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September 8, 2021

### **MEMORANDUM**

**TO: Council Members**

**FROM: Jennifer Light**

**SUBJECT: 2020 Regional Conservation Progress Report**

### **BACKGROUND:**

Presenter: Jennifer Light

Summary: On behalf of the Council, the Regional Technical Forum conducts an annual data collection of the region's energy efficiency programs to understand energy efficiency savings and expenditures from the prior year. This 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 2020 RCP Report, which provides an update on the region's progress relative to the energy efficiency goals in the Council's Seventh Power Plan. The report comprises data from all the efficiency programs in the region: Bonneville and its customer utilities, the region's investor-owned utilities, the mid-Columbia utilities, Energy Trust of Oregon, and the Northwest Energy Efficiency Alliance. The report also includes data on 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 2016-2020. This time period represents the first five years of the Seventh Power Plan's Action Plan period.

In addition to reporting the findings on progress relative to the Council's Seventh Power Plan, staff will present an early look on forecasted savings relative to the draft 2021 Power Plan efficiency target.

Relevance: The Seventh Power Plan established a goal of 1400 aMW of conservation acquisition by the end of the six-year Action Plan period (2021). This goal includes two-year milestones:

	<b>FY 2016-2017</b>	<b>FY 2018-2019</b>	<b>FY 2020-2021</b>
Annual Energy Savings (aMW)	370	460	570
Cumulative Energy Savings (aMW)	370	830	1400

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

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


# 2020 Regional Conservation Progress Survey Results

September 15, 2021  
Council Meeting

# What is this Report?

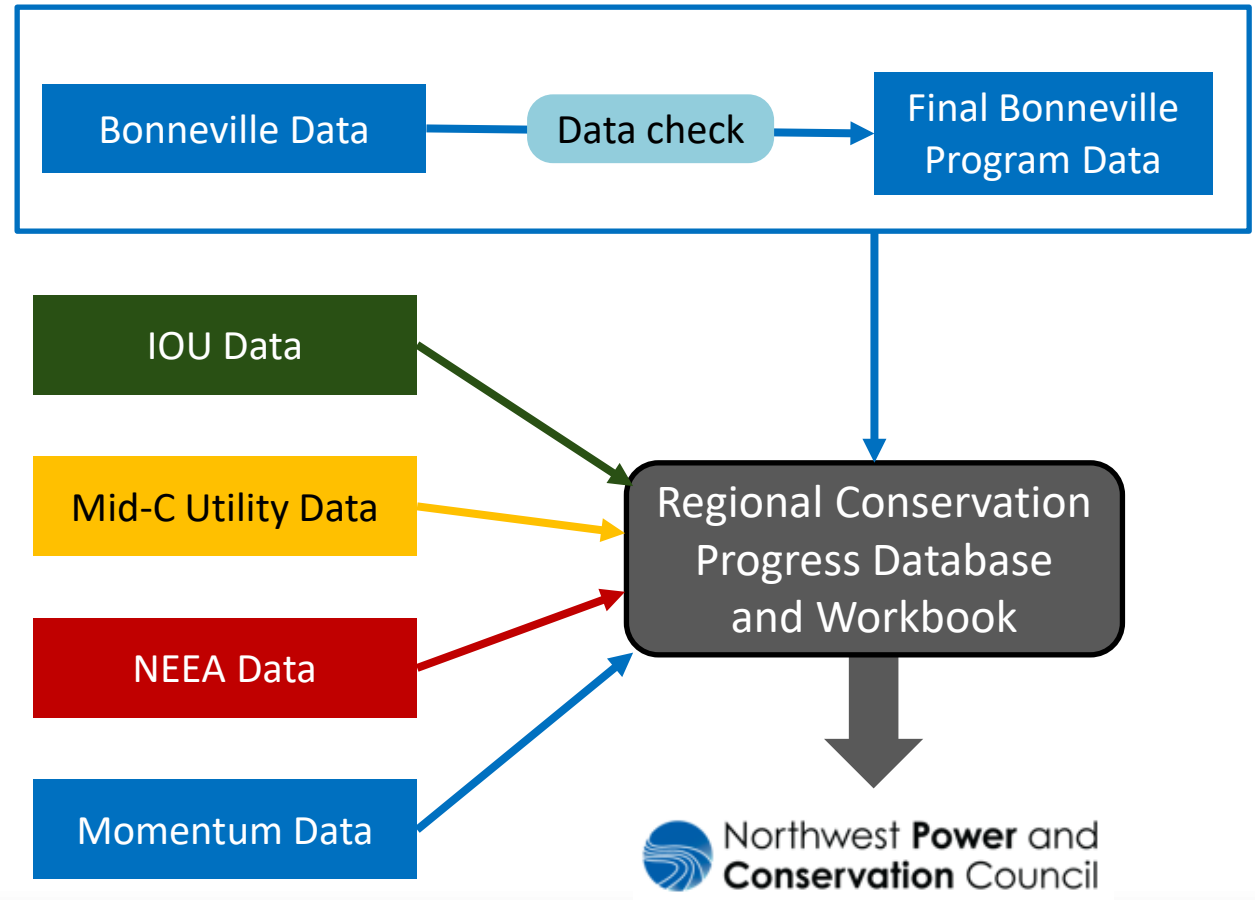
- Annual data collection from all the region's efficiency programs to track progress against the Council's plan goals
- 2020 is part of the Seventh Plan period, which continues to be the Council's plan until final adoption of the 2021 Power Plan
- Conservation goals in the Seventh Power Plan:

	2016-2017	2018-2019	2020-2021	2022-2023
Annual Energy (aMW)	370	460	570	660
Cumulative Energy (aMW)	370	830	1400	2060

  
Draft 2021 Power  
Plan starts here

# Data Collected

- **2020 Savings**  
As much detail as possible
- **2020 Expenditures**  
Aiming for total expenditures
- **2021-2022 Projections**  
Forecasted savings and expenditures, where available
- **2016-2019 Updates**  
Corrections or updates to previous years data



# Types of Savings in the RCP

## Total Market Savings

Represents the total savings in the region relative to the Power Plan baseline. A look at the change in consumption for a whole market (efficient and inefficient). **These savings are most comparable to the Power Plan goals.**

## Program Savings

Savings claimed by utilities, BPA, and Energy Trust of Oregon for specific measures that they have incentivized.

## NEEA Reported Savings

Savings reported by NEEA that represent efficiency in markets they track above the Power Plan baseline not claimed by programs.

## Momentum Savings

Savings reported by BPA to reflect efficiency in the market, resulting from previous program activity, that are above the Power Plan baseline and not accounted for by Programs or NEEA.

## Codes and Standards Savings

Savings from new buildings or equipment that meet a new code or standard not captured in the Power Plan baseline.

