

Jeffery C. Allen
Chair
Idaho

Ed Schriever
Idaho

Doug Grob
Montana

Mike Milburn
Montana



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

KC Golden
Vice Chair
Washington

Thomas L (Les) Purce
Washington

Ginny Burdick
Oregon

Louie Pitt, Jr.
Oregon

September 4, 2024

MEMORANDUM

TO: Council Members

FROM: Laura Thomas, RTF Manager

SUBJECT: 2023 Regional Conservation Progress Report

BACKGROUND:

Presenter: Laura Thomas

Summary: On behalf of the Council, the Regional Technical Forum (RTF) conducts an annual data collection of the region's energy efficiency programs to understand the savings from energy efficiency and associated expenditures from the prior year. This process to collect and report this data is known as the Regional Conservation Progress (RCP) survey and report. The purpose of the RCP is to track and report on the region's progress relative to the Council's Power Plan goals.

At this meeting, staff will present the 2023 RCP report, which provides an update on the second year of the region's progress relative to the energy efficiency goals in the Council's 2021 Power Plan. The report comprises data from all the efficiency programs in the region, including Bonneville and its customer utilities, investor-owned utilities in the region, the mid-Columbia utilities, Energy Trust of Oregon, and the Northwest Energy Efficiency Alliance (NEEA). In addition, when available, the RCP report includes data on the total market savings, capturing additional savings occurring outside of direct program acquisition. These data provide an understanding of the cost-effective energy efficiency savings acquired in the region and related expenditures for 2023.

Relevance: The 2021 Power Plan established a goal range of 750 aMW to 1,000 aMW of conservation acquisition by the end of the six-year action plan period (2027). For the purposes of tracking, this goal has been reported both as an even distribution annually and consistent with the Plan’s conservation ramp rates annually:

Cumulative		2022	2023	2024	2025	2026	2027
Even Goal Distribution	750 aMW Goal	125	250	375	500	625	750
	1,000 aMW Goal	166	333	500	666	833	1,000
Ramped Goal Distribution	750 aMW Goal	90	192	307	438	584	750
	1,000 aMW Goal	120	256	410	584	779	1,000

Per its charter, the Regional Technical Forum is responsible for tracking the region’s progress against the plan goals.

Workplan: A. 1. 1.Tracking and reporting on energy efficiency accomplishments relative to the 2021 Power Plan Conservation Program.

More Info: The final report for the 2022 Regional Conservation Progress report can be found here: <https://rtf.nwcouncil.org/about-rtf/conservation-achievements/2022/>

2023 Regional Conservation Progress Survey Results

September 10, 2024

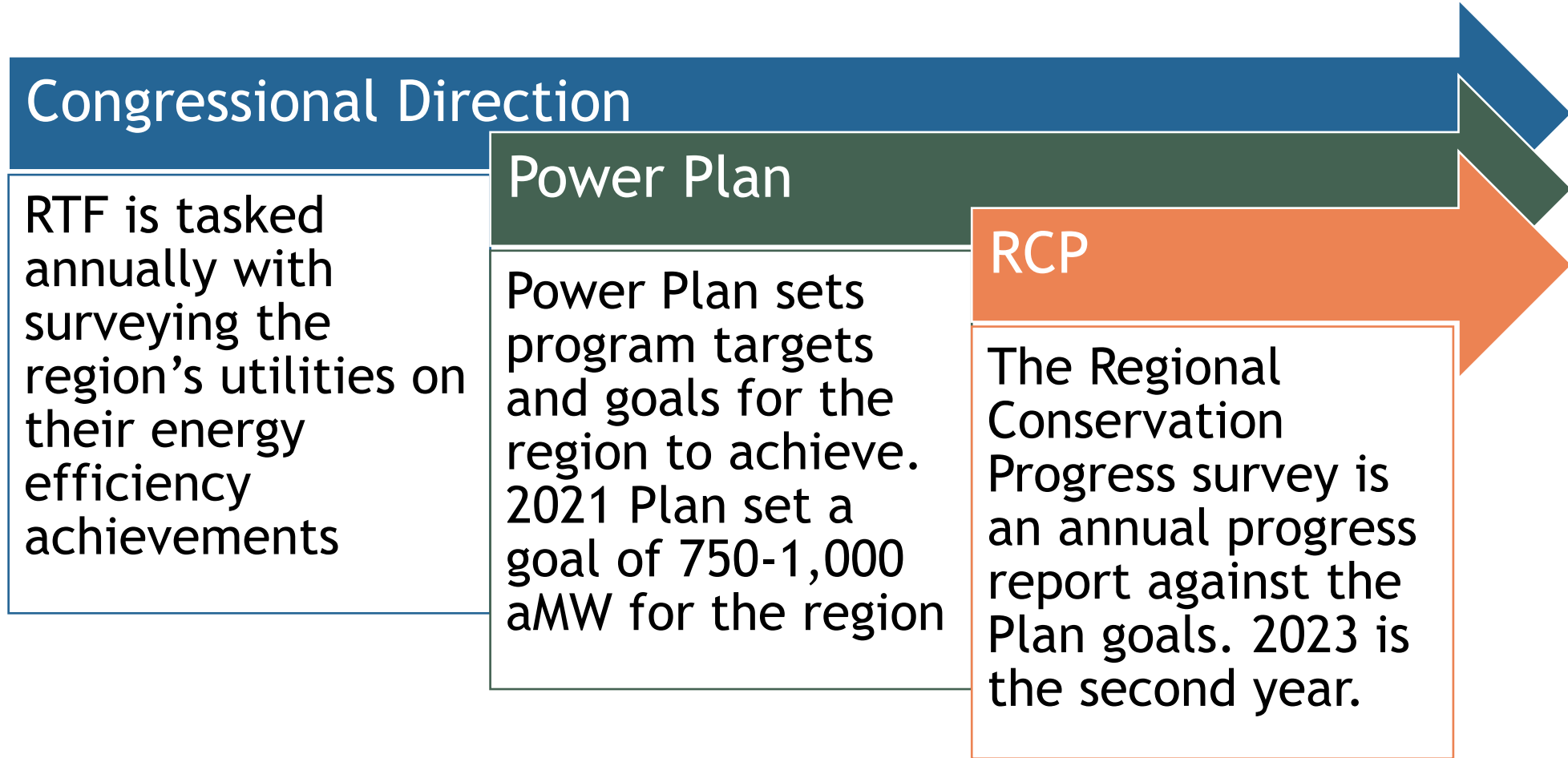
Council Meeting

Laura Thomas



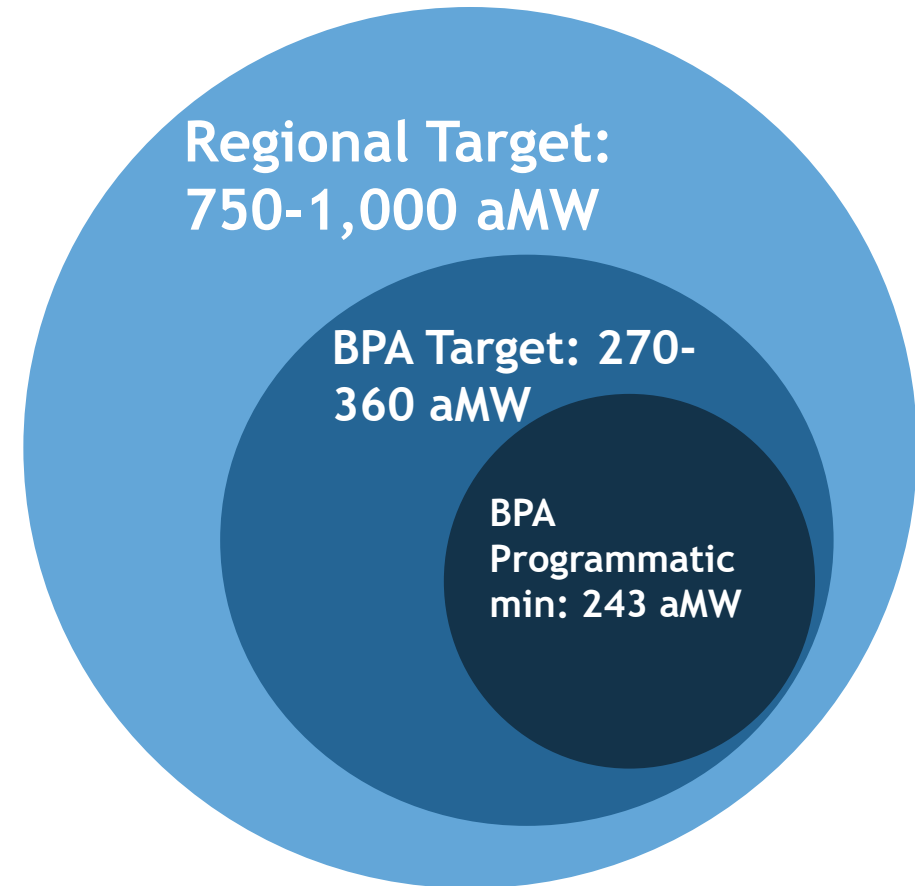
Northwest **Power** and
Conservation Council

What is the Regional Conservation Progress (RCP) Survey?



