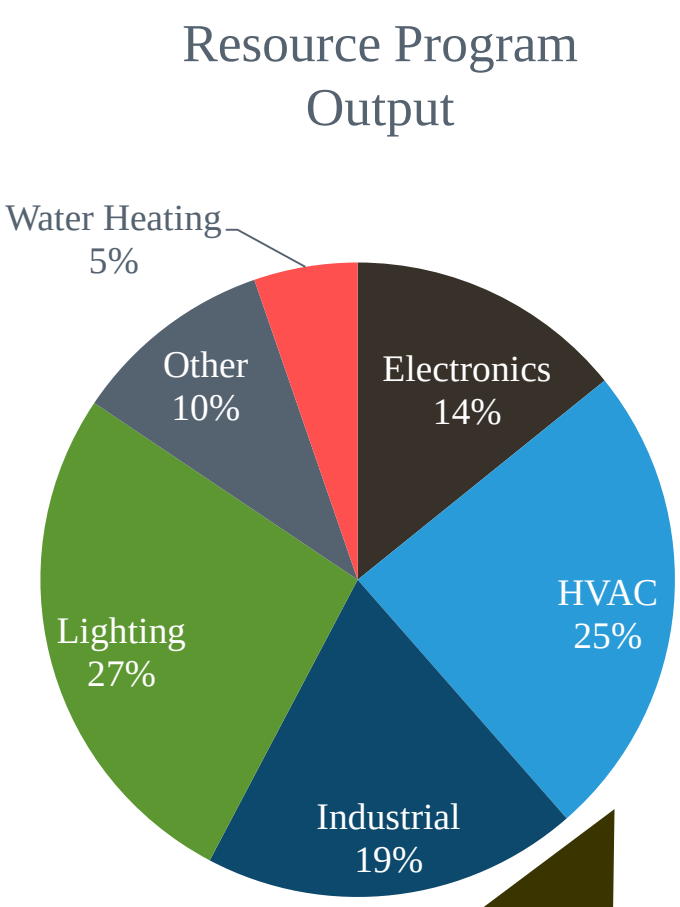
Our current portfolio is customer-service focused

Customer-service oriented program design

- Equity based allocation of acquisition funding: TOCA
- Broadest possible mix of measures and incentives to ensure local ability to deploy program
- No differentiation of measure support or BPA payment based on value to BPA system

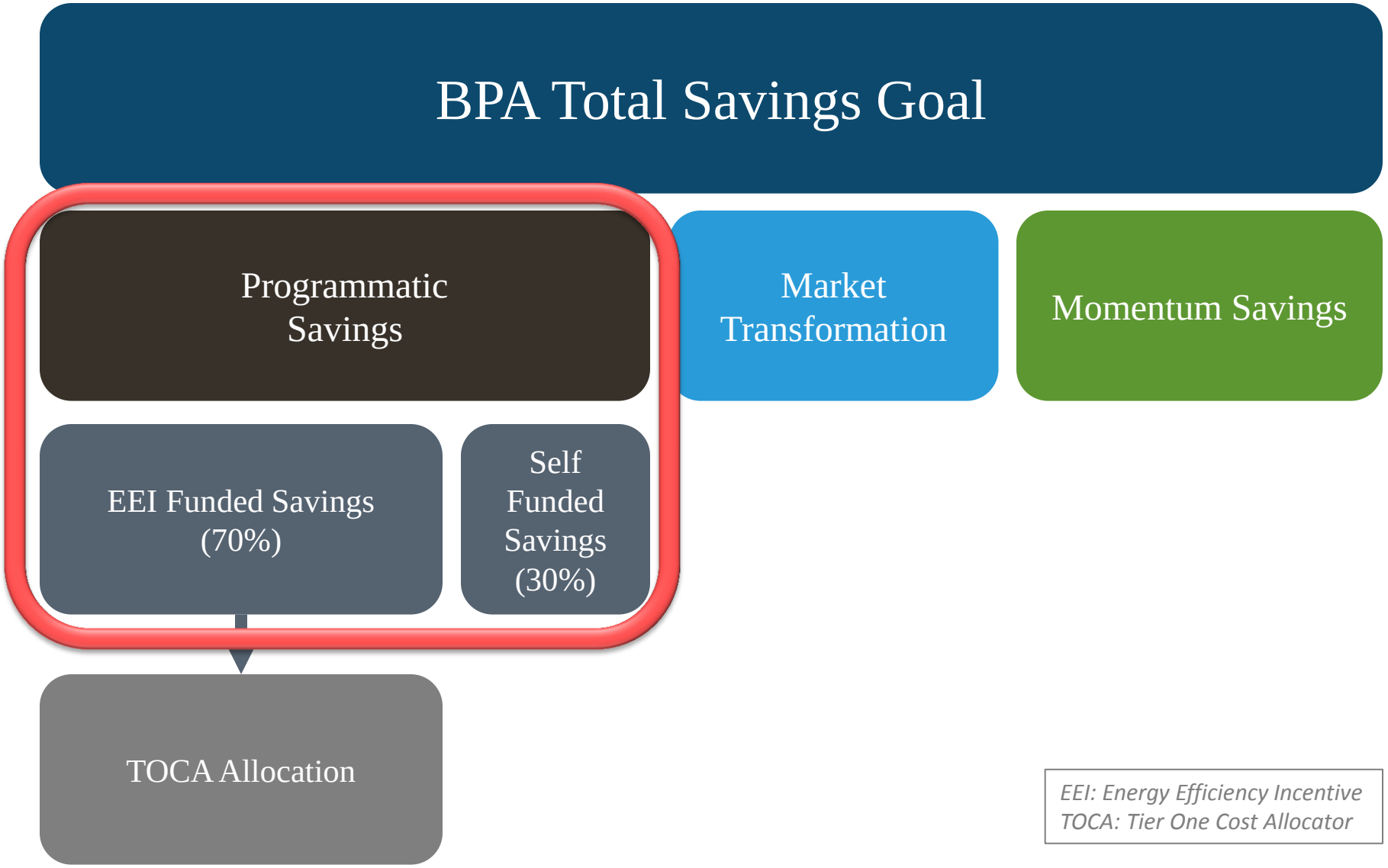
Current Mix vs Potential Mix – All Savings Types