# Total Market Savings

- Total Market Savings represent the change in electricity use between today and the start of the Plan
- Savings are estimated by collecting sales and other data to understand how the market (and therefore energy use) has shifted over time
- These most align with the Power Plan Resource Strategy, as the Plan goals essentially identify the most cost-effective amount of efficiency needed regionally to meet electricity needs

Total Market Savings are reported for the following markets:

- Residential lighting
- Residential refrigerators and freezers
- Residential heat pump water heaters
- Residential clothes washers and dryers
- Residential and commercial computers
- Residential HVAC (full market 2016-2017 only)
- Residential ductless heat pump
- New manufactured homes
- Non-residential lighting (2016-2017 only)

# The Market Adjustment

For some markets, we have data on total market savings allowing us to see the full picture



The different savings components don't align with this full picture, due to different methodologies and perspectives



The market adjustment is calculated to bring these into alignment, ensuring the sum of the parts equals the total



Simply put, the market adjustment accounts for under- and over-counting from the different sources



# Other Notes About the Analysis

- Any updates reported in future years may result in changes to previous year reports
- Report represents a mix of calendar and fiscal year savings; this gets smoothed out over multiple years of reporting
- Some types of savings, in particular industrial, are blocky and can vary significantly year by year
- Comprehensiveness of expenditure data vary year-by-year (ex: some utility self-fund expenditures)

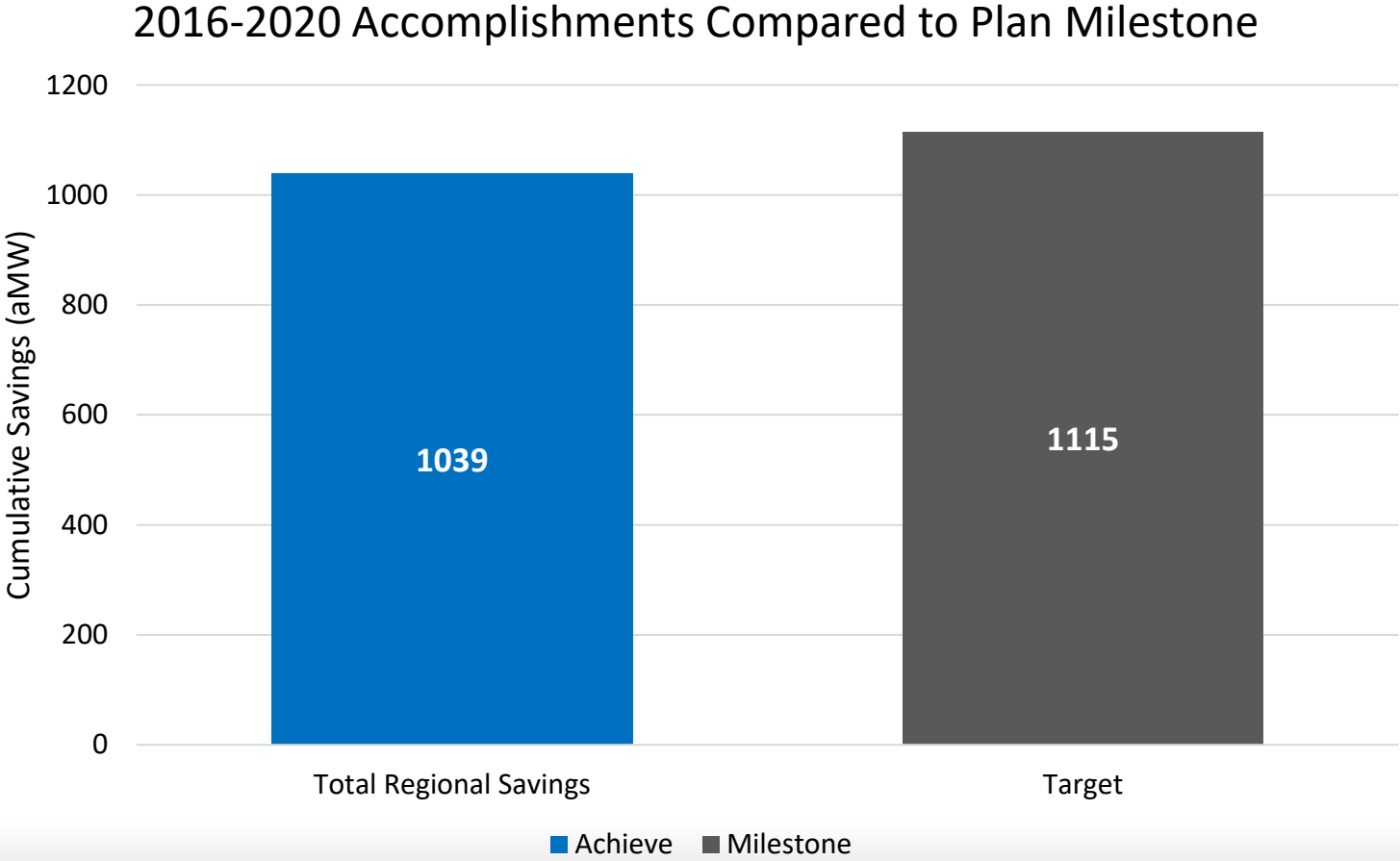
# Thank You Respondents!