2021 Plan 6-Year Conservation Target

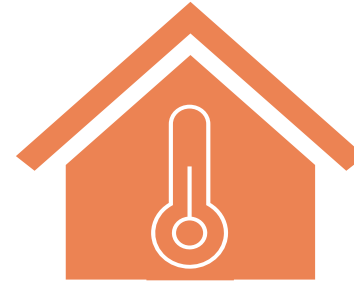
- Target represents the cost-effective conservation found in the 2021 Plan
- Bonneville's target sets a programmatic minimum which is intended to represent 90% of the savings achieved by BPA in the plan period. This percentage is consistent with where the majority of Bonneville savings have come from in past plan periods.



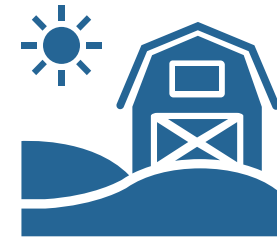
*The BPA targets were developed based on the portion of cost-effective energy efficiency in the Bonneville utility footprint

Additional Program Element Savings

- The Conservation Program recommends the region pursue efficiency beyond what is just cost-effective
- Successful implementation of the Conservation Program requires that the region achieve more than just the target amount of conservation



Weatherization

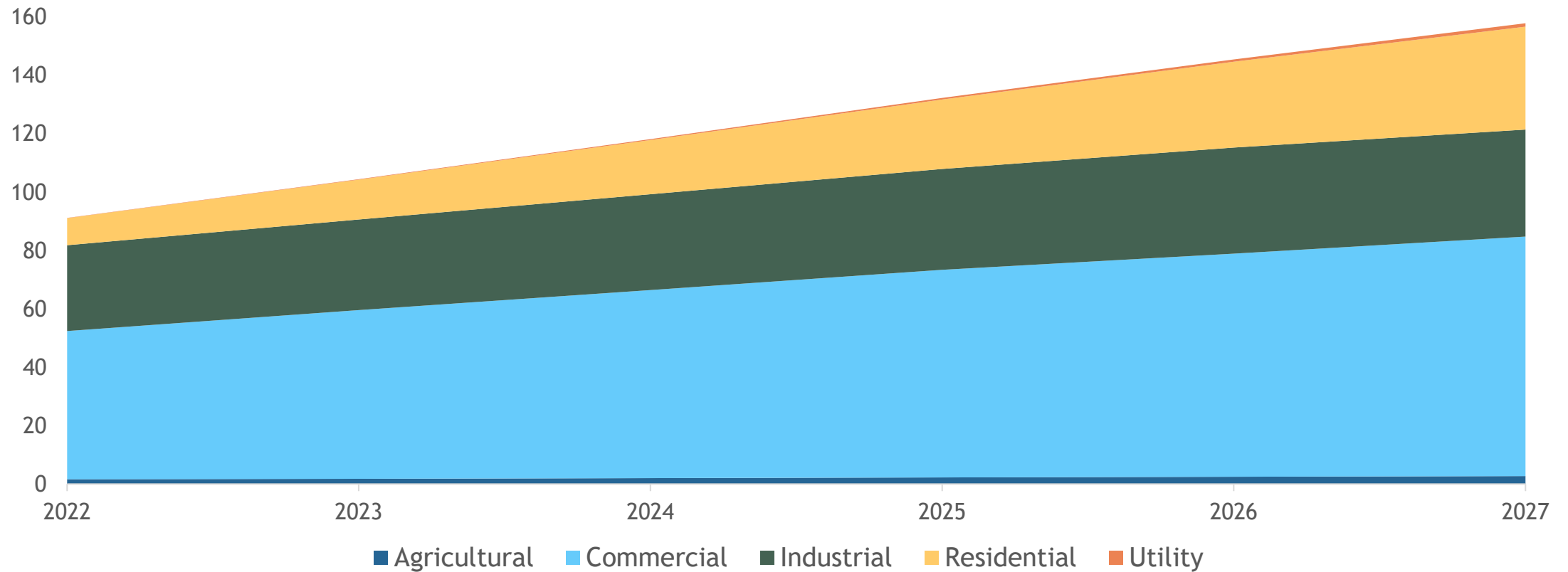


**Small and Rural
Utility Programs**



Decarbonization

Annual Cost-effective Conservation Potential in 2021 Plan by Sector



Types of Conservation Savings in the 2023 RCP

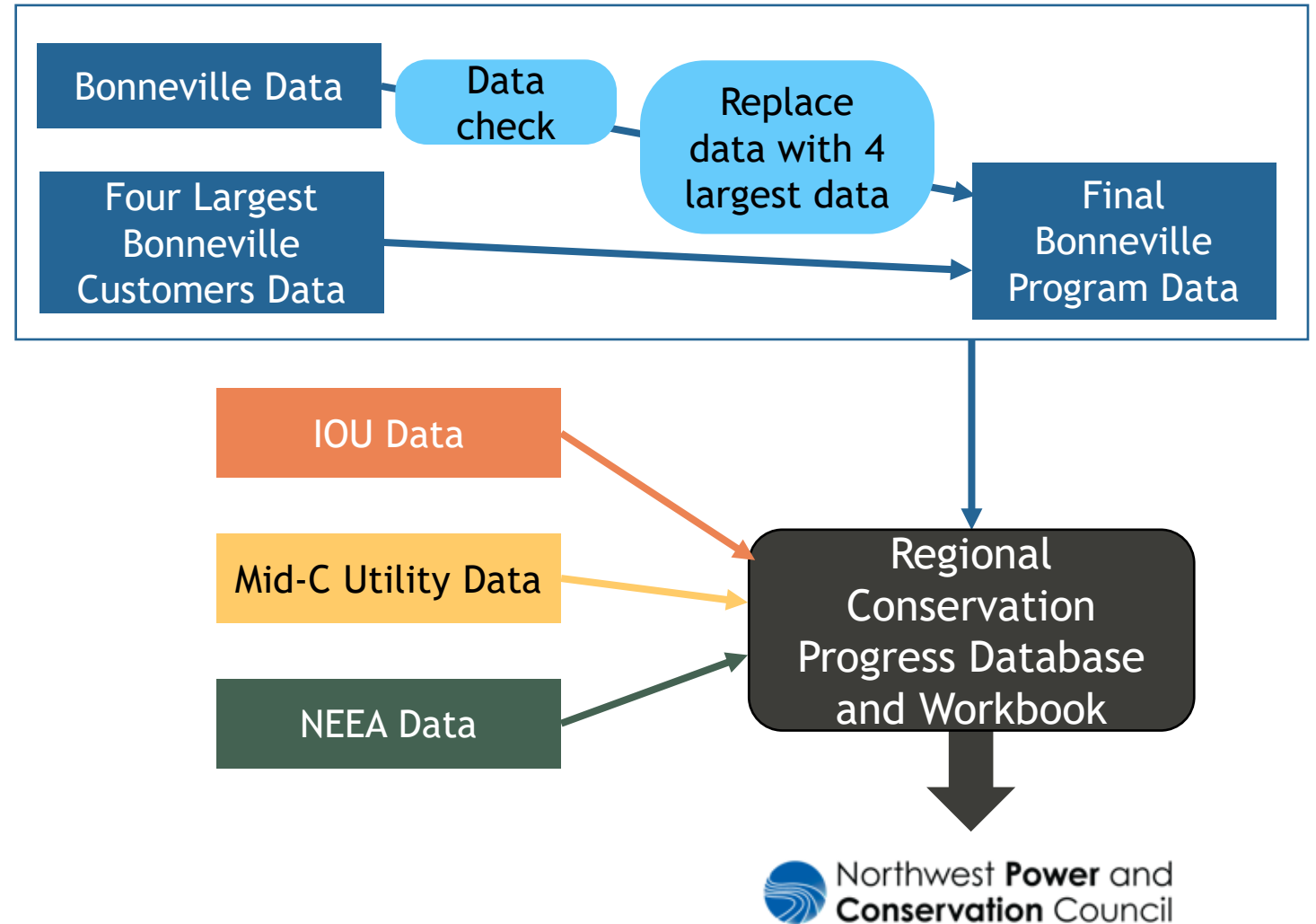
Program
Savings

NEEA
Initiative
Savings

Codes and
Standards

RCP Data Collection

- 2023 Savings
 - As much detail as possible
- 2023 Expenditures
