



2027 Electric and Natural Gas Integrated Resource Plans
Technical Advisory Committee Meeting No. 6 Agenda
Monday, March 16, 2026
Virtual Meeting – 1:00 pm to 4:00 pm Pacific Time

<u>Topic</u>	<u>State</u>	<u>Audience</u>
<ul style="list-style-type: none"> • Introduction and Questions from TAC 5 <ul style="list-style-type: none"> ○ Sub-Hourly Modeling of Alternative Demand Response ○ Update to Electrification Cost ○ Aldyl-A Update 		
• Wholesale Electric Price Scenario Forecast	WA/ID	Electric
• All Source RFP Update	WA/ID	E&G
• Economic Forecast & 5-Year Load Forecast	All	E&G
• Natural Gas Resource Options & Price Forecast	All	Gas
• Gas Storage Cost Forecast	All	E&G

Microsoft Teams meeting

Join: <https://teams.microsoft.com/meet/27808704464519?p=5Bh2a7jD0KvqB3jeE2>

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Introductions 2027 Electric & Gas Integrated Resource Planning

TAC 6 – March 16, 2026

John Lyons, Ph.D. – Senior Resource Policy Analyst

TAC 6 Agenda

- Introduction and Questions from TAC 5
 - Sub-Hourly Modeling of Alternative Demand Response
 - Update to Electrification Cost
 - Aldyl-A Update
- Wholesale Electric Price Scenario Forecast
- All-Source RFP Update
- Economic Forecast & 5-Year Load Forecast
- Natural Gas Resource Options & Price Forecast
- Gas Storage Cost Forecast

Meeting Guidelines

- IRP team is in office Monday – Wednesday; also available by email, phone and Teams for questions and comments
- Stakeholder feedback responses shared with TAC at meetings, in Teams and in Appendix
- Working IRP data posted to Teams
- All TAC meetings will be virtual on Teams
- Draft TAC presentations emailed three days before each meeting
- Final TAC presentations, meeting notes and recordings posted on IRP page

Virtual TAC Meeting Reminders

- Please mute mics unless speaking or asking a question
- Raise hand or use the chat box for questions or comments
- Respect the pause
- Please try not to speak over the presenter or a speaker
- Please state your name before commenting for the note taker
- This is a public advisory meeting – presentations and comments will be documented and recorded

Large Load Update From Earning Call on Feb 25

- Large load (approximately 35 aMW) plans to leave the system this year
 - Unknown if will return to the system in the future
- A large load entered in an agreement to develop a MOU for future service.
 - Timing and size to be determined after the MOU is signed

South Oregon Electrification Pricing

- Will use a mix of avoided cost filing capacity cost and energy prices based on conversation with PacifiCorp IRP/EE team
 - Use Pacific Power Capacity Price (\$169/kW-yr)
 - Use Mid-C Forecast (discussed later today)
 - Use Avista T&D cost adder (future TAC meeting)

Electrification Costs Per Customer (2026\$)

- Assumes utility energy efficiency applicable rebate
- Assumes appliances replaced at end of life (subtracts equivalent equipment replacement from install cost)
- Sales tax is the difference in cost between states
- Other represents an impact of clothes dryer or range/oven

Net Customer Cost	Washington	Oregon	Idaho
Res. Electric Furnace (above HP)	\$3,118	\$2,855	\$3,001
Com. Electric Furnace (above HP)	\$21,201	\$20,140	\$20,621
Res. HP coupled with existing NG Furnace	\$10,500	\$8,890	\$10,159
Com. HP coupled with existing NG Furnace	\$9,016	\$7,531	\$8,623
Res. HPWH	\$1,504	\$1,135	\$1,436
Com. HPWH	\$4,141	\$3,550	\$3,971
Other	\$1,092	\$1,000	\$1,055

Commercial assumes very small commercial 10,000 sqft and less, larger building will be higher

Full Electrification for Residential in Washington: \$16,213 (\$21,750 in last TAC meeting)

Aldyl-A Study and Targeted Voluntary Electrification (TVE) Timeline

Aldyl-A Study

- March – preliminary study results available, workshop March 13th with GRC parties to discuss study results, and feedback from interested parties on results
- April-May – finalize study and draft report to be filed on June 1st

TVE Pilot

- March-July – pilot development & engagement with interested parties
- September 1st - tariff filing for pilot
- January 1, 2027 – pilot launch

Sub-Hourly Modeling Updates

	DER w/ snapback Hourly vs Subhourly Benefit		
	2024 Dispatch	2025 Dispatch	Events Per Year
Hourly Revenue	72,914	24,517	
RTD Revenue	74,626	25,194	
RTD Benefit (Loss)	1,712	677	
RTD Benefit (Loss) %	2.3%	2.8%	24
RTD Benefit (Loss) %	4.3%	6.4%	365
RTD Benefit (Loss) %	5.1%	6.2%	Unlimited

TAC 7 – Wednesday, April 15, 2026 (13:00 – 16:00 PDT)

Topic	State	Audience
Energy Efficiency Savings Since 2025 IRP	OR	Gas
Hybrid Heat Pump Program Update	OR	Gas
Gas Avoided Cost	All	E & G
Long-Run Load Forecast	All	E & G
End-Use Load Forecast	All	E & G
★ Wholesale Price Forecast – Stochastic	WA/ID	Electric

TAC 8 – Monday, April 20, 2026 (13:00 – 16:00 PDT)

Topic	State	Audience
Conservation Potential Assessment	All	E & G
Demand Response Potential Assessment	All	E & G

TAC 9 – Friday, May 15, 2026 (13:00 – 16:00 PDT)

Topic	State	Audience
IRP Generation Option Transmission Planning Studies	WA/ID	Transmission
Distribution System Planning within the IRP	WA/ID	Dist.
Transmission Project Example Evaluation	WA/ID	Transmission
QCC Forecast	WA/ID	Electric
Gas Distribution Update	All	Gas
Natural Gas Availability & Resiliency	All	Gas

TAC 10 – Wednesday, May 27, 2025 (9:00 – 12:00 PDT)

Topic	State	Audience
CEIP Update	WA	Electric
CETA Interim/Energy Compliance Report	WA	Electric
Load Forecast Update	All	E & G

TAC 11 Technical Modeling Workshop – Monday, June 15, 2026 (13:00 – 16:00 PDT)

Topic	State	Audience
PRiSM Model Tour	All	E & G
Aurora Resource Adequacy Model Tour	WA/ID	Electric
New Resource Cost Model	All	E & G

TAC 12 Wednesday, July 15, 2026 (TDB)

Topic	State	Audience
Load & Resource Balance and Methodology	WA/ID	Electric
Loss of Load Probability	WA/ID	Electric
WRAP Update	WA/ID	Electric
Draft Preferred Resource Strategy Results	All	E & G
ETO Energy Savings	OR	Gas

TAC 13 – Monday, August 17, 2026 (13:00 – 16:00 PDT)

Topic	State	Audience
Preferred Resource Strategy Results	All	E & G
Oregon Non-Pipe Alternatives	OR	Gas
Aldyl-A Analysis and Targeted Voluntary Electrification	OR	Gas
IRP/Progress Report Outlines	All	E & G
Next Steps	All	E & G

TAC 14 – Thursday, September 17, 2026 (13:00 – 16:00 PDT)

Topic	State	Audience
Portfolio Scenario Analysis	All	E & G
Avoided Cost	All	Electric
Resource Adequacy Results	WA/ID	Electric
CBI Forecast and Results/Energy Burden	WA/OR	E & G
Final Report Overview and Comment Plan	All	E & G
Action Items	All	E & G

Electric Transmission & Distribution 5-Year Plan – October 7, 2026 (10:00 – 12:00 PDT)

Topic	State	Audience
Electric Trans Transmission & Distribution 5-Year Plan	WA/OR	Electric

Other Key Dates

- Oct 15, 2026 – Draft Electric IRP Released to TAC
- Nov TBD 2026 – Virtual Public Meeting
 - Noon-1pm
 - 6-7pm
- Jan 1, 2027 – Final Electric IRP Filed
- Feb 15, 2027 – Draft Gas IRP Released to TAC
- Apr 1, 2027 – Final Gas IRP Filed

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2027 IRP Market Scenario Update (Draft)

Technical Advisory Committee Meeting No. 6, March 16th, 2026

Robert Hughes – Resource Planning Analyst

Market Scenario Update

- Expected Case (Deterministic)
- Low Natural Gas Prices
- High Natural Gas Prices
- No Washington Climate Commitment Act
- No Linkage

Expected Case (Deterministic) Update

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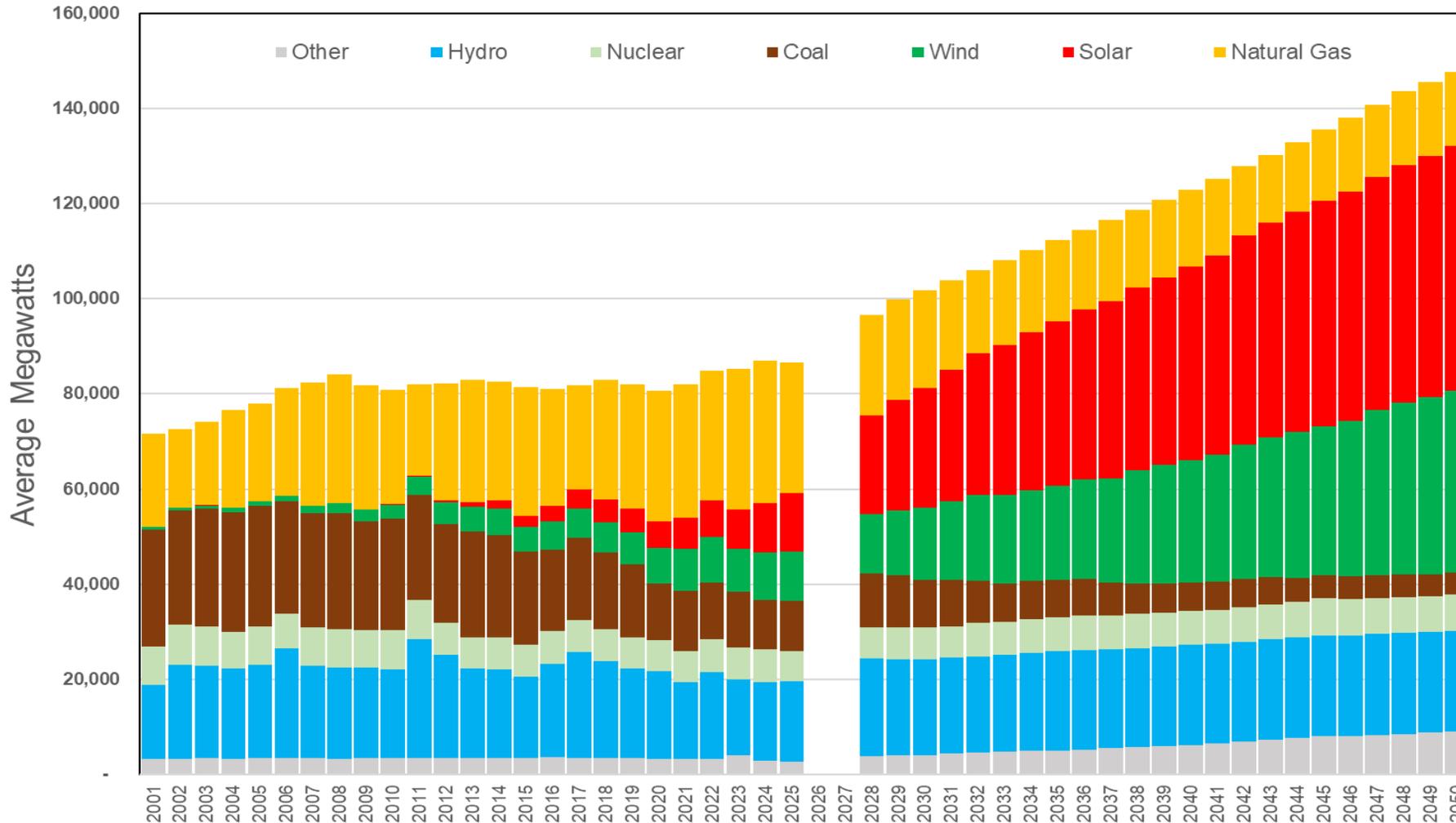
Deterministic Price Forecast has been updated to reflect a better supply demand balance

Included changes from last TAC

- Washington & Oregon Zone were combined into one
- BPA & Avista Zone were combined into one
- Fix in forecasted demand

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Draft forecast

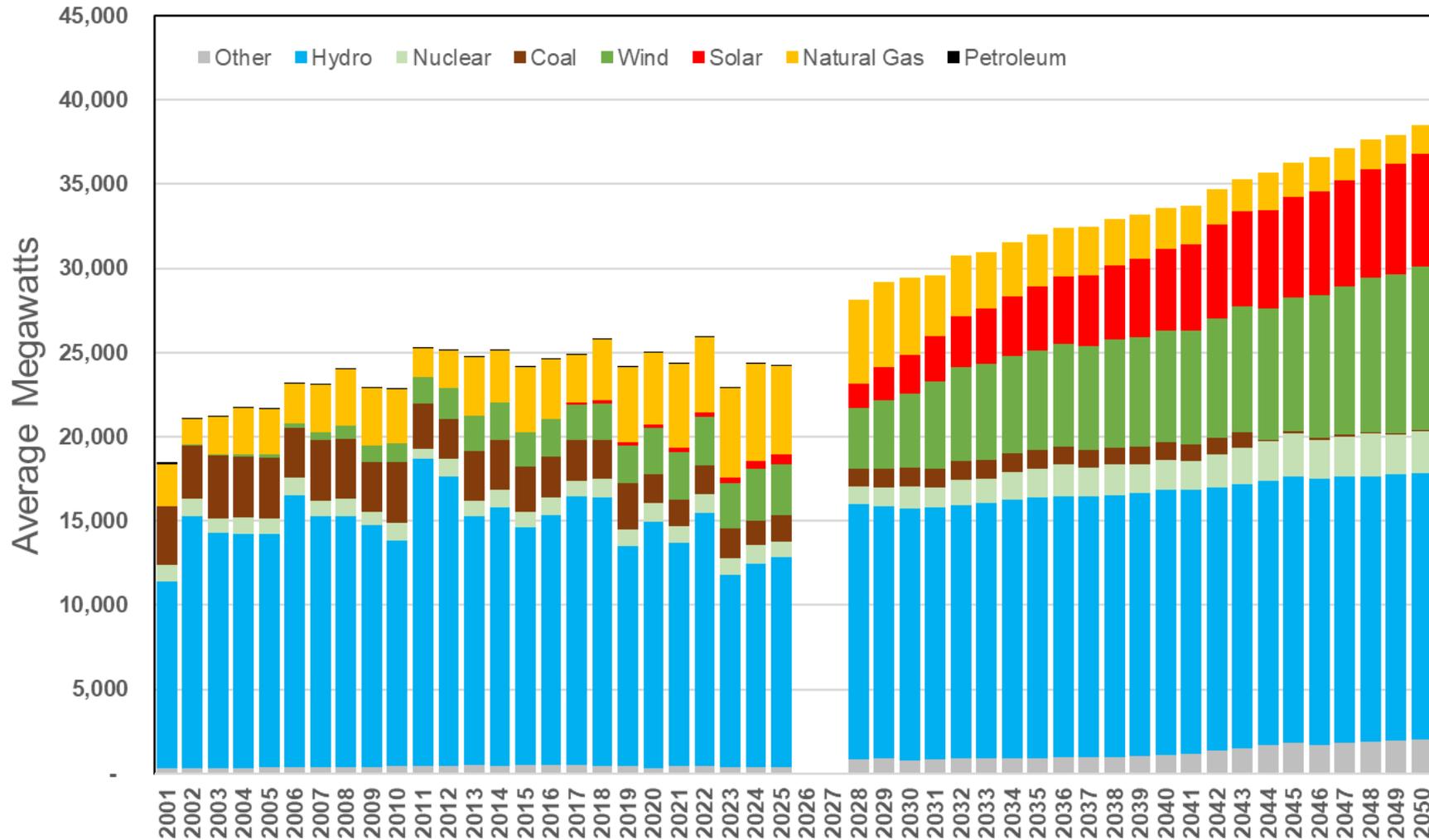
U.S. West Resource Type Forecast



Significant changes
2050 to 2028 (aGW)

Solar: + 39.1
Wind: + 27.8
Nat Gas: - 11.9
Coal: - 5.9
Nuclear: + 1.2
Other: + 6.2
Total: + 56.5

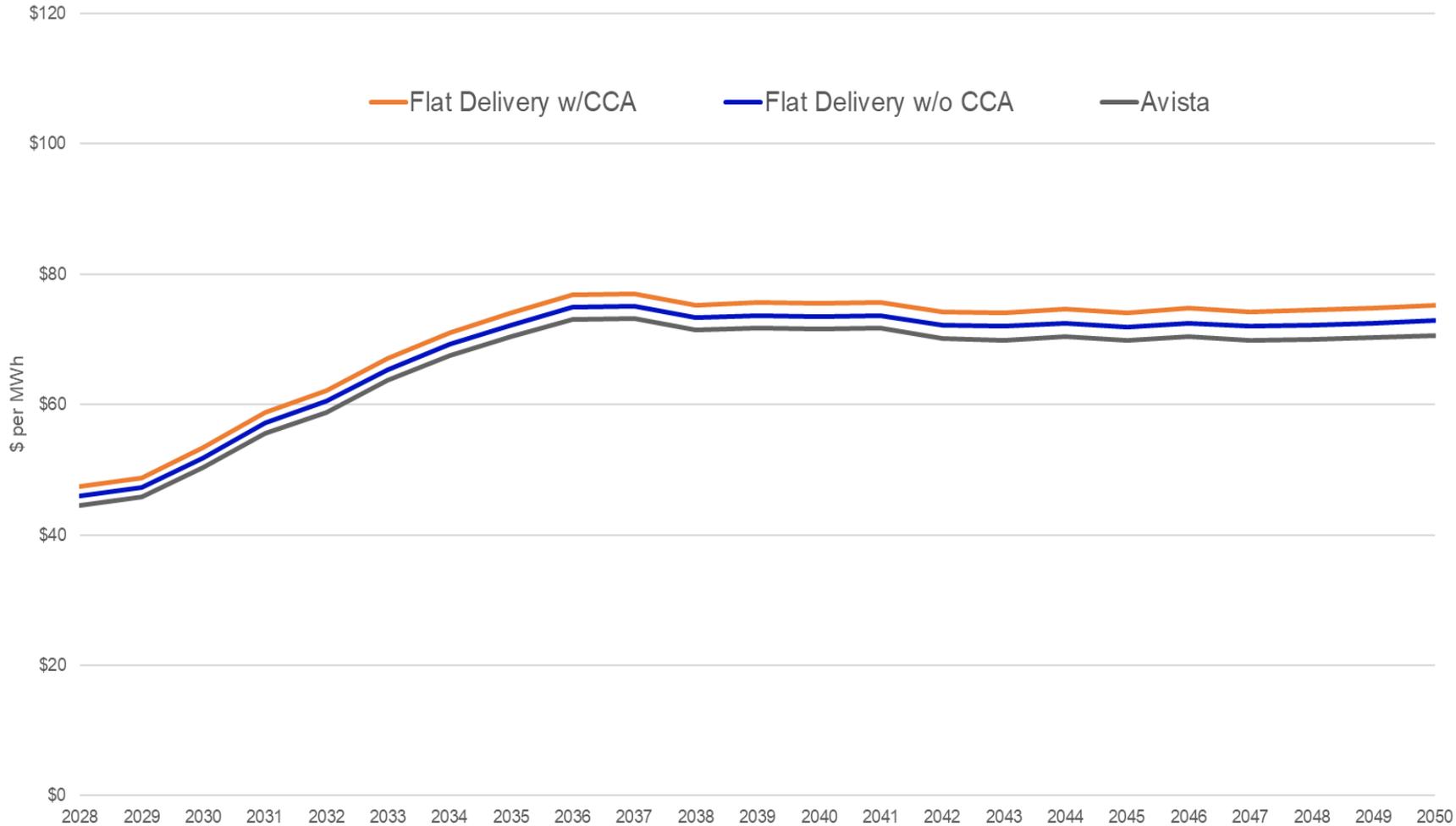
Northwest Resource Type Forecast



Significant changes
2050 to 2028 (aGW)