## And now for the results!

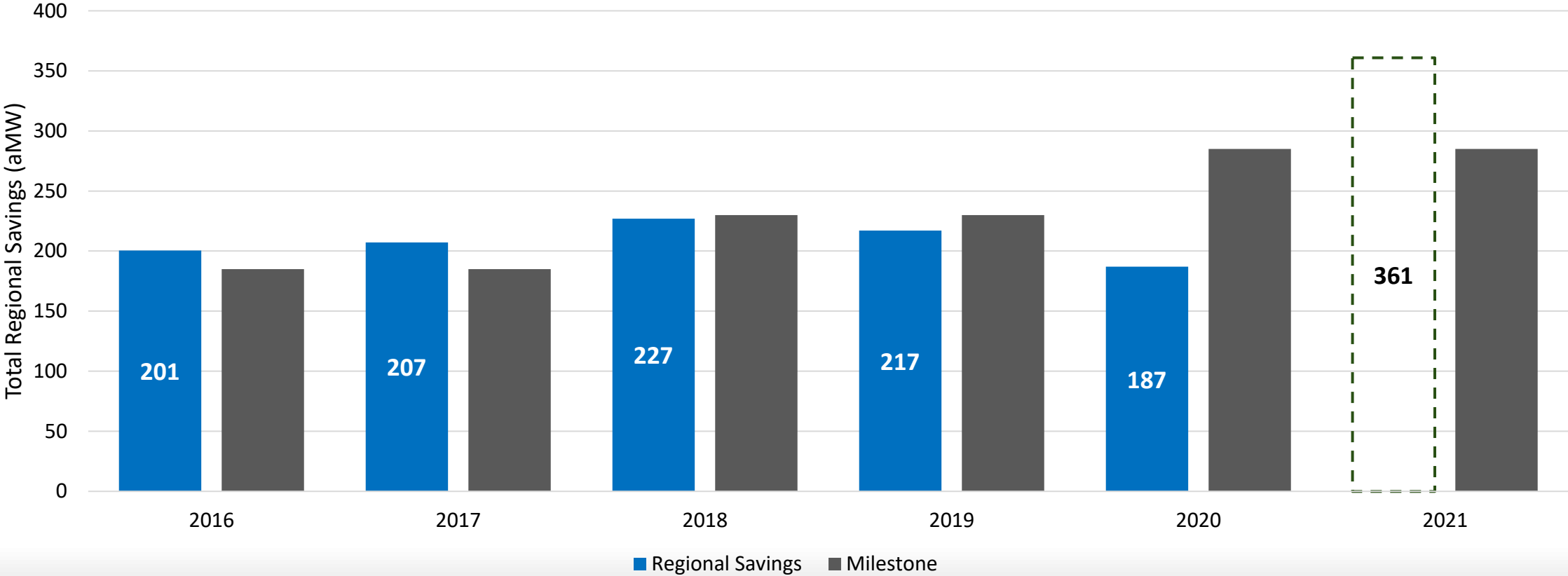
# REGIONAL RESULTS

# Region is Currently Behind Milestone Goals



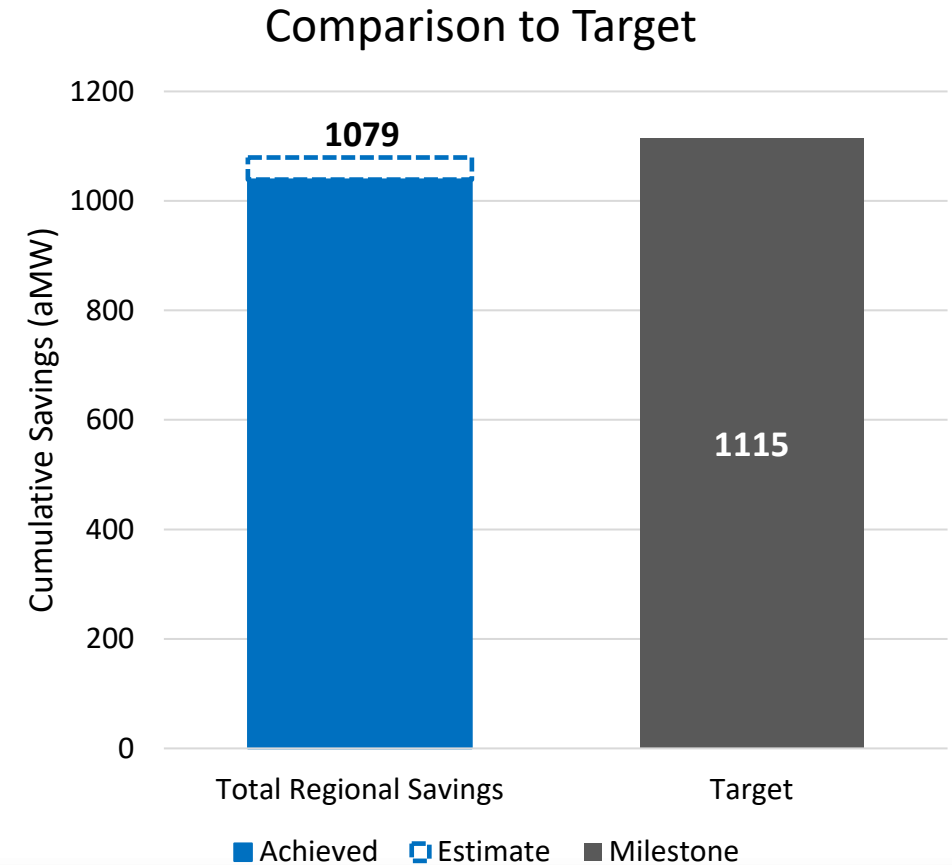
# Plan Milestones Increased, but Savings Remain Flat to Declining

Total Regional Savings Compared to Seventh Plan Milestones



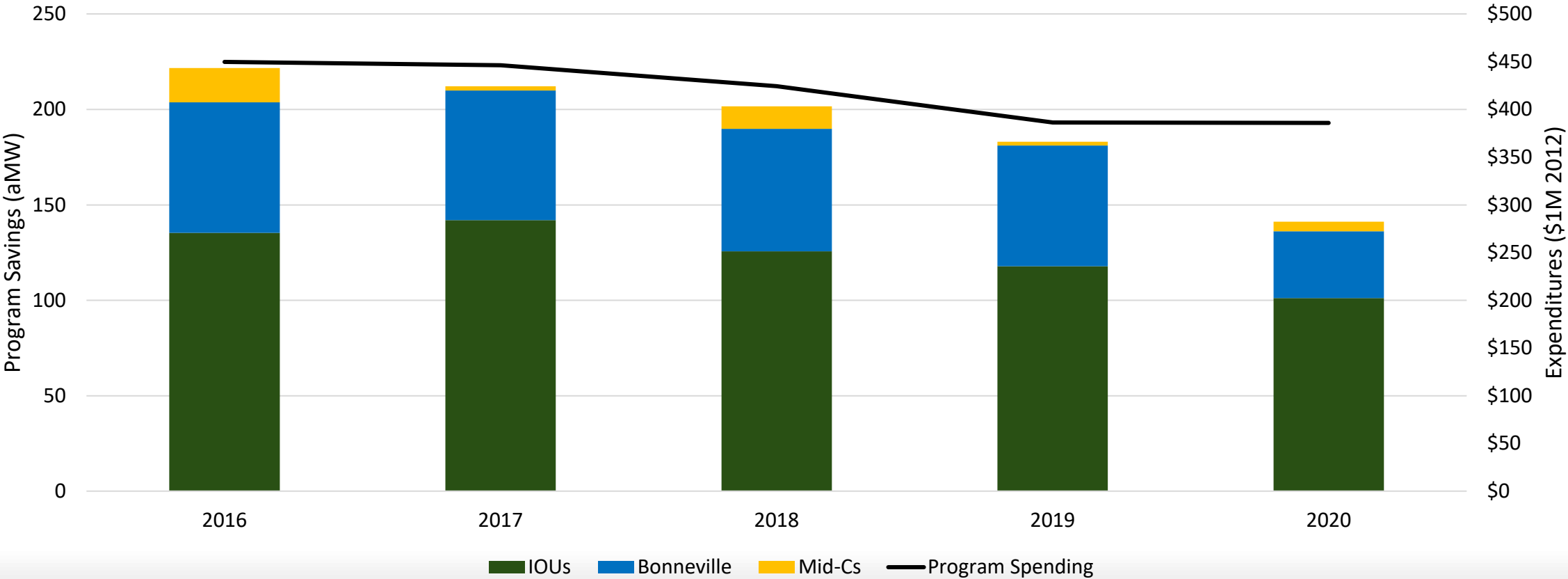
# But What About Covid?

- Added 40 aMW to demonstrate “What if 2020 looked more like 2018?”
- Region would still be behind the current milestone goal
- Covid-19 restrictions definitely impacted 2020 savings, but it does not appear to be the sole driver of why the region is behind the goal



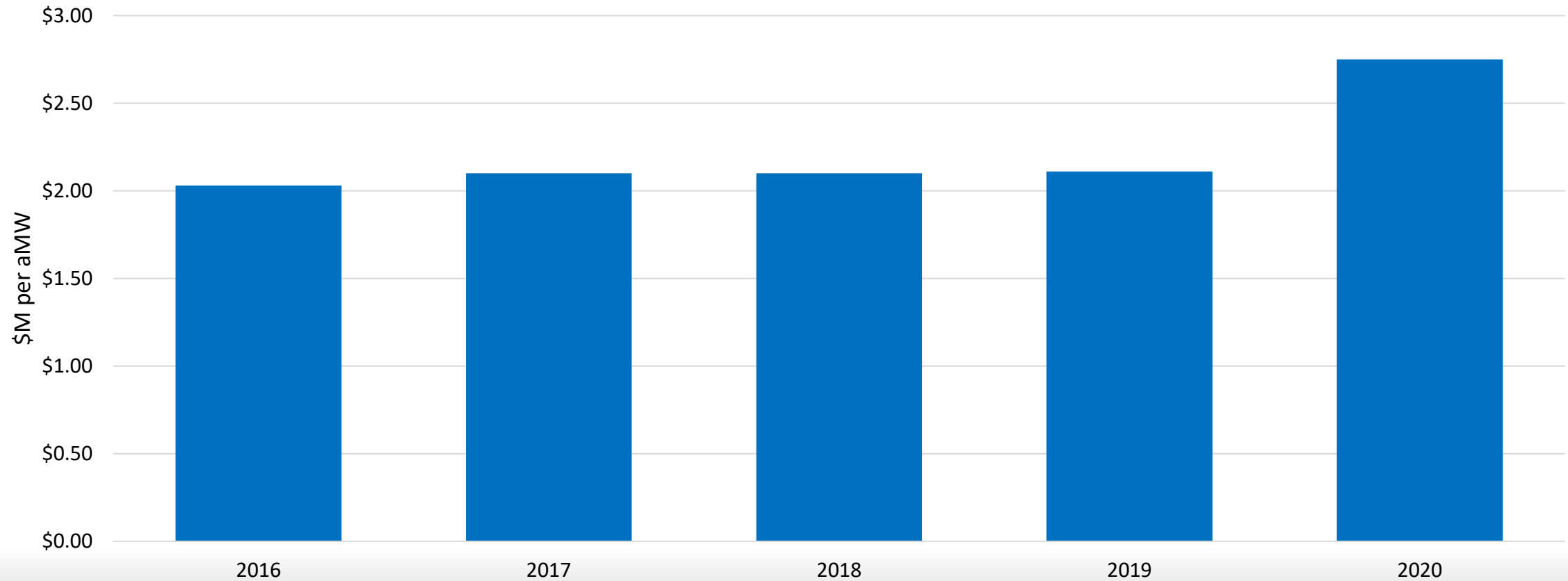
# Program Savings and Expenditures Have Been Flat to Declining