Better match to needs; higher barriers to achieve (cost and implementation)

Breakout of Savings Types



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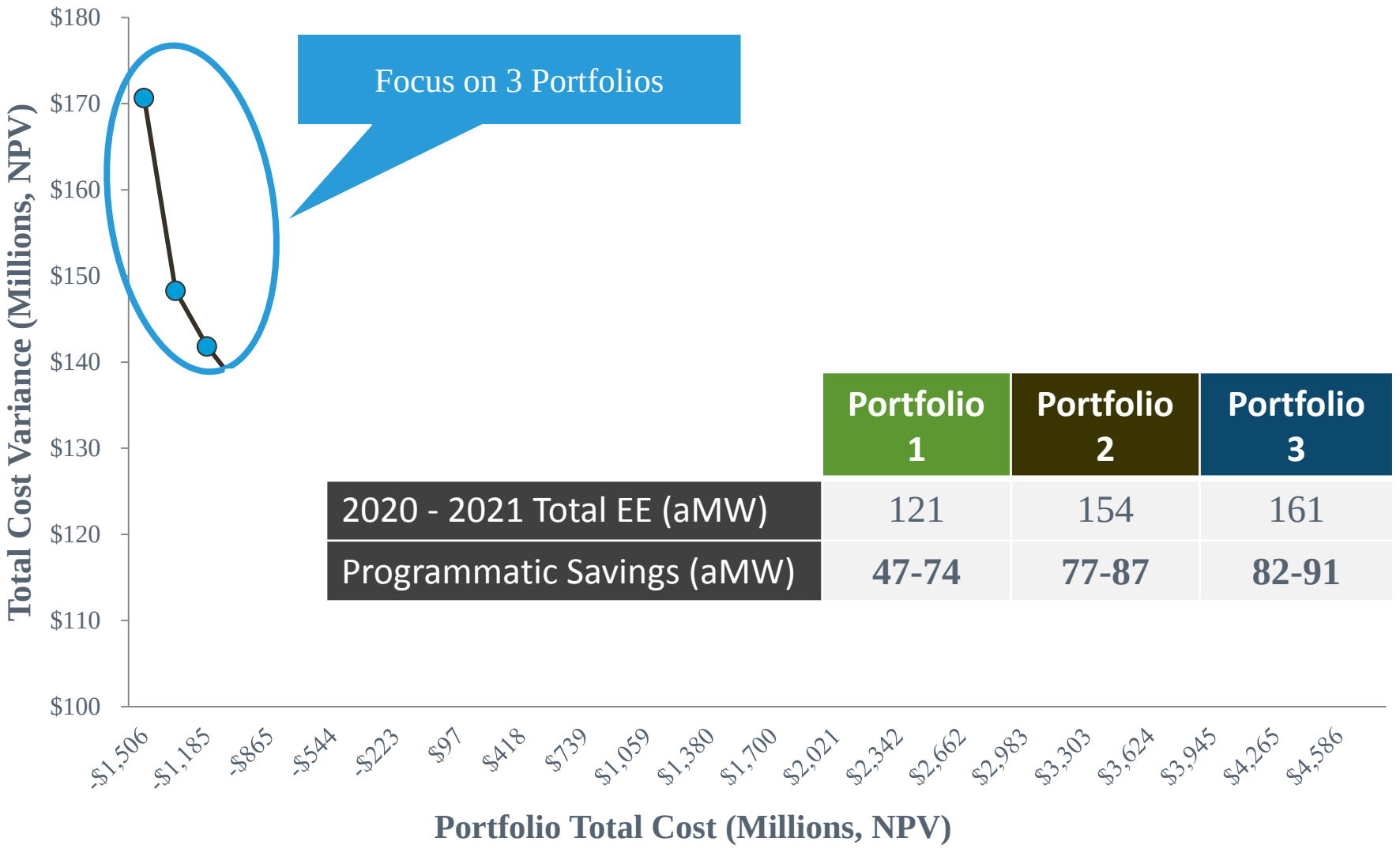


