2026 Integrated Resource Plan (IRP): External Advisory Panel Meeting #5

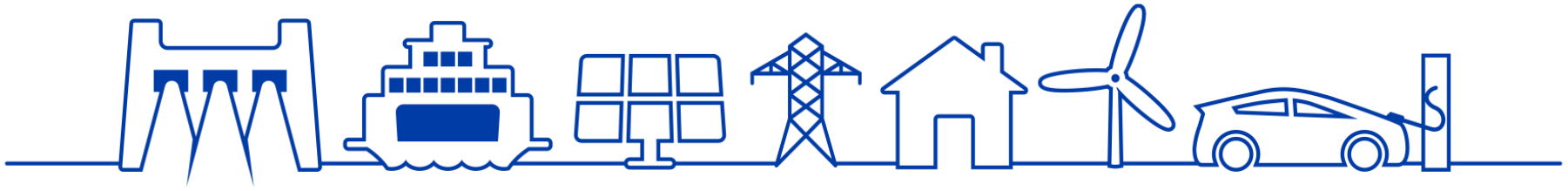
September 24, 2025

Seattle City Light

WE POWER SEATTLE

Today's Agenda

- Purpose of an IRP
- 2026 IRP Results
- Emerging Technology Resources
- Conclusion & Next Steps



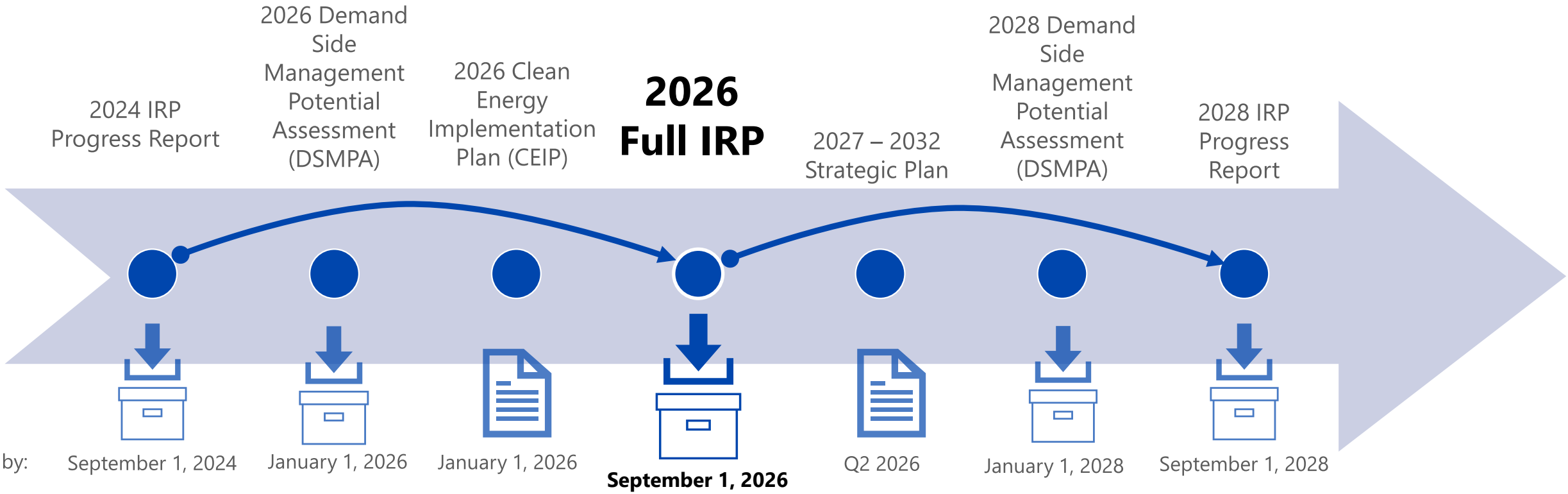
SCL Sponsors and Contributors – IRP

Name	Title, Group	Role
Siobhan Doherty	Power Supply Officer	IRP Sponsor
Katie Ewing	Manager, Resource Planning & Analysis	IRP Contributor
Mike Hamilton	Strategic Advisor/Data Scientist, Finance	IRP/DSMPA Contributor
Ruizhe Wang	Sr. Economist/Data Scientist, Finance	IRP/DSMPA Contributor
Verene Martin	Data Scientist, Resource Planning & Analysis	IRP/DSMPA Contributor
Rebecca Klein	Data Scientist, Resource Planning & Analysis	IRP Contributor
Alan Bach	Sr. Power Analyst, Resource Planning & Analysis	IRP Contributor
Natalie Randall	Applied Scientist, Resource Planning & Analysis	IRP Contributor
Ana Mileva	Principal, Sylvan Energy Analytics	IRP Contributor
Elaine Hart	Principal, Sylvan Energy Analytics	IRP Contributor

SCL Sponsors and Contributors – DSMPA

DSMPA Team		
Name	**Title, Group**	**Role**
Margaret Frey	Strategic Advisor, Power Contracts and Regional Affairs	DSMPA Contributor
Aquila Velonis	Principal, Cadmus	DSMPA/IRP Contributor
Jesse Emge	Sr. Associate, Cadmus	DSMPA/IRP Contributor
Sophia Spencer	Principal, Nauvoo Solutions	DSMPA Contributor
Jennifer Finnigan	Manager, CES Strategy, Planning and Evaluation	DSMPA Contributor
Joseph Fernandi	Director, Customer Energy Solutions (CES)	DSMPA Sponsor
Craig Smith	Chief Customer Officer	DSMPA Sponsor

2026 Integrated Resource Plan (IRP) Timeline Context



Targeted City Council Consideration:	**Aug 2025**	**Sep 2025**	**Feb 2026**		**July 2027**	**July 2027**

Purpose of an IRP

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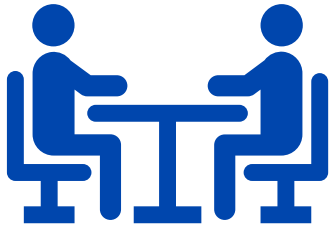
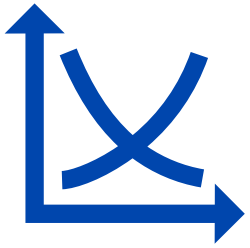
What is an Integrated Resource Plan?



