Load Forecast and DSMPA Key Assumptions

IRP External Advisory Panel #3

July 2, 2026

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Mike Hamilton – Financial Planning Unit

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WE POWER SEATTLE

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Agenda

- Load Forecast overview
- 2028 DSMPA key assumptions
- Next steps

2028 DSMPA/IRP Load Forecast

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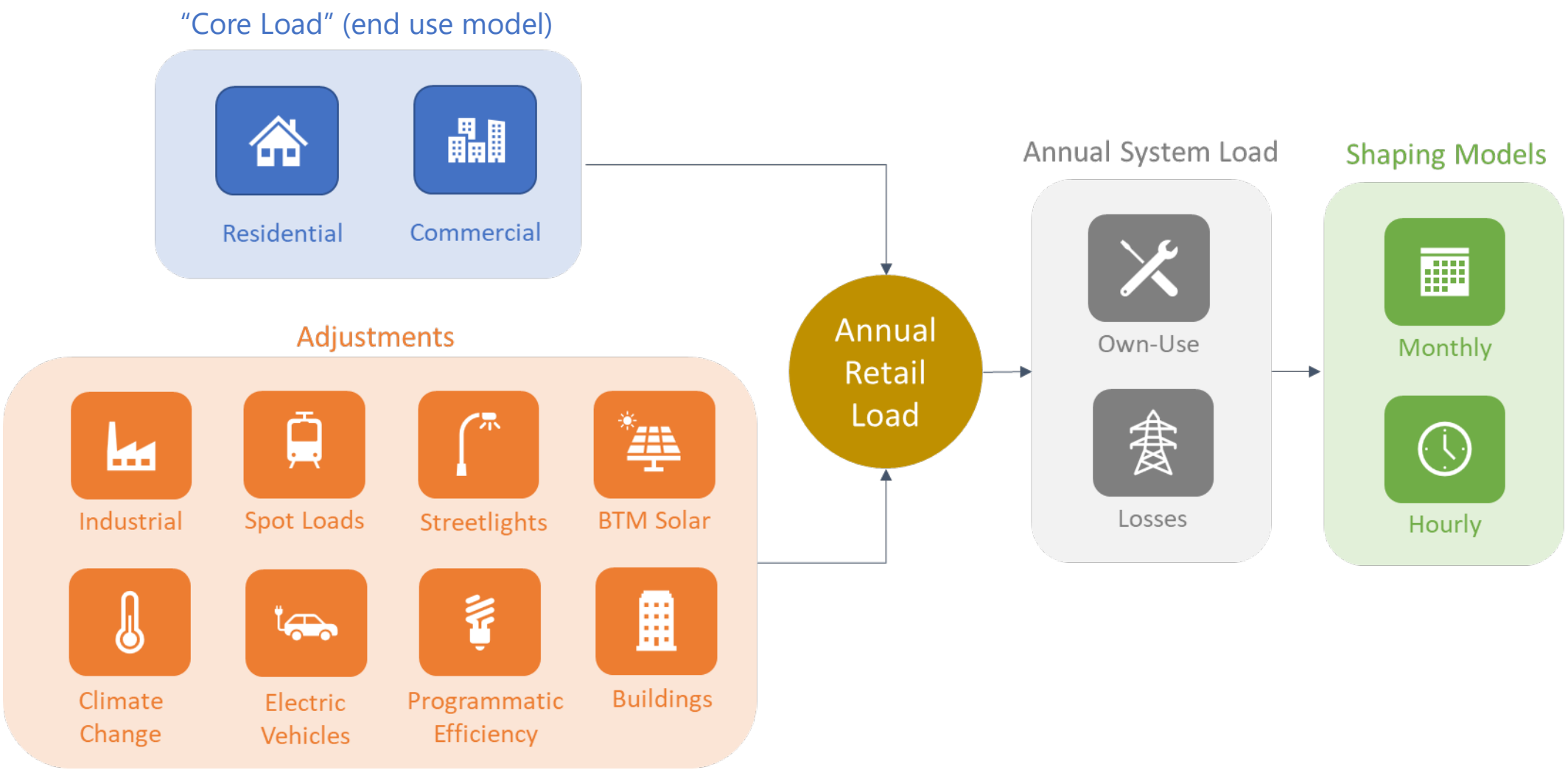
Background