Program Savings and Expenditures Over Time



# Program Savings Cost More in 2020

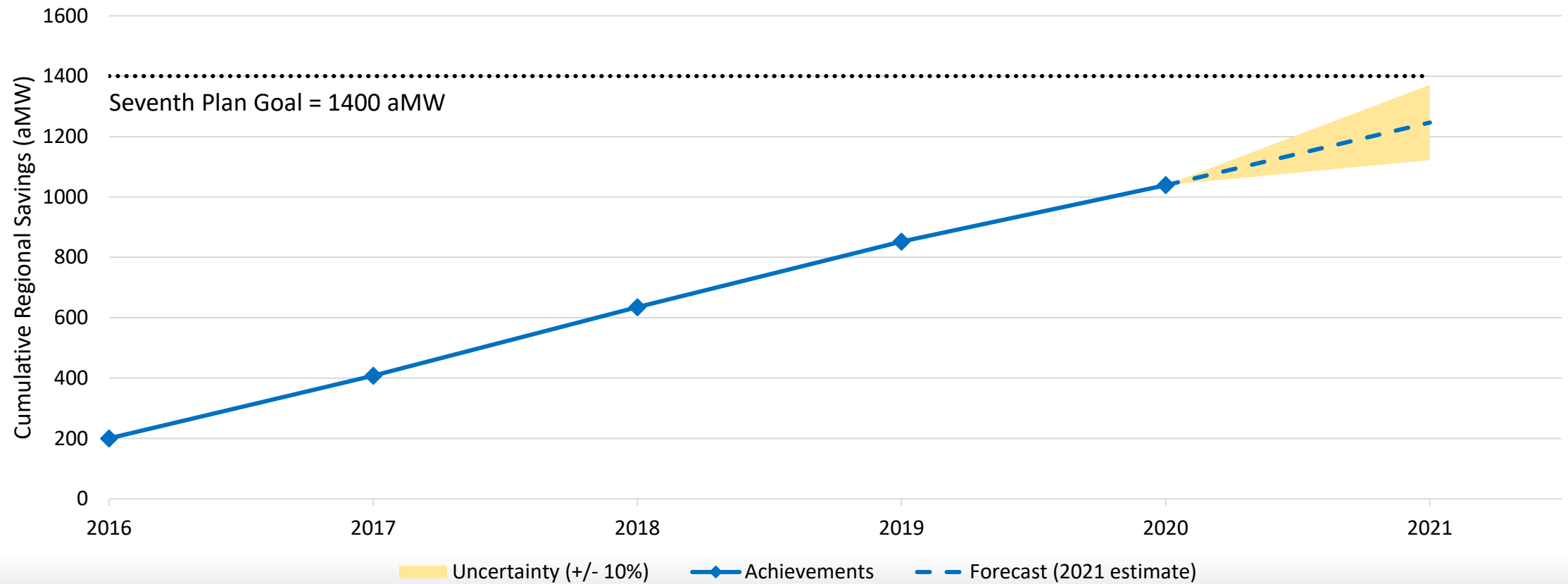
Program First Year Cost of Energy Efficiency Over Time





# Another Look at the Six Year Goal

2016-2020 Regional Progress and 2021 Forecasted Savings Relative to 7<sup>th</sup> Plan Goal



# BONNEVILLE RESULTS

# Determining BPA's Savings

BPA's savings represent:

- Program Savings
- Proportional accomplishments from regional mechanisms and adjustments

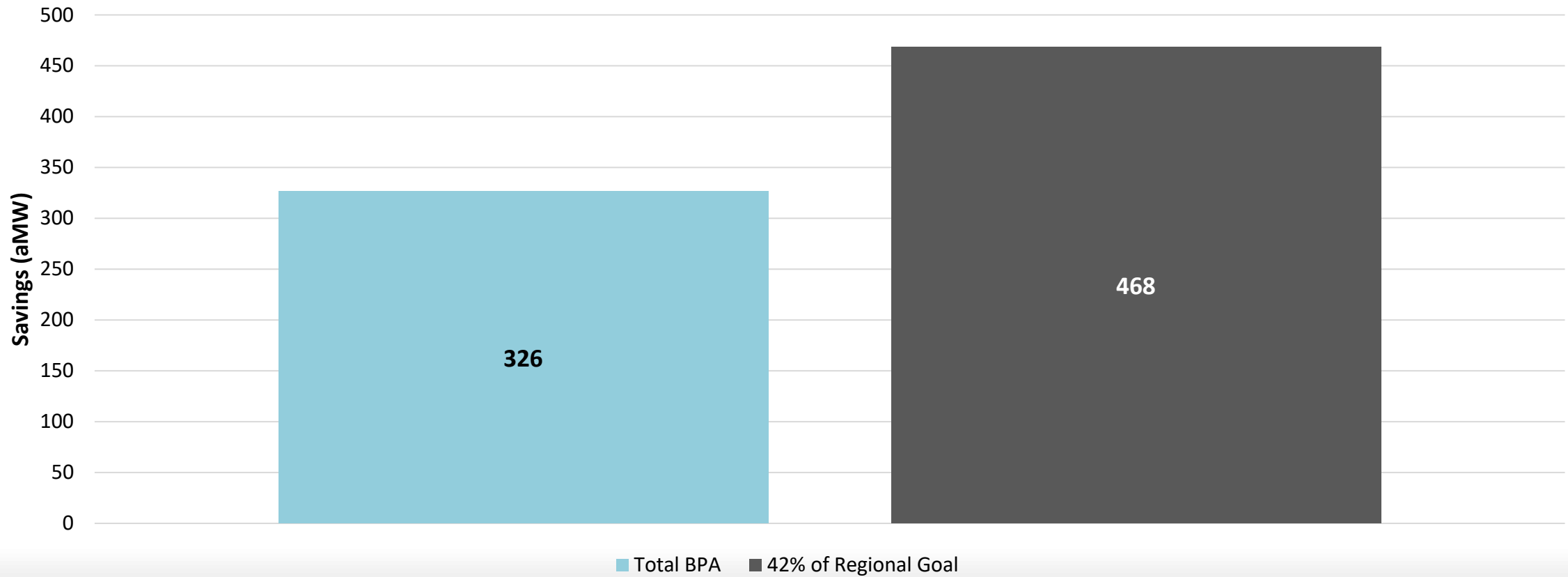
Note, program savings are those directly in BPA's control and the only component not proportional to regional savings



Note: The 42% is based on BPA's determined share of the regional goal.