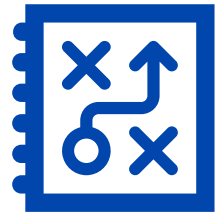
Customer & Stakeholder Engagement



Evaluation of Load & Resources

Not a Perfect Forecast

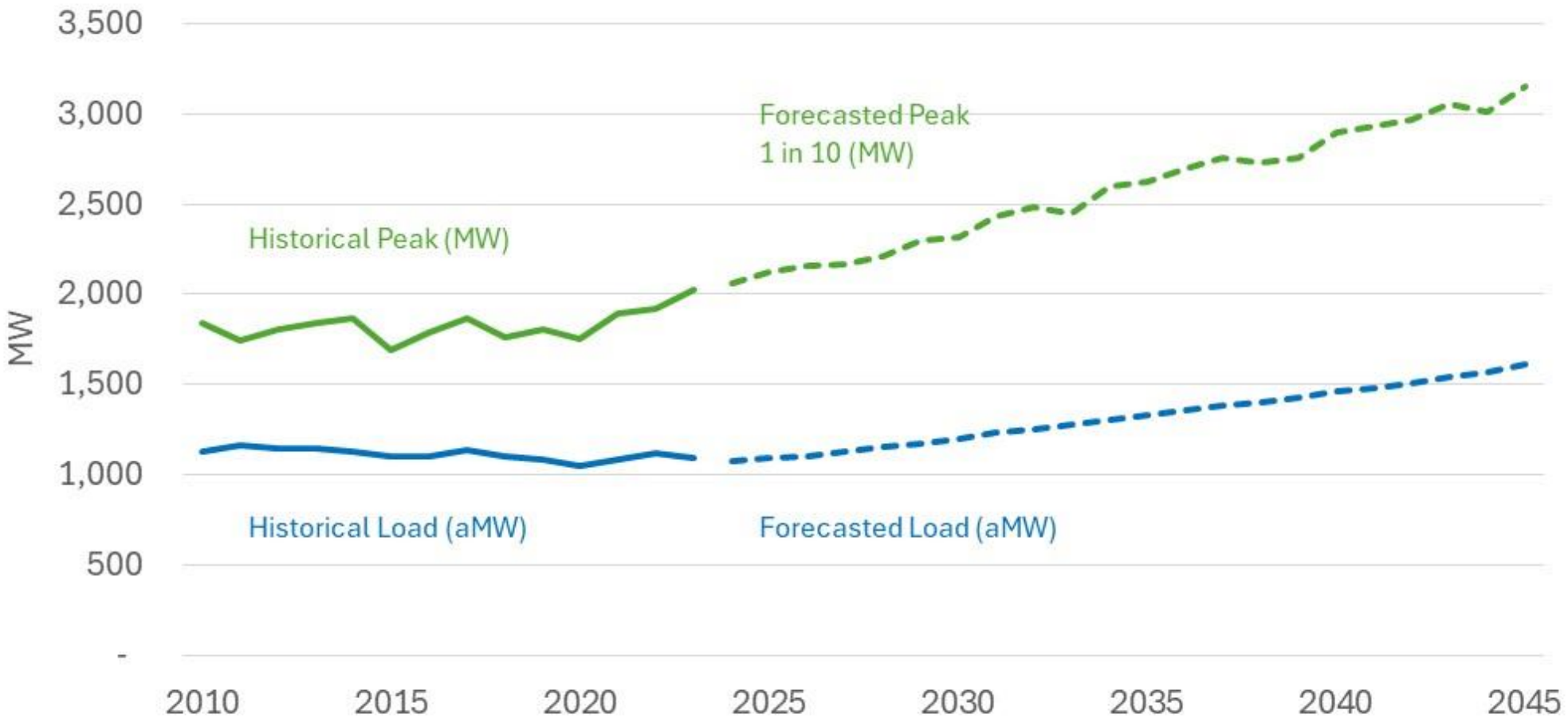
Not an Acquisition Plan



Resource Planning Playbook

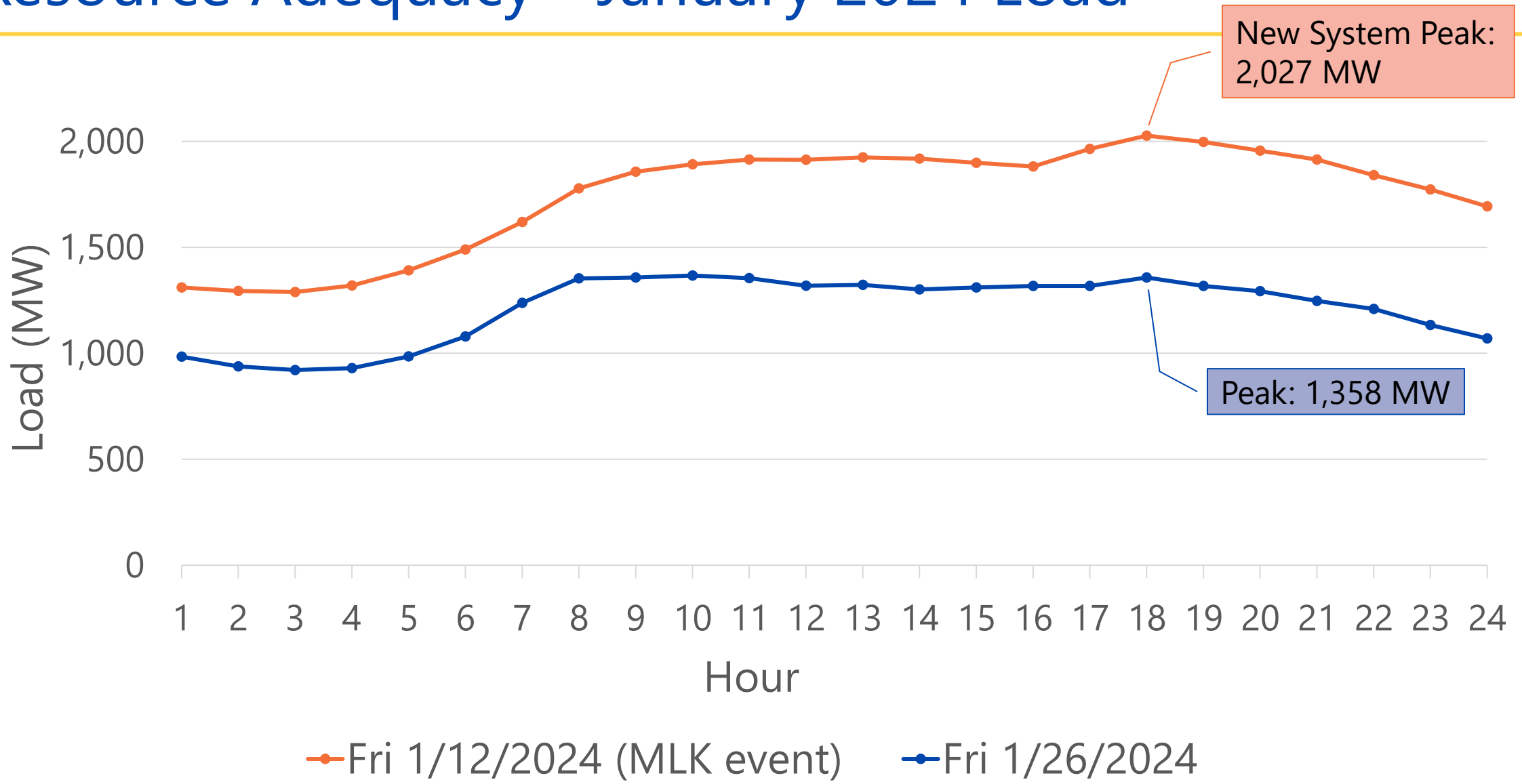
Modeling the Region

2026 IRP Load Forecast*



*Load forecast prior to demand side results from the 2026 Demand Side Management Potential Assessment (DSMPA).