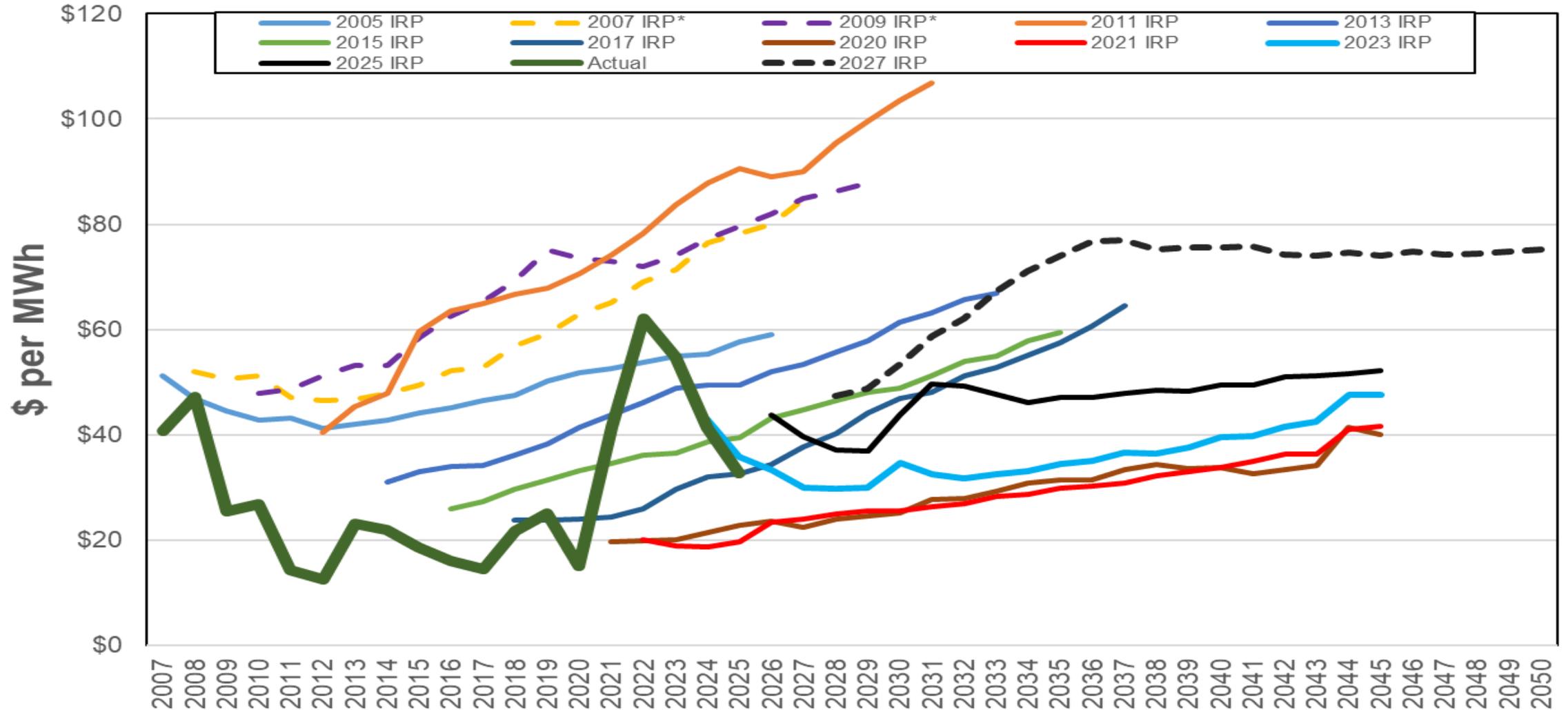
Solar: + 5.2
Wind: + 6.0
Nat Gas: - 3.2
Coal: - 0.9
Nuclear: + 1.5
Hydro: + 0.6
Other: + 1.0
Total: + 10.2

Mid-C Electric Price Forecast



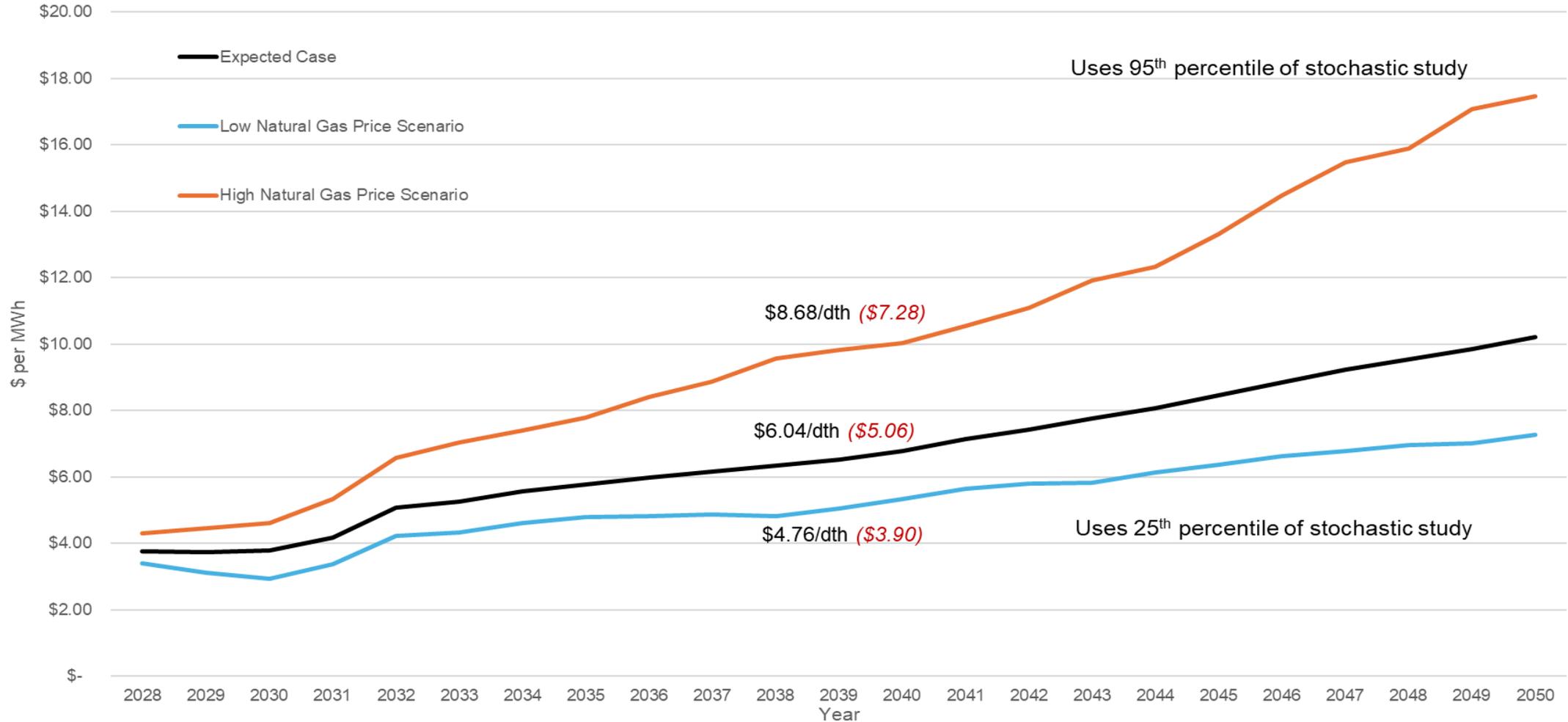
- 20 Year Levelized Prices:
 - \$66.72/MWh w/CCA
 - \$64.88/MWh w/o CCA
 - \$63.09/MWh Avista
- Forecast includes expected resource additions
- Potential for increased prices if new resources don't come online

Mid-C Price Forecast History and Actuals



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Draft forecast

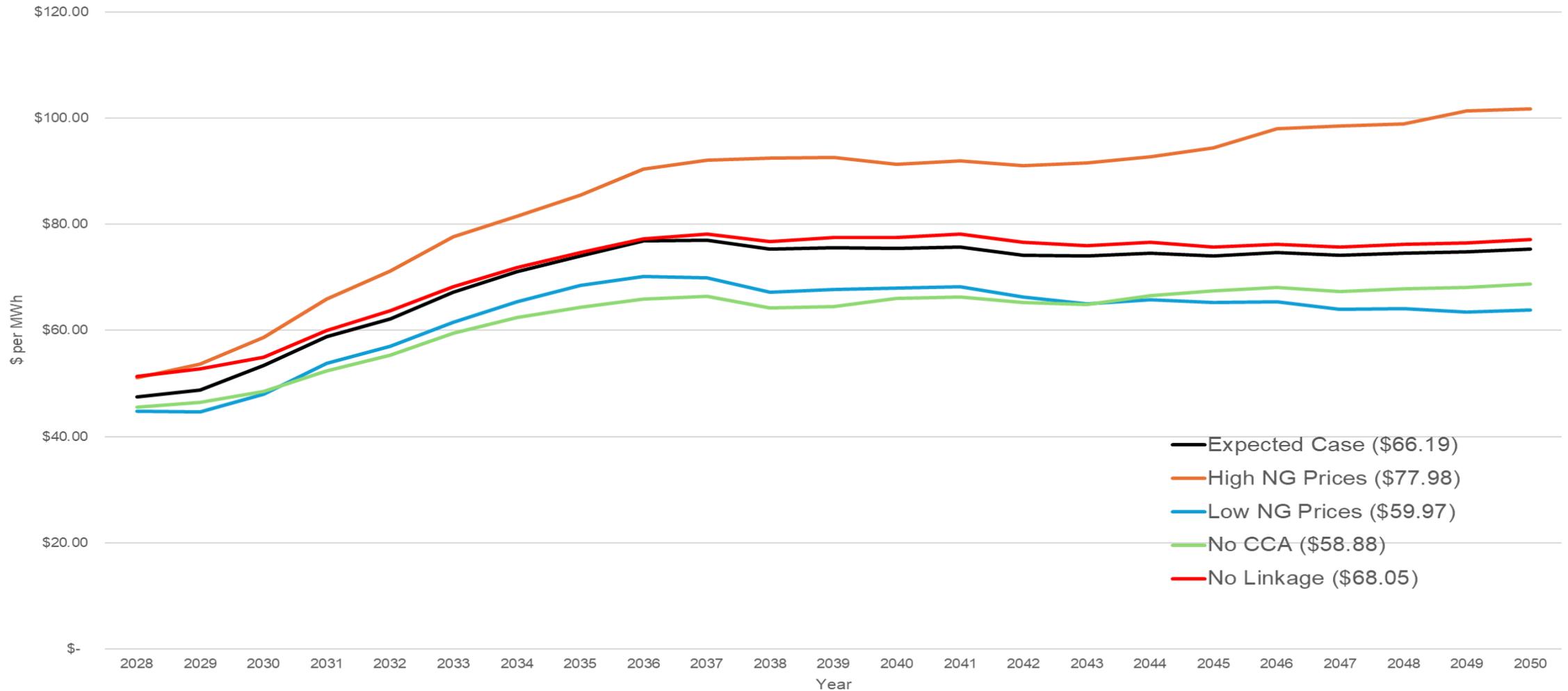
Henry Hub Natural Gas Price Scenarios



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Draft forecast

Electric Price Forecast

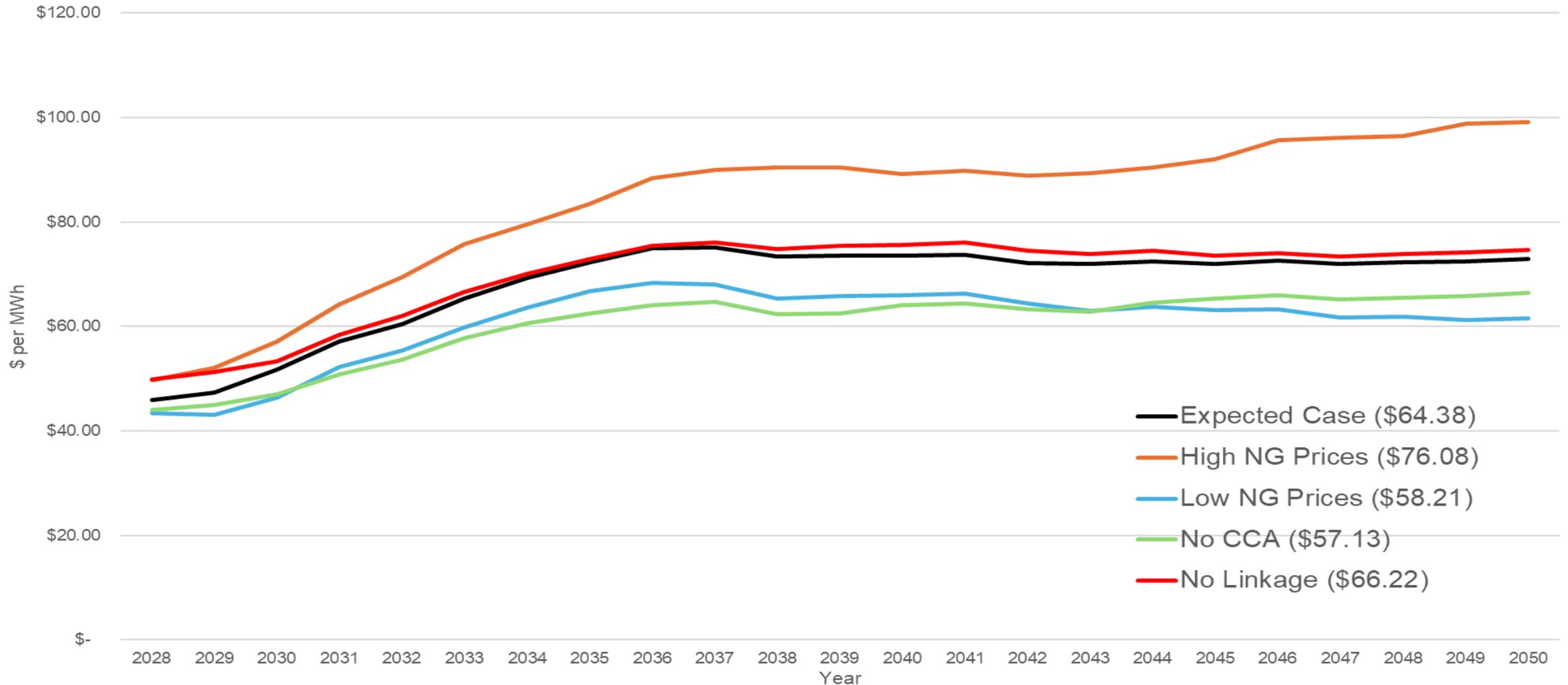
Mid Columbia Washington/Oregon Delivery



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Draft forecast

Electric Price Forecast

Mid Columbia Non-Washington/Oregon Delivery



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2025 All-Source RFP Update

TAC 6 – March 16, 2026

Ryan Finesilver, Resource Marketing Manager

2025 All-Source RFP Webpage

AVISTA

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2025 All-Source RFP

Avista's [Integrated Resource Plan](#), filed on December 31, 2024, identified an energy resource shortfall within four years, which triggers this All-Source Request for Proposal process. Avista intends to secure energy resources through one or more resource types to meet this shortfall. Bidders are welcome to propose resource opportunities that meet any of Avista's needs.

As part of the selection process, Avista will measure the strength of each project's proposal based on, but not limited to, its overall impact on future cost to customers, the ability to offset market purchases, provide dispatch flexibility, contribute to future resource adequacy requirements, and help Avista equitably achieve its clean energy goals. Avista welcomes proposals for projects that contribute to a portion or all of Avista's future resource needs.

Avista issues its 2025 All-Source RFP

Avista released to the public its 2025 All-Source RFP on May 30, 2025 and seeks proposals to meet its resource needs identified within its RFP document.

The 2025 All-Source RFP documents are available below.

- [All-Source RFP](#)
- [Exhibit A - Confidentiality Agreement](#)
- [Exhibit B-1 - Initial Proposal Outline](#)
- [Exhibit B-2 - Initial Proposal Template](#)
- [Exhibit C - Detailed Proposal Requirements](#)
- [Exhibit D - Evaluation Methodology](#)
- [Exhibit E - Sample Evaluation Matrix](#)
- [Exhibit F - Customer Information Release](#)
- [Exhibit G - RFP PPA Template](#)
- [Exhibit H - DR Detailed Proposal Information Template](#)

[Large Load Service Request](#)

[Projects](#)

[Integrated Resource Planning](#)

- [2025 All-Source RFP](#)
- [Distribution Planning Advisory Group](#)
- [2024 RNG Request for Proposals](#)

[Working at Avista](#)

[Washington's Clean Energy Future](#)

[About Our Energy Mix](#)

[Our Rates and Tariffs](#)

[FERC Standards of Conduct and Price Reporting](#)

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Resource Request

Up to 415 MW Winter Capacity by 2029

Up to 425 MW Summer Capacity by 2029

Up to 200 aMW of renewable or non-emitting resources

Demand response starting as early as 2026

Timeline and Process

Avista RFP Evaluation

Completed Evaluation and Resources Selected for Contracting

Contracting and Negotiations

Currently in contracting process

Independent Evaluator (IE) Review

IE agrees with Avista’s selections based on their parallel analysis

Next Steps

Contracting, Reporting and Compliance

Status	Task	Date
Complete	IE Selection	Jan 2025
Complete	WUTC / IPUC Updates	Various
Complete	WUTC Approval	May 2025
Complete	Issue RFP	May 2025
Complete	Bidders Conference	June 2025
Complete	Initial Bids	June 2025
Complete	Short List	Sept 2025
Complete	Detailed Proposals	Oct 2025
Complete	Price Refresh	Nov 2025
Complete	Selections & Notifications	Jan 2026
Complete	Press Release	Jan 2026
Current	Contracting	Q2 2026
Upcoming	Reporting and Compliance	TBD