- City Light's corporate load forecast is a **20-year lookahead**.
  - System-level view
  - Incorporates economic conditions, electrification, energy efficiency, climate change
  - Usually updated once per year – most recent update December 2025
- Hourly resolution allows us to generate a **peak forecast**
- Input into other planning functions

Load Forecast Process Overview



Background

- **Cross-functional team** evaluates and refines load forecast assumptions.
- **Core load models** use regional data/inputs
  - e.g., building stock assessments
- EPRI provides critical inputs on **electrification**:
  - Transportation Electrification
  - Building Electrification
  - City Light staff vet this data and adjust where needed based on additional sources.

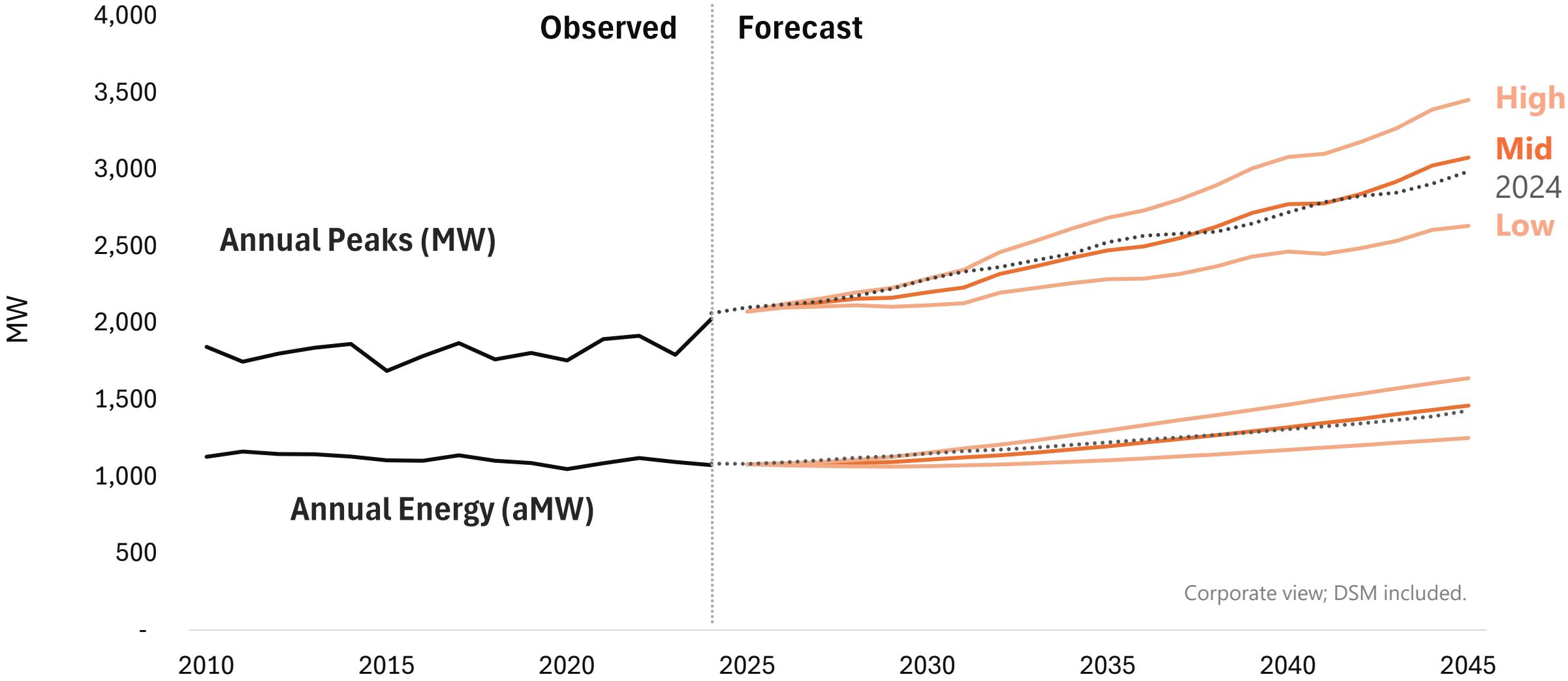
Load Forecast Used in the 2028 DSMPA/IRP

- Based on the 2025 City Light forecast (finalized Q4 2025).