Resource Adequacy - January 2024 Load



2026 IRP Results

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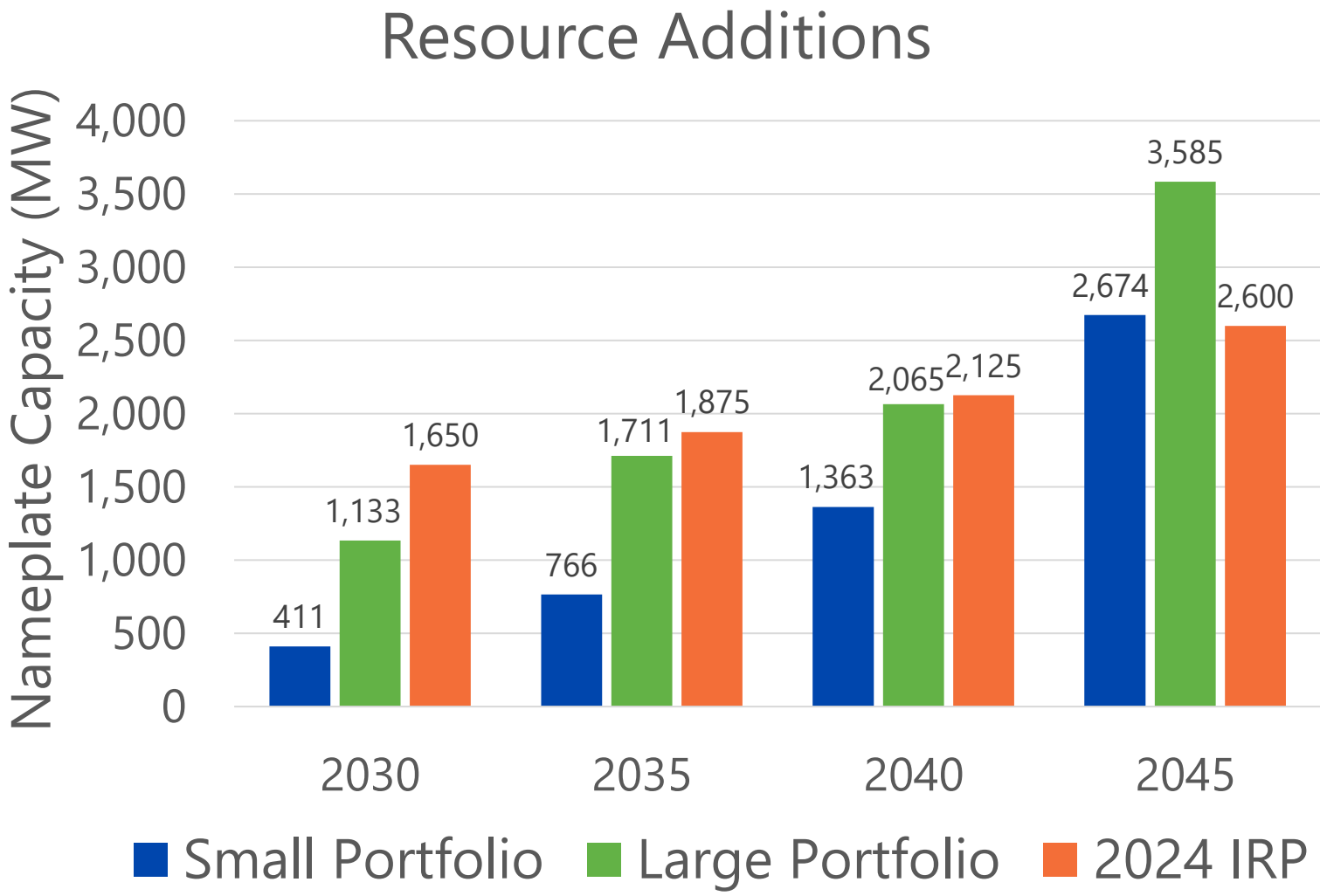
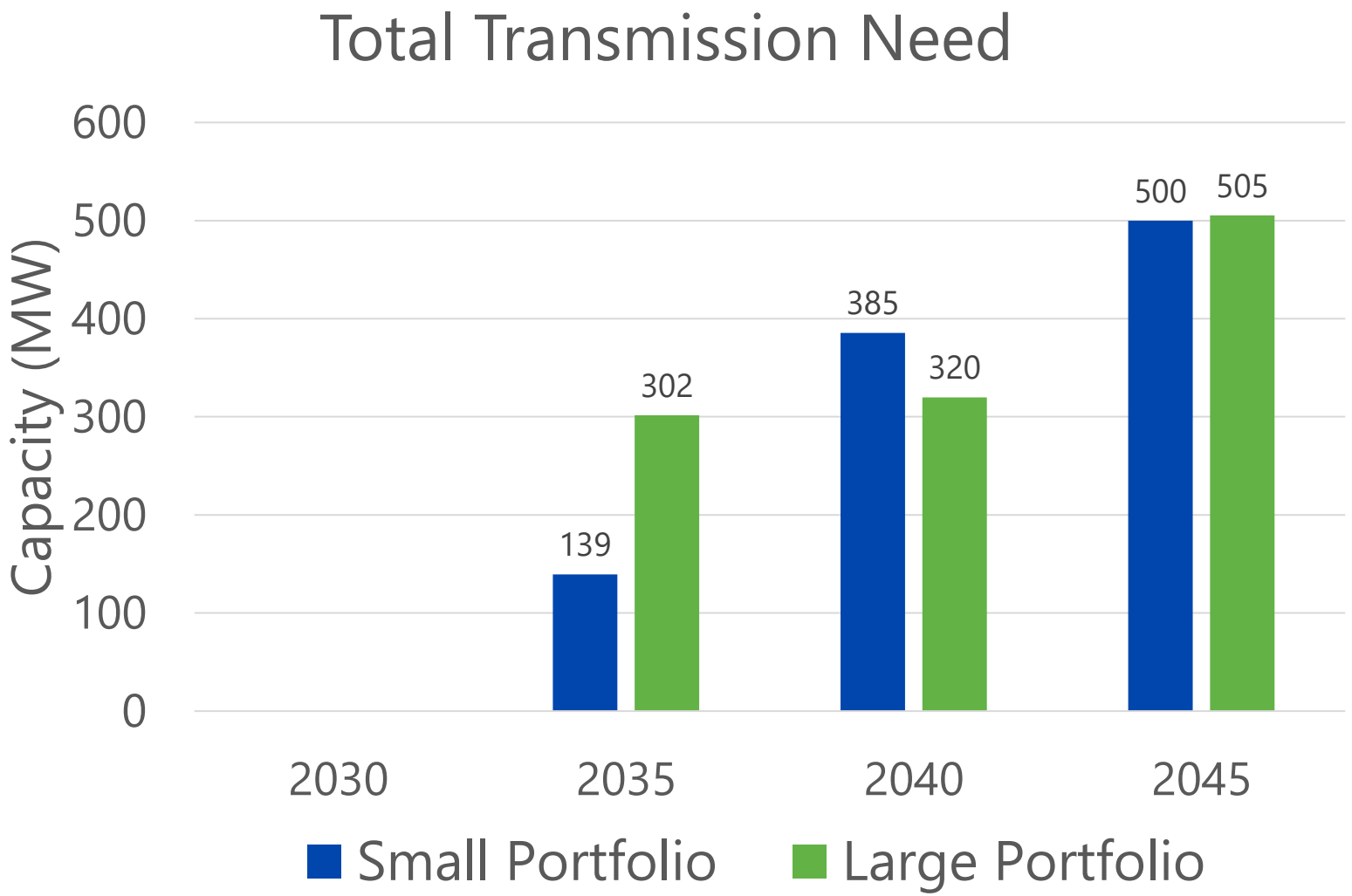
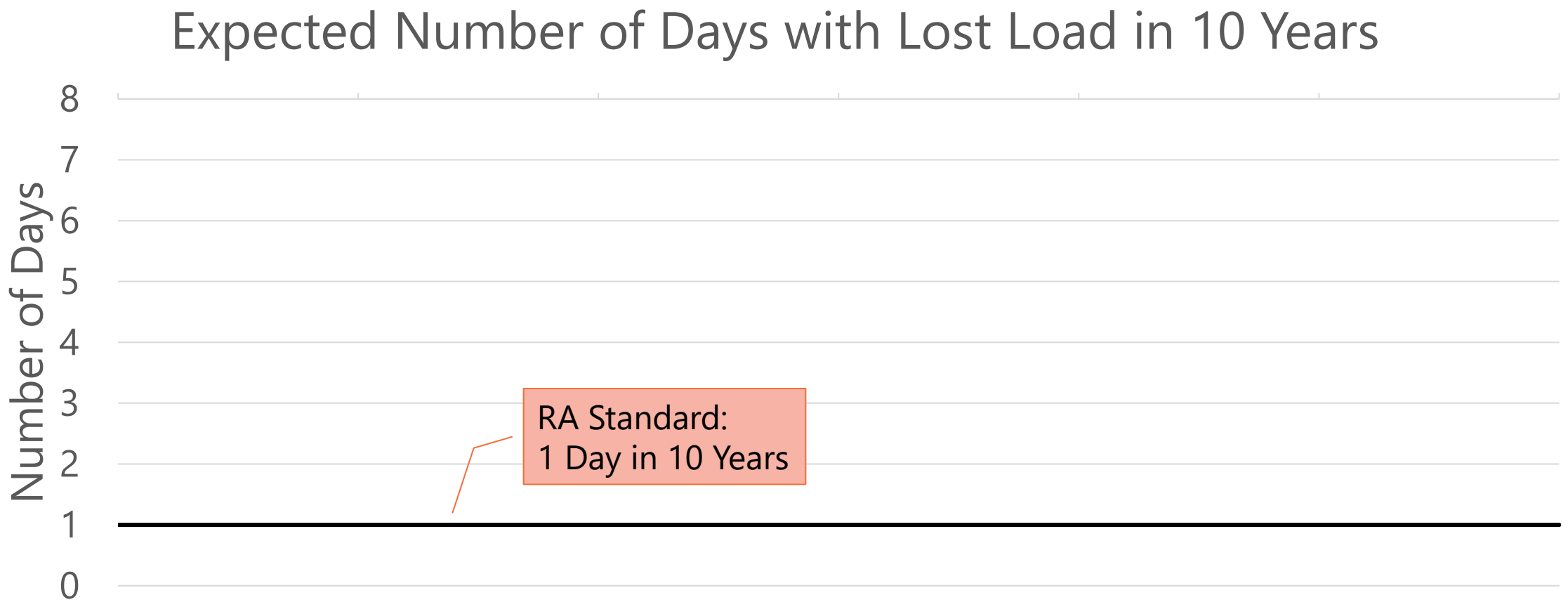
Top Portfolios vs 2024 IRP