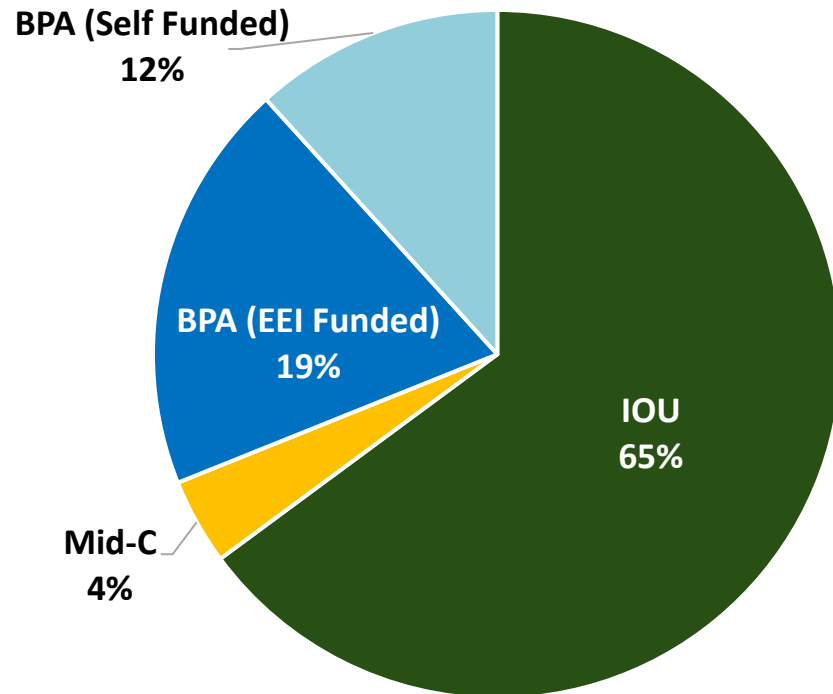
# BPA is Currently Achieving Less Than 42% of Power Plan Goals