- Accounts for **recent changes** within last ~2 years including:
  - Federal policy changes (fewer incentives for solar, EVs)
  - Economic uncertainty (tariffs, interest rates, etc.)
  - New data center loads

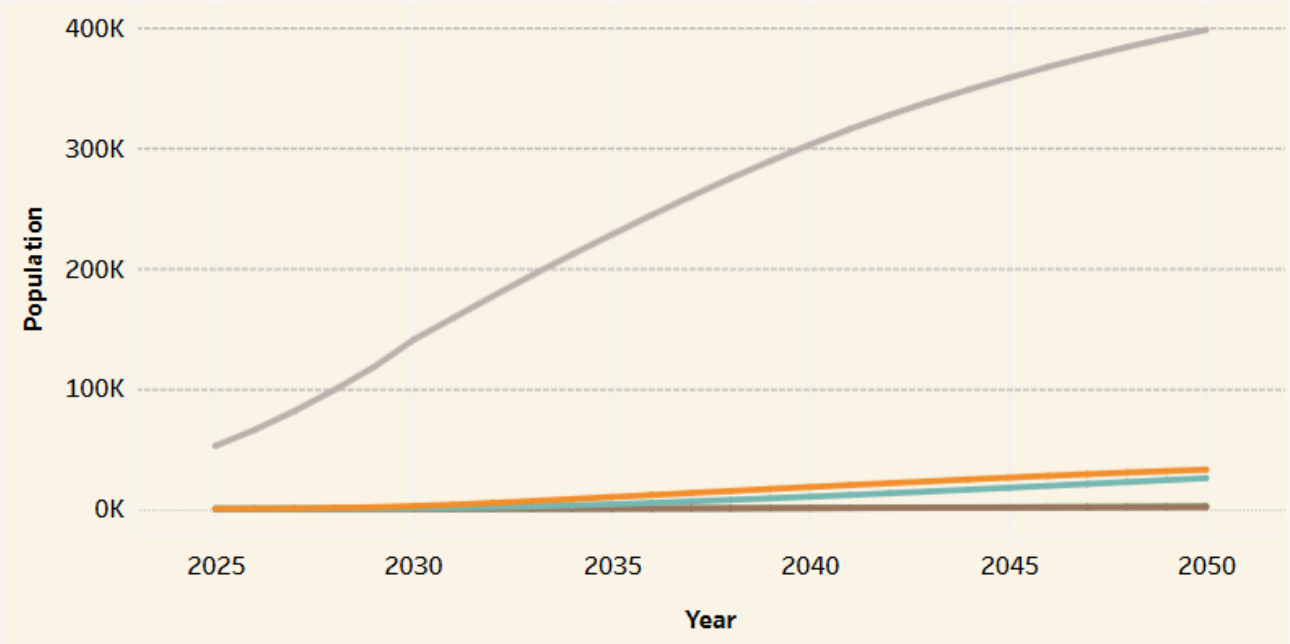
- **The bottom line**: load is projected to grow (more slowly in the near term); data centers pick up some of the slack from EVs.