	Portfolio 1	Portfolio 2	Portfolio 3
2020 - 2021 Total EE (aMW)	121	154	161
Programmatic Savings (aMW)	**47-74**	**77-87**	**82-91**

EE Program Principles

Acquire savings that meet BPA's needs

Maintain customer equity

Retain program stability

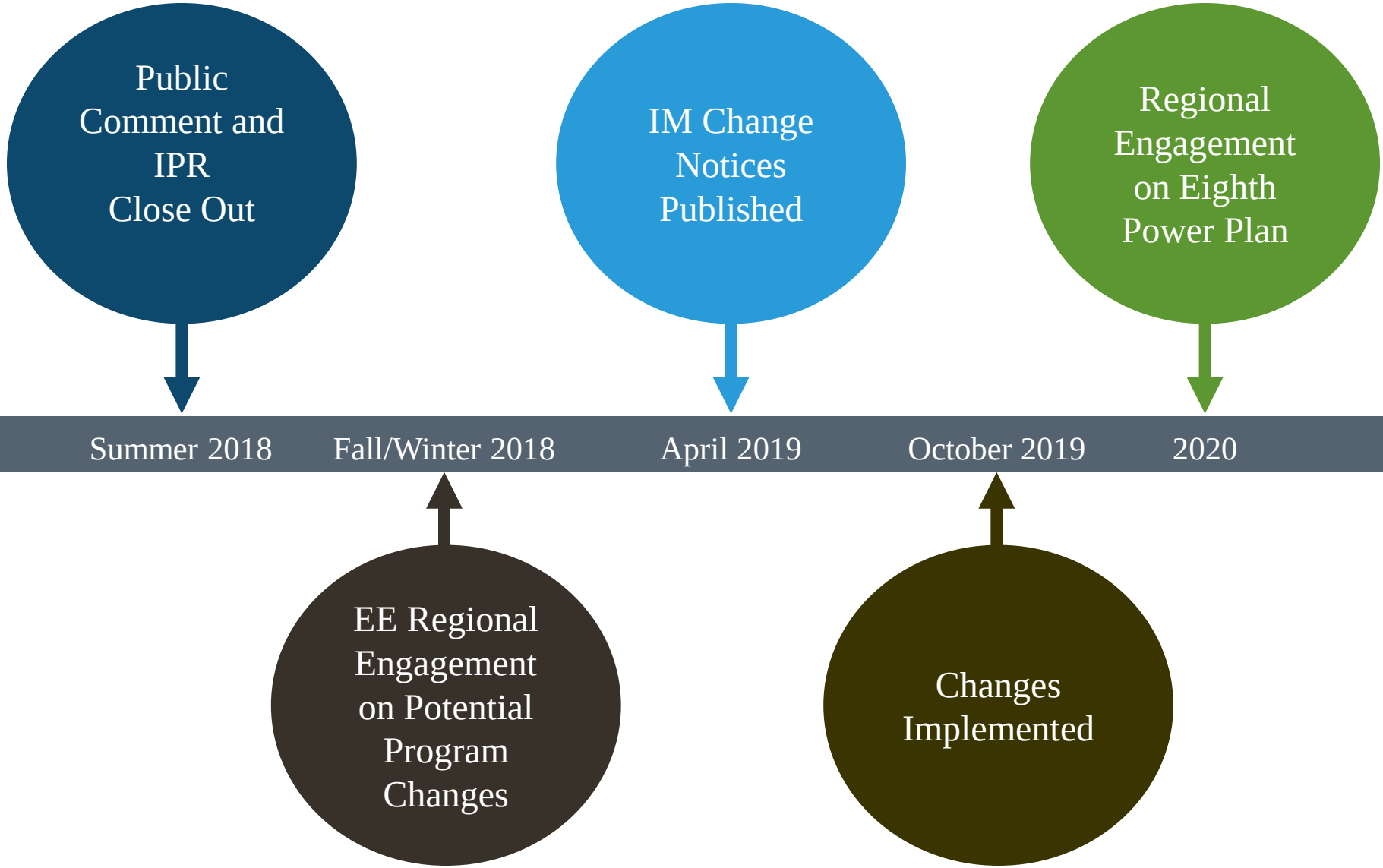
Recognize cost pressures, as well as goals of the BPA strategic plan