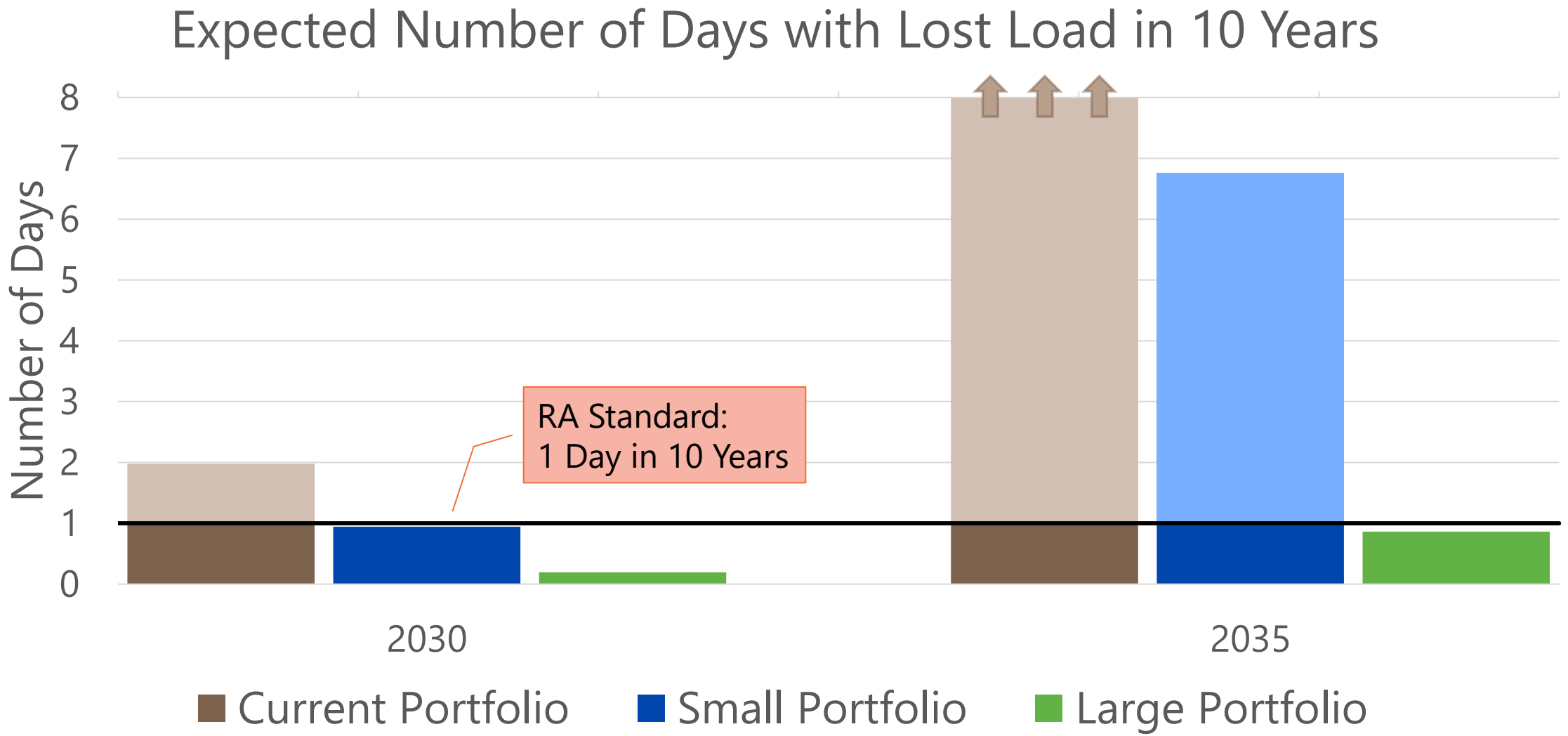
Transmission Needs



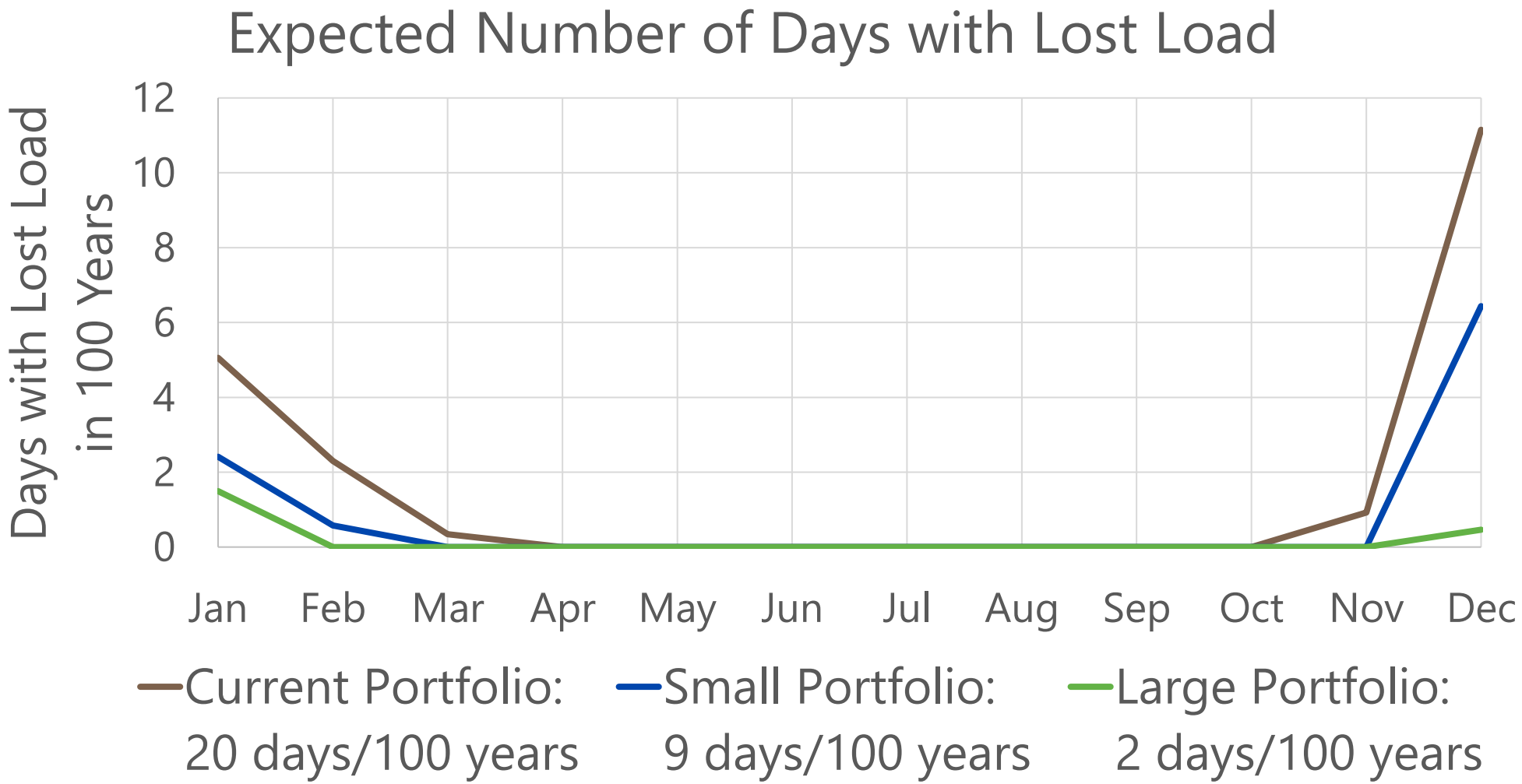
Resource Adequacy Performance