Total BPA Savings from 2016-2020 Relative to 42% of Goal

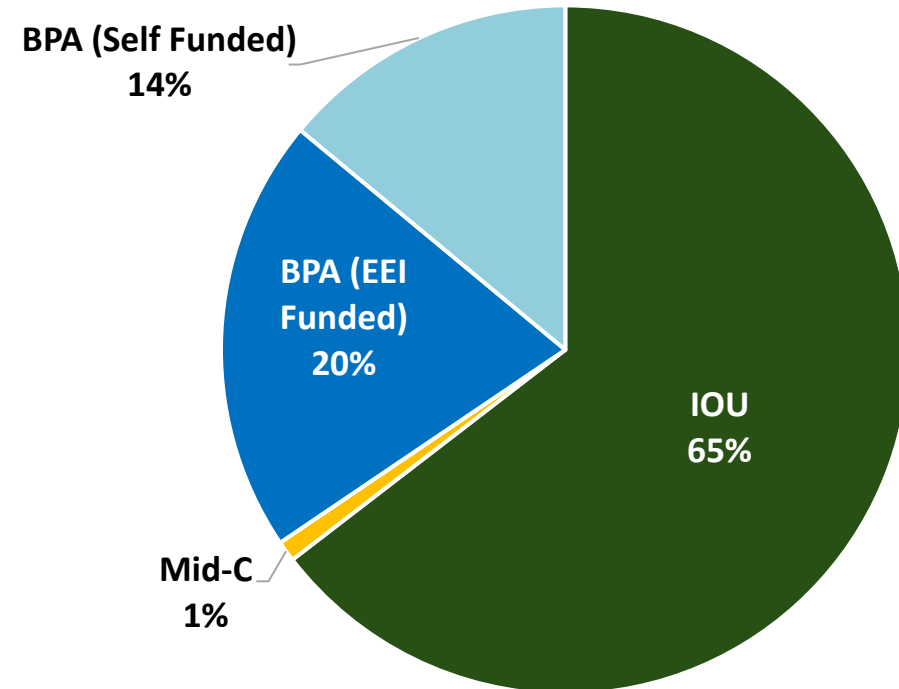


# BPA Program Savings Account for 31% of Regional Program Savings

2016-2020 Program Savings Share

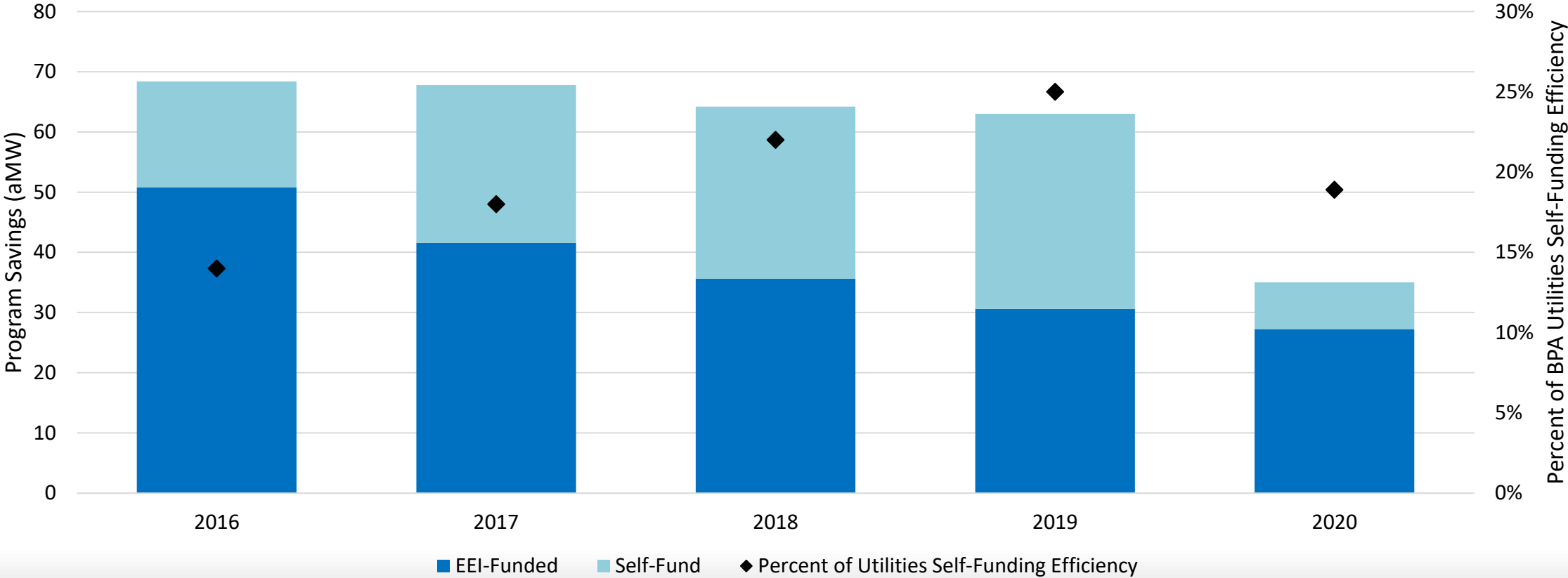


2016-2020 Funding Shares



# Savings Self-Funded by Bonneville Utilities Fell Significantly in 2020

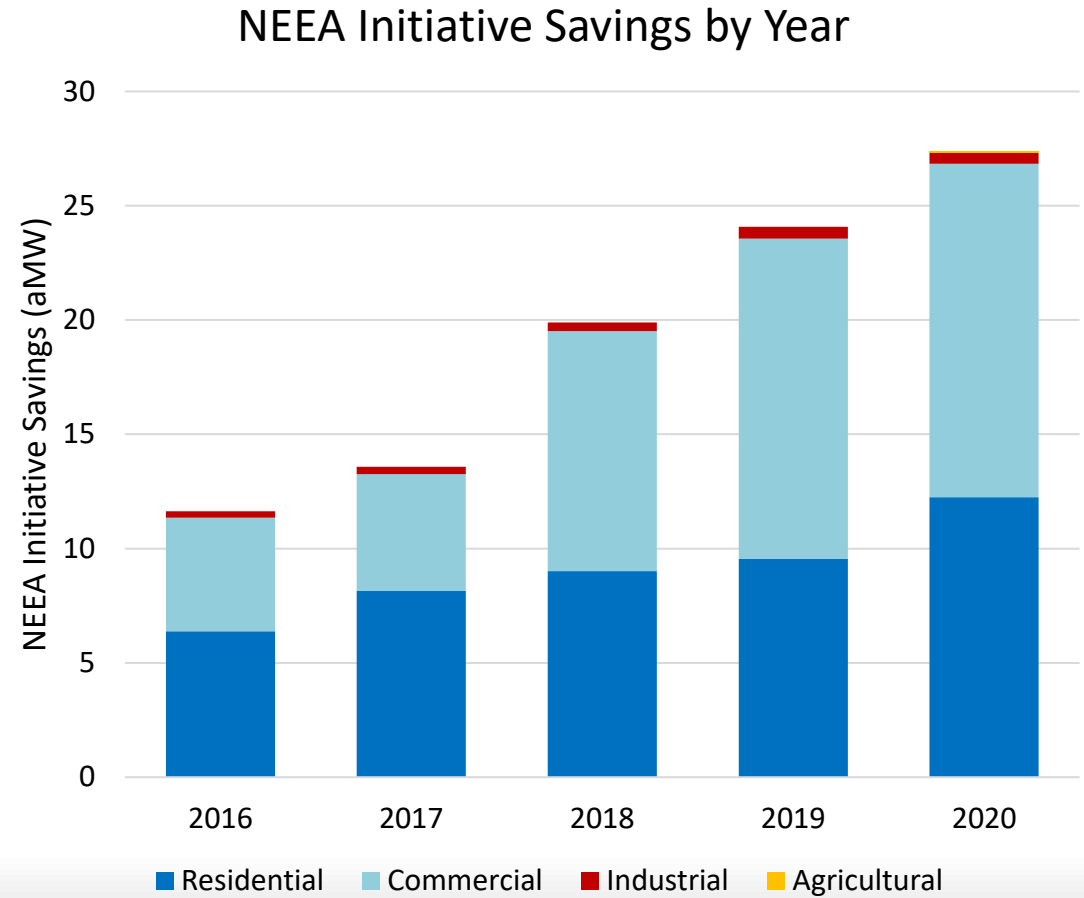
BPA Program Savings by Funding Source



# OTHER HIGHLIGHTS

# NEEA Initiatives Contribute to Regional Savings

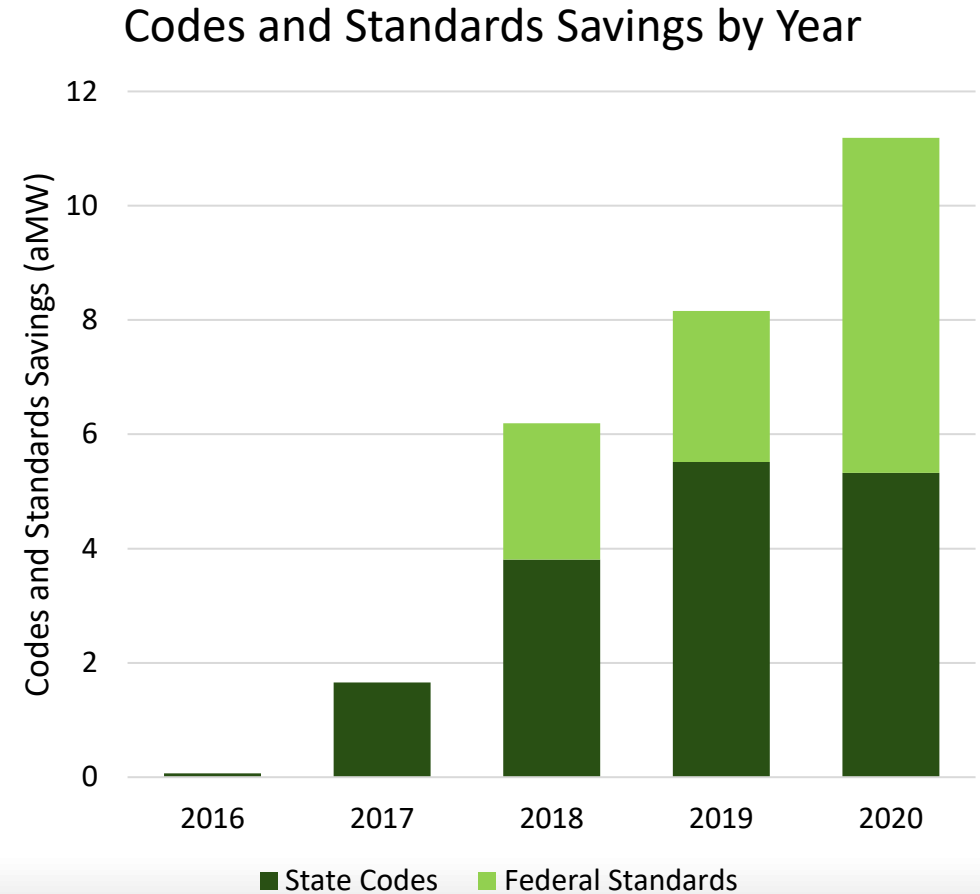
- NEEA initiatives work upstream to drive market change
- This work delivers savings over the long-term and focusing on the short-term picture tends to underrepresent the value of these initiatives





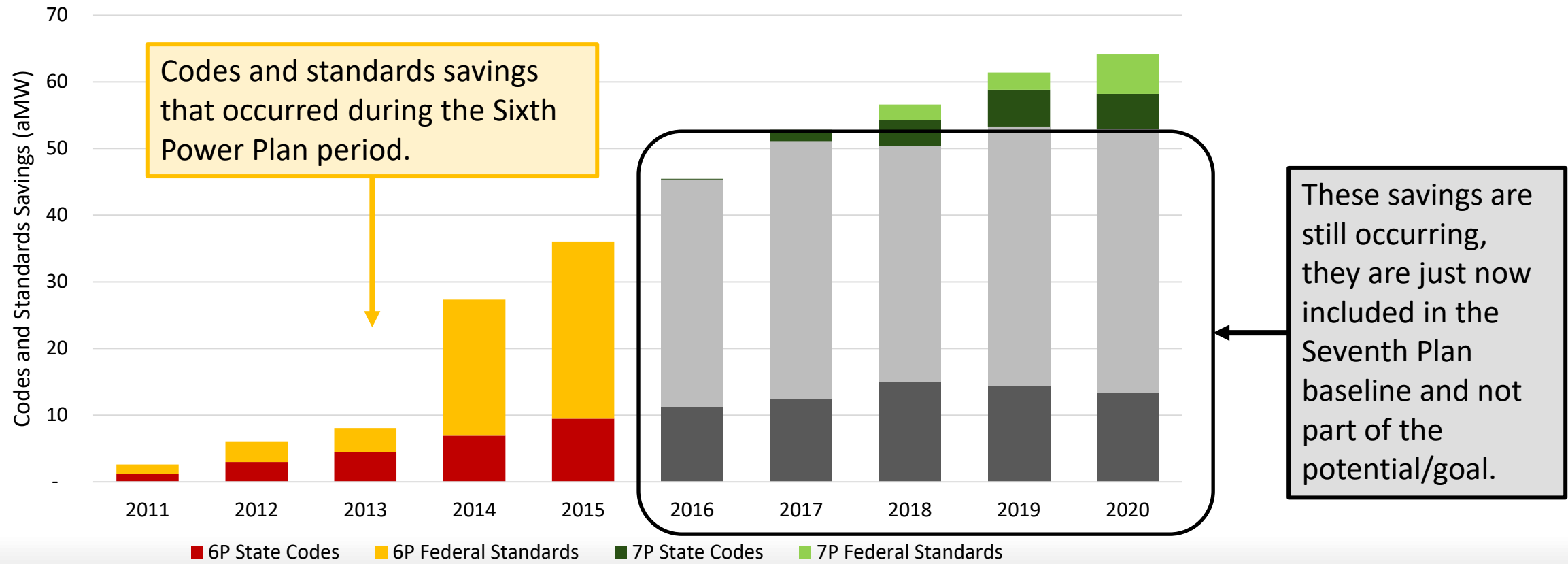
# Codes and Standards Savings from the Seventh Plan Period