Evaluation Criteria

Table 1: Evaluation Criteria²

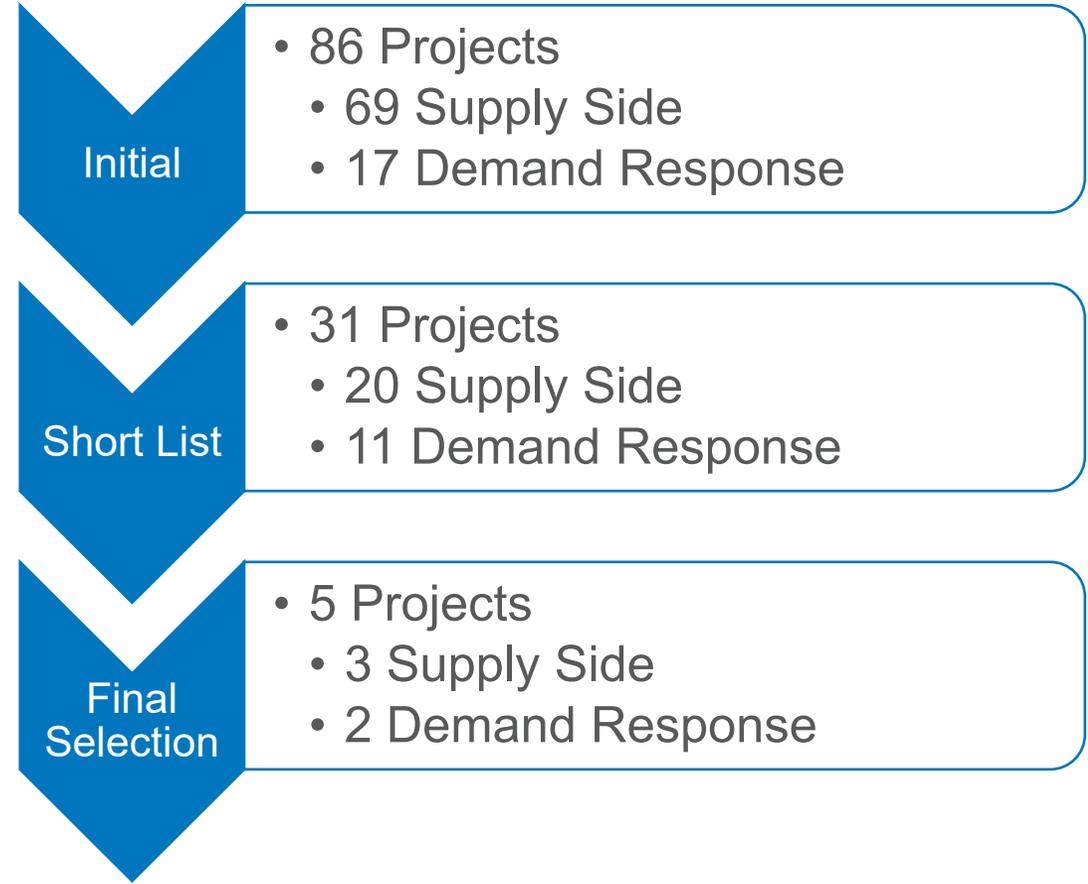
Category	Weighting (%)
1. Risk Management	5
2. Financial Analysis	60
3. Price Risk	10
4. Electric Risk Factors	10
5. Environmental Factors	10
6. Social and Community	5
Total	100

- Evaluation Methodology (Exhibit D) available on website

Initial, Short-list and Final Selections

Table 1: 2025 RFP Number of Proposals and Capacity by Resource Type

Resource	Type	# of Proposals	Total Capacity (MW) ¹
Wind	Wind	18	4054
	Wind + Storage	7	1517
	Wind + Natural Gas	1	904
	Wind + Solar + Storage	7	2320
Solar	Solar	7	754
	Solar + Storage	11	1498
Storage	Battery	14	1752
	Pumped Storage Hydro	1	134
Other	Demand Response	17	289.5
	Natural Gas	3	794



RFP Final Selections

Montana Wind

- Approx 200 MW
- 25-Year Power Purchase Agreement
- Renewable Energy and Capacity
- Utilizes Existing Colstrip Transmission System
- Commercial Operation Date: 2029
- Includes Federal Production Tax Credit



RFP Final Selections

Natural Gas Peaker Efficiency Improvements

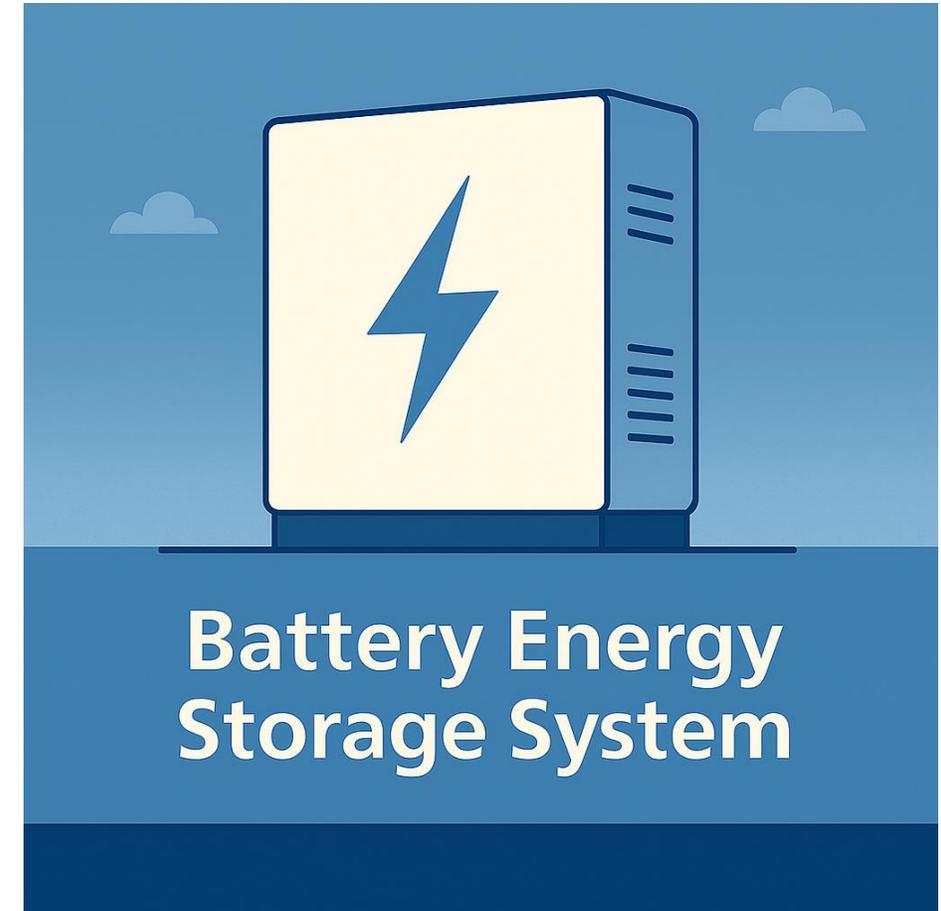
- Approximately 14 MW increase to existing units
- Turbine Uprate for 2 Rathdrum CTs
- Avista Self-Build project
- Commercial Operation Date: ~2028



RFP Final Selections

Battery Energy Storage System (BESS)

- 100 MW / 4-Hr BESS
- Build-Transfer Agreement
- Co-located at Northeast CT
- Commercial Operation Date: ~2029
- Capacity contributions to system
- Eligible for Federal ITC



RFP Final Selections – Demand Response

Residential Program

- Bring your own Thermostat Program
- Up to 20 MW Capacity
- Service Agreement Contract
- COD: 2026
- Current Stats: In Discussions with Vendor
- Capacity levels expected by the 5th year. Not anticipated to be at COD.



RFP Final Selections – Demand Response

Commercial & Industrial Program

- Demand Response Aggregator
- Up to 20 MW Capacity
- Service Agreement Contract
- COD: 2026
- Current Stats: In Discussions with Vendor
- Capacity levels expected by the 5th year. Not anticipated to be at COD.



Q&A

Questions

Ryan.Finesilver@avistacorp.com

Kaylene.Schultz@avistacorp.com

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TAC Meeting 6

March 16, 2026

2027 IRP: Economic Conditions and Preliminary Medium-Term Forecasts

Grant Forsyth, Ph.D.
Chief Economist
Grant.Forsyth@avistacorp.com

- **Service Area Economy**
- **Medium-Term Energy Forecast (Spring 2026)**

“This presentation is 40 minutes of a finite life you will never get back.”

-Grant Forsyth, April 9, 2024

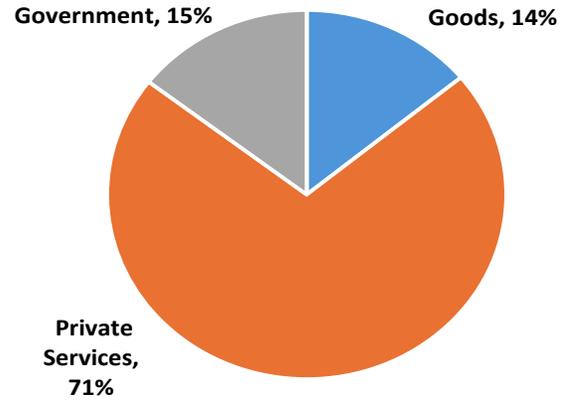
“This presentation is 120 minutes of a finite life you will never get back.”

-Grant Forsyth, March 16, 2026

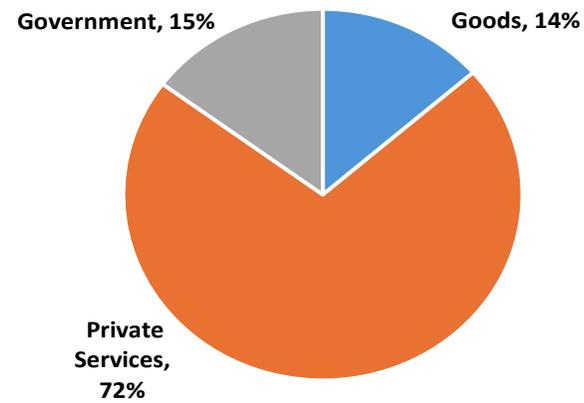
Service Area Economy: Non-Farm Employment Structure

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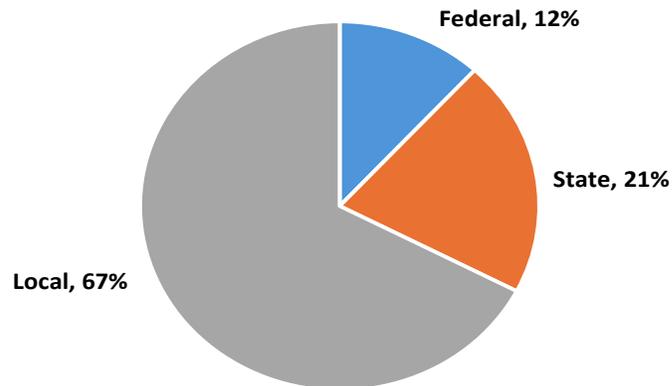
Avista WA-ID-OR MSA



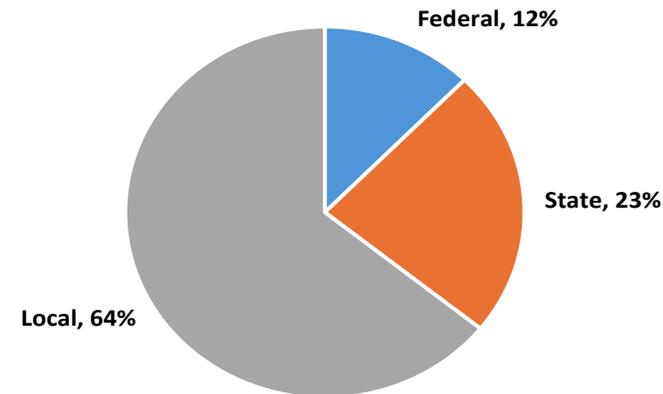
U.S.



Avista WA-ID-OR MSA Government



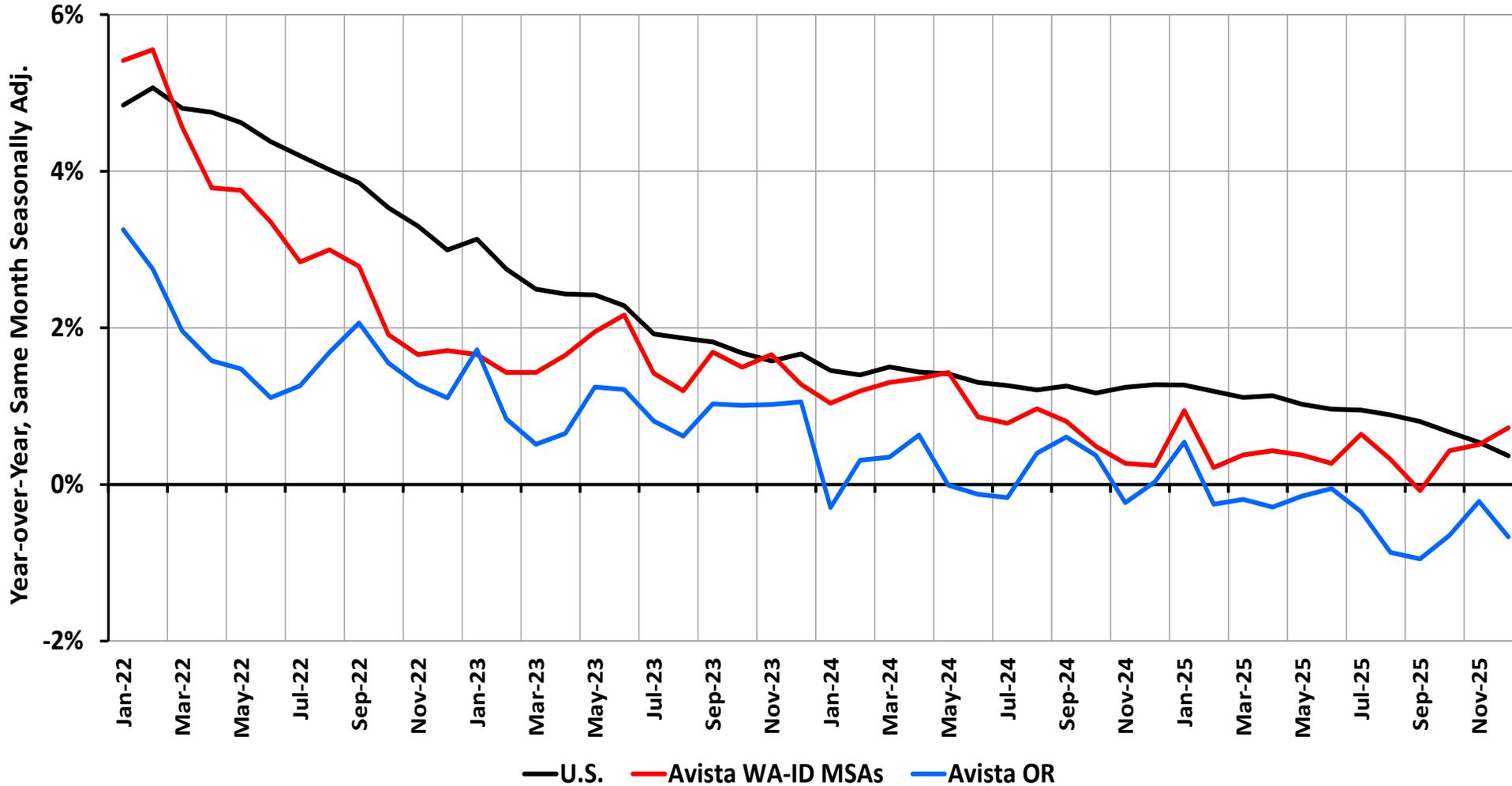
U.S. Government



Comments

- Employment structure very similar to the U.S.
- Employment dominated by private services. Without service sector growth, very little employment growth will be generated.
- Majority of public sector employment is local and related to education.
- If agriculture is considered, it would account for about 1% to 1.5% of employment.

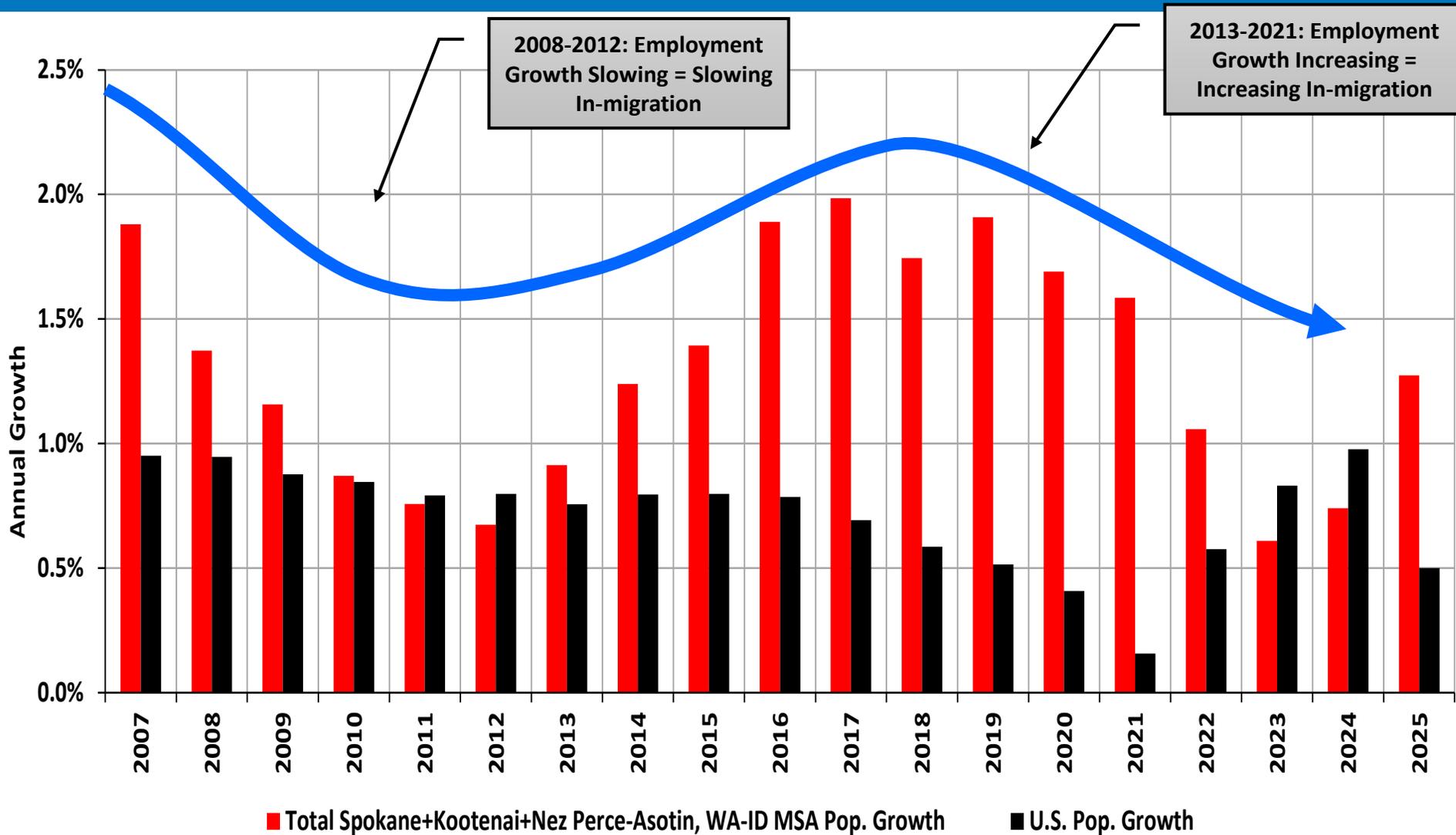
Service Area Economy: Non-Farm Employment DRAFT



- Comments**
- Employment growth has slowed, following the U.S. trend.
 - Growth has been strongest on the ID side. Growth in WA and OR looks more like the start of a recession.
 - Employment growth looks much weaker without the healthcare sector.