Resource Adequacy Performance



Monthly Resource Need (2030)

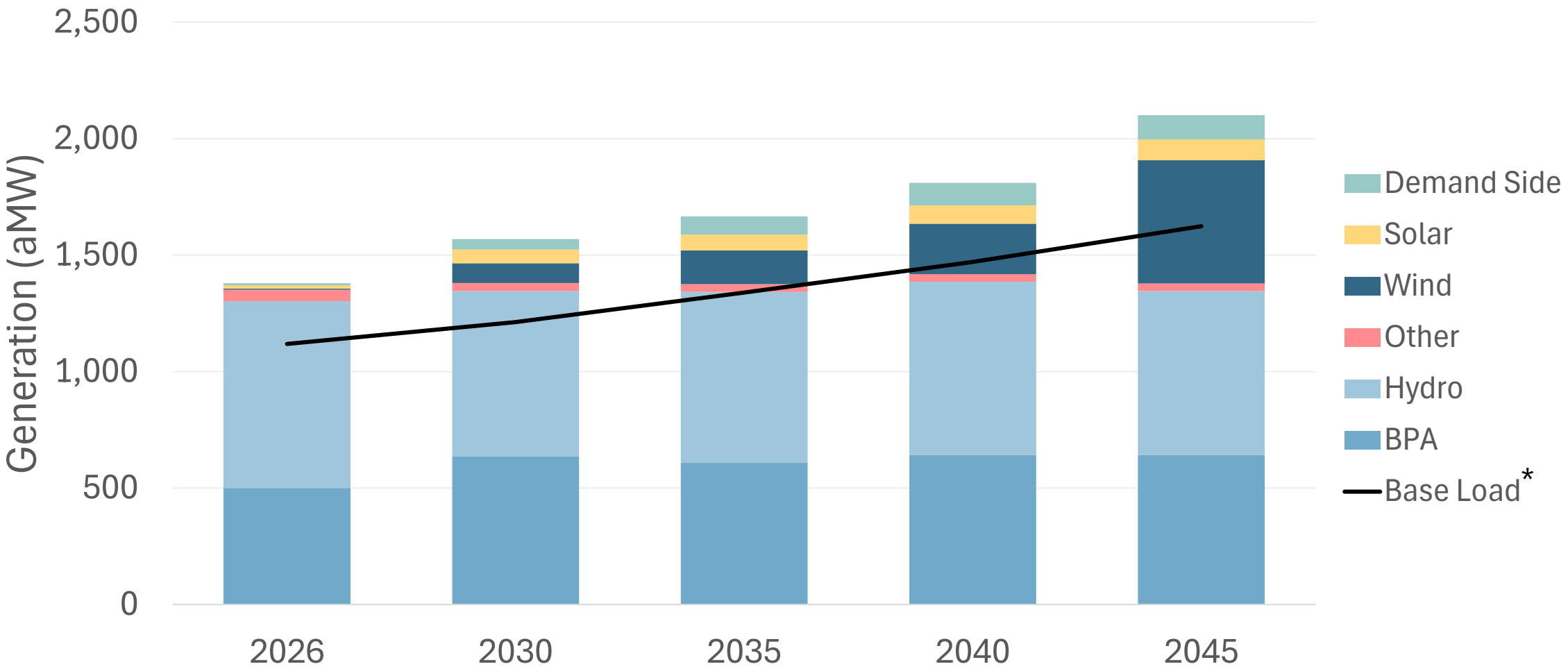


Firm Energy Additions (MW)