- These are savings from new state codes and federal standards adopted since the development of Seventh Plan potential
- All these savings represent real efficiency for the region, driven in large part by NEEA and historic program achievements
- Looking forward, these savings are all now captured by the 2021 Power Plan baseline



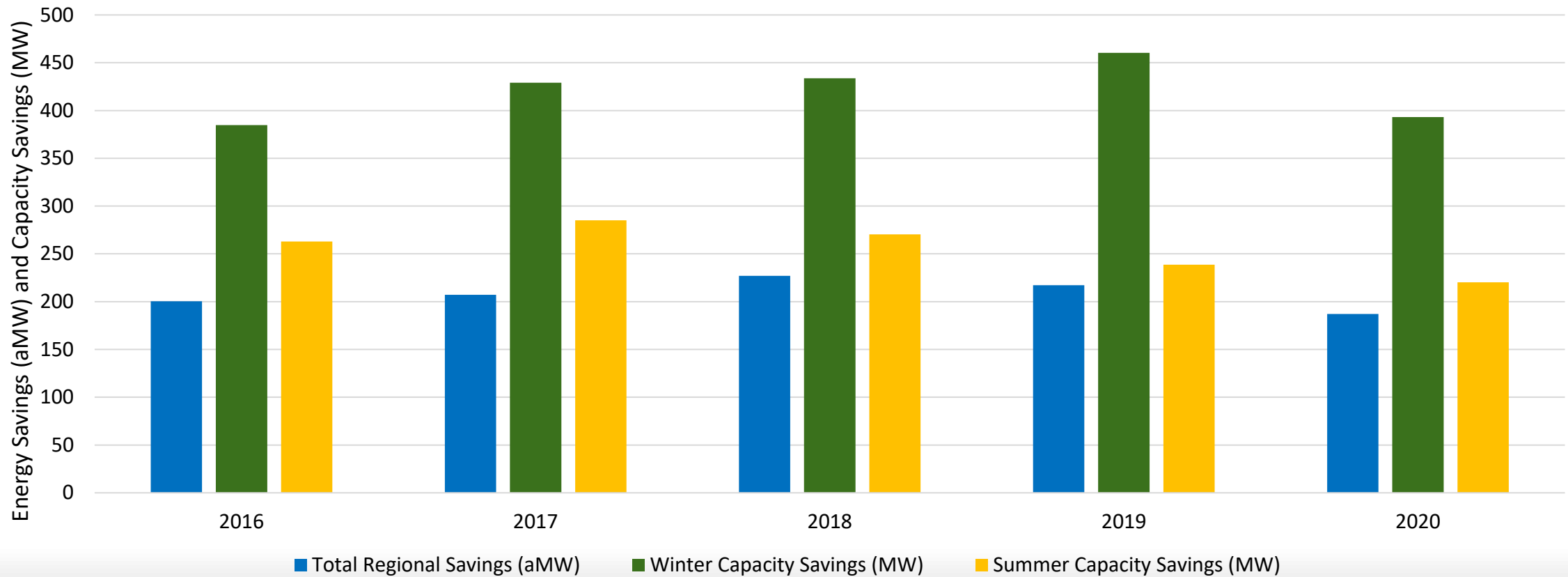
# A Little More on Codes and Standards

Sixth and Seventh Power Plan Codes and Standards Savings by Year



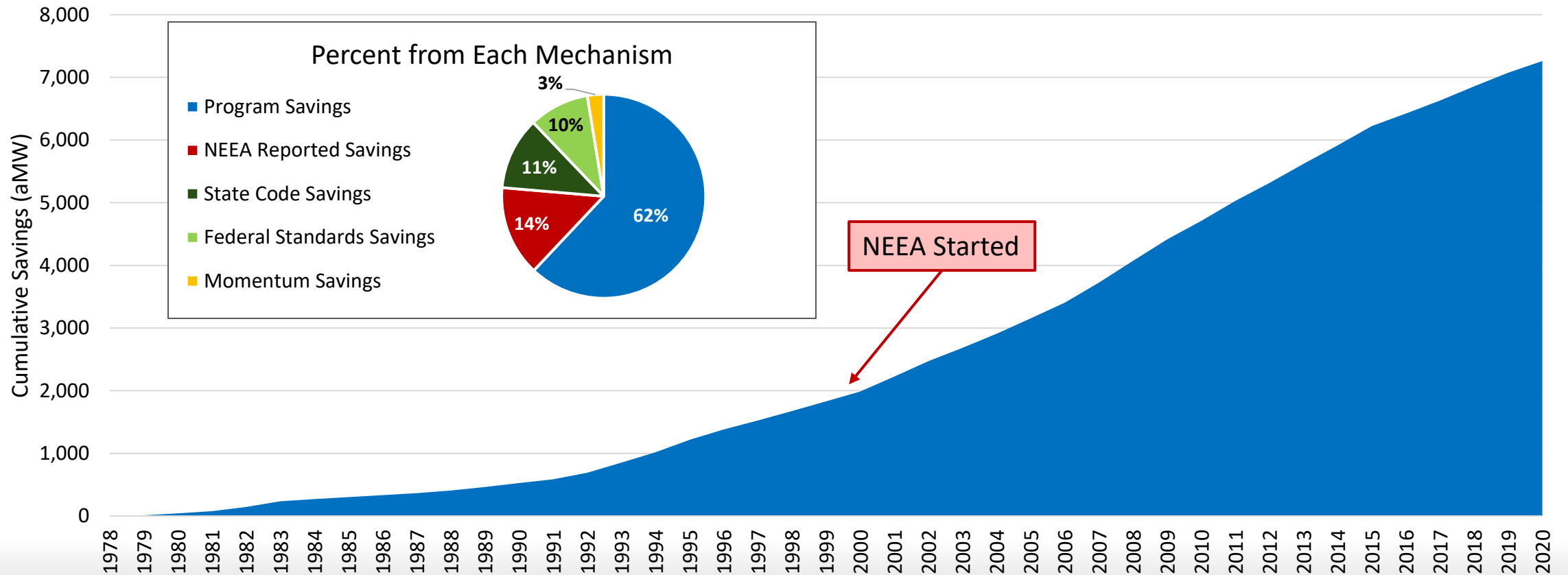
# Efficiency Continues to Contribute Significant Capacity Savings to the Region