Service Area Economy: WA-ID Metro Population Growth

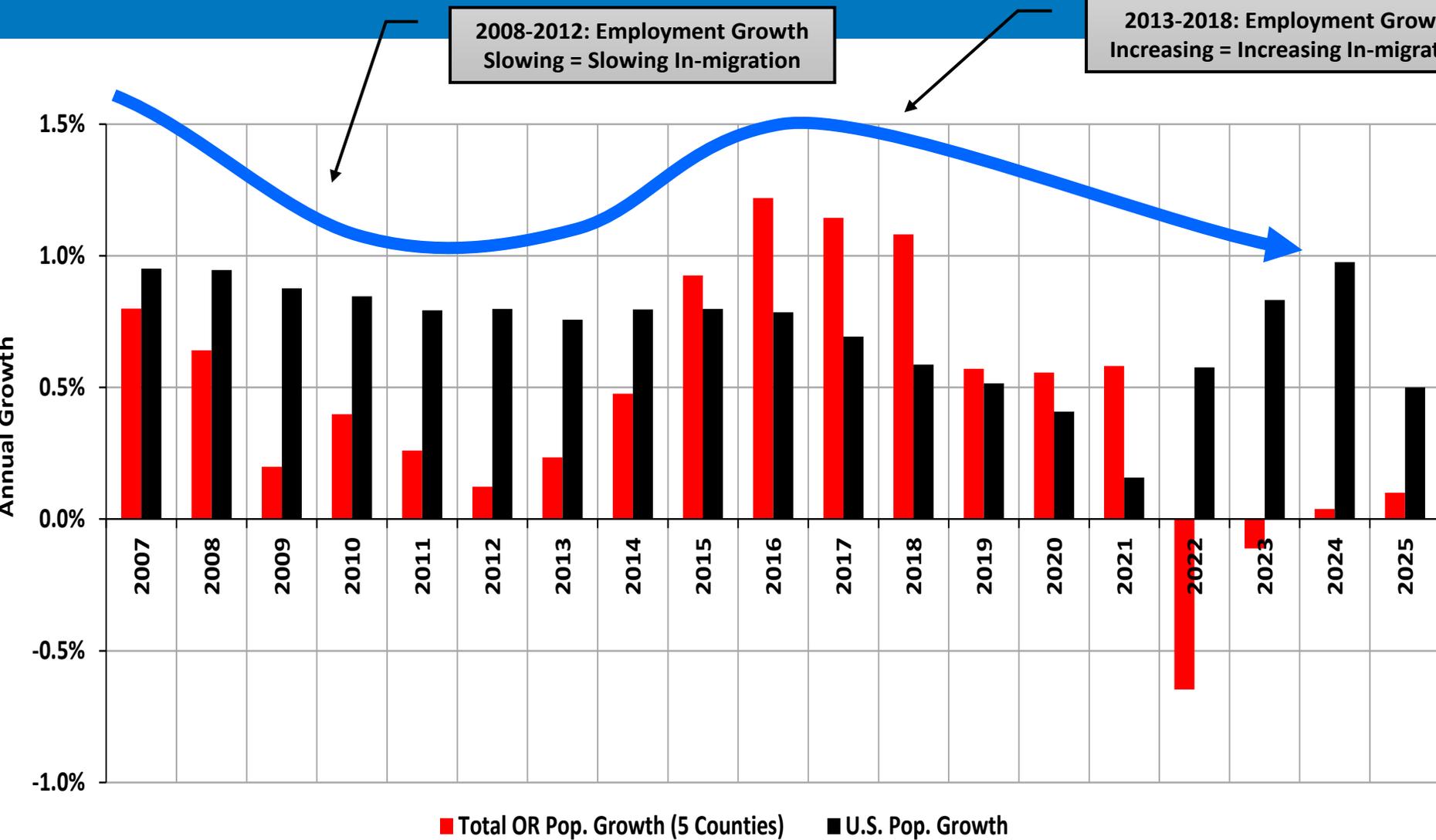
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- Comments**
- Population growth drives most of our customer growth.
 - Significantly higher than U.S. growth because of in-migration. Without in-migration, growth would look like U.S. or be lower.
 - Growth is highest on the ID side.
 - Strong employment growth is correlated with strong population growth, especially if stronger than the U.S.
 - Historical relationships may be changing due to high housing prices, but it's not clear at this point.



Service Area Economy: OR Population Growth DRAFT



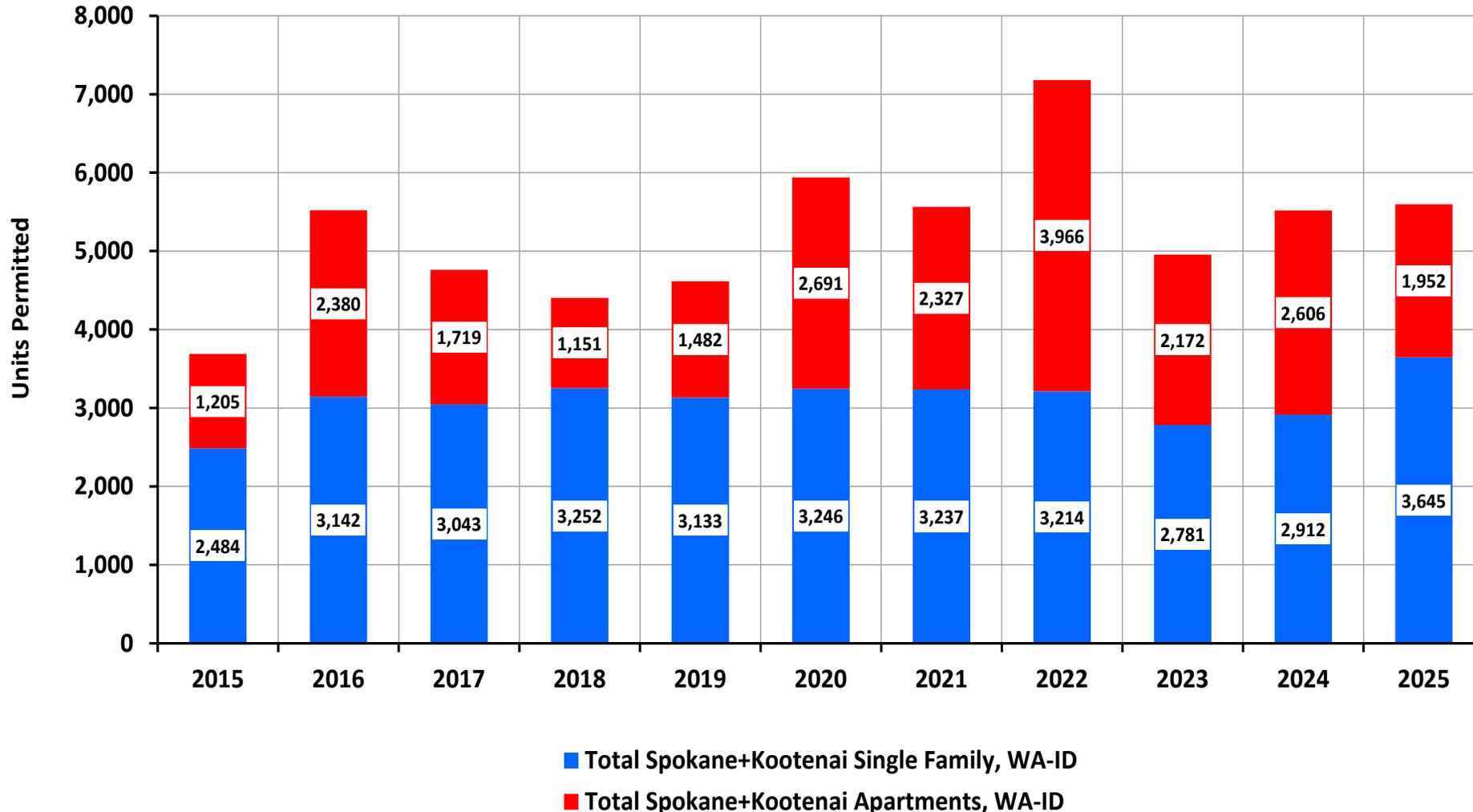
Comments

- OR has a similar overall pattern but with some differences.
- In-migration tends to pick up if regional employment growth is stronger than CA. This seems to reflect the proximity of the Rogue Valley and Klamath Falls.
- Growth weakened dramatically in 2019 and then again in 2022. This reflects demographics, weaker in-migration, some dislocation after the 2019 wildfires, and a very weak employment recovery following the pandemic.



Service Area Economy: Spokane+Kootenai Residential Units Permitted

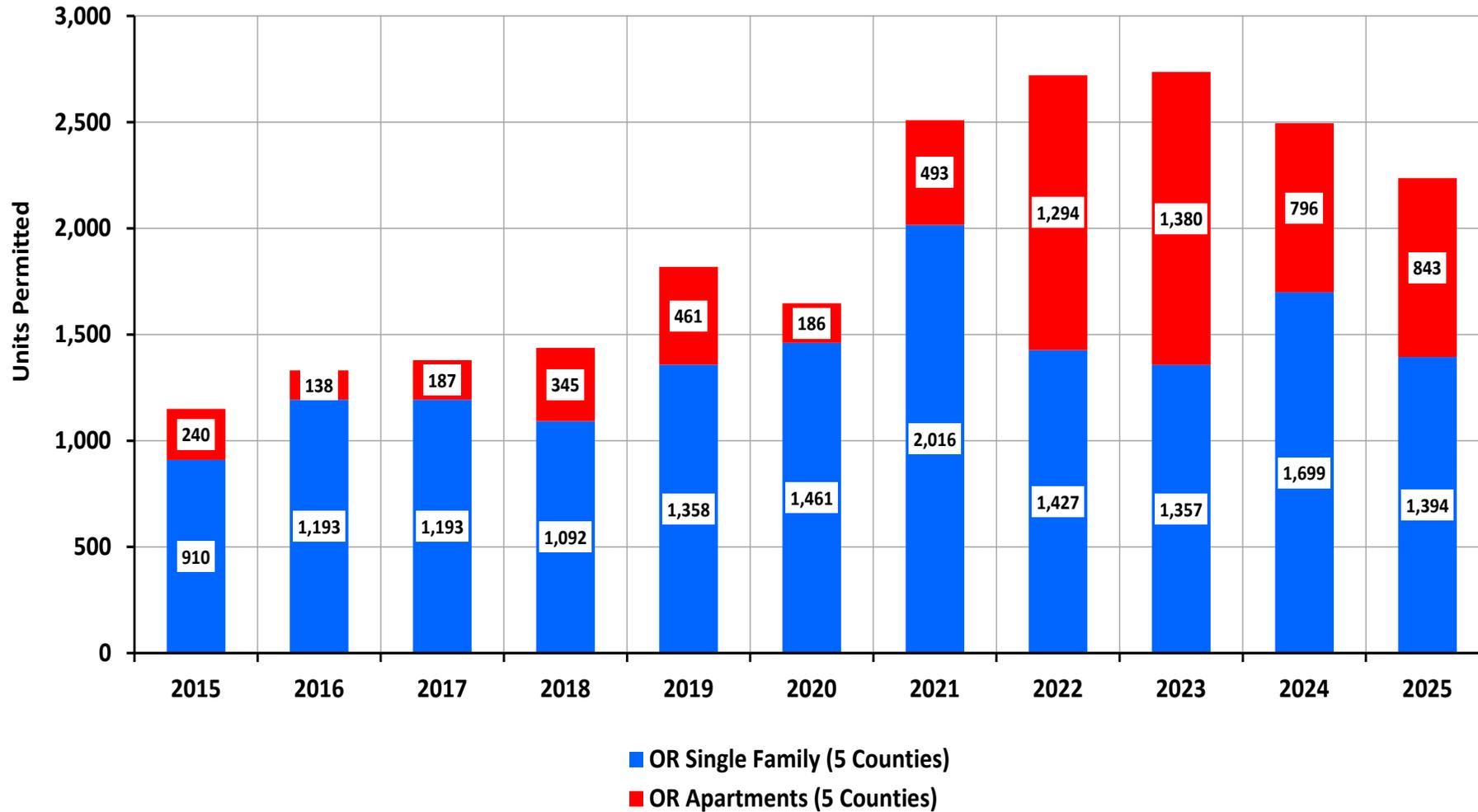
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- Comments**
- Strongly connected to population growth.
 - Prices of single-family housing have not declined significantly. The supply side remains constrained.
 - Apartments and duplexes are still an important source of new housing in both WA and ID. Duplexes are counted as “single family” in the graph. Apartments don’t typically install gas.
 - ADUs (not included in the graph) are picking up.

Service Area Economy: OR Residential Units Permitted

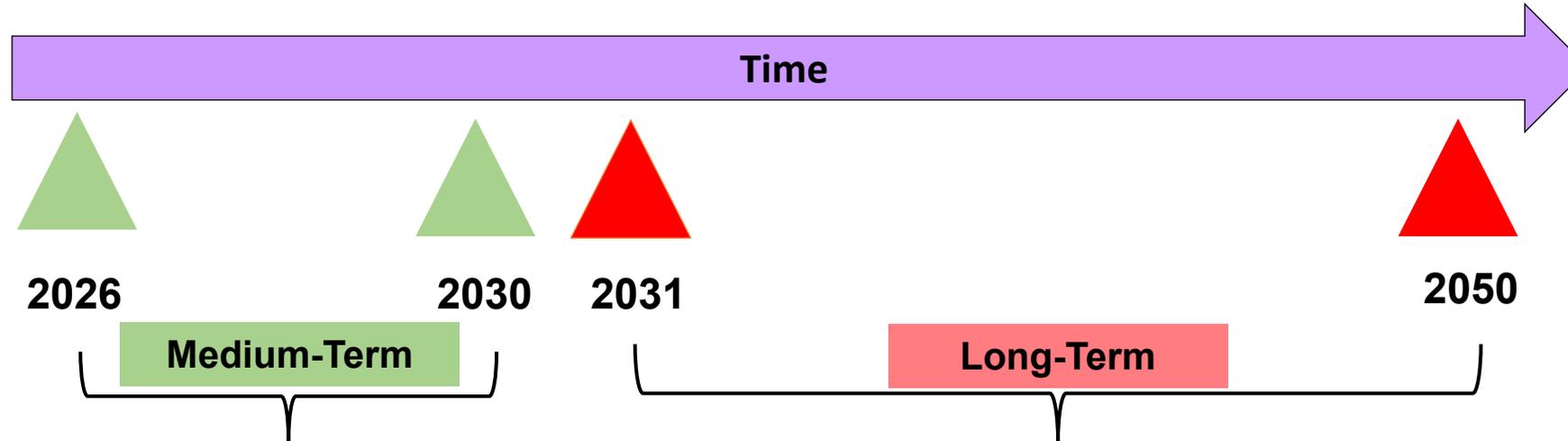
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- Comments**
- Very few apartments permitted in the OR region until 2022. Most of those have been in the Medford/Grant's Pass area.
 - Prices of single-family housing have not declined significantly. The supply side remains constrained. OR has relatively restrictive land use policies.
 - ADUs (not included in the graph) are picking up.



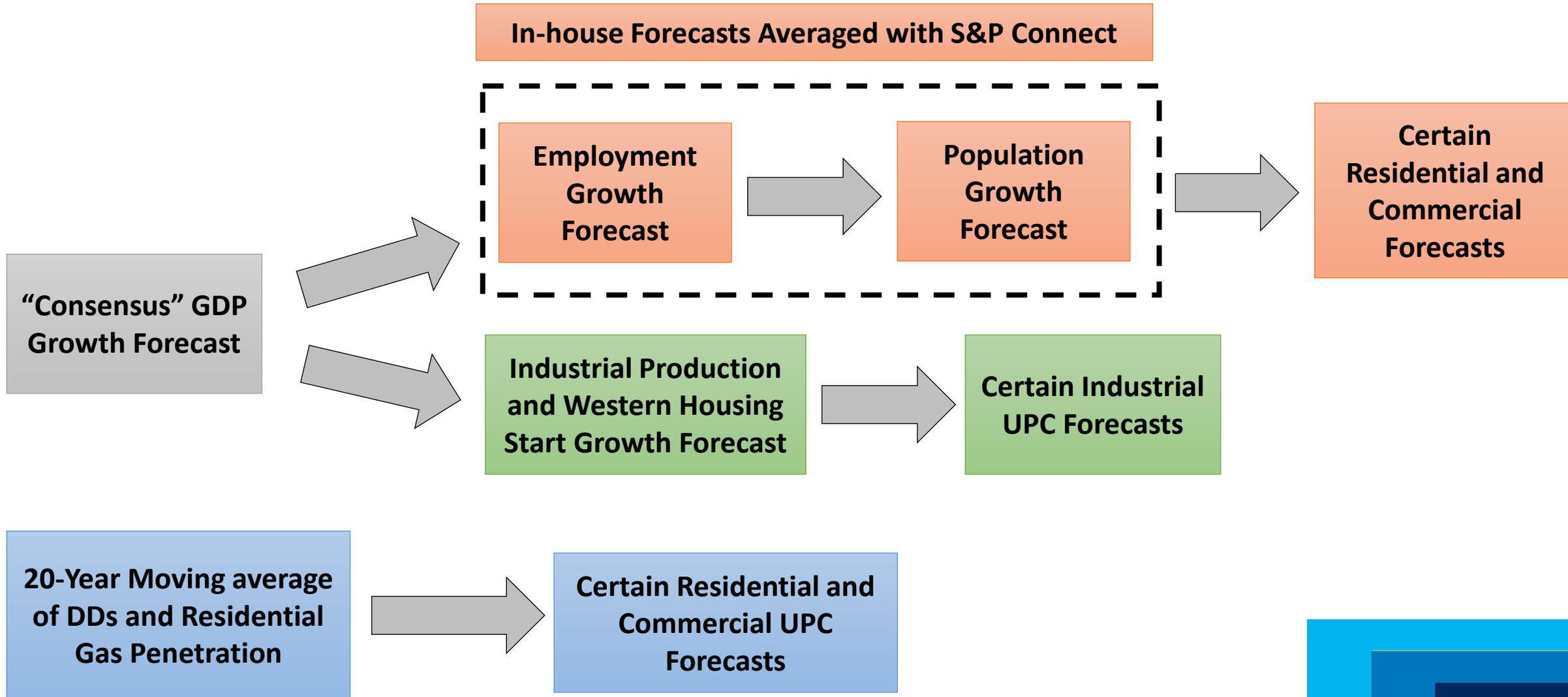
The Energy Forecast: Basic Approach ^{DRAFT}



- 1) Monthly econometric model by schedule for each customer class.
- 2) Customer and UPC forecasts.
- 3) 20-year moving average for "normal weather."
- 4) Economic drivers: GDP, industrial production, Western housing starts, employment growth, population, natural gas penetration.
- 5) Native load (energy) forecast derived from retail load forecast.
- 6) Current IRP forecast is the Spring 2026 Forecast (finalized in March).