 - Aiming for total expenditures
- 2024-2025 Projections
 - Forecasted savings and expenditures where available



Acknowledgements

- Jennifer Light
- Kevin Smit
- Consultants (Apex)
- Responding Utilities



[This Photo](#) by Unknown Author is licensed under [CC BY-SA](#)

Thank you to the Regional Utilities who provided data:

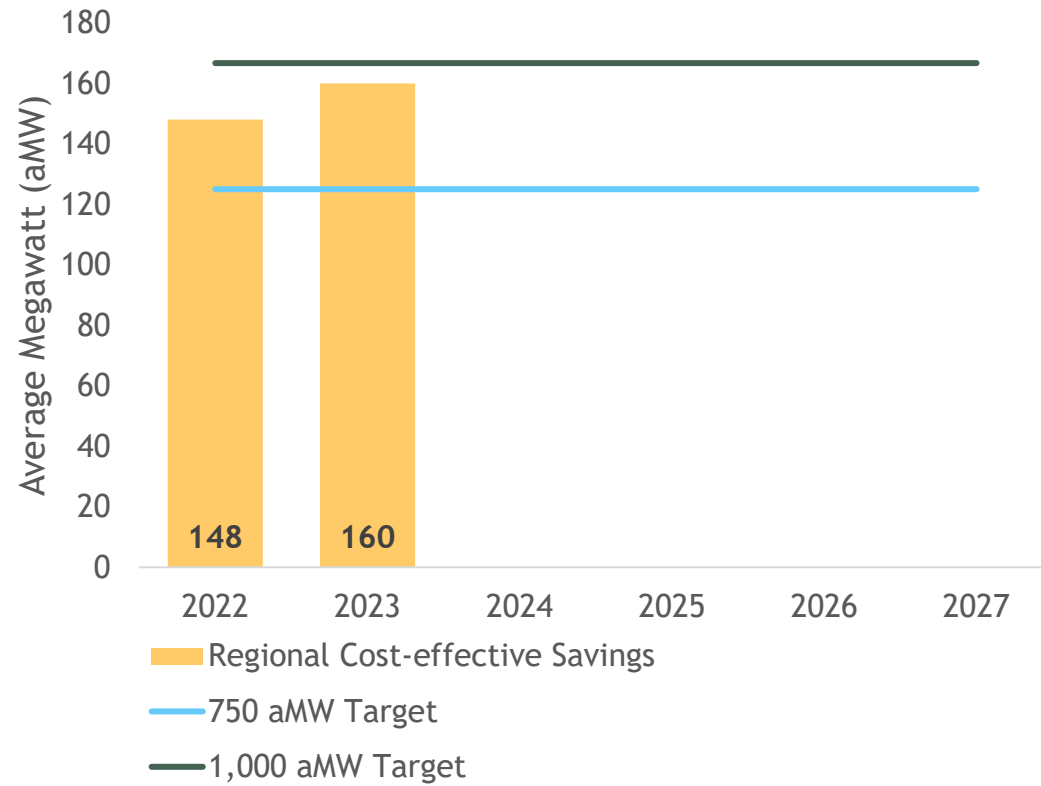
- Bonneville Power Administration
- Puget Sound Energy
- NorthWestern Energy
- Avista
- Idaho Power
- Energy Trust of Oregon
- PacifiCorp
- Chelan County PUD
- Grant PUD
- Douglas PUD
- Northwest Energy Efficiency Alliance
- BPA Utilities:
 - Seattle City Light
 - Snohomish County PUD
 - Franklin PUD
 - Tacoma Power
 - Cowlitz PUD
 - Grays Harbor PUD
 - Clark PUD
 - United Electric Coop
 - Emerald PUD



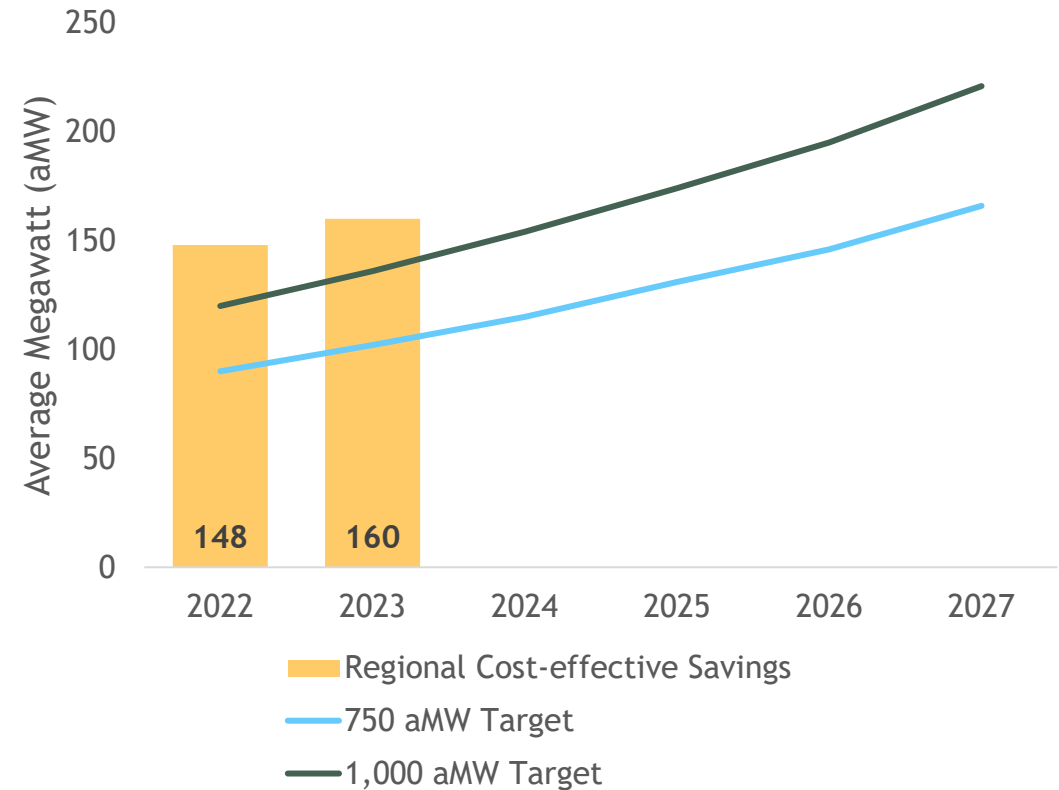
2023 RCP Results

Total Regional Cost-Effective Savings Achieved in 2023 = 160 aMW

Even Distribution of 2021 Plan Goal



Ramped Distribution of 2021 Plan Goal



Per the Adequacy Assessment

- Reminder from the Adequacy Assessment:
 - “The [reference] strategy, but only pursuing the low end of the Council’s energy efficiency target, would not provide for an adequate system.”
 - Specific challenges are winter peak issues, particularly during morning and evening ramps

