COWLITZ PUD

2025 Conservation & Demand Response Potential Assessment Results

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Ted Light
November 12, 2025

ABOUT LIGHTHOUSE ENERGY CONSULTING

Ted Light, Principal

- Established Lighthouse Energy Consulting in 2020
- Over a dozen years of energy planning experience
- Formerly with EES Consulting, Energy Trust of Oregon
- Lead analyst & project manager for Cowlitz PUD's CPAs since 2017
- Part of team that reviewed 2021 Power Plan EE & DR supply curves for BPA
- Member of NW Power Council's Conservation & Demand Response Resource Advisory Committees

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ABOUT NAUVOO SOLUTIONS

Sophia Spencer, Principal

- Established Nauvoo Solutions in 2024
- Served as modeling lead and developer on over half a dozen market potential assessments
- Formerly with Cadmus
- Modeling and analytics lead on the 2021 PSC of Wisconsin and 2025 Snohomish PUD Solar Potential Assessments
- Energy efficiency modeling lead on the 2022 Seattle City Light CPA, 2023 Puget Sound Energy CPA, 2021 PSC of Wisconsin Energy Efficiency Potential Assessment

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AGENDA

- Background
- What is a Potential Assessment?
- Conservation Potential Assessment
- Demand Response Potential Assessment

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BACKGROUND

Energy Independence Act (19.285 RCW)	Development of two-year energy efficiency targets every two years
	Based on Conservation Potential Assessment
	Follow methodology of NW Power Council, using utility-specific inputs
Clean Energy Transformation Act (19.405 RCW)	Four-year clean energy, energy efficiency, and demand response targets in Clean Energy Implementation Plan
	Energy efficiency & demand response targets are to be based on a potential assessments
	Requires utilities to use specific values for the social cost of carbon

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WHAT IS A POTENTIAL ASSESSMENT?

How can Cowlitz PUD save energy?

- Sectors
- End Uses

How much is possible?

- Customer Characteristics
- Equipment Saturations
- Past Achievements
- Market Barriers

What is cost-effective?

- Costs and benefits of energy efficiency
- Costs and benefits of alternative resources

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WHAT IS A POTENTIAL ASSESSMENT?

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CONSERVATION POTENTIAL ASSESSMENT (CPA)

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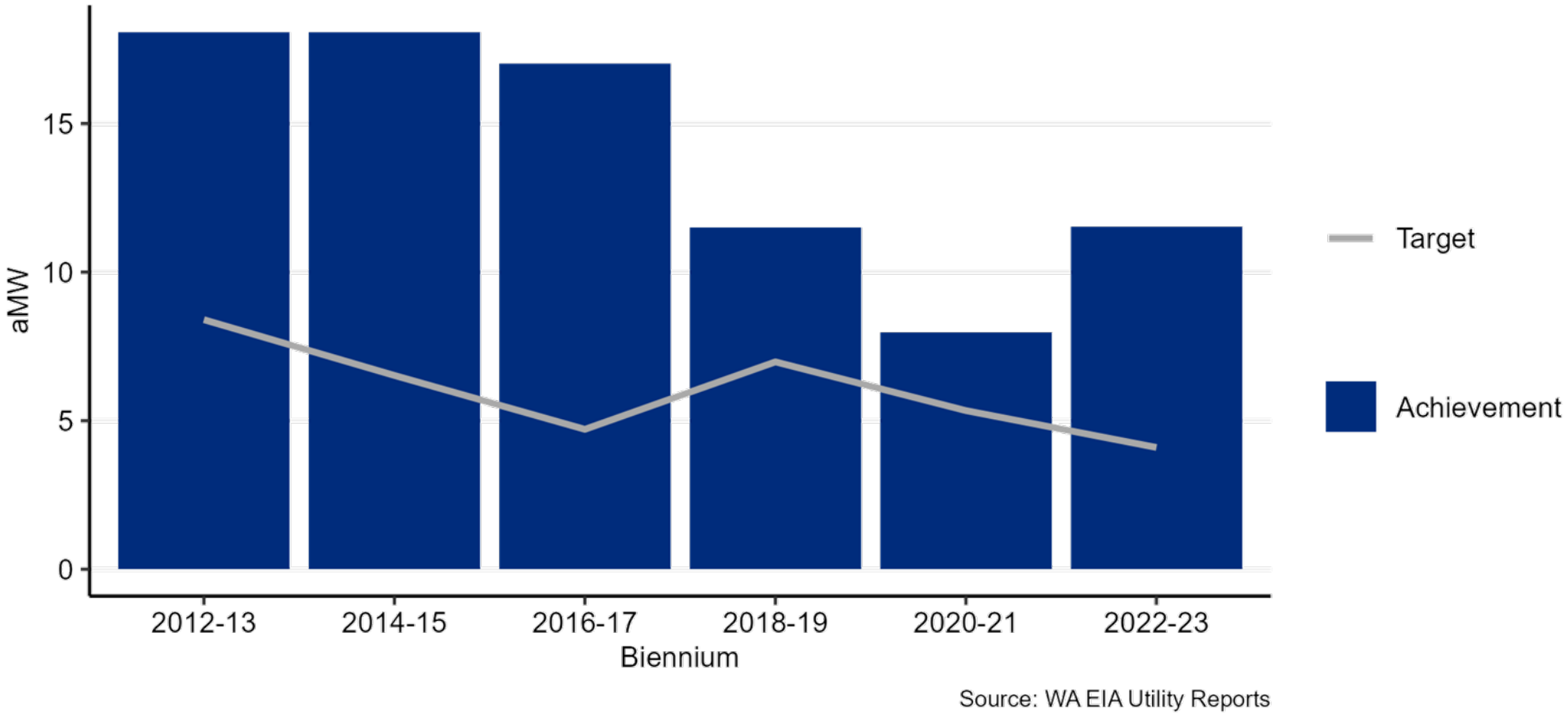
COWLITZ PUD CONSERVATION HISTORY