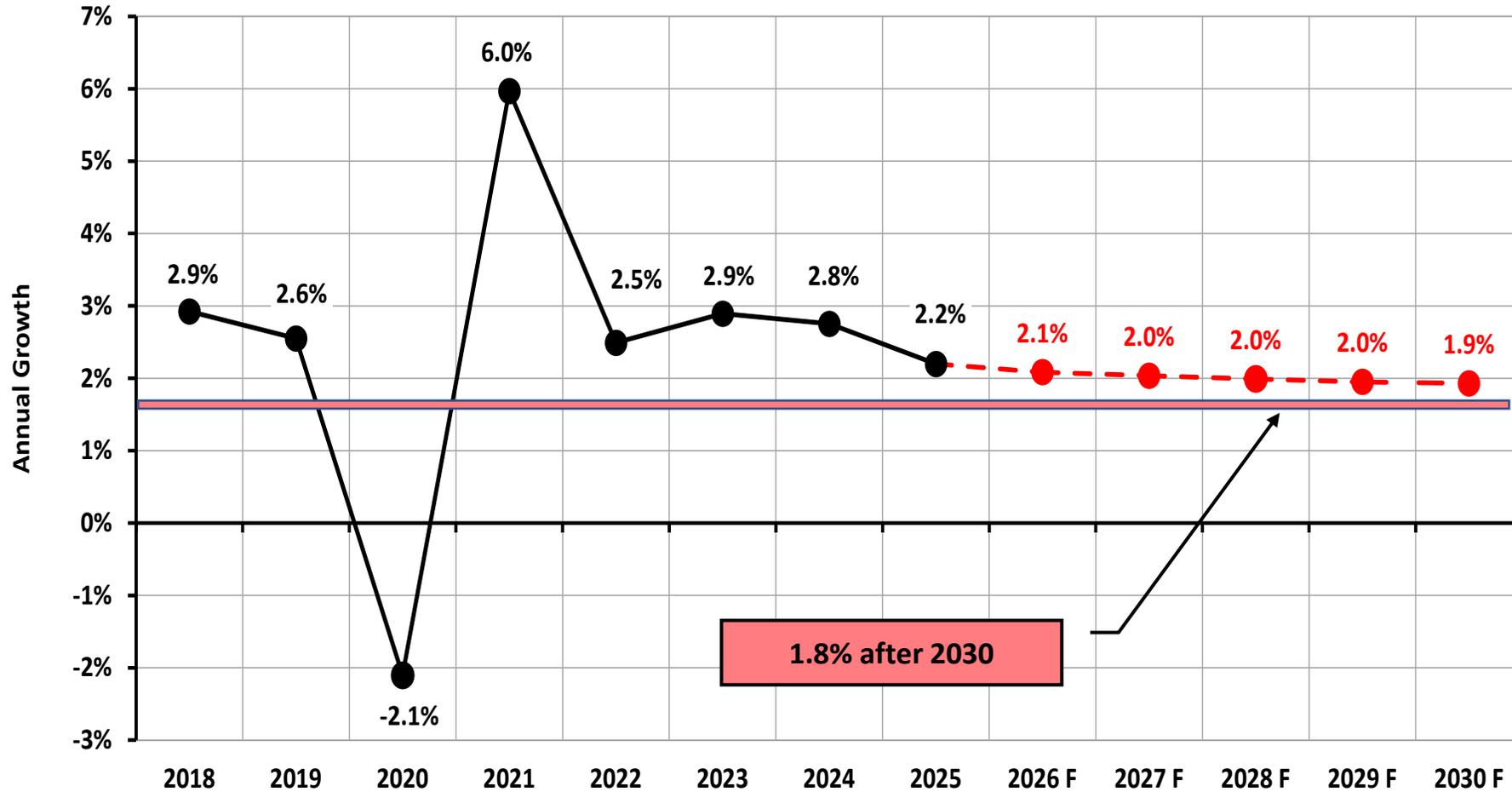
- 1) Shifting to end-use modeling.
- 2) Being handled by CADMUS with a few assumptions from Avista.

Medium-Term Forecast: Basic Approach ^{DRAFT}



Economic Assumptions: U.S. GDP Growth Assumptions

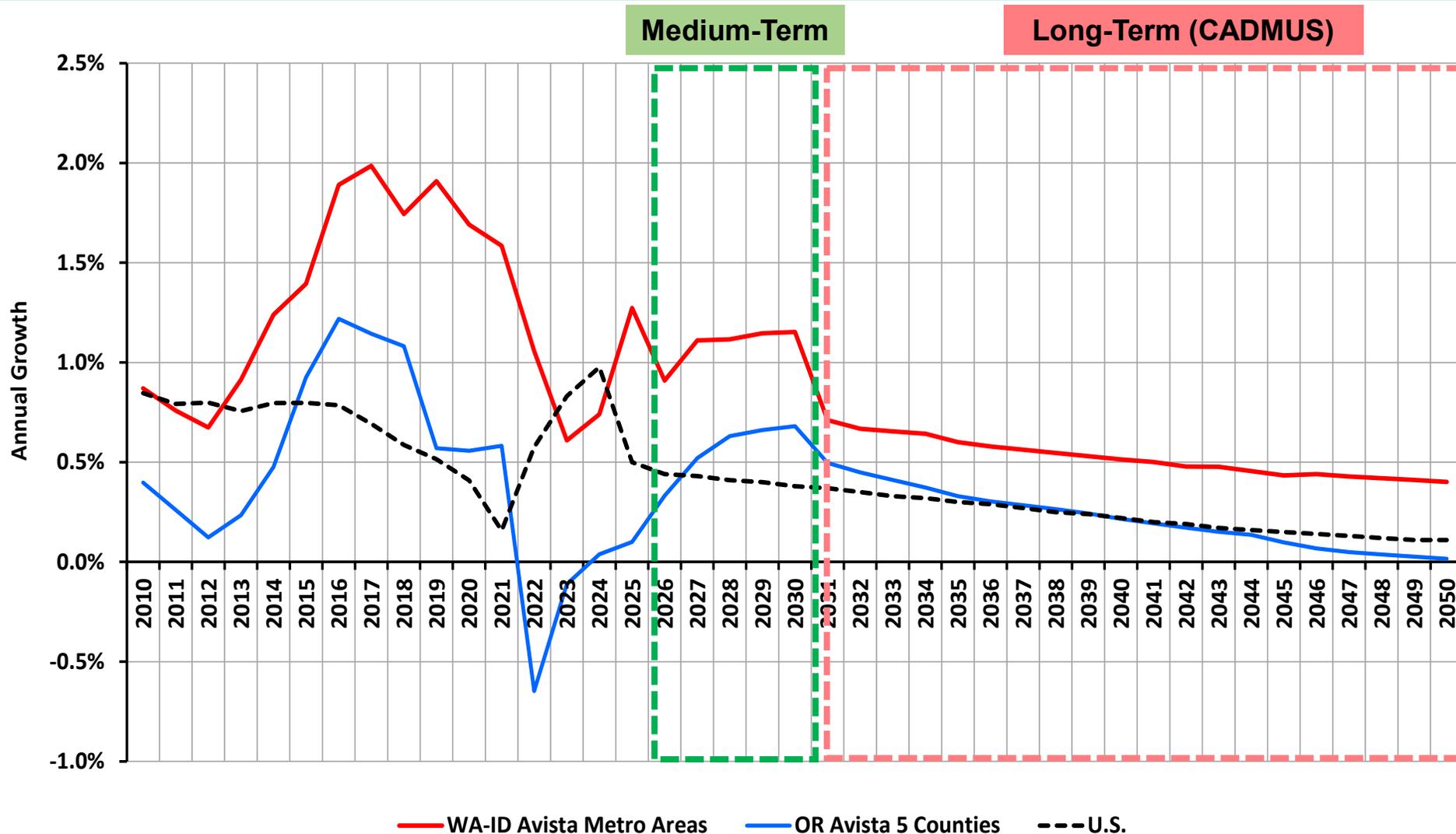
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Comments

- Long-run growth is the sum of population growth and labor productivity growth.
- U.S. productivity growth has improved but population growth may fall faster than forecasted.
- The Fed's long-run expectation for GDP growth is still 1.8% (red line). This is the growth rate assumed from 2031 to 2050.
- Long-run GDP growth must exceed 1.6% for industrial load to grow.

Economic Assumptions: Population Growth DRAFT

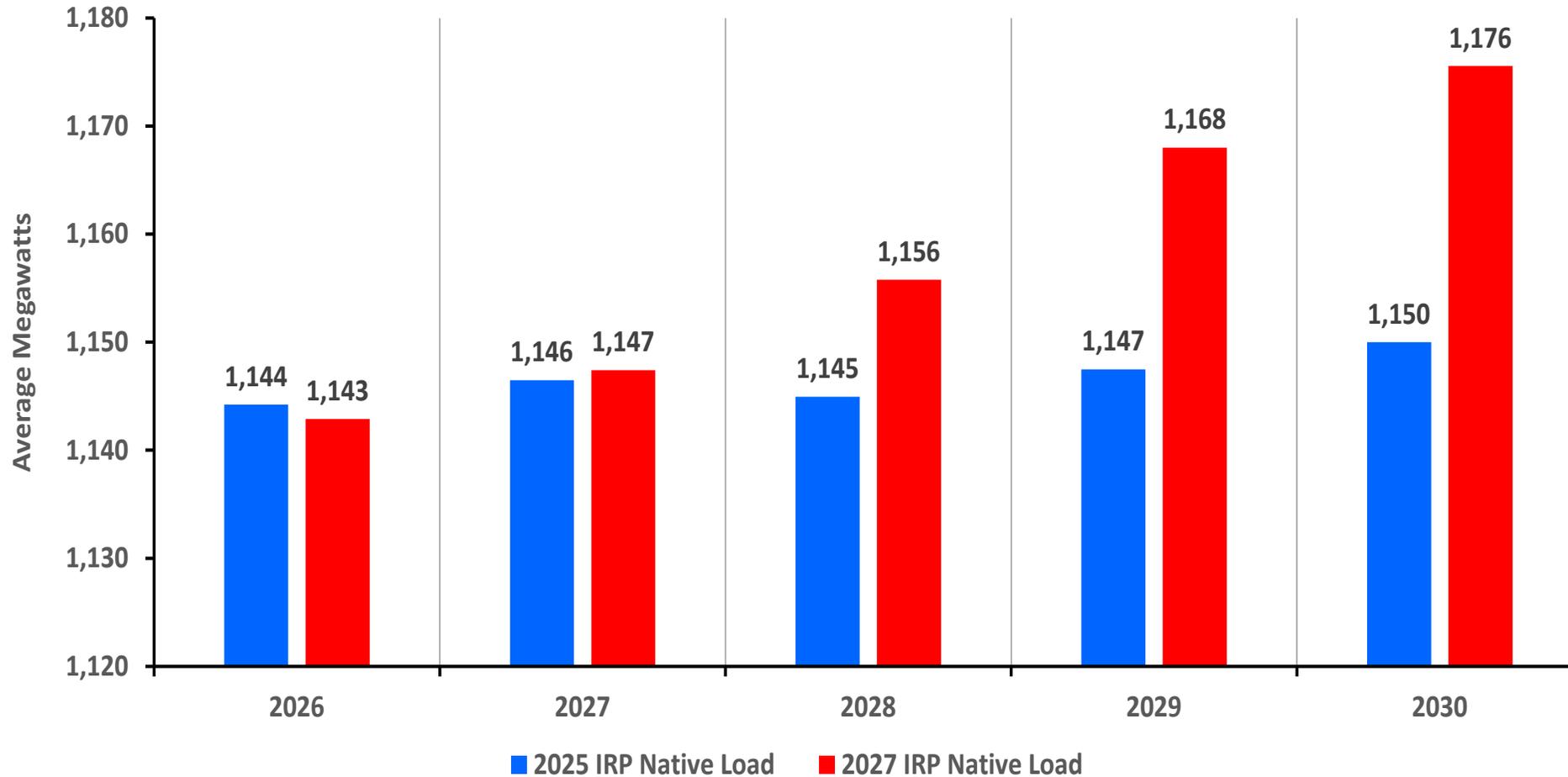


IRP	Avg. Annual Growth, 2026-2030	Avg. Annual Growth, 2031-2050
2027 WA	0.8%	0.3%
2027 ID	1.8%	1.2%
2027 OR	0.6%	0.2%

- Comments**
- From 2031 on, the time-path reflects S&P 500 population forecasts.
 - Average population growth is a proxy for customer growth on the electric side.
 - On the gas side, the connection between population growth and customer growth has diminished in WA and OR.

Medium-Term Energy Forecast: Native Load

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IRP	Avg. Annual Growth, 2026-2030*
2025 IRP	0.22%
2027 IRP	0.70%

* Spring 2024 forecast in 2025 IRP

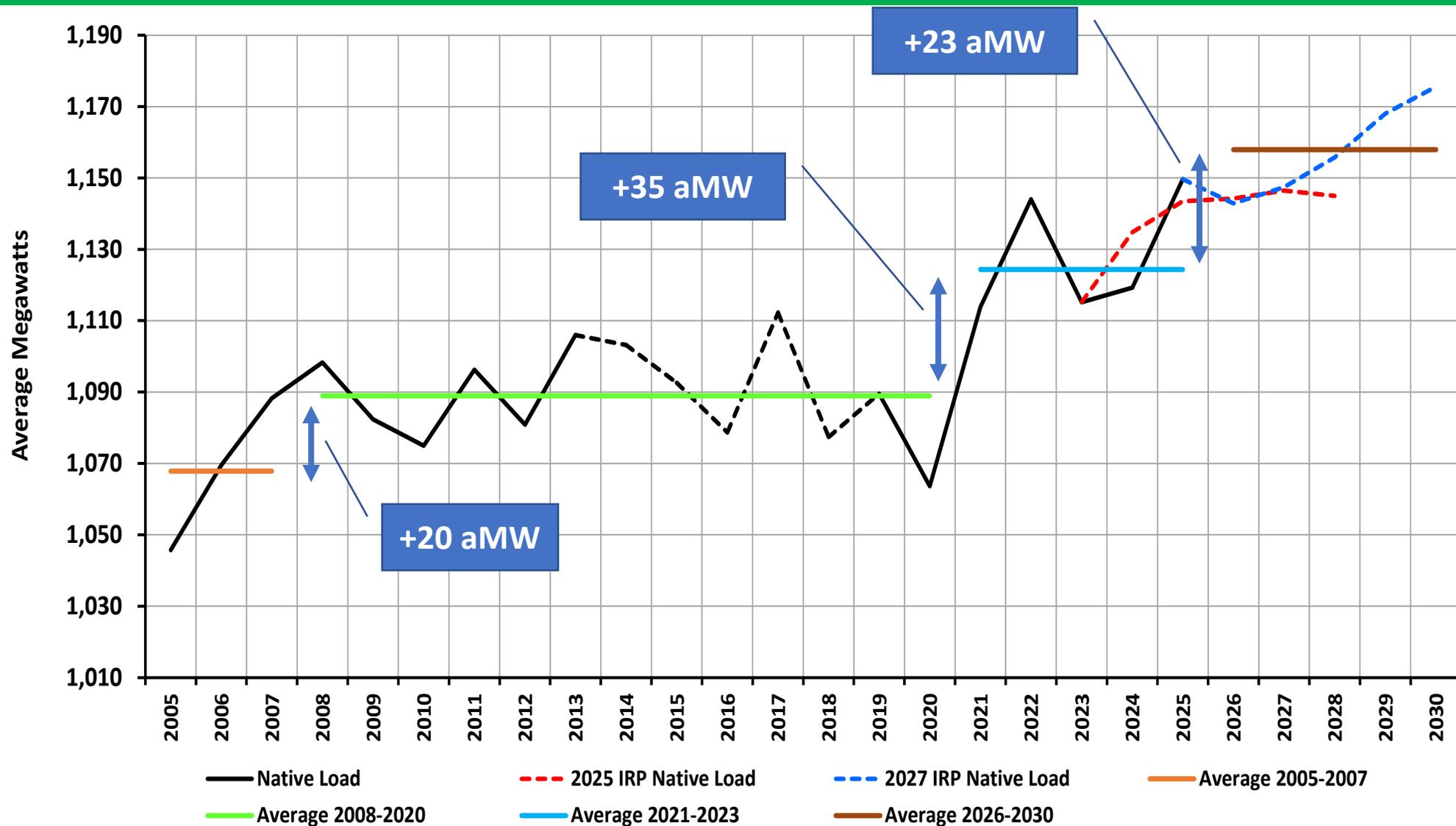
Comments

- The difference reflects declining gas penetration in WA and higher forecasted large customer loads.
- First large step in 2028 because of forecasted completion of a customer expansion project.



Medium-Term Energy Forecast: Native Load since 2005

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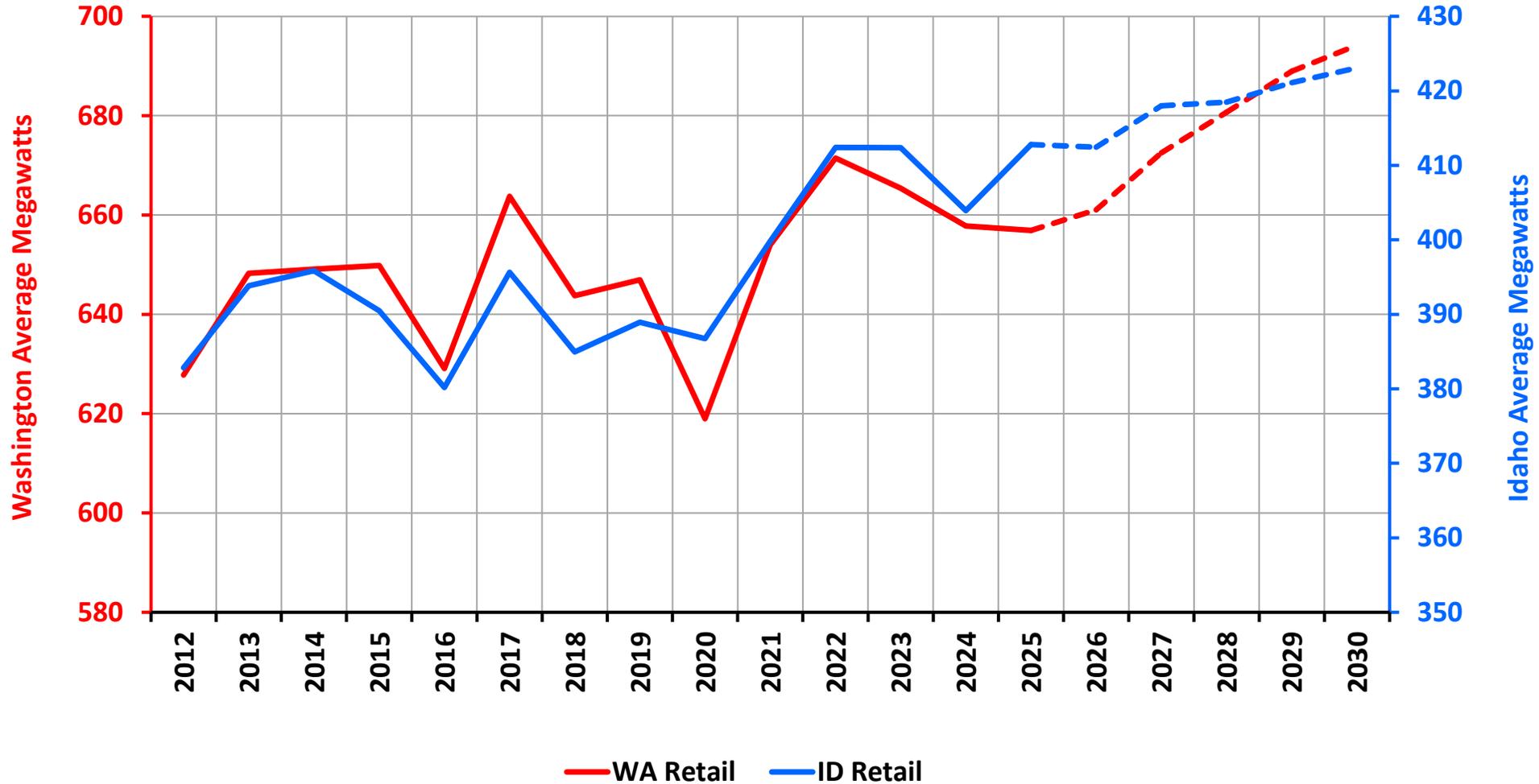


Comments

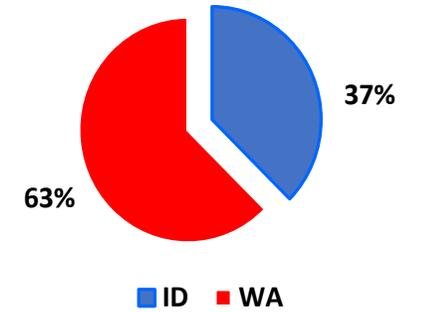
- Prior to 2021/2022, the housing bubble period was the last significant step up in native load.
- The 2008-2020 period saw little growth until the pandemic period.
- Dashed black line reflects an adjustment for a specialized contract with a large customer with self-generation.
- In the post-pandemic period, load is expected to increase because of large customer load and declining gas penetration in WA.