Final Results

4 event-years
2.2% LOLP

Adequate

24 event-years
13.3% LOLP

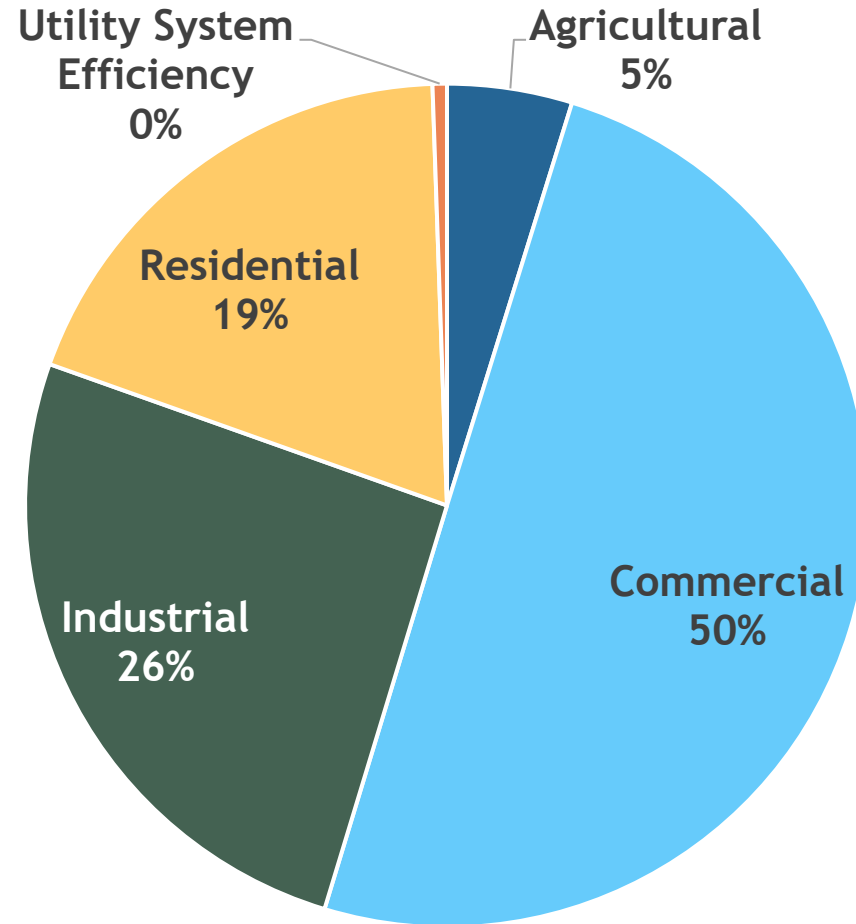
Non-Adequate

14 event-years
7.8% LOLP

Non-Adequate

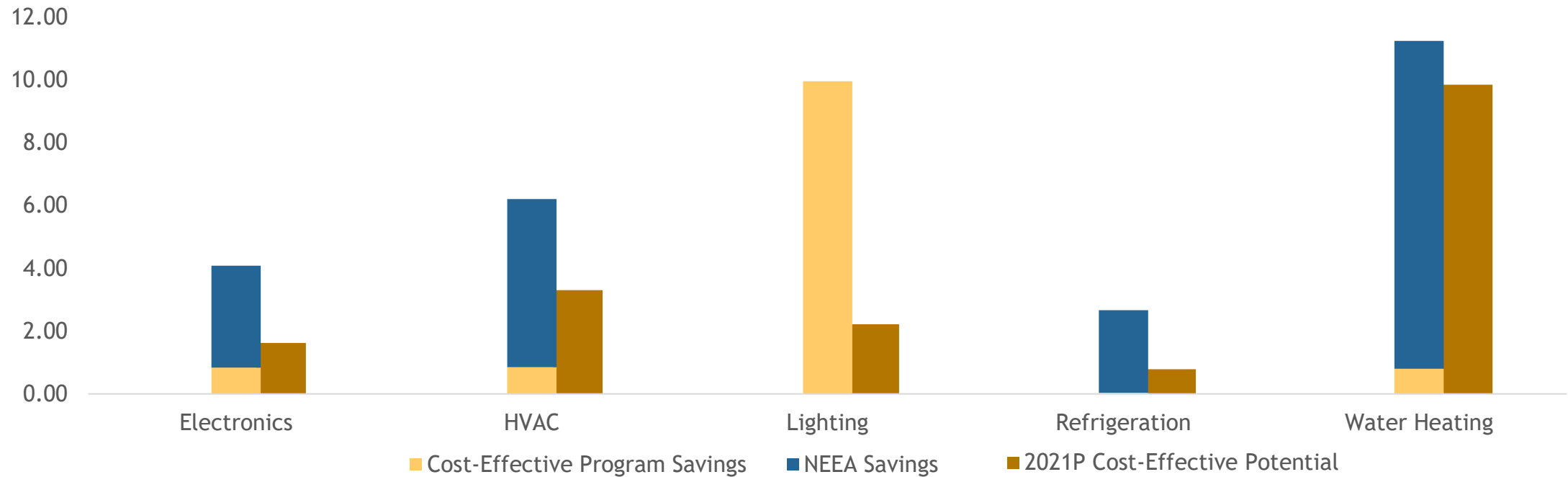
	Metric	Threshold	Reference	High Data Center	Low End EE
Frequency	Winter LOLEV	0.1	0.022	1.294	0.350
	Summer LOLEV	0.1	0.017	0.3	0.033
Duration	Duration VaR 97.5	8 hours	0	20.6	1.5
Magnitude	Peak VaR 97.5	1,200 MW	0	3,076	1,567
	Energy VaR 97.5	9,600 MWh	0	196,324	4,196
Reported metrics (non-binding)	Annual LOLEV	0.1	0.05	1.644	0.444
	Peak NVar 97.5	~3%*	0	9%	4.2%
	Energy NVar 97.5	~0.0052%*	0	0.09%	0.002%

Regional Cost-effective Savings in 2023 by Sector



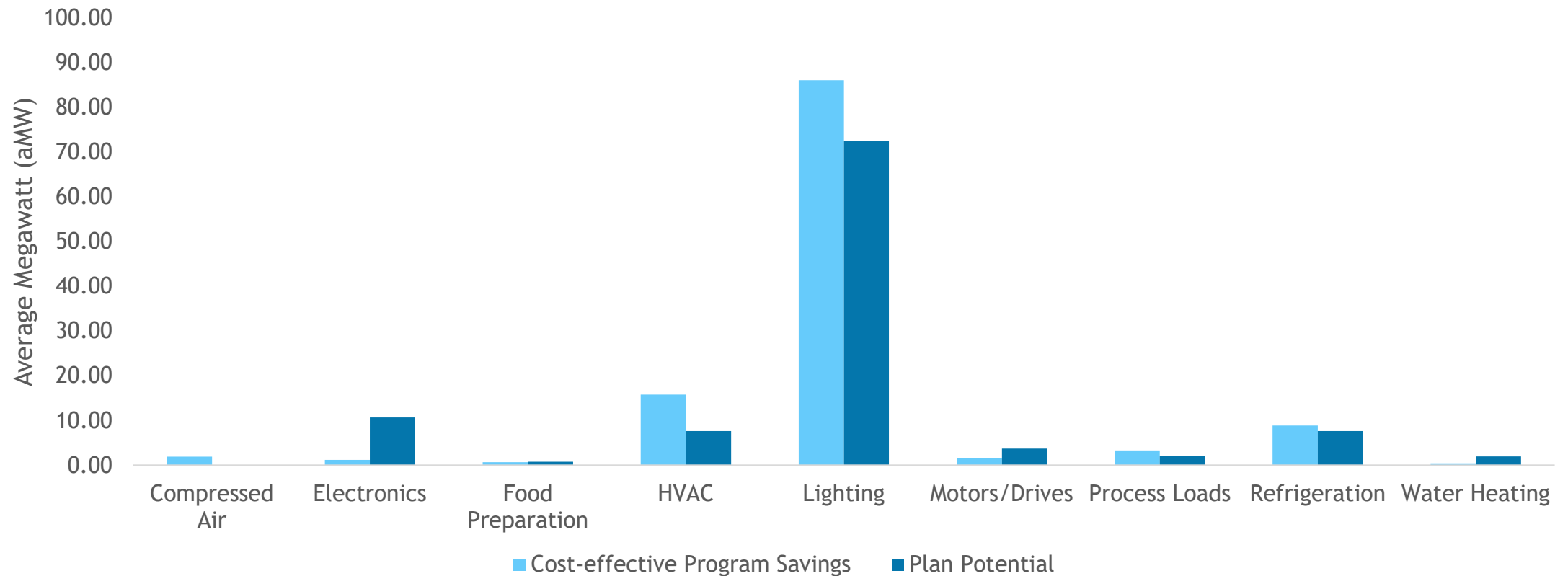
NEEA Program Ensuring Comprehensive Saving for Residential Sector in the Region