Portfolio	2030	2035	2040	2045
Current Portfolio	78	315	567	828
Small Portfolio	0	180	387	466
Large Portfolio	0	0	275	314

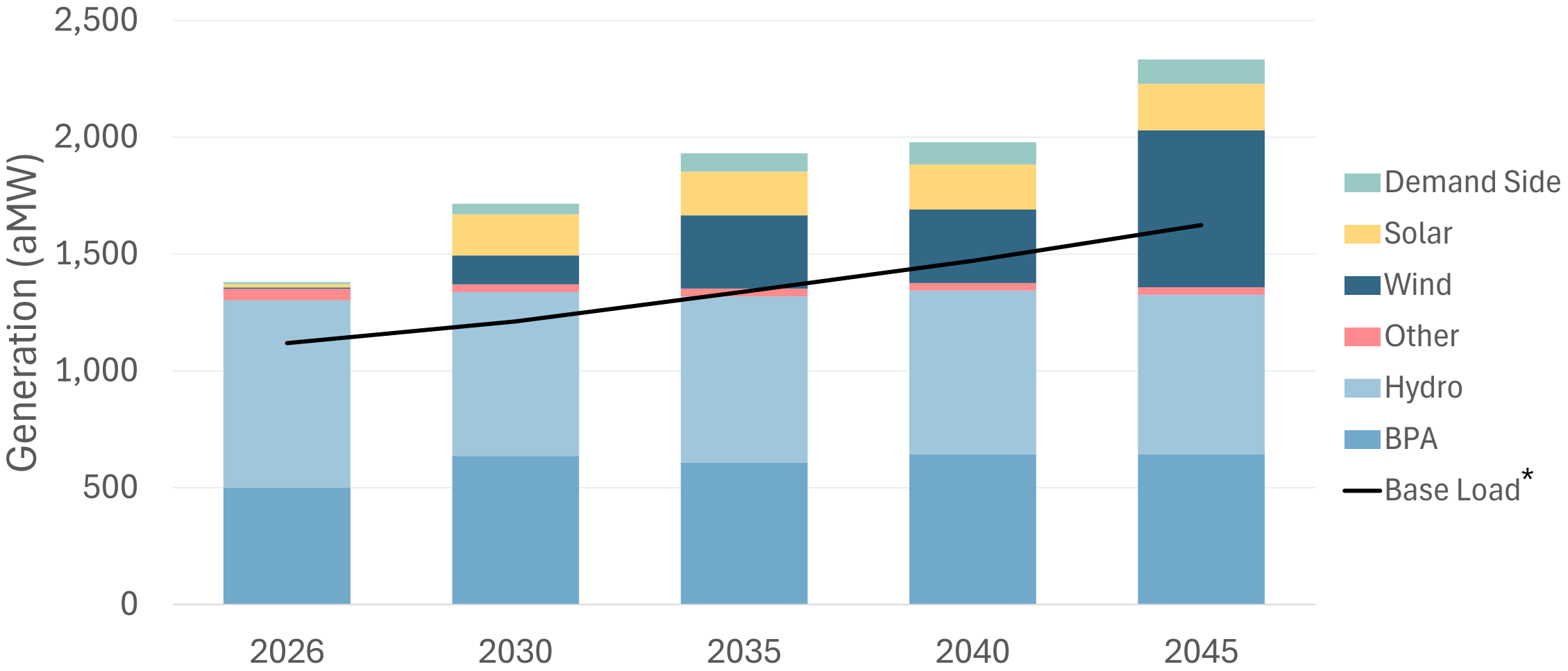
- Possible Firm Energy Resources:
  - Baseload (Small Modular Reactors, Enhanced Geothermal)
  - Forward Purchases
  - Contracts with firm energy provisions

Small Portfolio vs Load



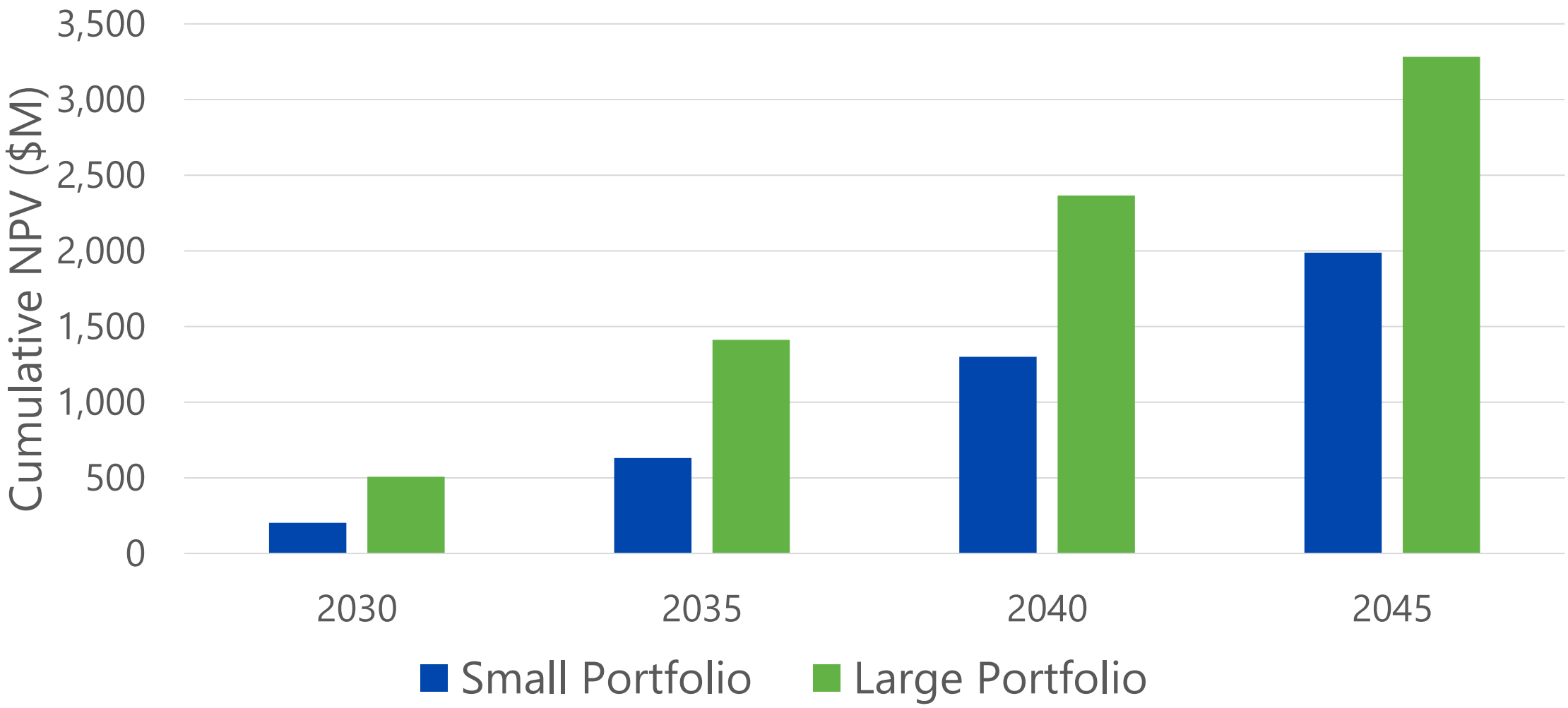
*Load forecast prior to demand side results from the 2026 Demand Side Management Potential Assessment (DSMPA).