Medium-Term Retail Forecast: Retail Load since 2012

DRAFT

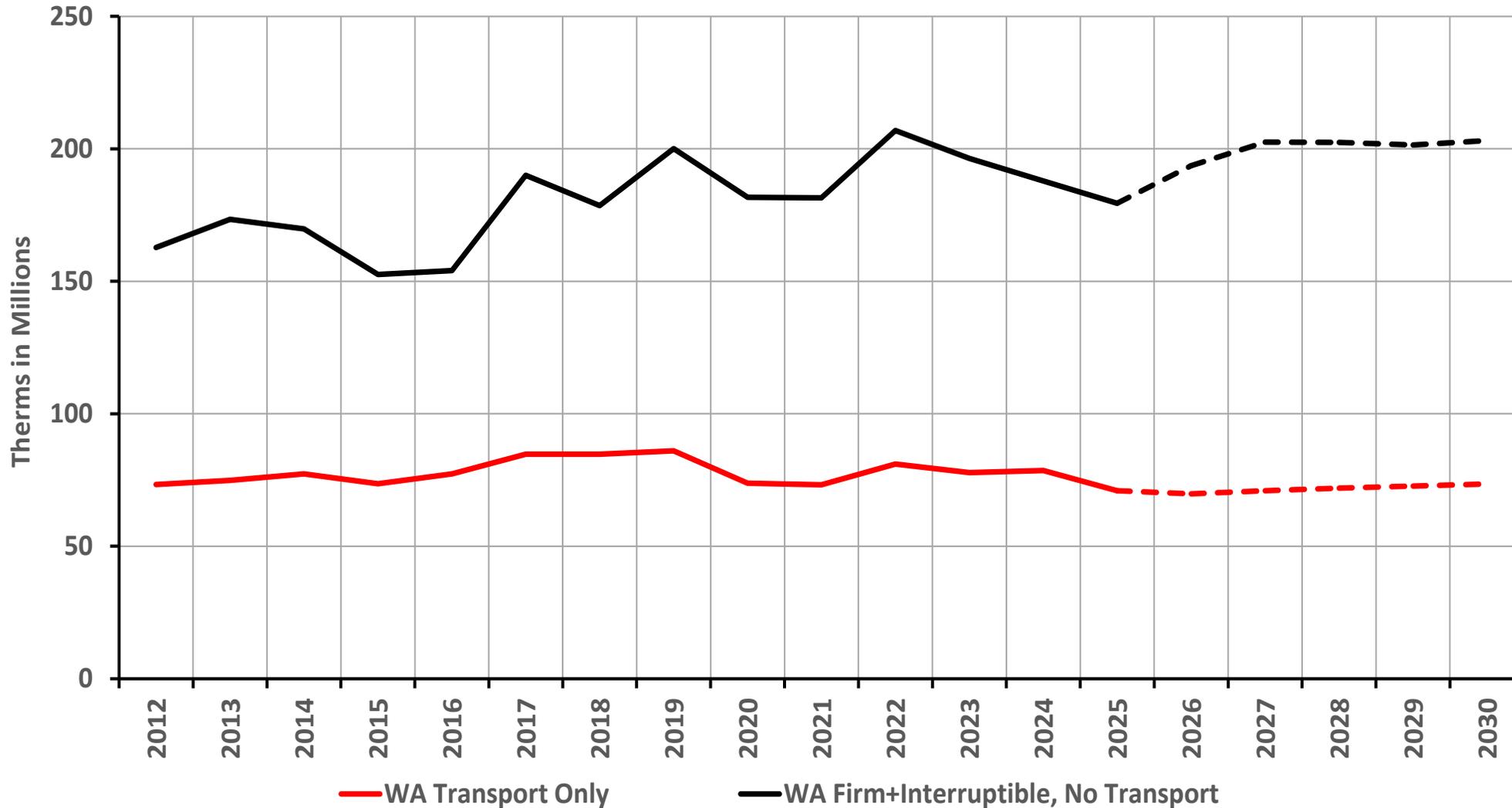


2025 Load Share

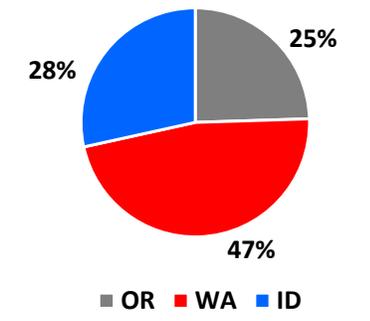


Medium-Term Retail Forecast: WA Gas Load since 2020

DRAFT

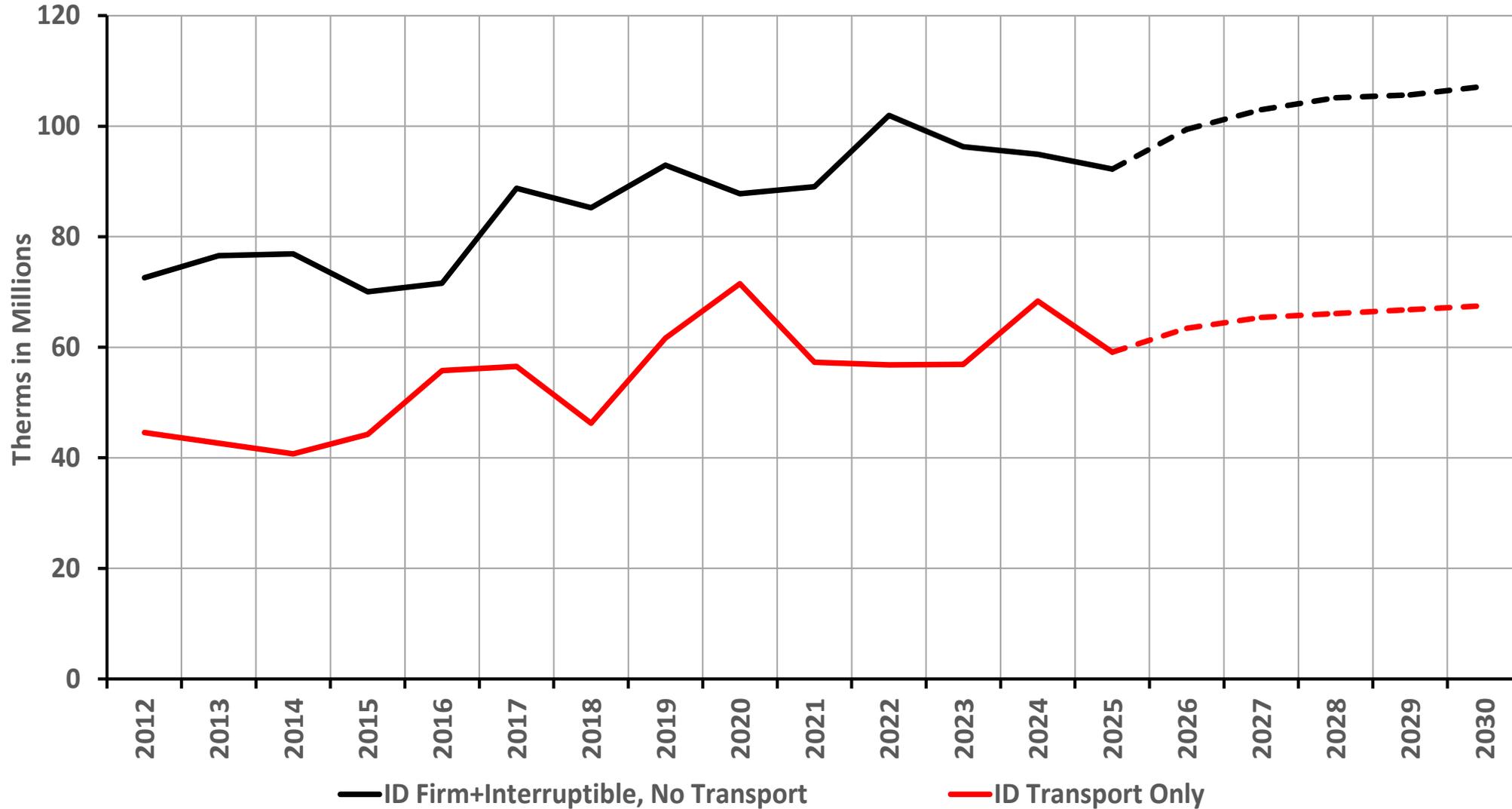


2025 Load Share

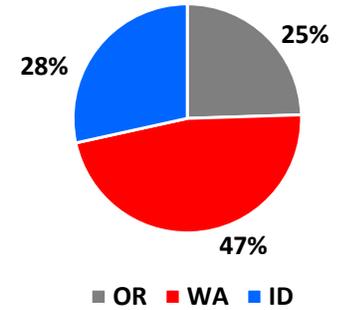


Medium-Term Retail Forecast: ID Gas Load since 2012

DRAFT

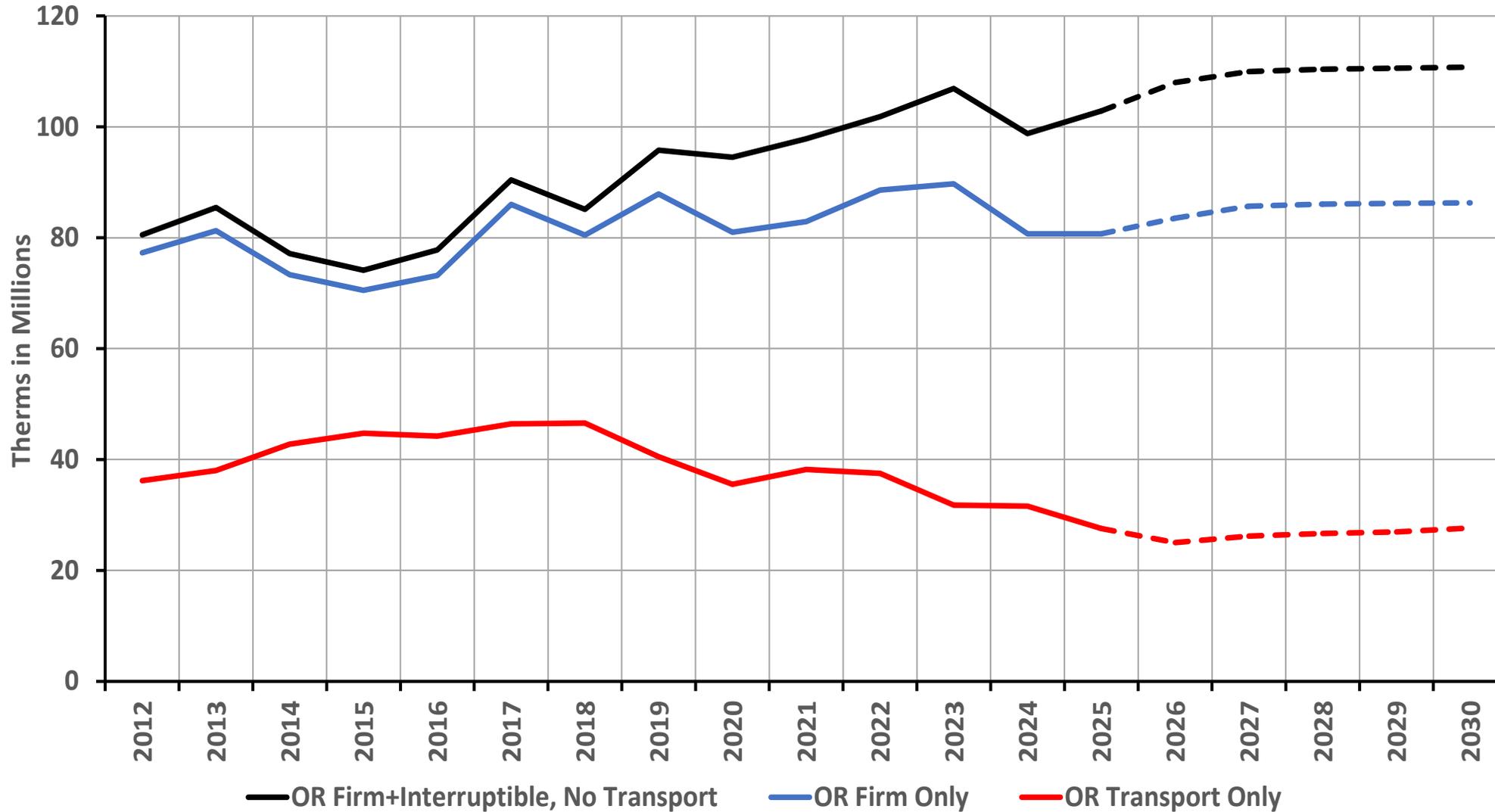


2025 Load Share

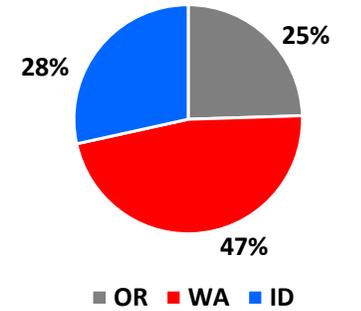


Medium-Term Retail Forecast: OR Gas Load since 2012

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2025 Load Share



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Questions?

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Natural Gas Resource Options & Price Forecast

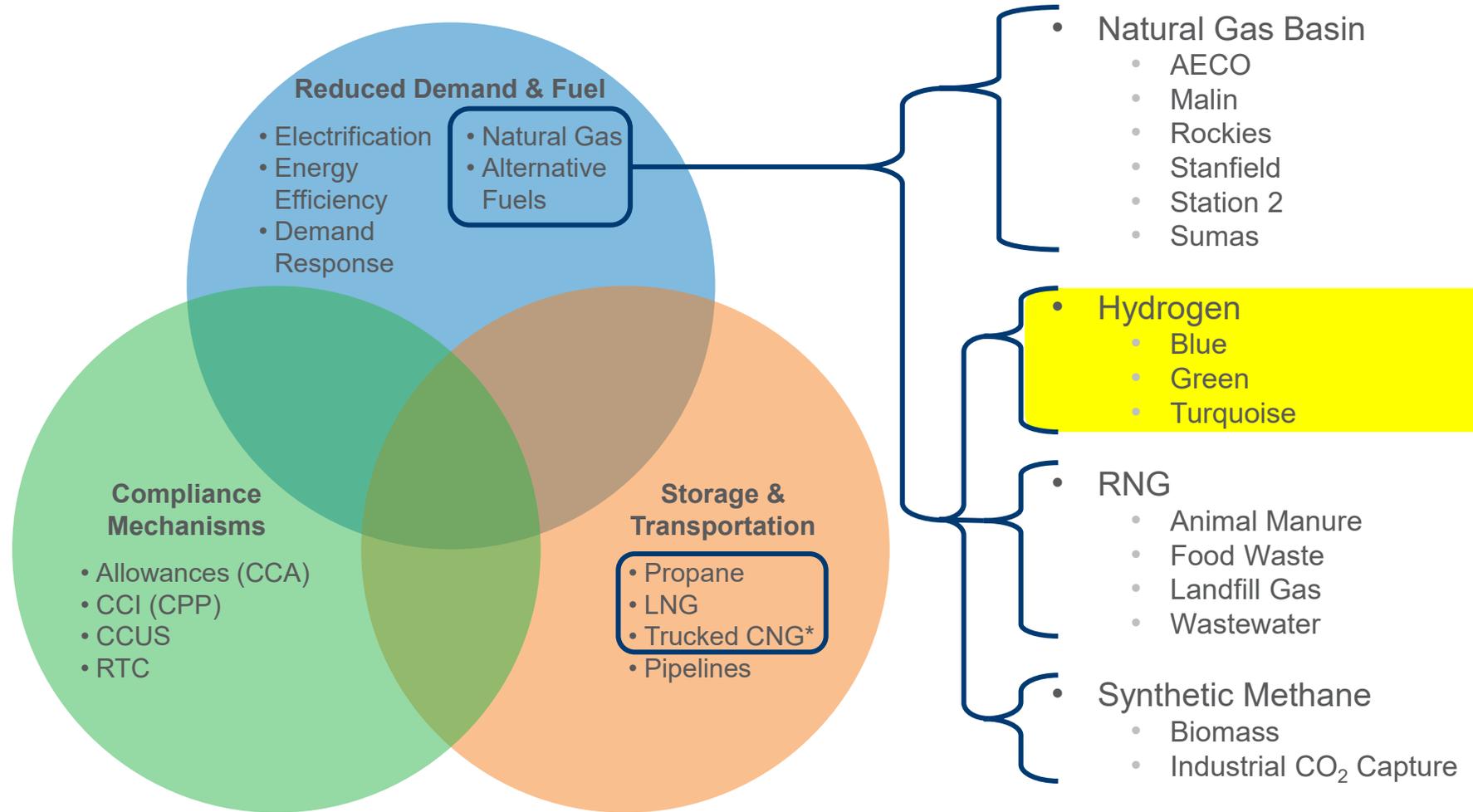
TAC 6 – March 16, 2026

Michael Brutocao, Natural Gas Planning Manager

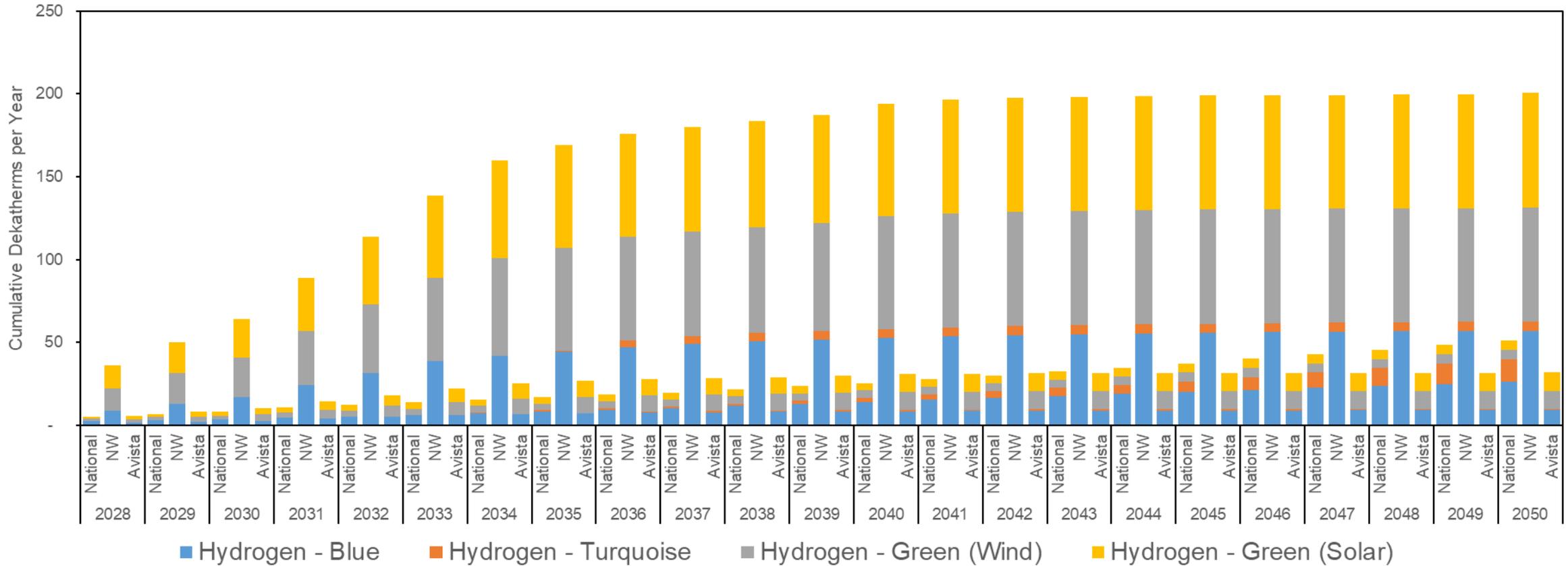
What's Happened Since the 2025 IRP Forecast