2022 and 2023 Residential Program Savings Compared to Plan Potential, including NEEA

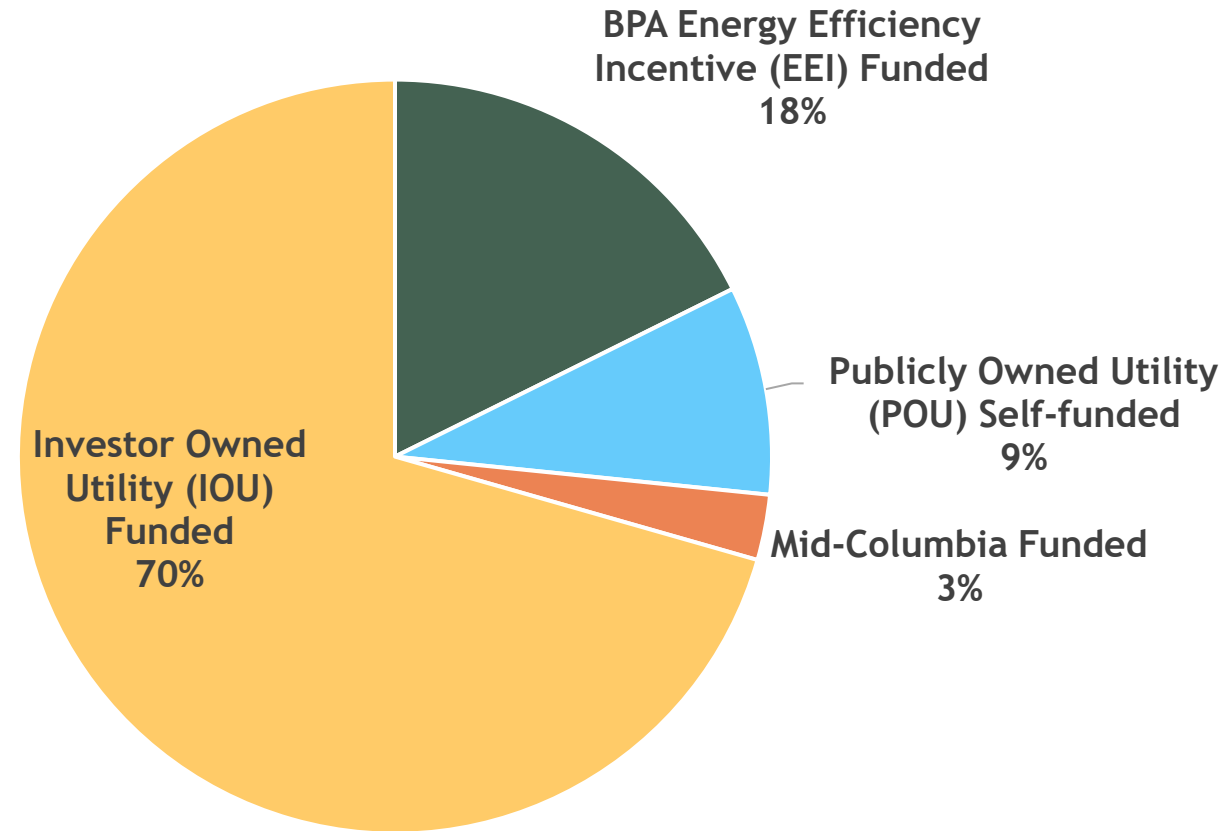


Commercial Programs Exceeding Expectations

2022 and 2023 Commercial Program Cost-Effective Savings Compared to Plan Potential, including NEEA

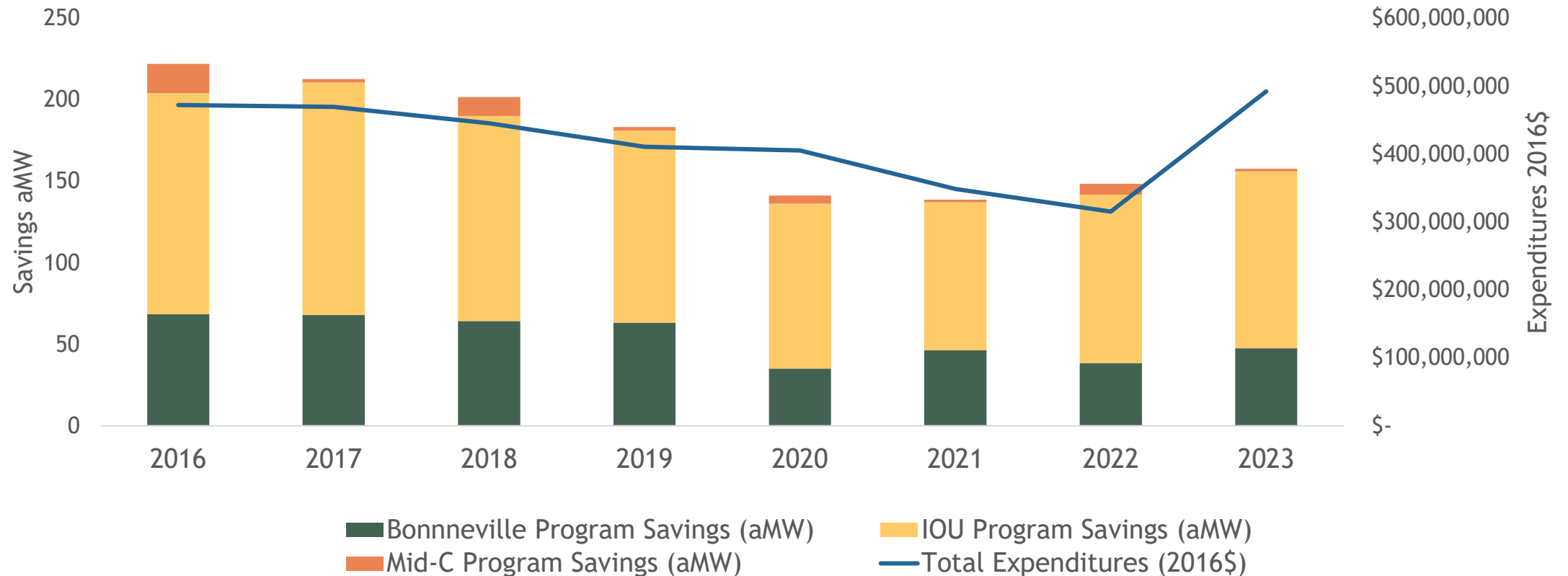


Cost-effective Program Savings from 2022-2023 by Funding Type



Increase in Both Total Program Savings and Expenditures in 2023

Regional Cost-effective and Non-cost-effective Program Savings and Total Expenditures





Bonneville Results

Determining BPA's Savings for 2023 RCP

BPA's savings represent:

- Program Savings
- Proportional accomplishments from regional mechanisms and adjustments

Note, this includes all EEI and Self-funded efficiency



Note: The 42% is based on BPA's share of NEEA funding.