Energy and Peak Forecast

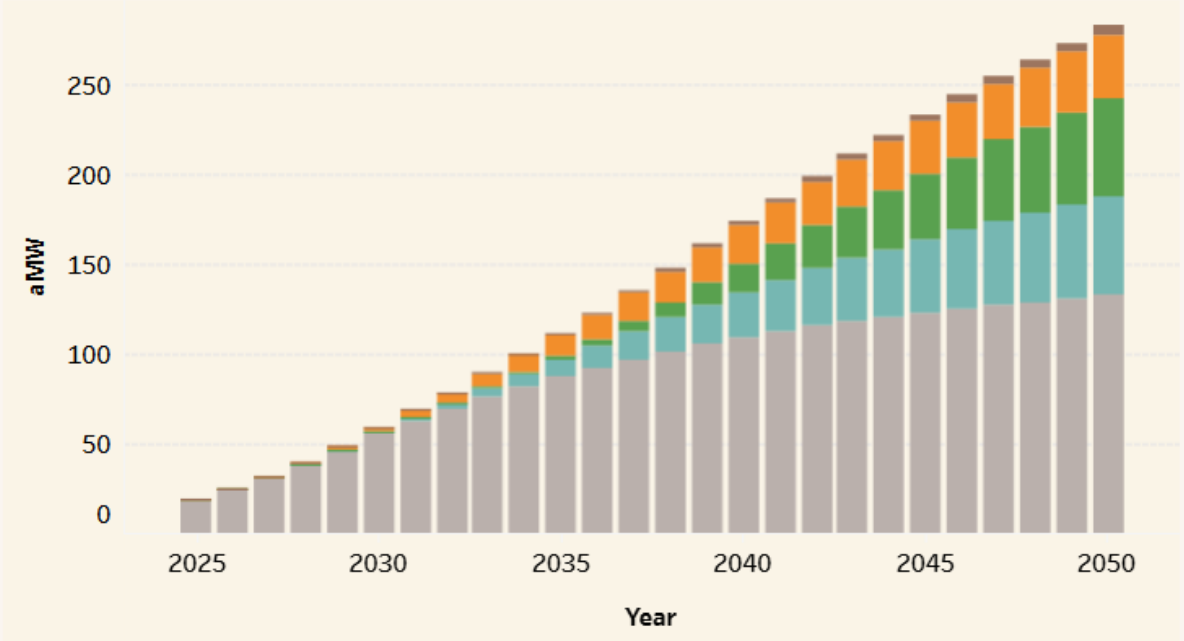


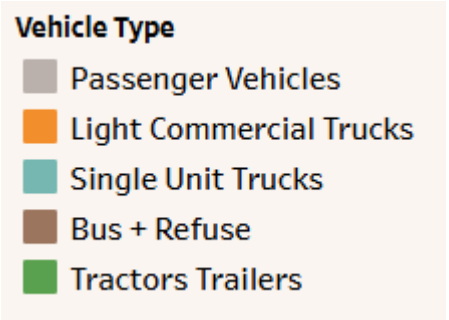
Growth in multiple types of EVs

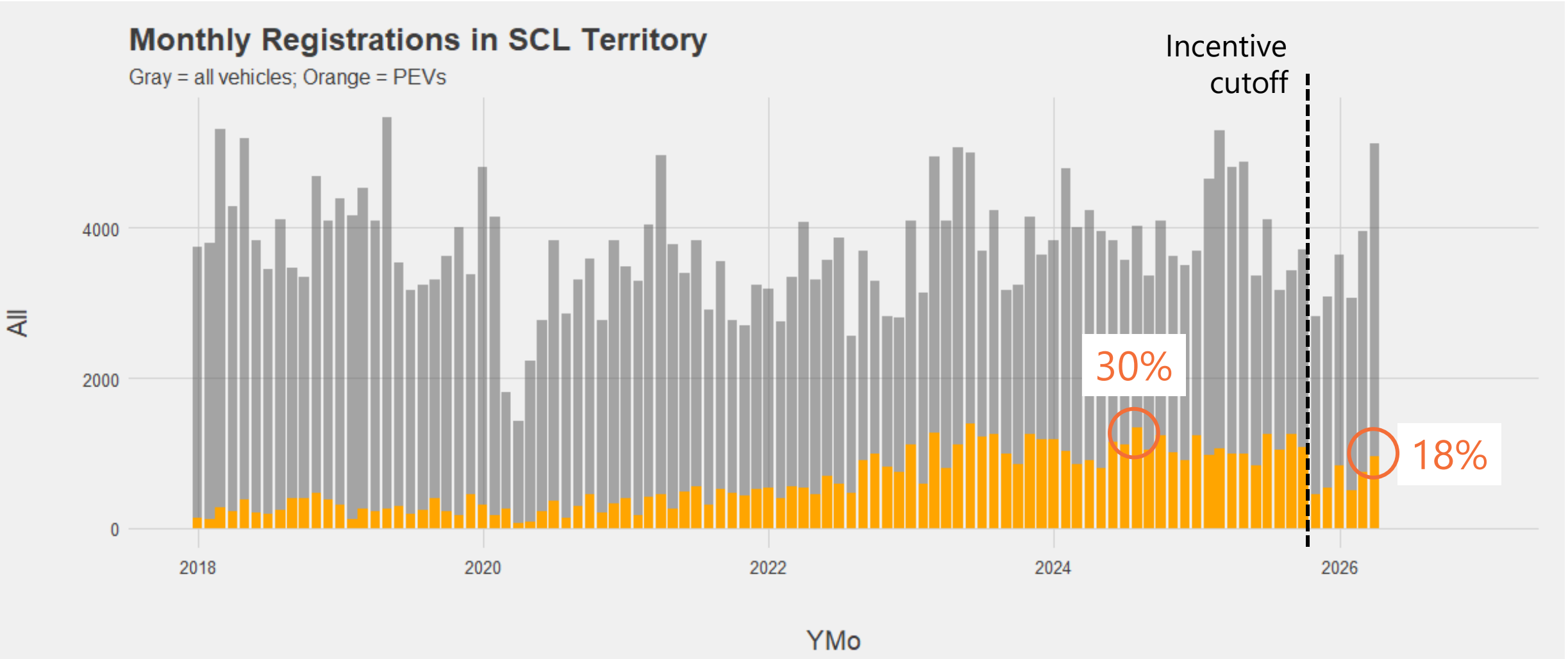
SCL Scenario-Based Projection By Vehicle Type - Population