Source: WA EIA Utility Reports

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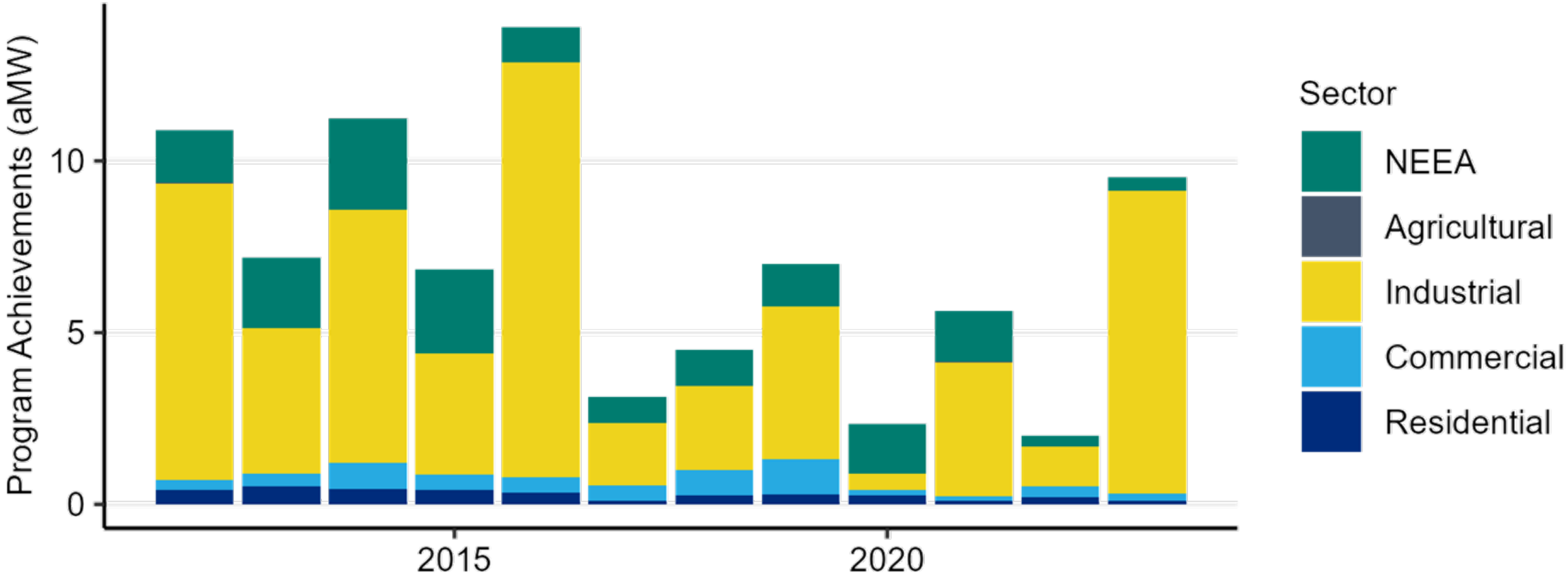