Large Portfolio vs Load



*Load forecast prior to demand side results from the 2026 Demand Side Management Potential Assessment (DSMPA).

Cost Comparisons for New Builds



Emerging Technology Resources

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Emerging Technologies Breakeven Analysis

- Emerging Resource Technologies:
  - Multiday Battery Energy Storage Systems
  - Enhanced Geothermal
  - Small Modular Reactors (SMRs)
  - Green Hydrogen Peaker Plants
- Breakeven analysis: finds price at which the resource adds value

Conclusion & Next Steps

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Final Cumulative Results Comparison

Portfolio (Total MW)	2030	2035	2040	2045
Small Portfolio	411	766	1,363	2,674
Large Portfolio	1,133	1,711	2,065	3,585
2024 IRP Results	*1,650*	*1,875*	*2,125*	*2,600*

Next Steps

Presentations for feedback:

- ROC Presentation — August 19
- E Team Presentation — September 9
- External Advisory Panel — September 24

Separate high-level Council presentation:

- GM Briefing — December 12
- Review Panel — January 2026
- Council Committee — February 2026

THANK YOU

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Mission, Vision, and Values

Mission

Seattle City Light safely provides our customers with affordable, reliable, and environmentally responsible energy services.

Vision

Create a shared energy future by partnering with our customers to meet their energy needs in whatever way they choose.

Values

- **Customers First**
- **Environmental Stewardship**
- **Equitable Community Connections**
- **Operational and Financial Excellence**
- **Safe and Engaged Employees**

Appendix

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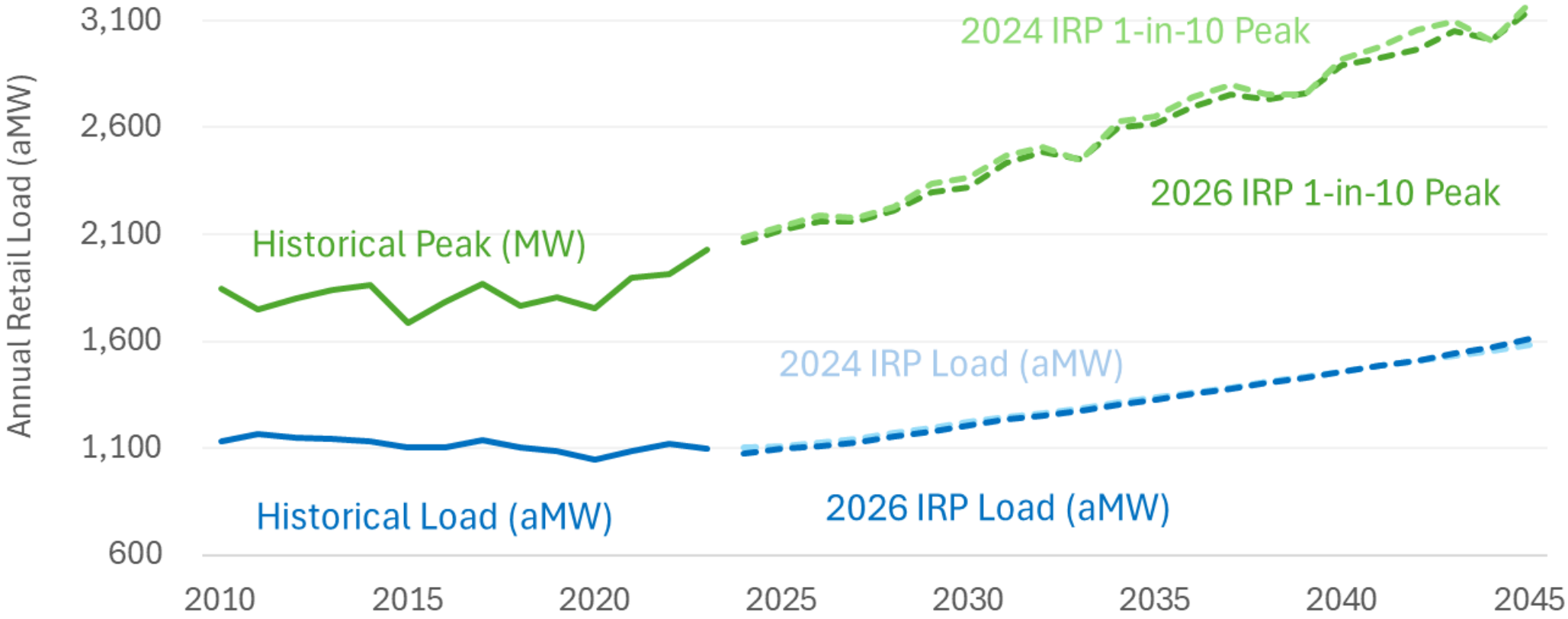
Internal & External Advisory Panel Discussions