SCL Scenario-Based Projection By Vehicle Type - aMW



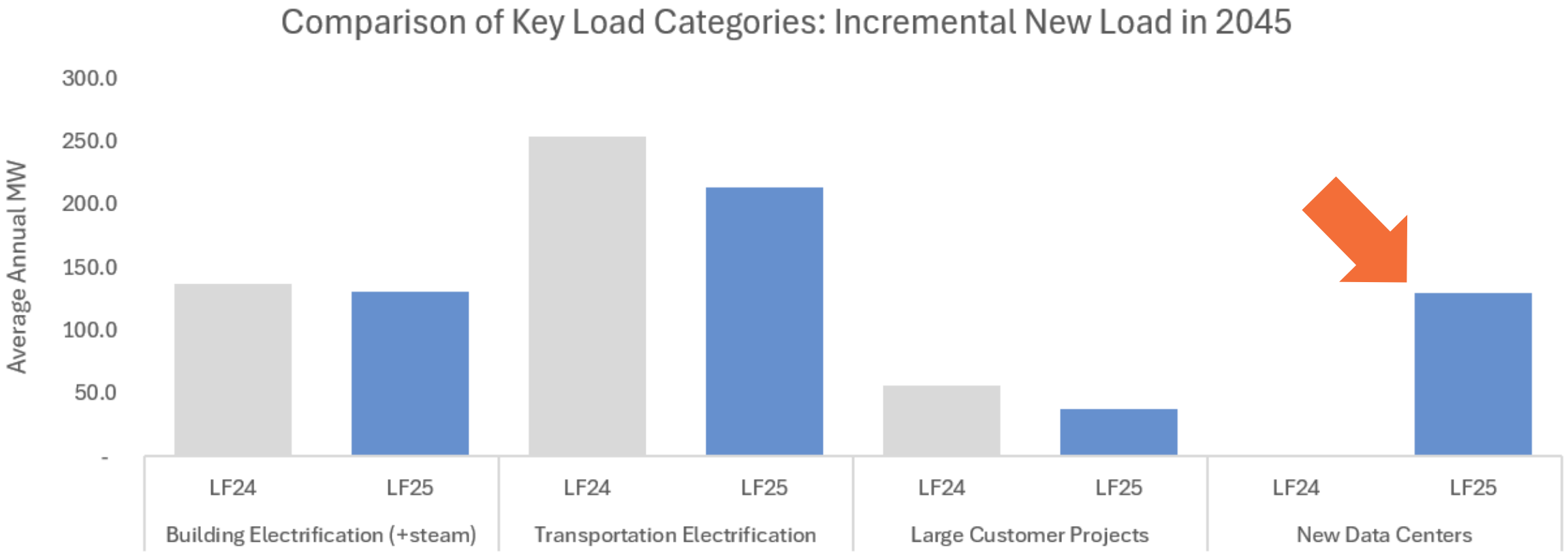