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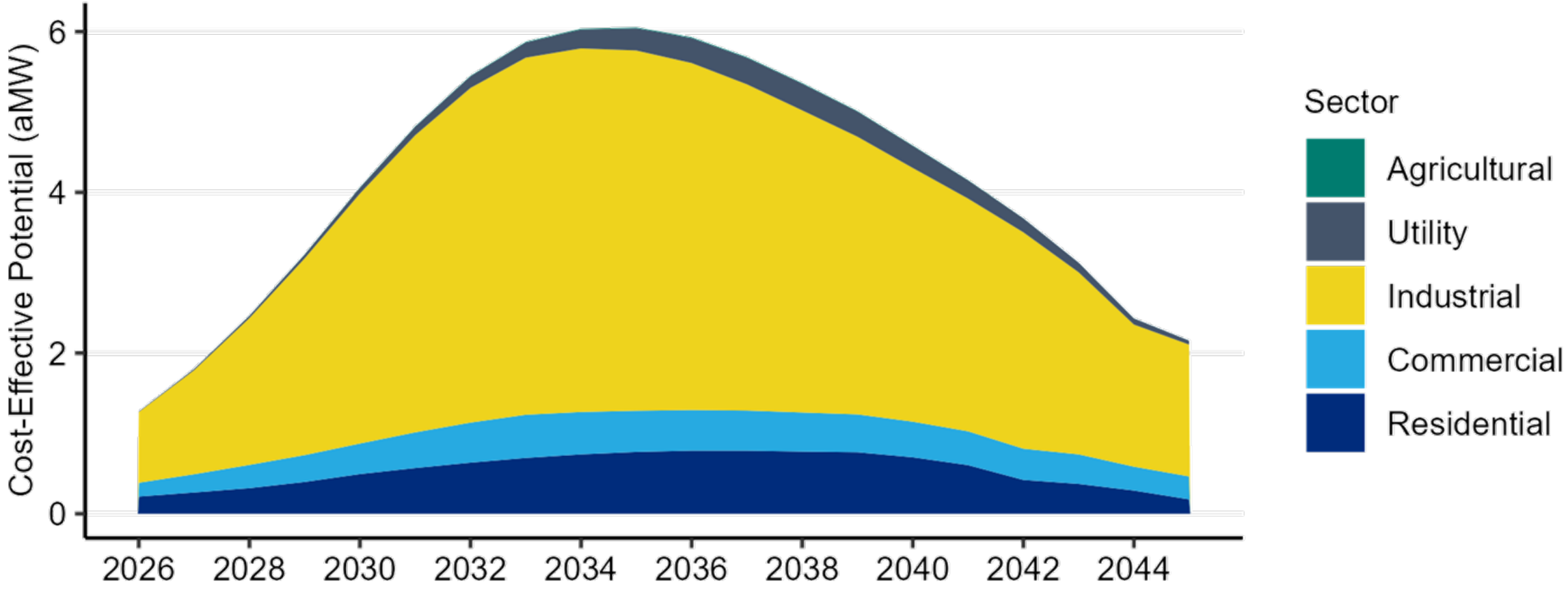
2025 CPA RESULTS



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2025 CPA RESULTS: CUMULATIVE AMW

Sector	2-Year	4-Year	10-Year	20-Year
Residential	0.5	1.2	5.1	10.8
Commercial	0.4	1.0	3.9	8.1
Industrial	2.2	6.5	30.9	60.9
Utility	0.0	0.1	1.1	3.4
Agricultural	0.0	0.0	0.1	0.1
Total	**3.1**	**8.8**	**41.1**	**83.2**

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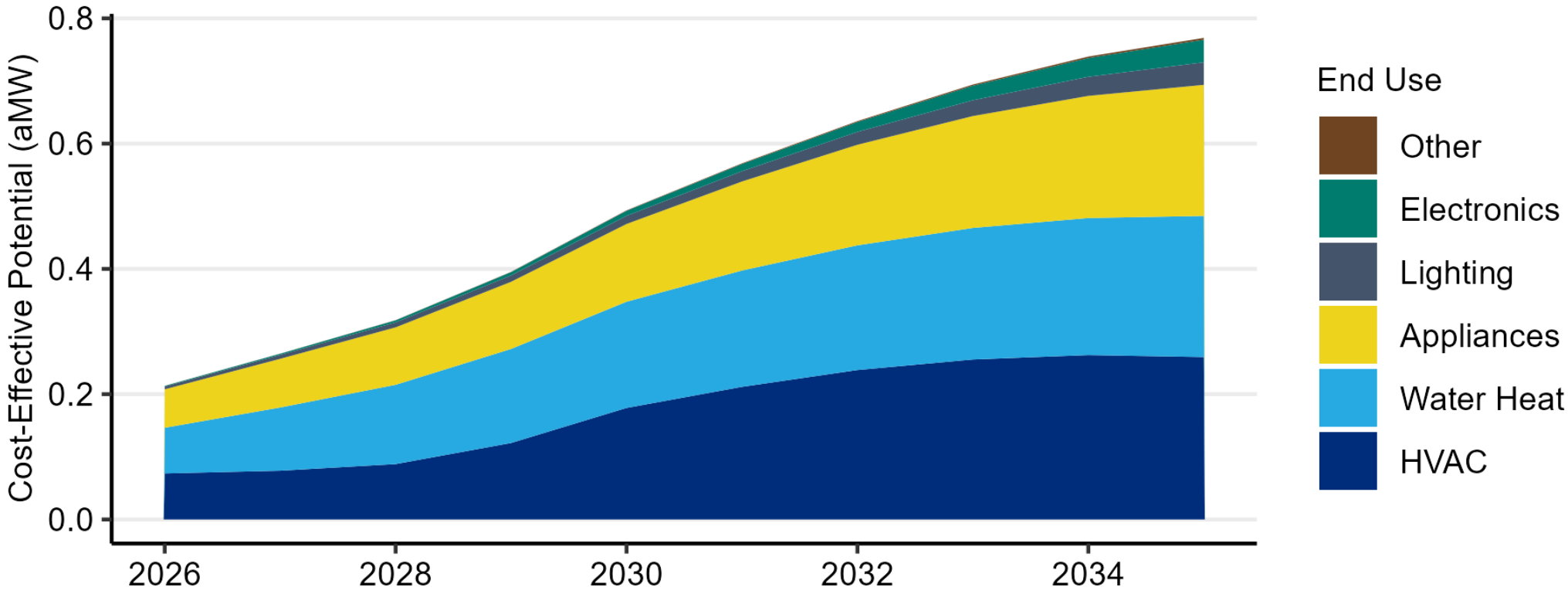
COMPARISON TO 2023 CPA