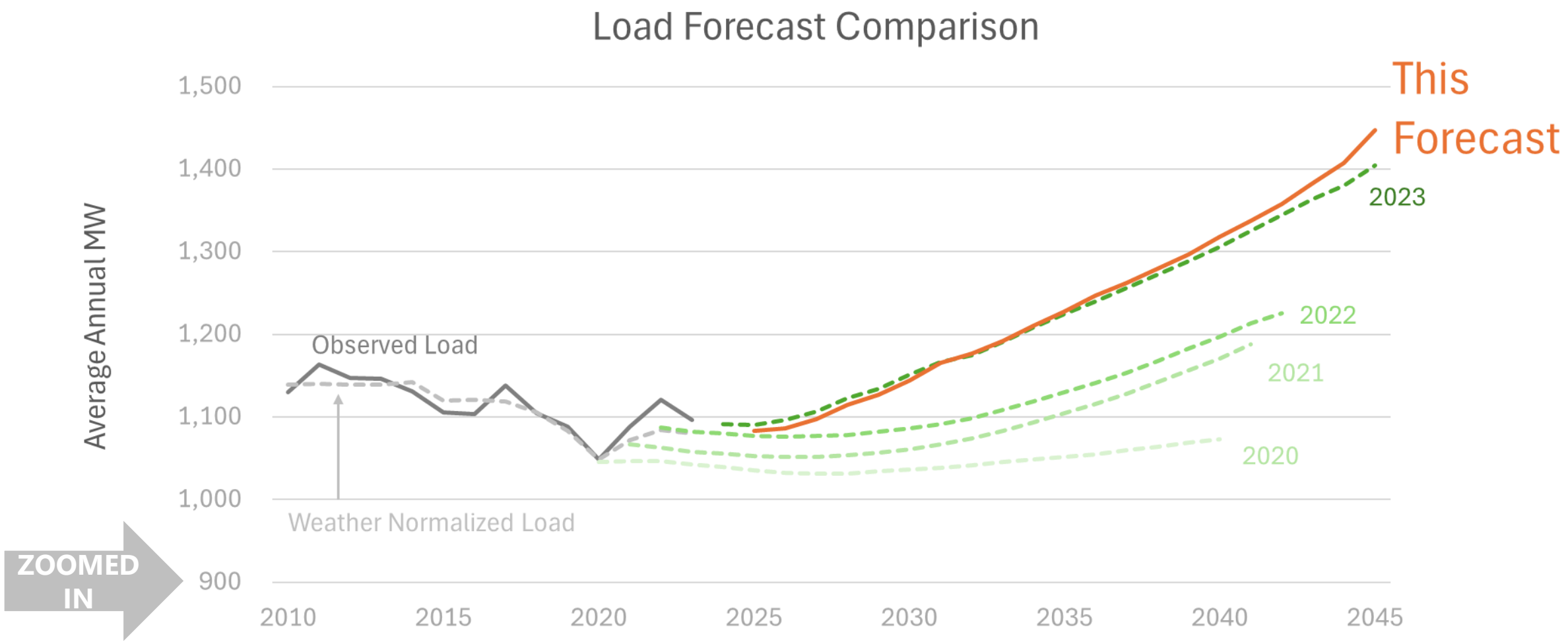
Internal Date	External Date	Agenda
NA	November 6, 2024	• Context for IRP & DSMPA • Timeline for milestones
January 7, 2025	January 15, 2025	• Load forecast • IRP Inputs: Transmission, BPA Product Choice, Resource Options, Wholesale Prices
March 25, 2025	April 2, 2025	• DSMPA Preliminary Results • IRP Inputs: Existing Resources
July 10, 2025	July 17, 2025	• DSMPA Results
September 18, 2025	September 24, 2025	• IRP Results

Load Growth: 2024 IRP Progress Report v 2026 IRP

Load Forecast Comparison



Comparison to Previous Forecasts



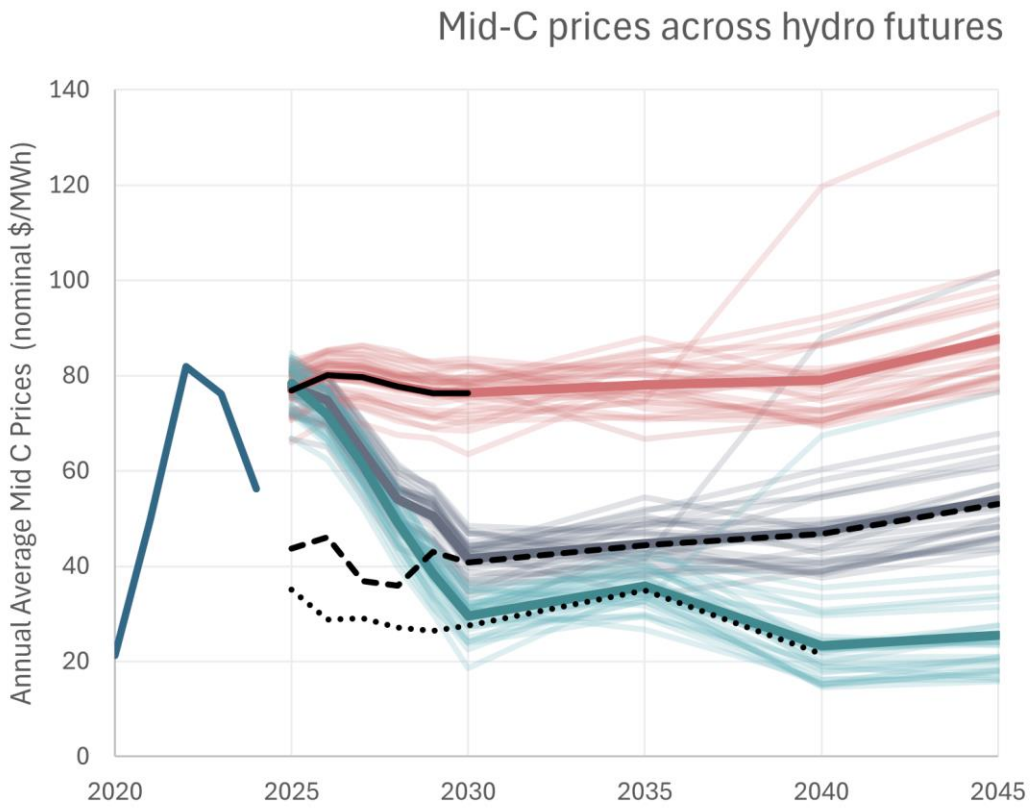
Model Improvements

Model Attribute	Old Model	New Model
Market Access	• 200 MW at all times	• 200 MW limit in constrained times • Modeled market prices are dependent on modeled hydro conditions
Transmission	• Sensitivity tests for pricing additional transmission	• Physics-based constraints • Transmission procurement pricing at BPA rate

Model Improvements - continued

Model Attribute	Old Model	New Model
Hydro Generation	• Flex water in 5-day periods to meet load	• Flex water in 1- or 2-week periods • Explicitly modeled license limits
Emerging Resource Technologies	• Compete alongside existing resource technologies	• Treated separately via breakeven analysis

Wholesale Prices



- 3 cases with 30 water years each
- Data Sources:
  - ICE MID-C Forward prices
  - S&P price forecasts
  - NWPCC's modeled regional market price scenarios
- Base Price: ICE blend
- Adder: water-year deviations in NWPCC regional price models

Top Portfolios

Small Portfolio*

Nameplate (MW)	2030	2035	2040	2045
Wind	282	457	668	1,743
Solar	119	119	119	119
Battery	10	10	189	345
Firm Energy	0	180	387	466
TOTAL	**411**	**766**	**1,363**	**2,673**

*300MW market availability

Large Portfolio

Nameplate (MW)	2030	2035	2040	2045
Wind	424	1,002	1,002	2,310
Solar	600	600	600	600
Battery	109	109	189	360
Firm Energy	0	0	275	314
TOTAL	**1,133**	**1,711**	**2,066**	**3,584**

Candidate Resources – Emerging Technologies

Emerging Technology Available 2035	**Data Sources & Modeling Notes**
Multiday Storage	100-hr iron air batteries from Form Energy
Enhanced Geothermal	Baseload resource with 80% capacity factor (per NREL ATB)
Small Modular Nuclear	1) baseload resource with 93% capacity factor (per NREL ATB) 2) flexible resource with 5.5 hours of storage (per TerraPower)
Hydrogen Peakers	Modeled as new frame combustible turbines (CTs) located on-system.