Bonneville Efficiency Program Funding Mechanisms

- Funding for Bonneville's Energy Efficiency Program aligns follows a 2-year cadence aligning with the rate period
- The Program is fully funded through two mechanisms:

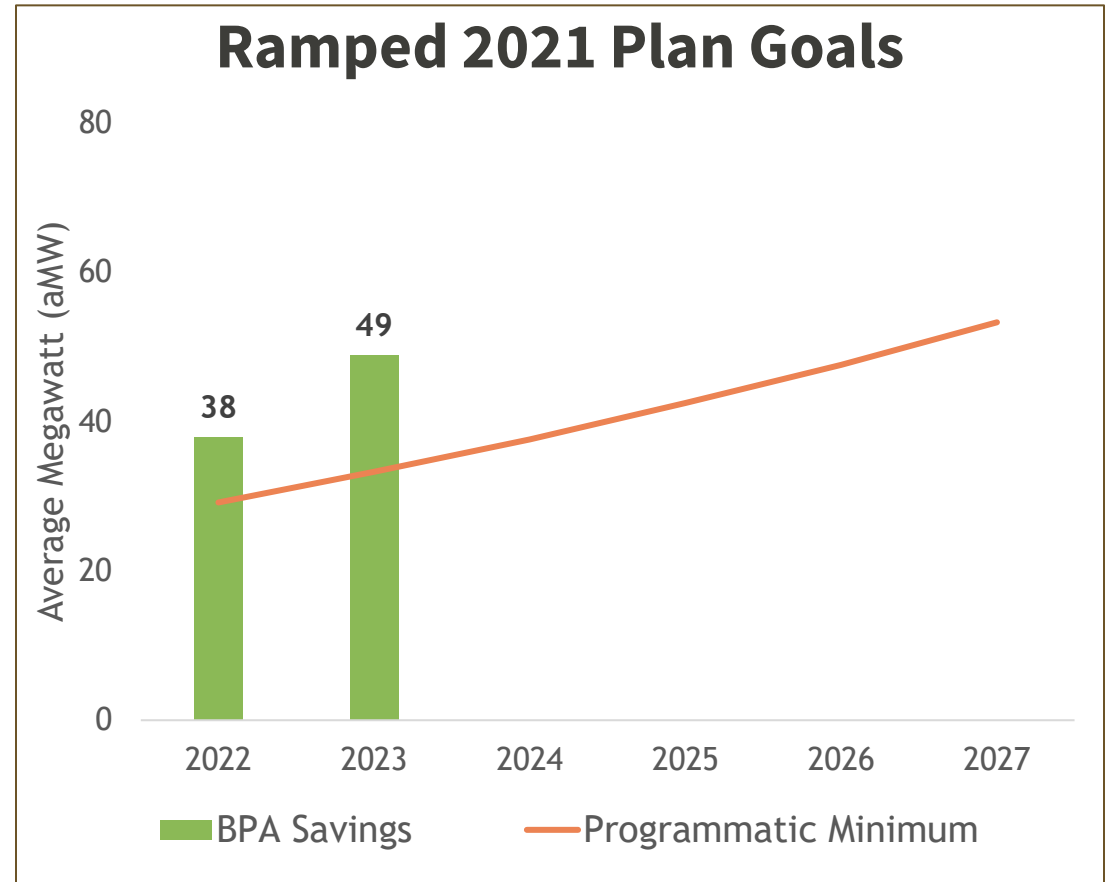
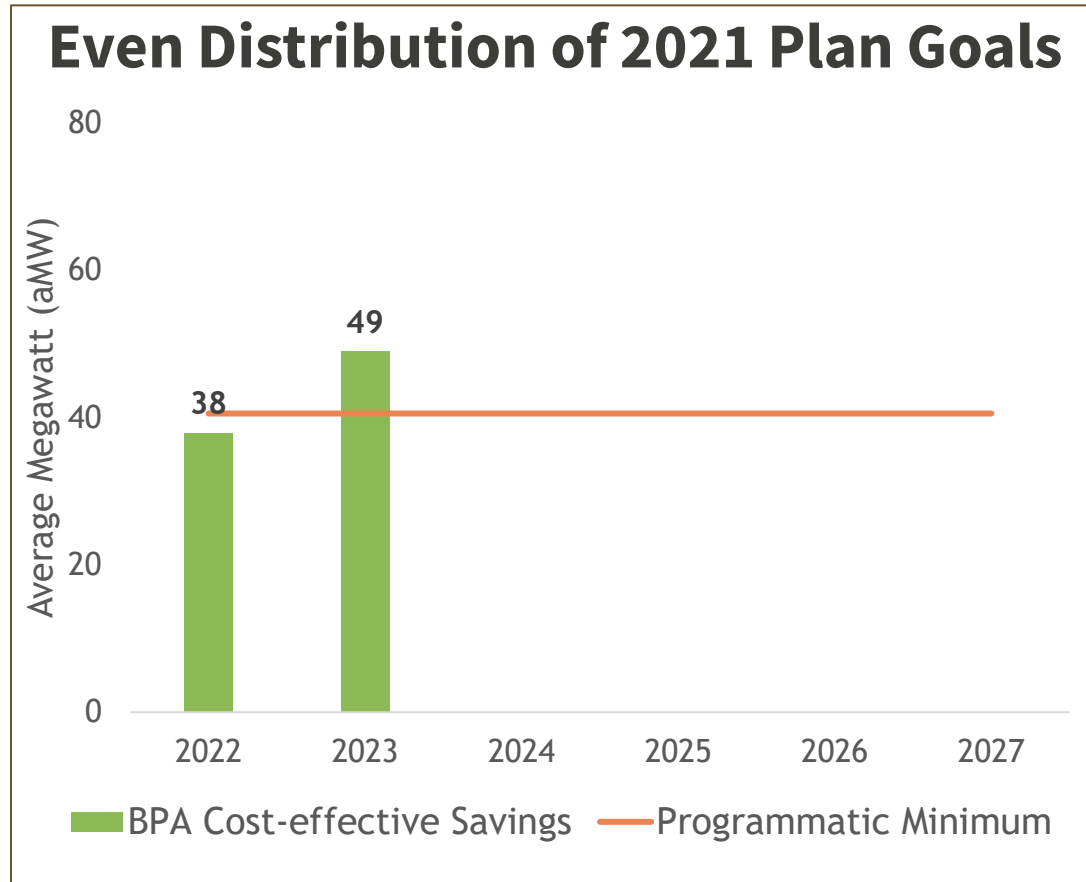
Energy Efficiency Incentive (EEI)

- 70% of the cost of Bonneville's EE program, collected through the rates
- Some utilities use EEI first, which might result in greater EEI in the first year of the rate period and more self-fund in the second year.

Self-fund

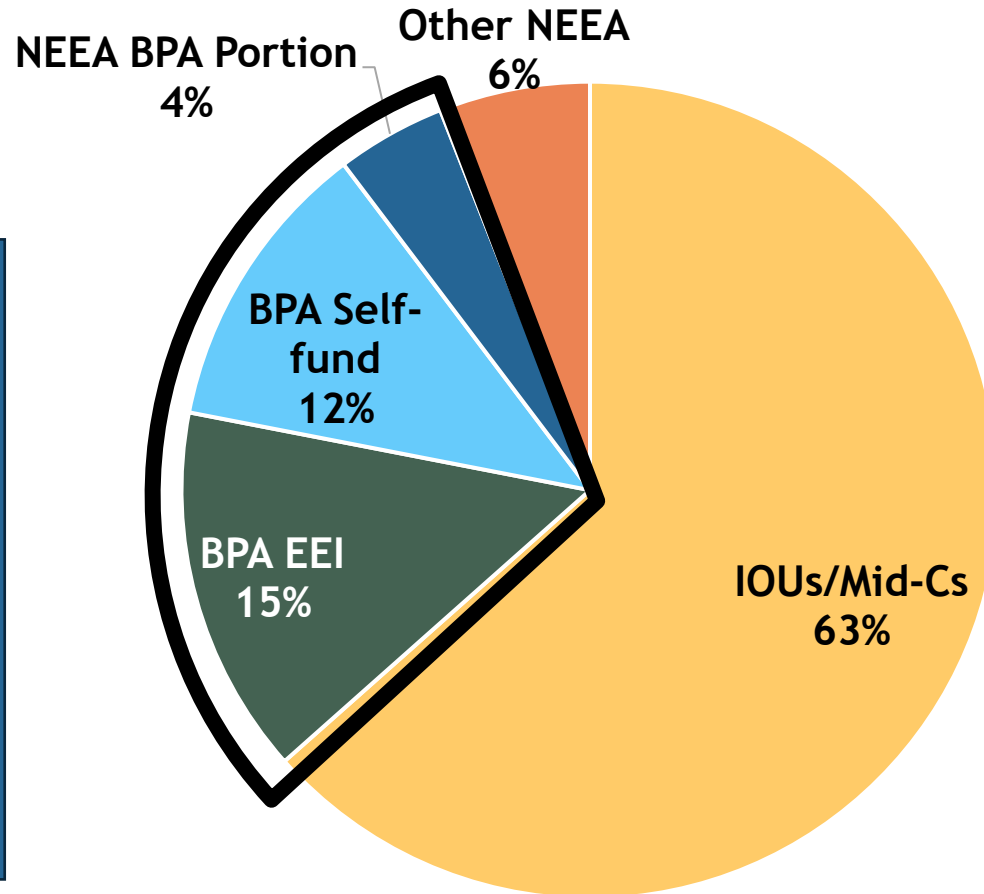
- Remaining 30% of program is funded by Bonneville's utilities. If self-fund is not meeting 30%, Bonneville could collect more through the rates.
- Bonneville does not require that all utilities self-fund, allowing those who need more for energy efficiency to do more.