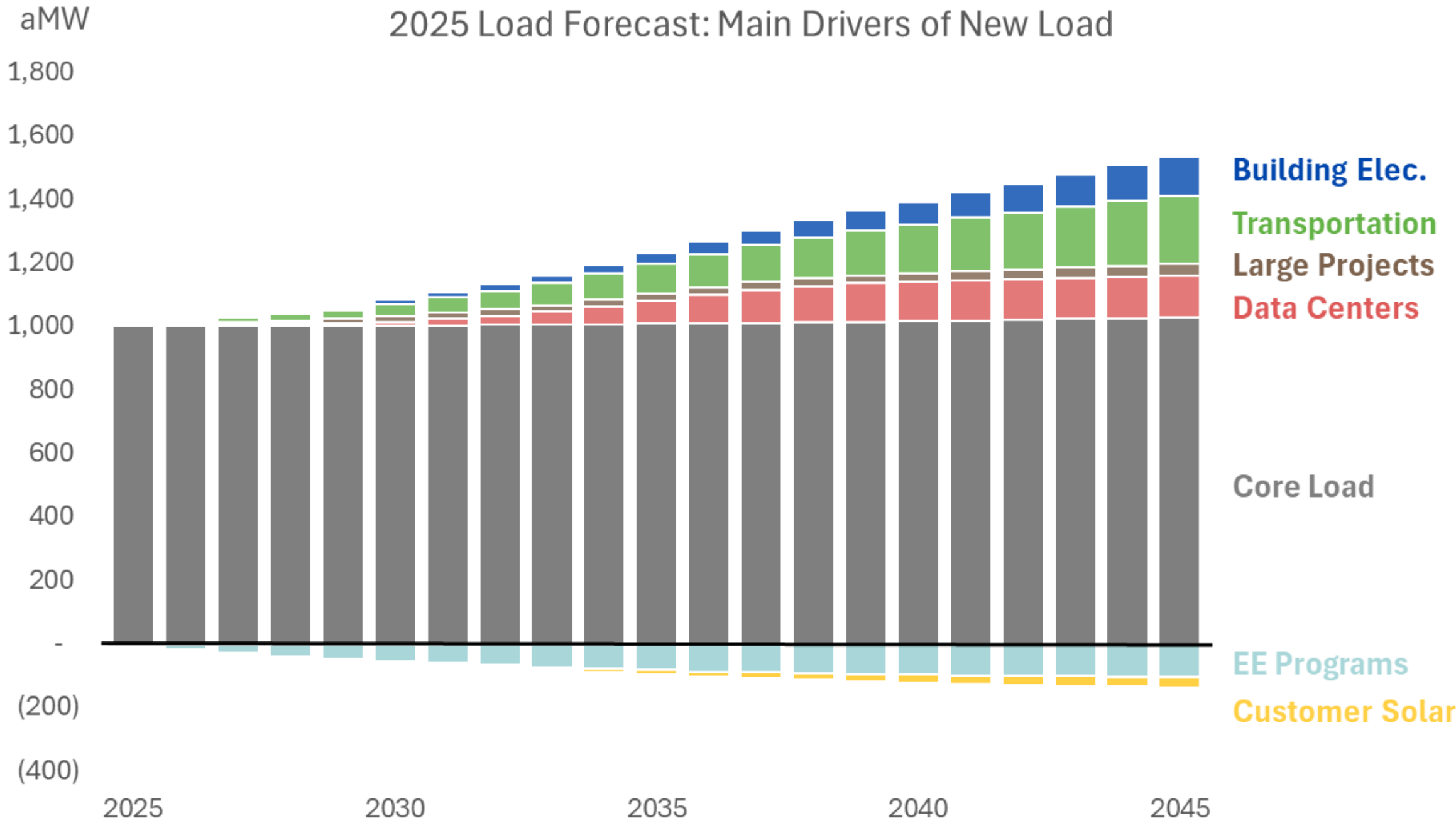


EV growth has softened relative to recent years.