Annual Regional Savings (Energy and Capacity)



# Region has saved over 7,200 aMW from energy efficiency!

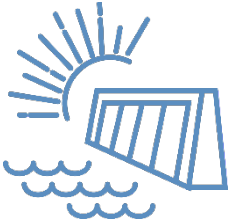
Cumulative Regional Savings, all Mechanisms



# Fun Facts: What does 7200 aMW represent?



Equivalent to the annual energy consumption of around 5.3 million homes



Approximately 2.6 times the generation of Grand Coulee



Avoided more than 22.9 million metric tons of CO<sub>2</sub>

# A GLIMPSE INTO THE FUTURE

# Can We Learn Anything for 2021 Plan Period?

- Draft 2021 Power Plan released for public comment
- Draft Targets for Action Plan Period (2022 – 2027)
  - Regional: 750 to 1000 aMW
  - Bonneville: 270 to 360 aMW; 243 aMW Programmatic Minimum
- RCP data can give us a glimpse of how easily these targets might be met, based on today's budgets and lessons from recent history
- Actual achievements will depend on future plans and on-the-ground realities

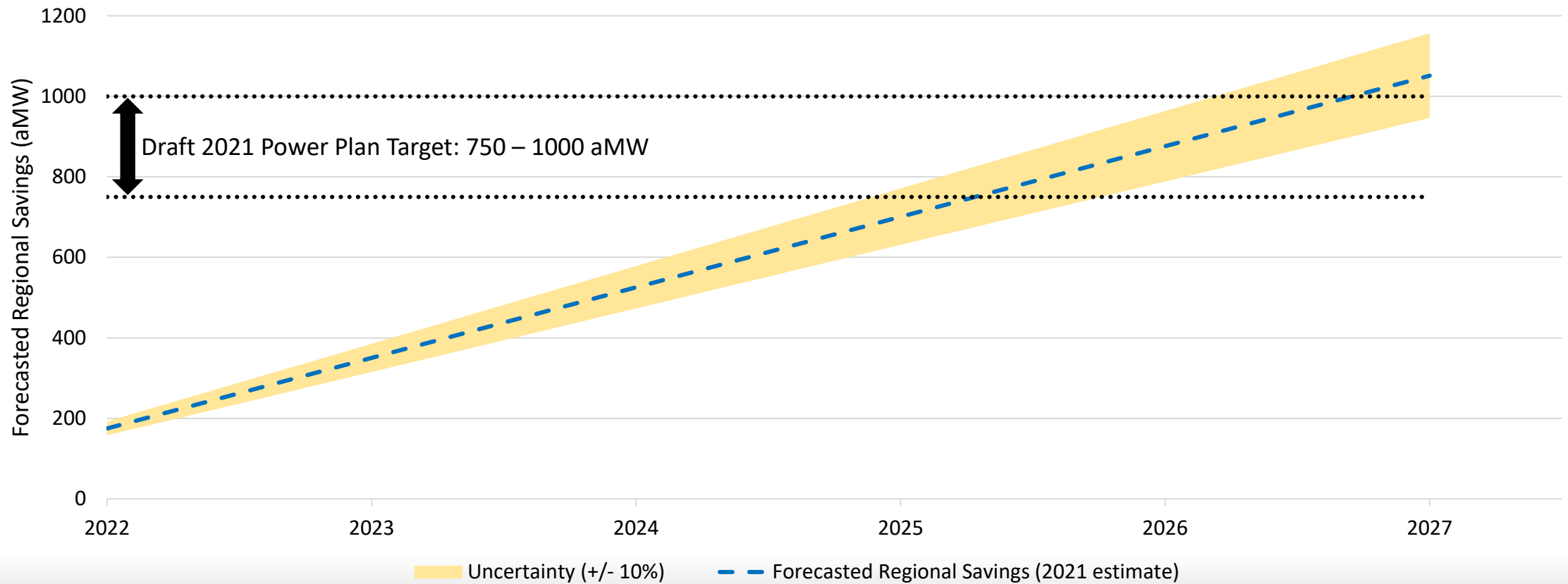
# Forecasting Savings as an Early Look

- Developed estimates based on 2016-2020 RCP data
- 2021 Program Savings forecast used as starting point and assumed same amount achieved each year
  - Added estimate of NEEA initiative savings based on recent achievements
  - Added estimate for codes and standards and other market savings (as appropriate)
- Developed an uncertainty around the forecast based on variability in 2016-2020 savings



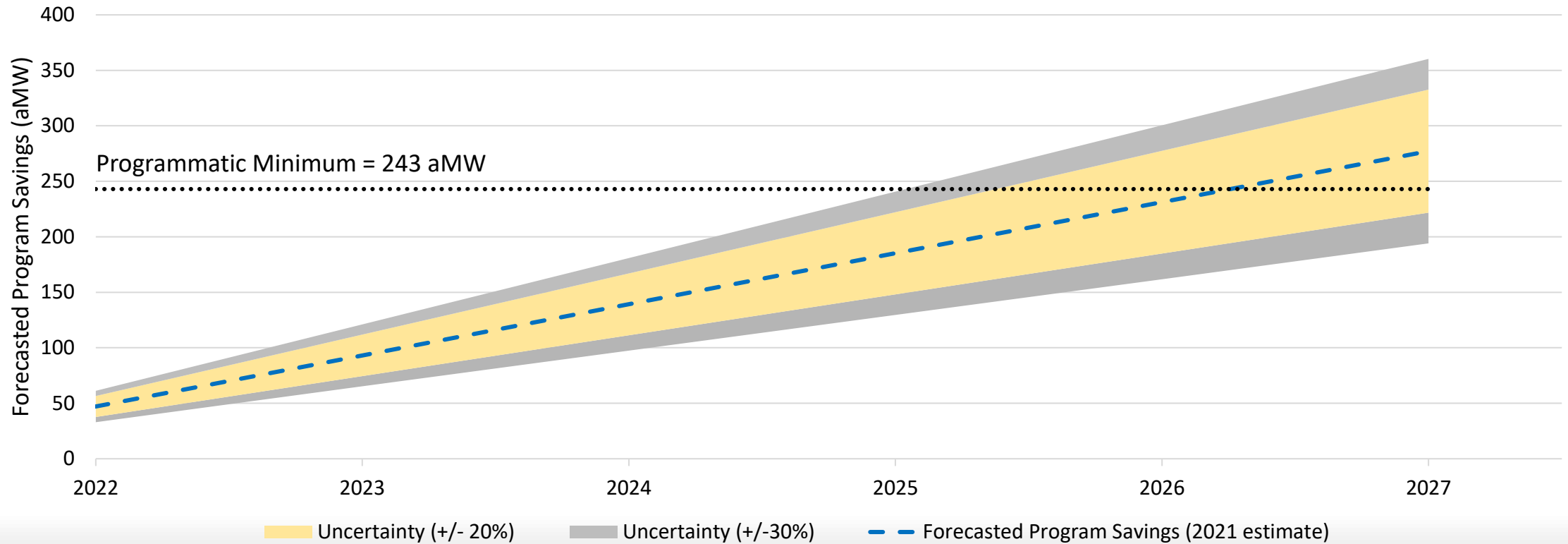
# Regional Savings Forecast

Forecast of Regional Savings Compared to Draft 2021 Power Plan Target Range



# Bonneville Program Savings Forecast

Forecast of Bonneville Program Savings Compared to Draft 2021 Power Plan Programmatic Minimum



**QUESTIONS?**