	2-Year Potential			10-Year Potential			20-Year Potential		
Sector	2023 CPA	2025 CPA	% Change	2023 CPA	2025 CPA	% Change	2023 CPA	2025 CPA	% Change
Residential	0.7	0.5	-29%	5.9	5.1	-13%	12.8	10.8	-16%
Commercial	0.4	0.4	-8%	4.4	3.9	-11%	9.0	8.1	-11%
Industrial	3.3	2.2	-35%	54.1	30.9	-43%	85.1	60.9	-28%
Utility	0.1	0.0	-80%	2.8	1.1	-60%	5.3	3.4	-37%
Agricultural	0.0	0.0	117%	0.0	0.1	109%	0.1	0.1	90%
Total	**4.6**	**3.1**	**-33%**	**67.2**	**41.1**	**-39%**	**112.4**	**83.2**	**-26%**

CPA RESULTS: RESIDENTIAL



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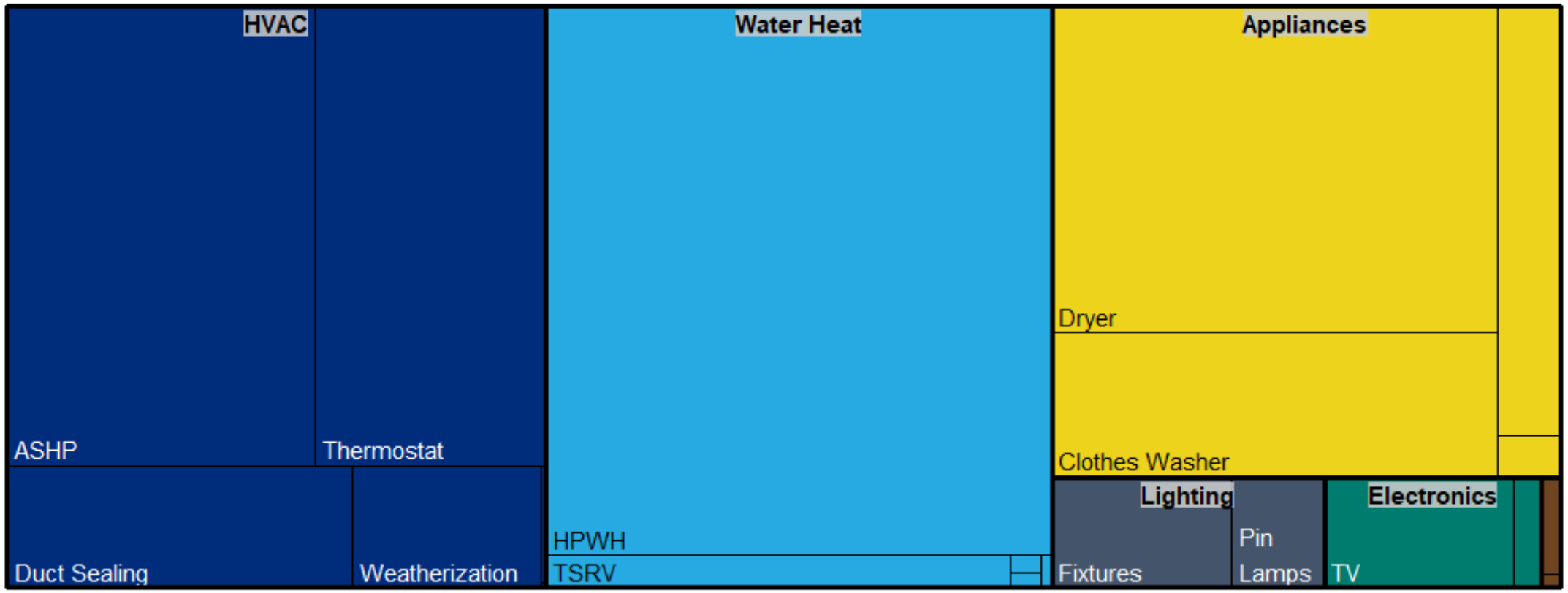