BPA Achieved 49 aMW in Cost-effective Savings in 2023

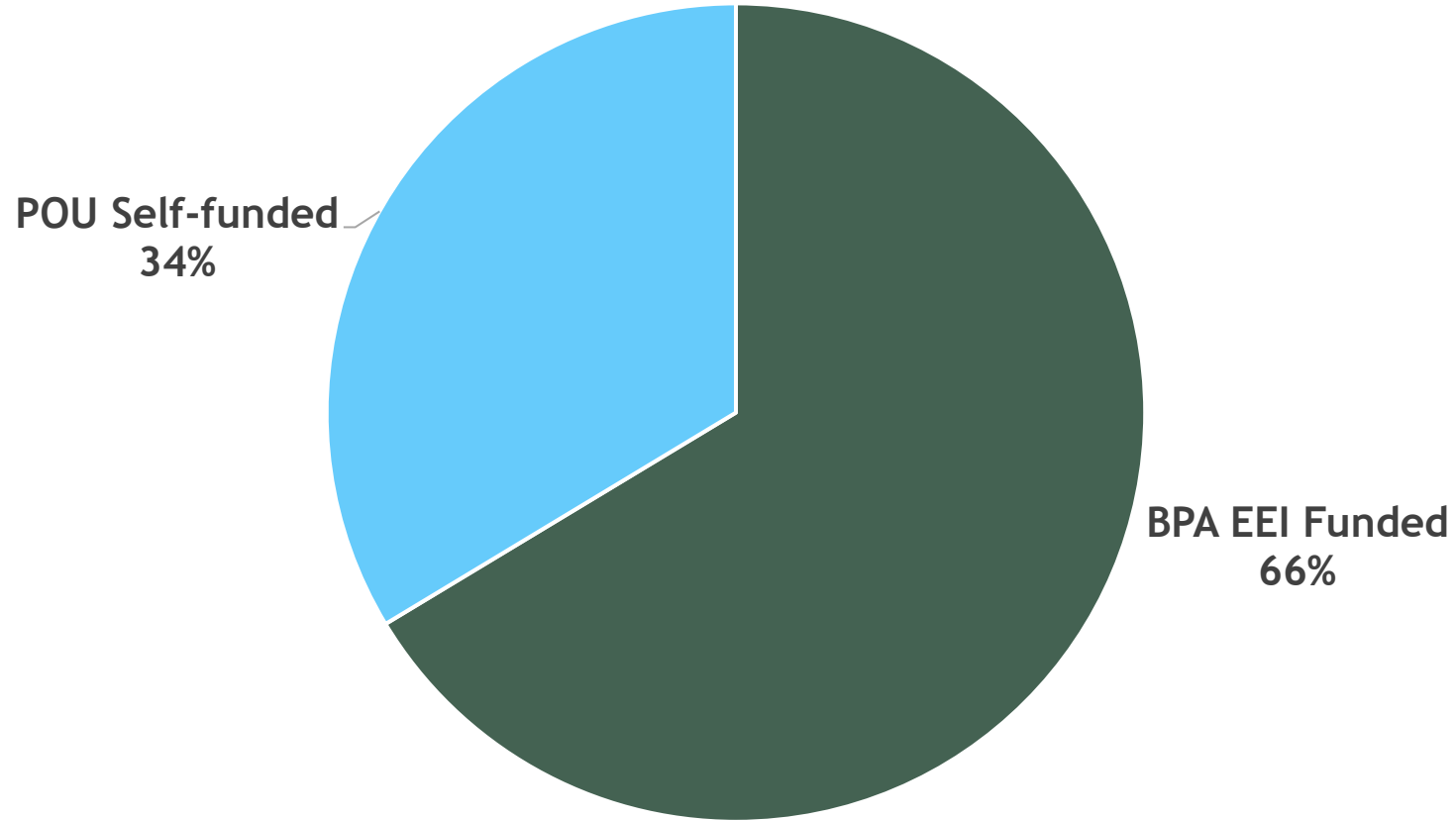


BPA Cost-effective Savings in the Region

Bonneville represented 31% of all regional savings in 2023, which is a 4% increase compared to 2022.