- Impact of legislation
- Updates to model inputs and assumptions

Natural Gas Demand and Resource Options

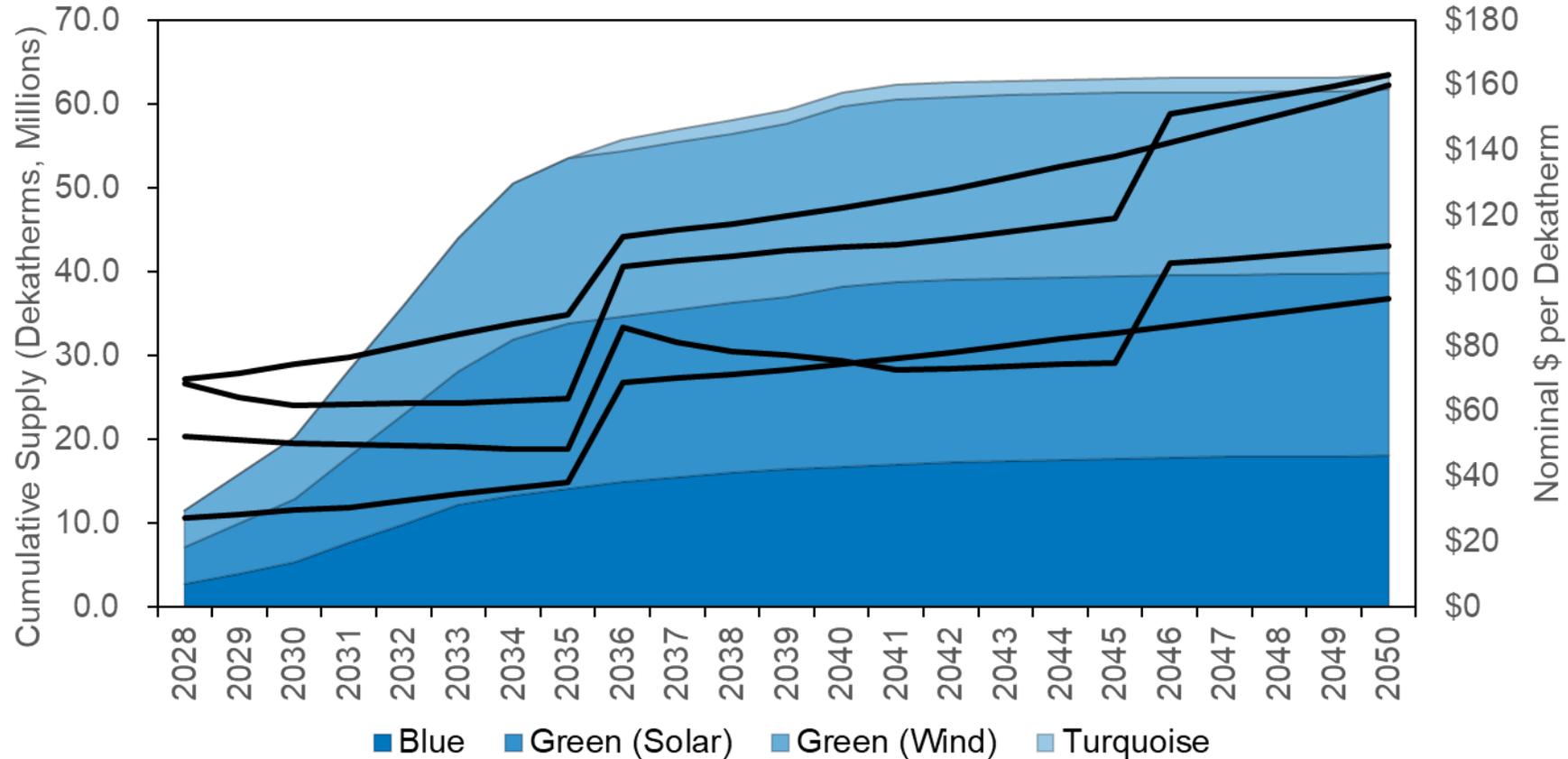


DRAFT: Hydrogen Volumes

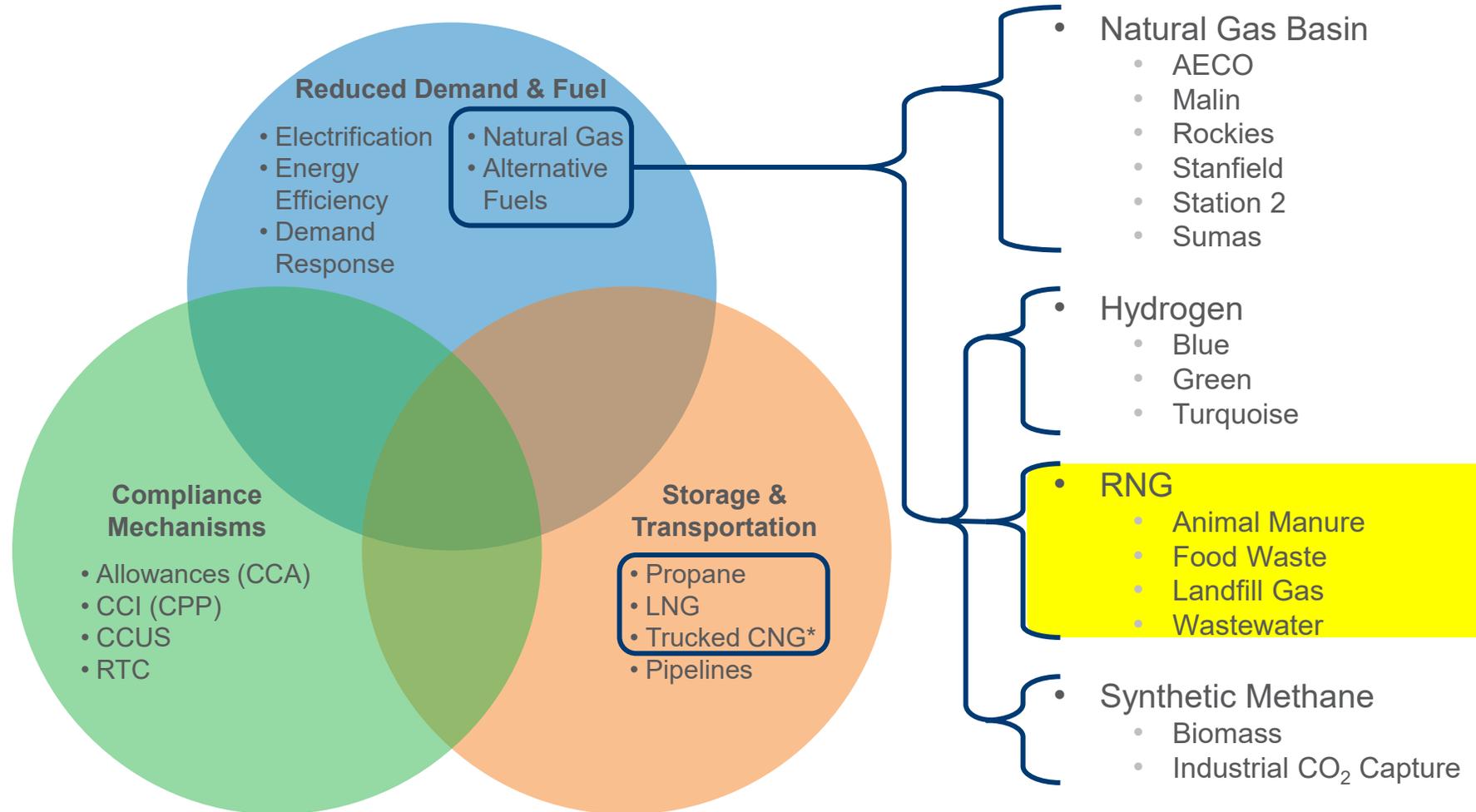


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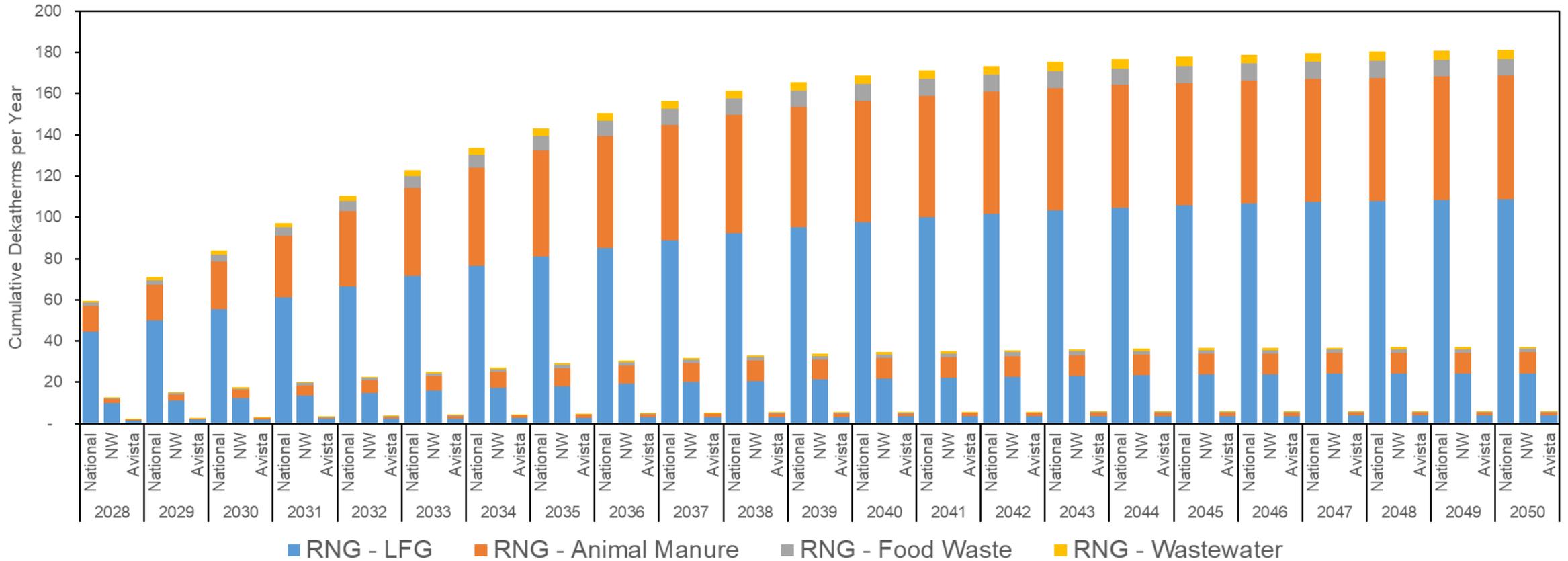
DRAFT: Hydrogen Volumes & Levelized Costs



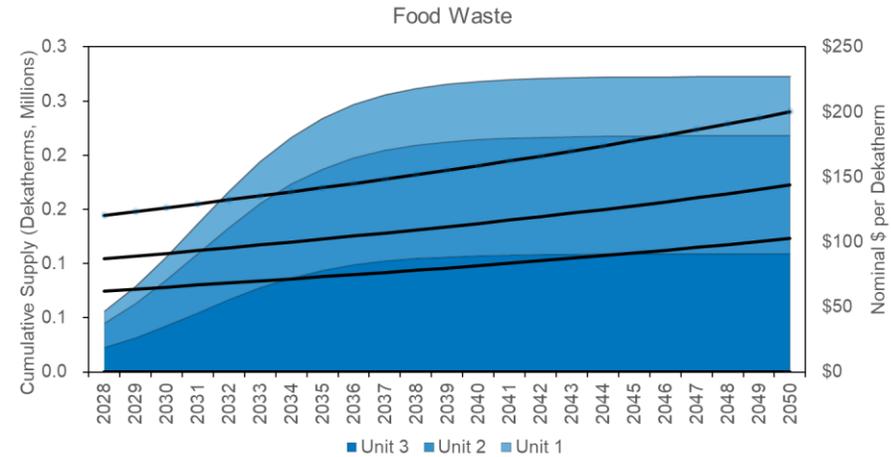
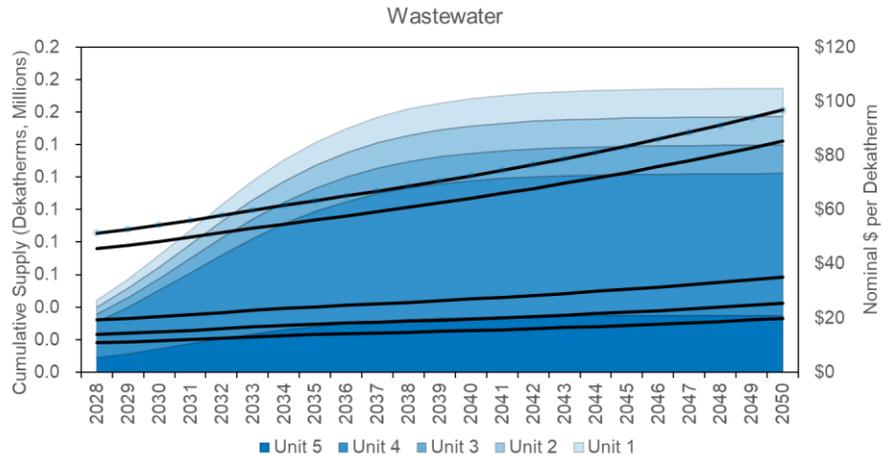
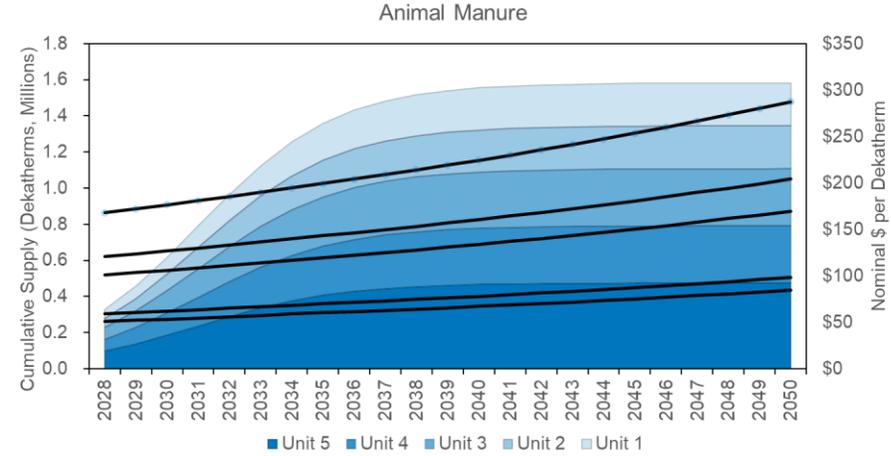
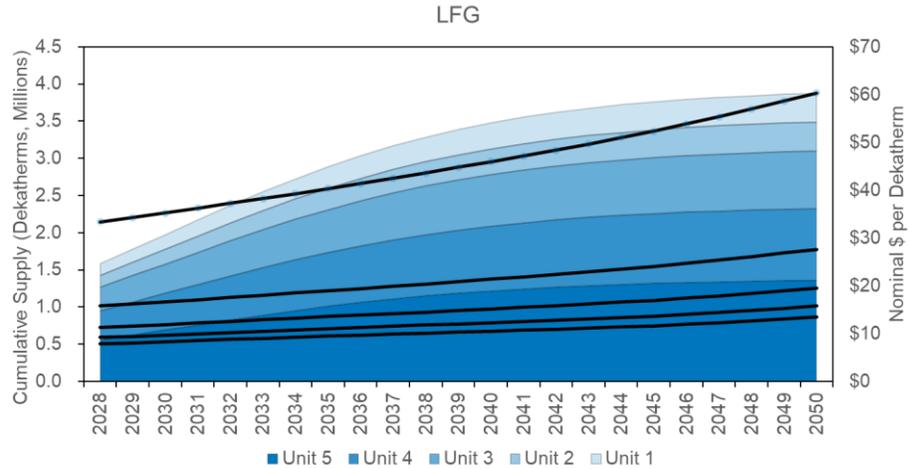
Natural Gas Demand and Resource Options