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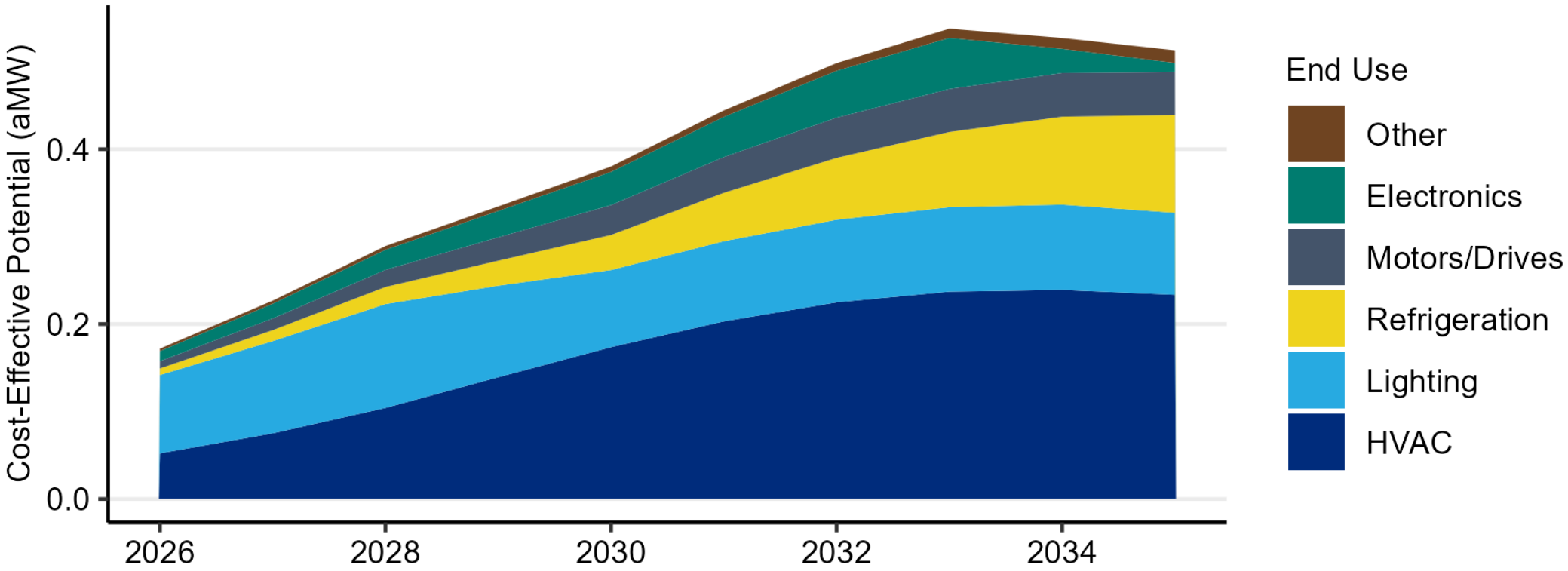
CPA RESULTS: COMMERCIAL



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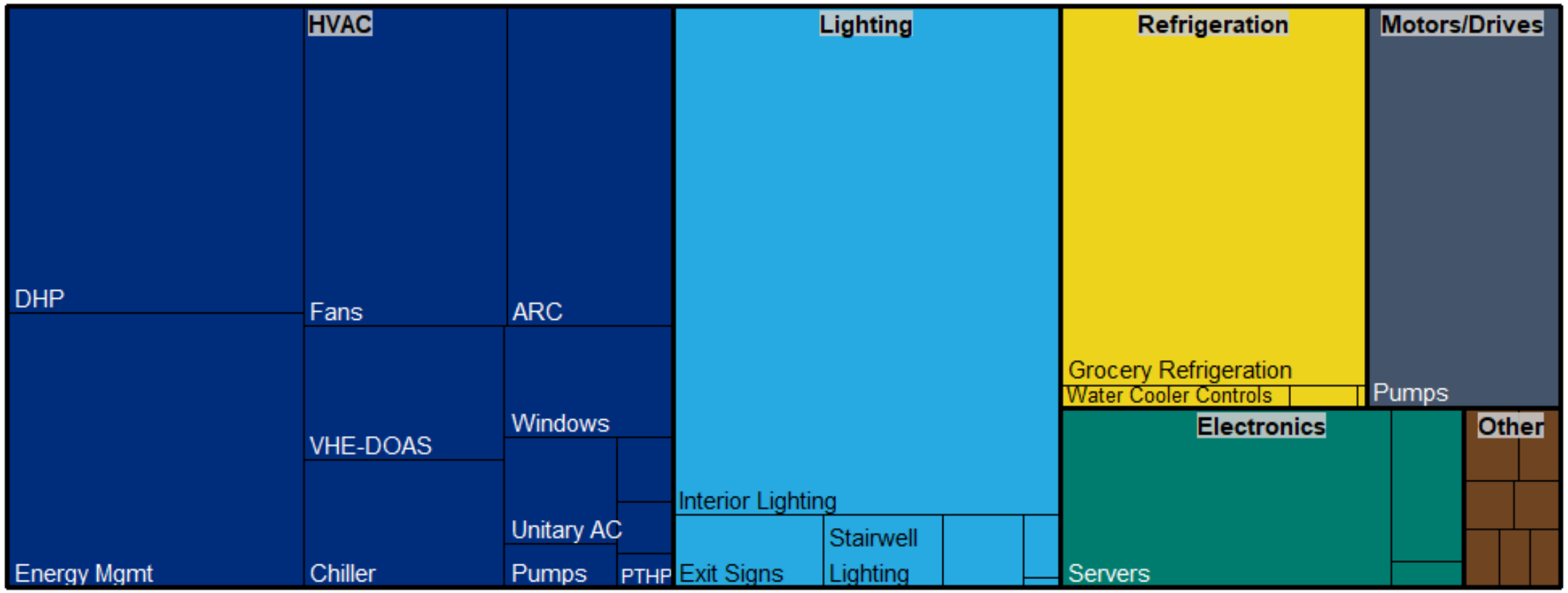