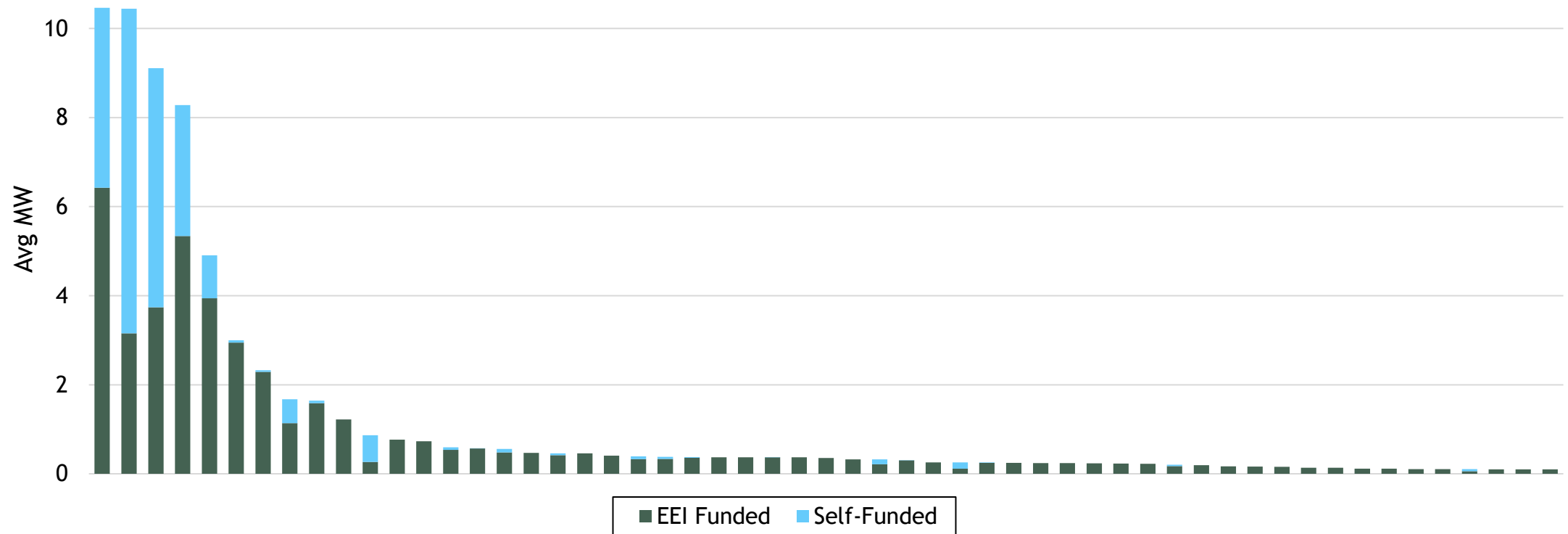


Bonneville Cost-effective Saving By Funding Type from 2022-2023



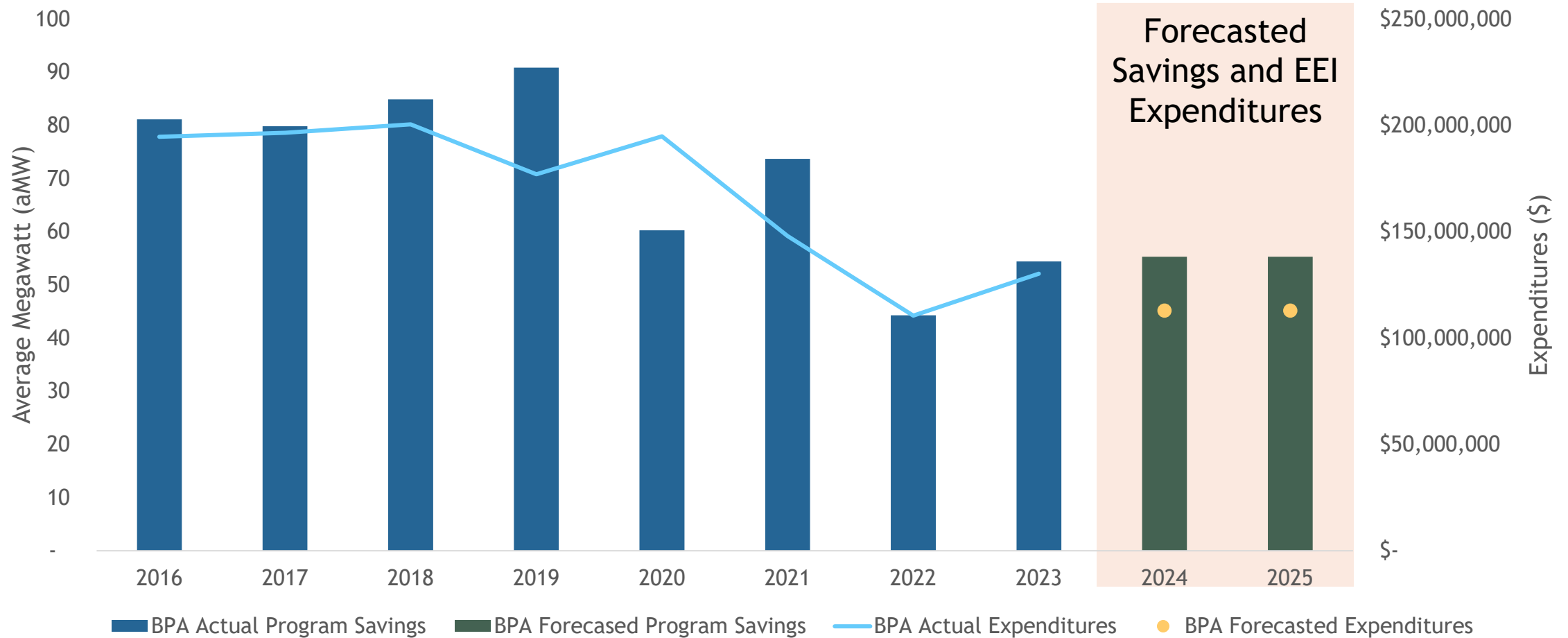
28% of Bonneville Utilities Provide Additional Funding through Self-Fund Mechanism

Bonneville Customer Utility Savings for 2022 + 2023, by Funding Mechanism



* This excludes utilities that achieved <0.1 aMW of savings in 2022 + 2023. These utilities relied solely on their EEI dollars for their achievements.

Actuals and Forecasted BPA Program Savings and Expenditures



*Forecast expenditures are only Bonneville's EEI associated expenditures and costs.



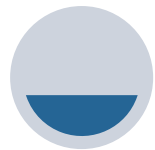
Other 2021 Power Plan Conservation Program Elements

In 2023 the Region Accomplished Other Elements of the Conservation Program

- Of the savings reported to the RCP, 8% were not cost-effective and instead support other elements of conservation program goals. This amount is consistent with the 2022 RCP.
- 93% of these additional savings were primarily for residential HVAC measures.

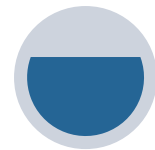
Weatherization in Plan Conservation Program

- The 2021 Power Plan “recommend(s) the region continue to invest in weatherization programs, targeting those homes that are leaky (in need of duct or air sealing) and/or have zero or limited insulation.” Plan assumes the potential for weatherization measures includes:



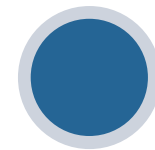
14 aMW

For
2022-
2023



61 aMW

For
2022-
2026



135 aMW

For
2022-
2042

Region's Progress Toward Weatherization Goals

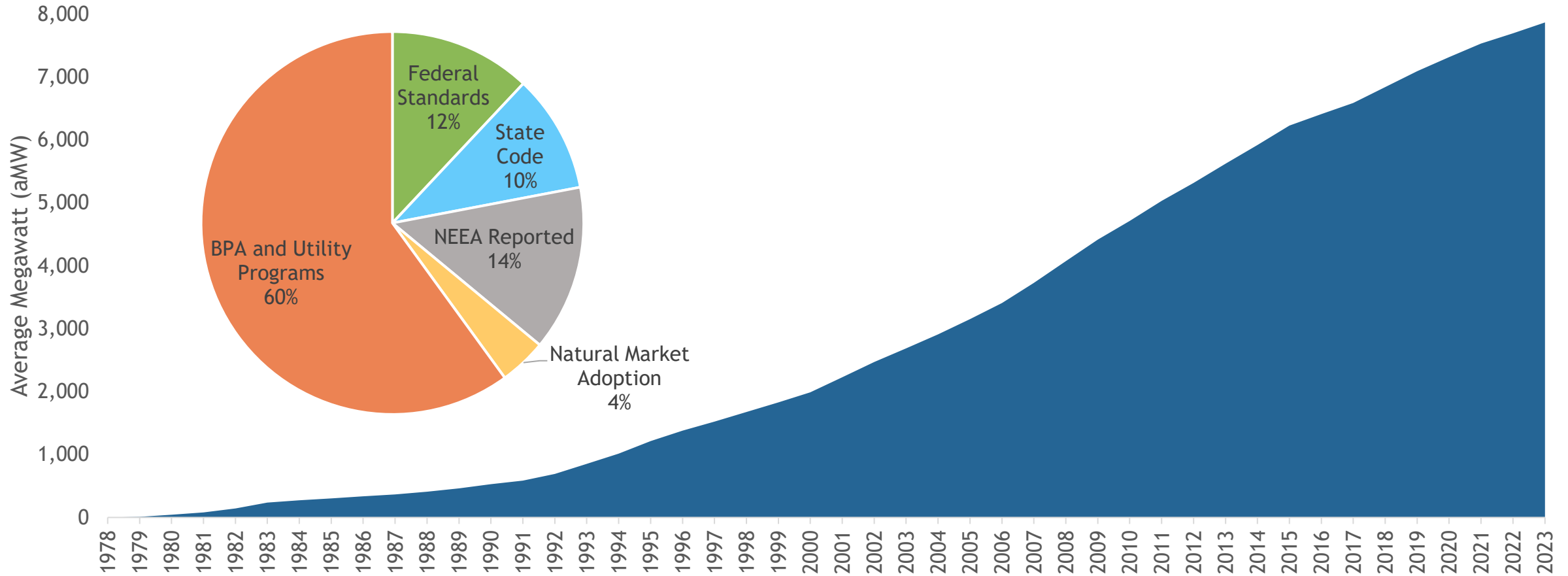
In 2022-2023, savings for weatherization measures total **3.1 aMW**. There continues to be significant weatherization potential in the region.



Photo by [Erik Mclean](#) on [Unsplash](#)

Region has achieved 7,865 aMW

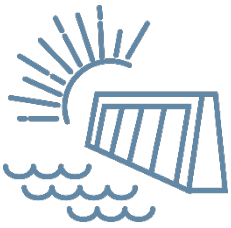
Cumulative Regional Savings, all Mechanisms



Fun Facts: What does 7,865 aMW represent?



Equivalent to the annual energy consumption of around 6.3 million homes



Almost 2.9 times the generation of Grand Coulee



or the amount of CO₂ sequestered by 29 million acres of US forests in one year