DRAFT: RNG Volumes

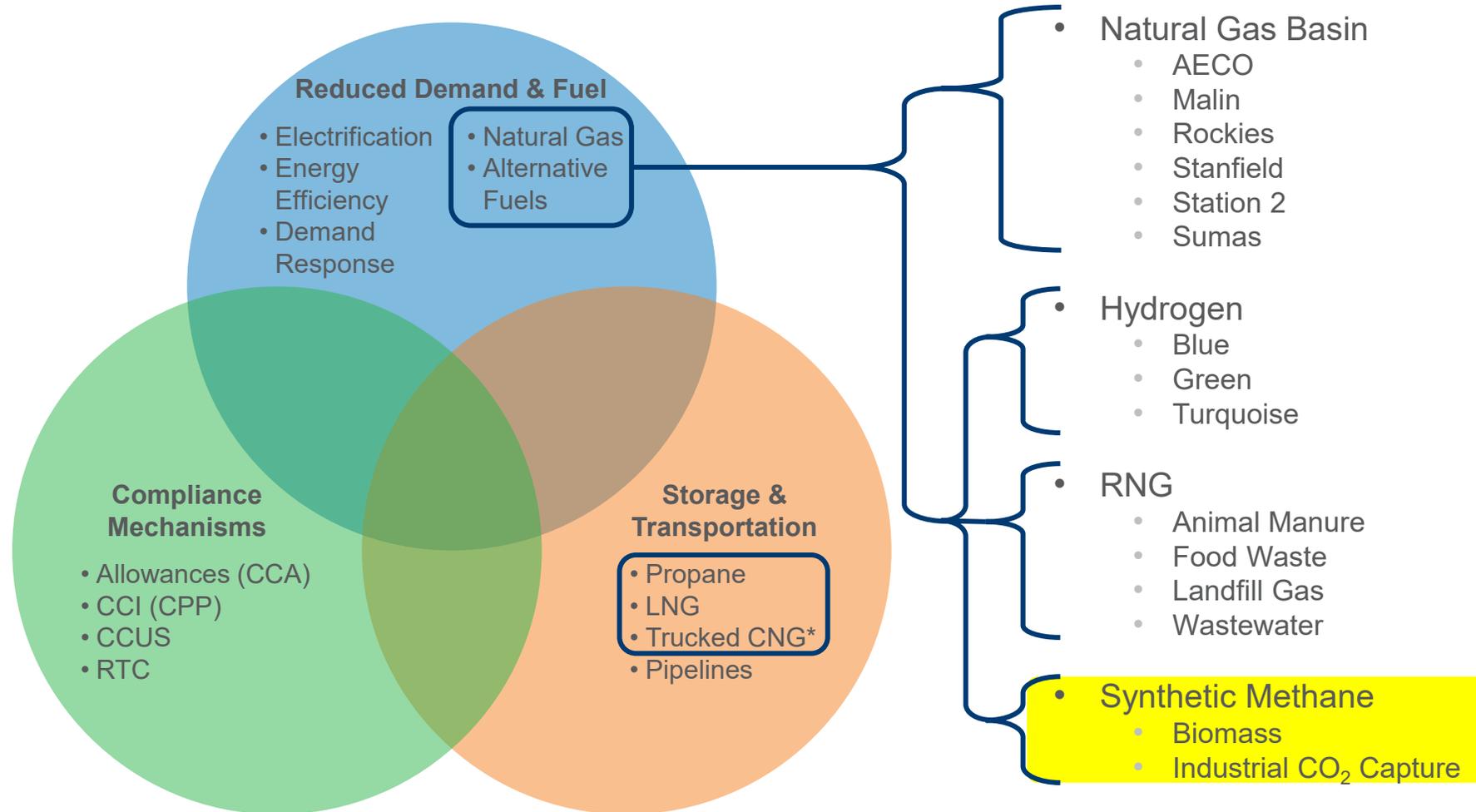


DRAFT: RNG Volumes and Levelized Prices

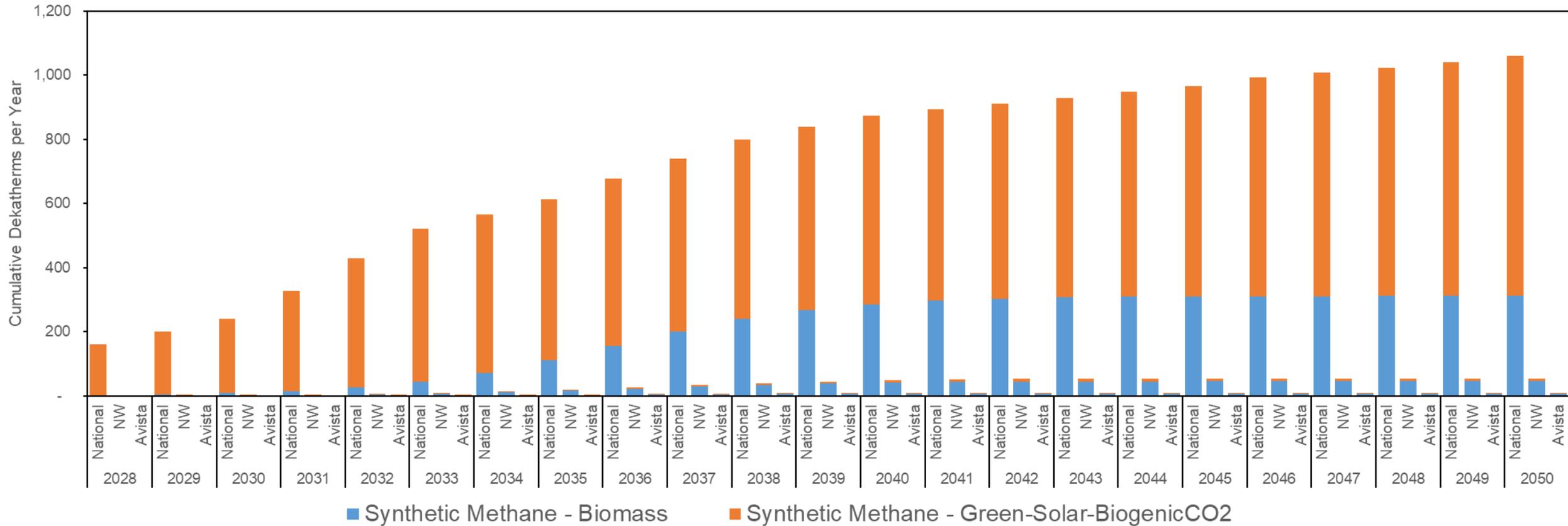


■ Unit 5 ■ Unit 4 ■ Unit 3 ■ Unit 2 ■ Unit 1

Natural Gas Demand and Resource Options

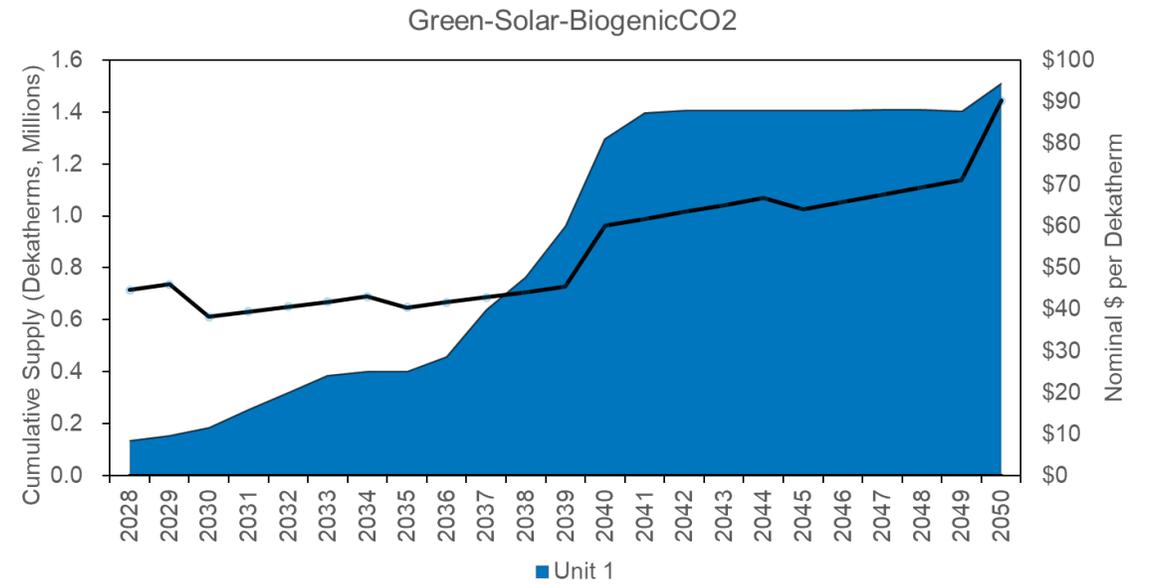
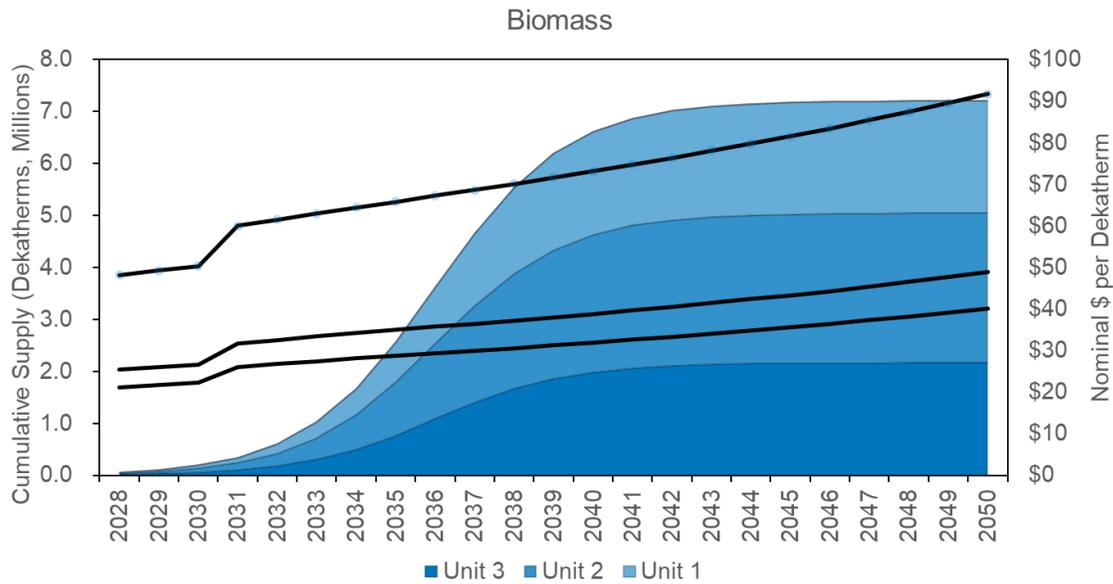


DRAFT: Synthetic Methane Volumes



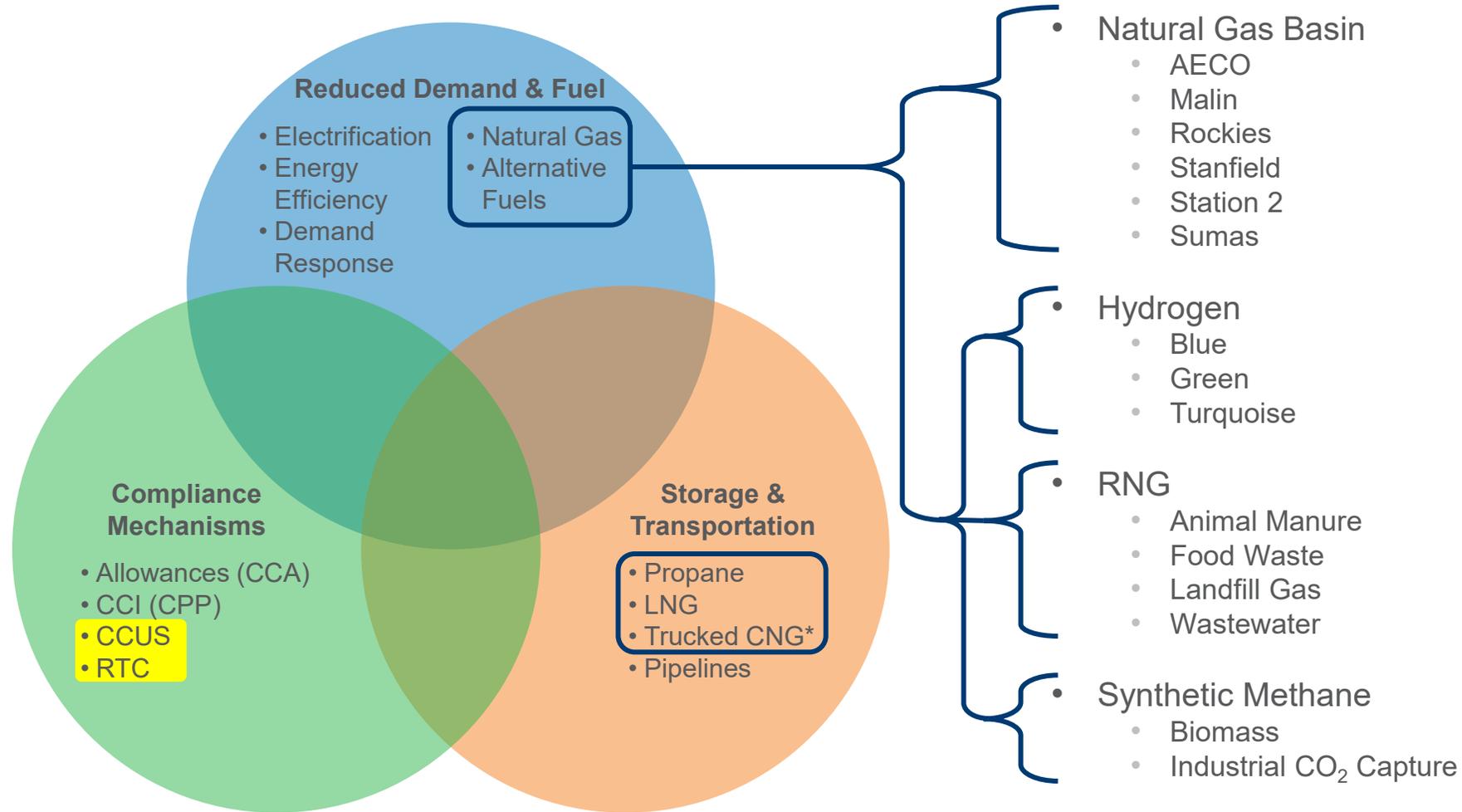
DRAFT: Synthetic Methane Volumes and Levelized Prices

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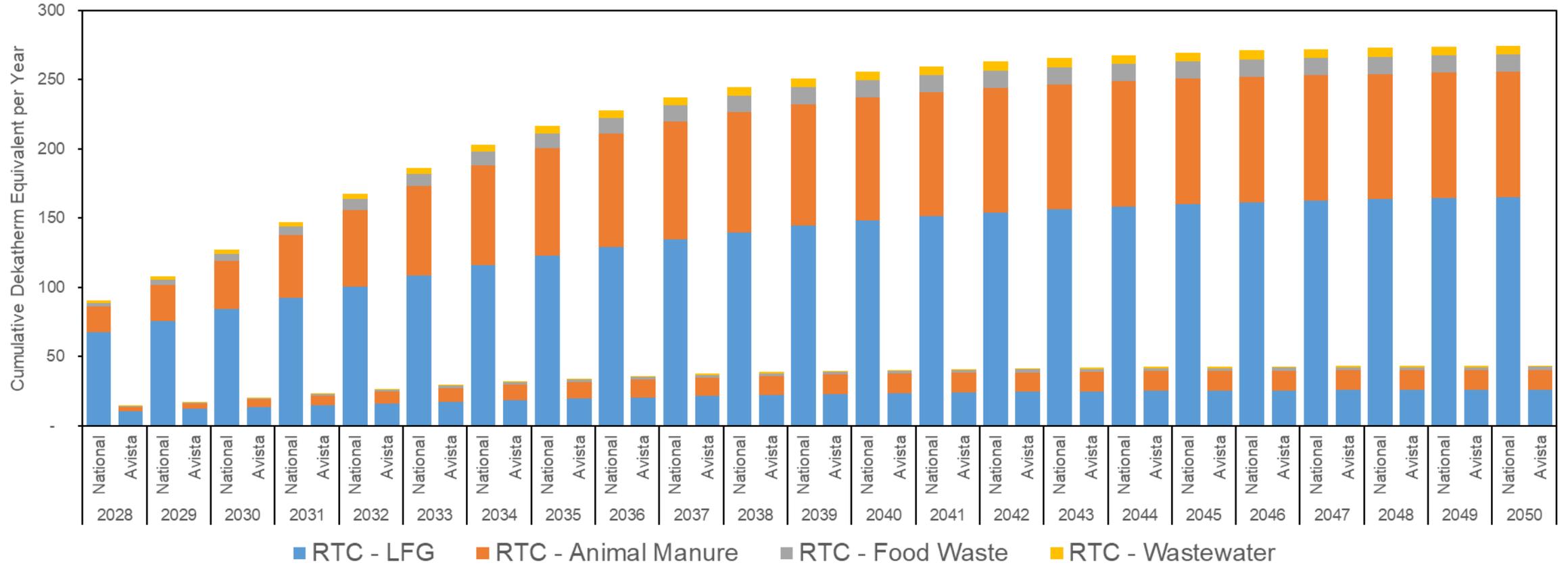


■ Unit 3 ■ Unit 2 ■ Unit 1

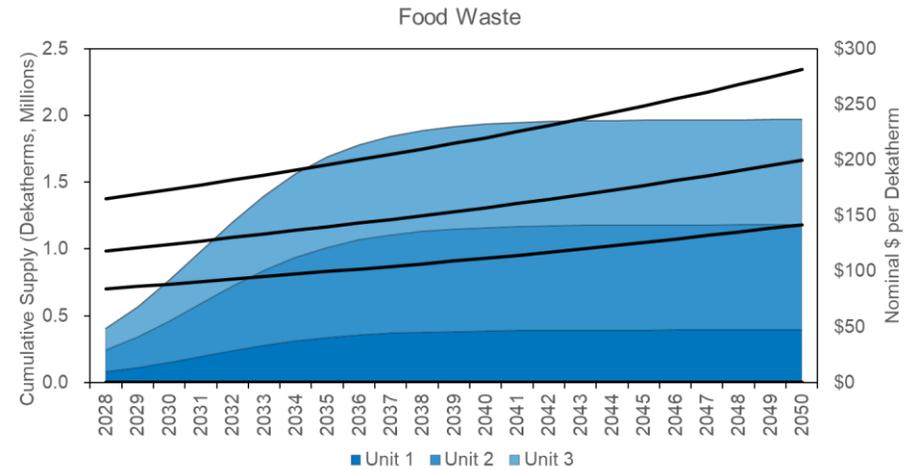
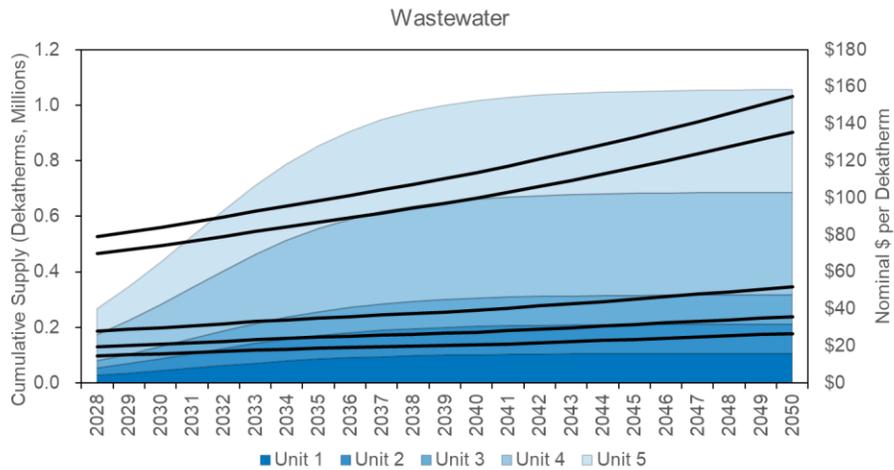
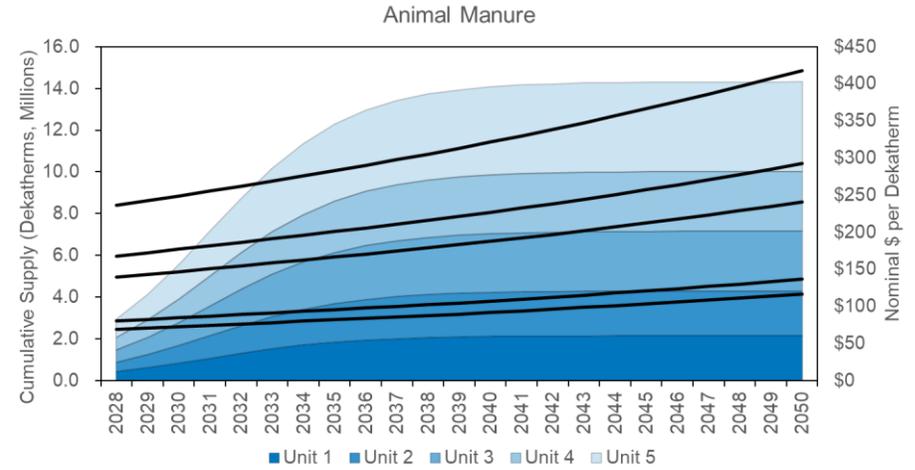
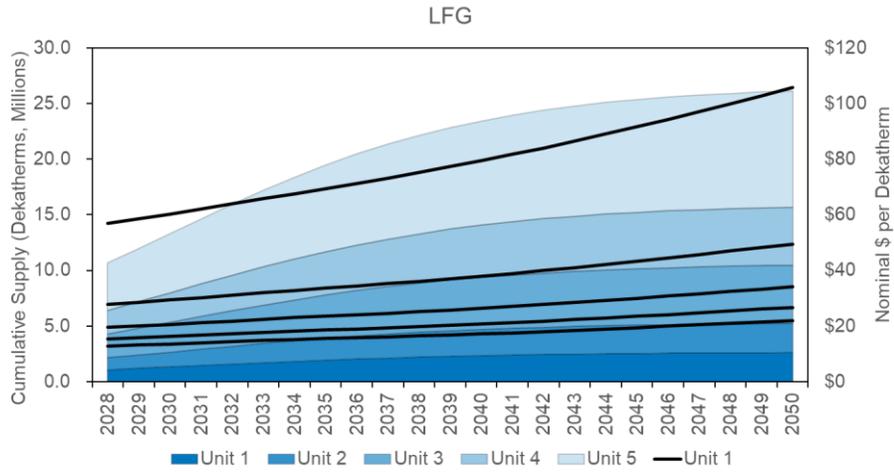
Natural Gas Demand and Resource Options



DRAFT: RTC Volumes



DRAFT: RTC Volumes and Levelized Prices



CCUS Volumes and Levelized Prices

- Graphic depicting volumes and prices

Summary

- Comparison across all resource options (prices)
- Determine which resources to offer to the model as well as timing resources become available, especially for any novel or unproven technologies

DRAFT



Gas Storage Cost Forecast

TAC 6 – March 16, 2026

Michael Brutocao, Natural Gas Planning Manager

Storage: Liquified Natural Gas (LNG)

- Inputs, assumptions, qualitative and quantitative details leading to proposed cost and size inputs for LNG storage to be modeled
- Details on cost and size of proposed LNG to be modeled

Storage: Propane

- Inputs, assumptions, qualitative and quantitative details leading to proposed cost and size inputs for propane storage to be modeled
- Details on cost and size of proposed propane storage to be modeled