Programmatic Savings Comparison

	2020 - 2021		
	Updated EE Plan	Resource Program Portfolio 1	Proposal
Programmatic Savings (aMW)	101	47-74	74-101
Average Portfolio Cost ($M/aMW)	$1.33	$2.30	$1.81 -$1.33
Total Programmatic Cost ($M)	$134	$110-150	$134

BPA expects to achieve a blend of savings between the current program and the mix chosen by the Resource Program. This will likely result in a portfolio cost somewhere between the current cost and the higher cost of Portfolio 1

Timeline


Public Comment and IPR Close Out
IM Change Notices Published
Regional Engagement on Eighth Power Plan
Summer 2018
Fall/Winter 2018
April 2019
October 2019
2020
EE Regional Engagement on Potential Program Changes
Changes Implemented

Demand Response

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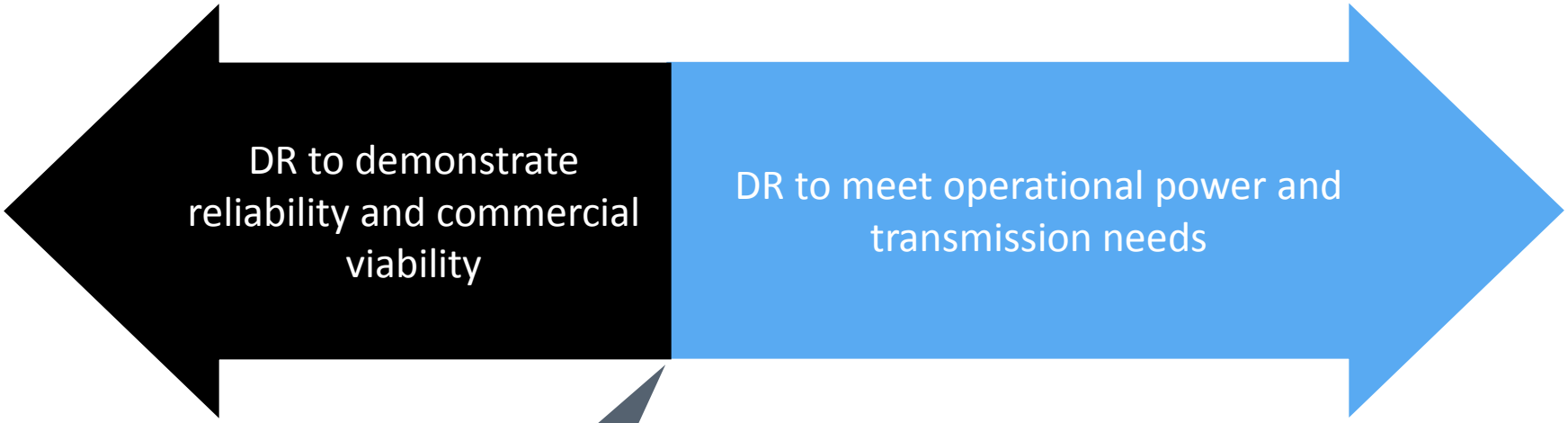
Resource Program ID's DR for summer capacity in lowest cost portfolios

Demand Response



Resource Program
Non-wires analysis
Integrated Planning

Specific program(s) and potential funding pending program design proposal and tied to benefitting business


QUESTIONS?