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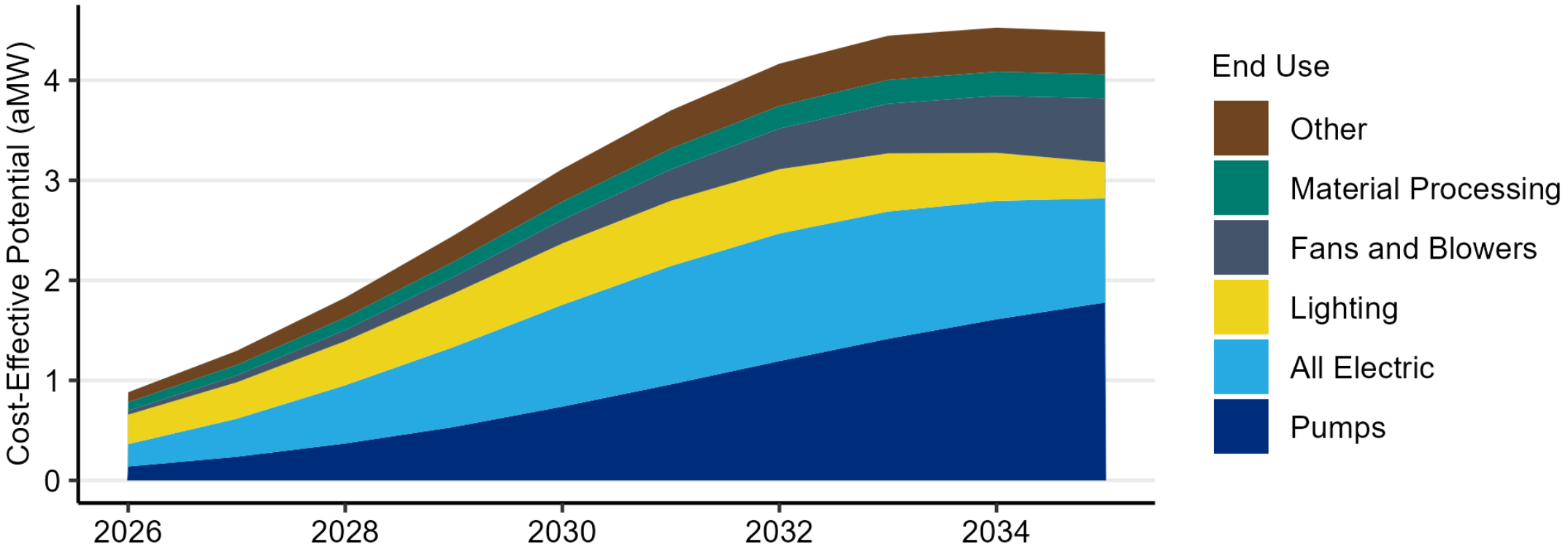
CPA RESULTS: INDUSTRIAL



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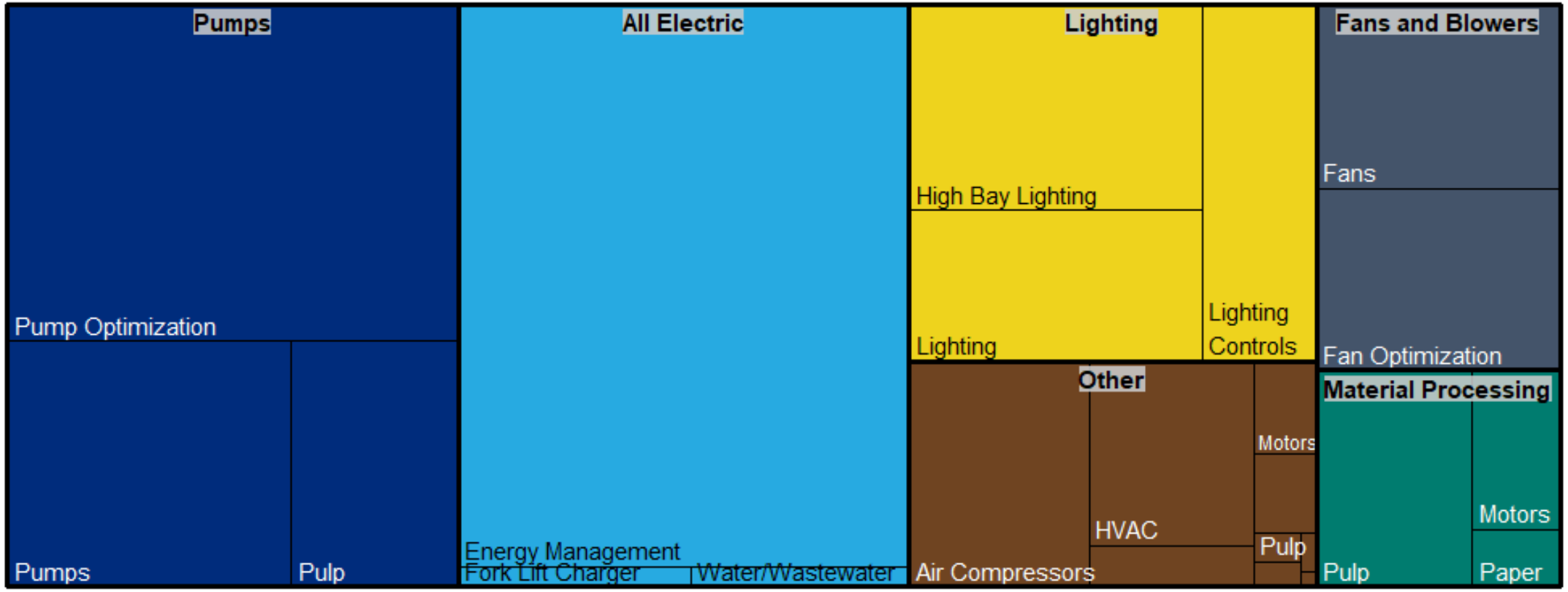

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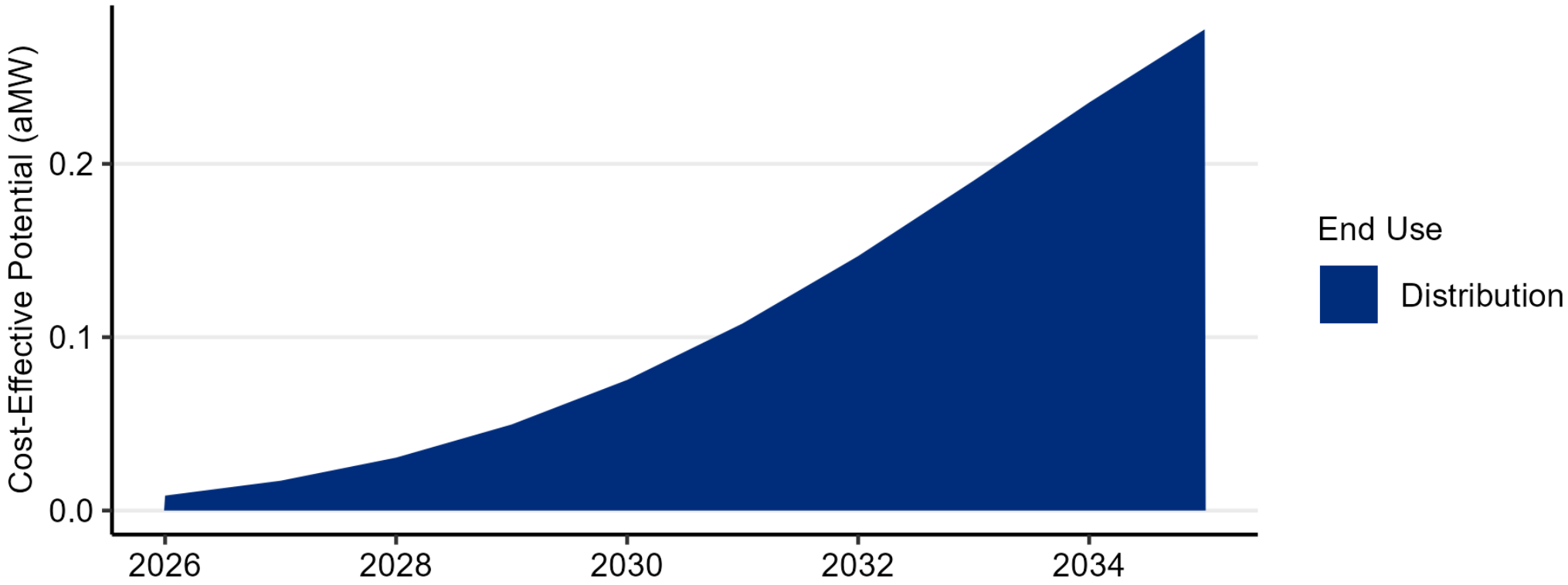
CPA RESULTS: UTILITY



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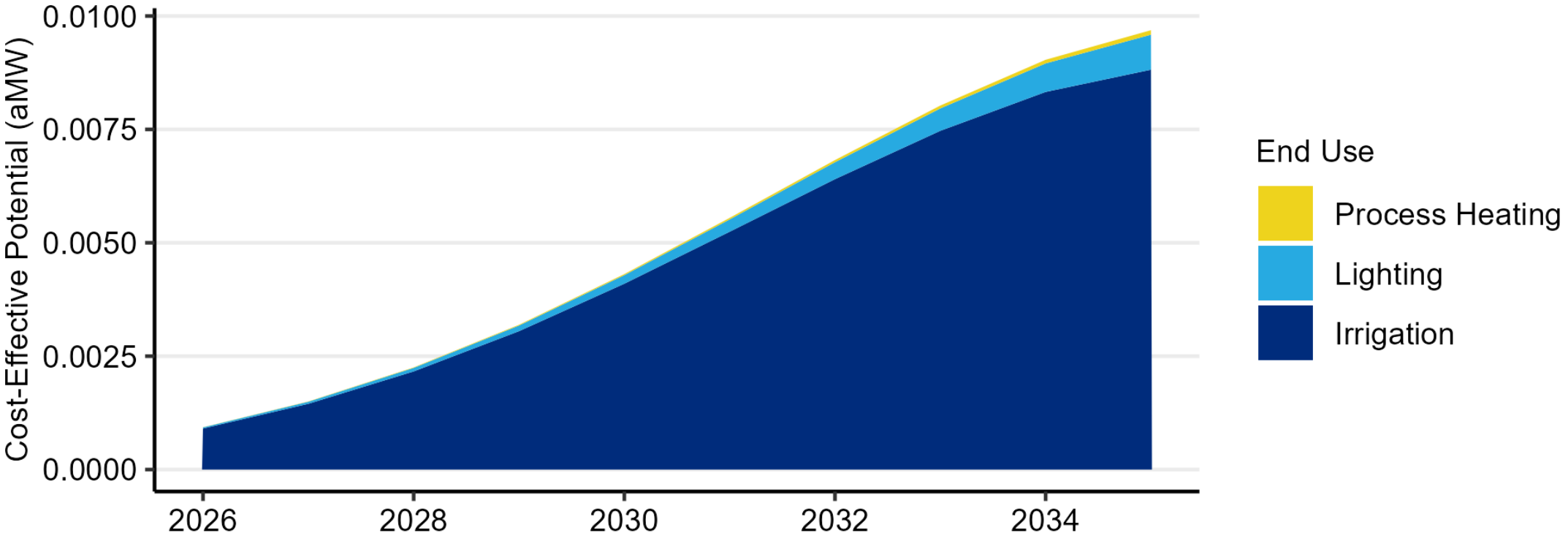
CPA RESULTS: AGRICULTURE



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DEMAND RESPONSE POTENTIAL ASSESSMENT (DRPA)

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DEMAND RESPONSE PRODUCTS

	Residential	Commercial	Industrial
Direct Load Control	• EV Charging • Grid-Enabled Water Heater • Water Heater Switch • Space Heating Switch • Space Cooling Switch • Smart Thermostat	• Space Heating Switch • Space Cooling Switch • Smart Thermostat	
Demand Curtailment		• Demand Curtailment	• Demand Curtailment
Time-Varying Prices	• Time of Use (TOU) Pricing • Critical Peak Pricing	• Critical Peak Pricing	• Critical Peak Pricing • Real Time Pricing

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RESULTS

Winter

Product Name	Benefit-Cost Ratio	Cumulative MW
Ind Real Time Pricing	59.9	87.3
Res Space Heat Thermostat	1.6	4.7
Ind Demand Curtailment	1.2	0.9
Com Demand Curtailment	0.6	0.2
Res Space Heat Switch	0.6	1.2
Res ERWH Grid-Ready	0.6	1.2
Com Space Heating Thermostat	0.5	0.2
Res TOU Pricing	0.5	1.0
Small Com Space Heating Switch	0.4	0.2
Res Critical Peak Pricing	0.4	0.7
Res HPWH Grid-Ready	0.4	3.4
Medium Com Space Heating Switch	0.3	0.1
Res EV Charging	0.3	3.3
Ind Critical Peak Pricing	0.3	0.4
Res ERWH Switch	0.2	0.1
Res HPWH Switch	0.2	0.3
Com Critical Peak Pricing	0.1	0.2

Summer

Product Name	Benefit-Cost Ratio	Cumulative MW
Ind Real Time Pricing	26.5	93.2
Res Space Cooling Thermostat	0.9	4.3
Res ERWH Grid-Ready	0.7	2.6
Ind Demand Curtailment	0.5	0.8
Res TOU Pricing	0.5	2.6
Res Critical Peak Pricing	0.4	1.5
Medium Com Space Cooling Switch	0.3	0.3
Com Demand Curtailment	0.3	0.3
Res ERWH Switch	0.3	0.2
Com Space Cooling Thermostat	0.3	0.3
Ind Critical Peak Pricing	0.2	0.7
Com Critical Peak Pricing	0.2	0.6
Res Space Cooling Switch	0.1	0.3
Small Com Space Cooling Switch	0.1	0.2
Res HPWH Grid-Ready	0.1	1.7
Res EV Charging	0.1	3.3
Res HPWH Switch	0.1	0.2

DRPA RESULTS

- Similar to 2021 DRPA:
- Products identified as cost effective:
  - Industrial real time pricing
  - Residential smart thermostats
- Provided Cowlitz PUD with calculation model to refine estimates of cost effectiveness
- CEIP requirement is for DR *to be acquired*
- CEIP Target: 0 MW
- Specific Actions: Explore smart thermostat program

CONCLUSION

2-Year EE Target: 3.1 aMW

4-Year EE Target: 8.8 aMW, No target for DR

Lower EE potential due to reduced cost effectiveness, lower load forecasts

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Thank you!

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