Source: Monthly registrations in SCL territory / EPRI

Comparison to Previous Forecast




aMW
2025 Load Forecast: Main Drivers of New Load
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(200)
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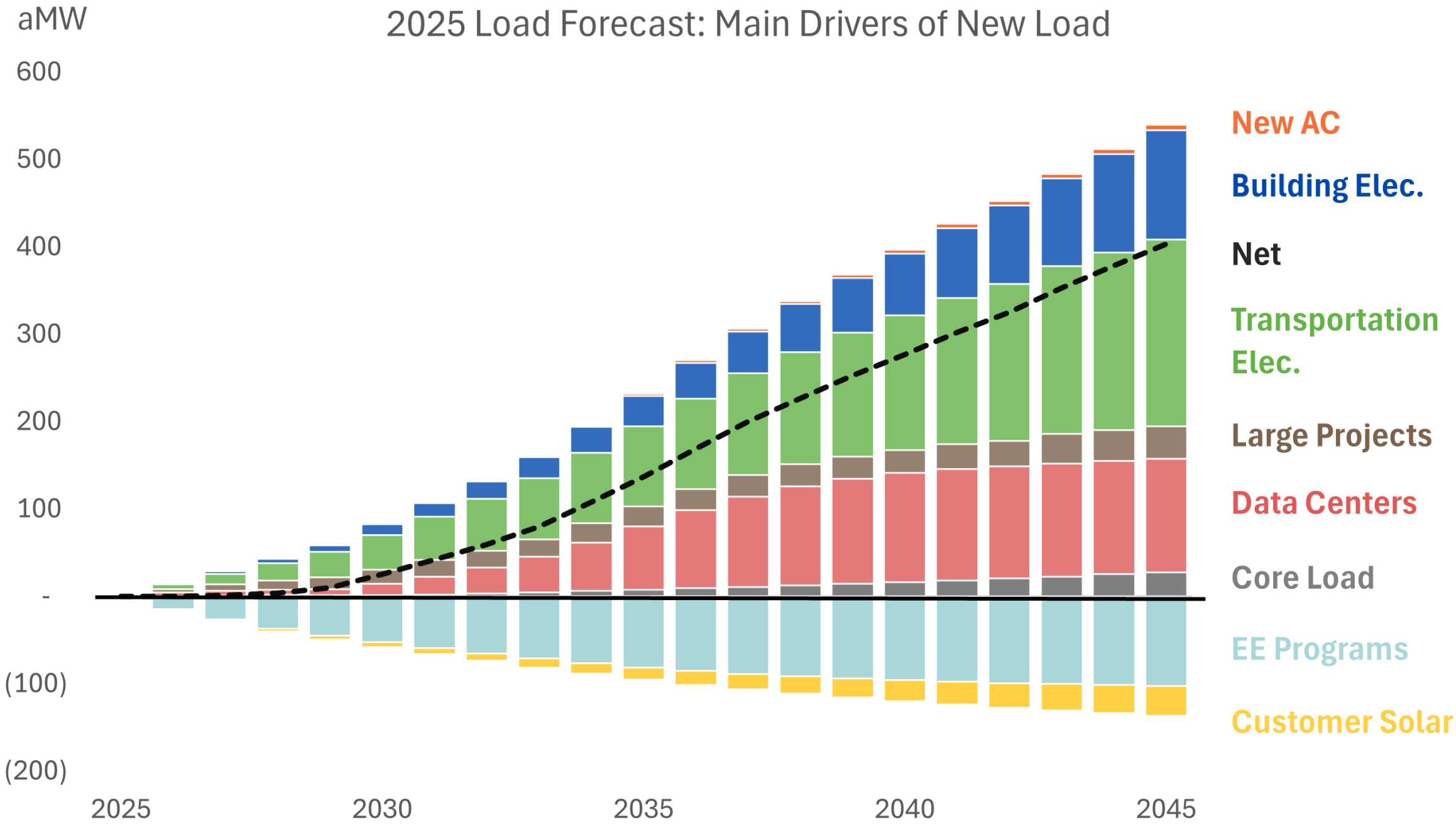
2035
2040
2045
Building Elec.
Transportation
Large Projects
Data Centers
Core Load
EE Programs
Customer Solar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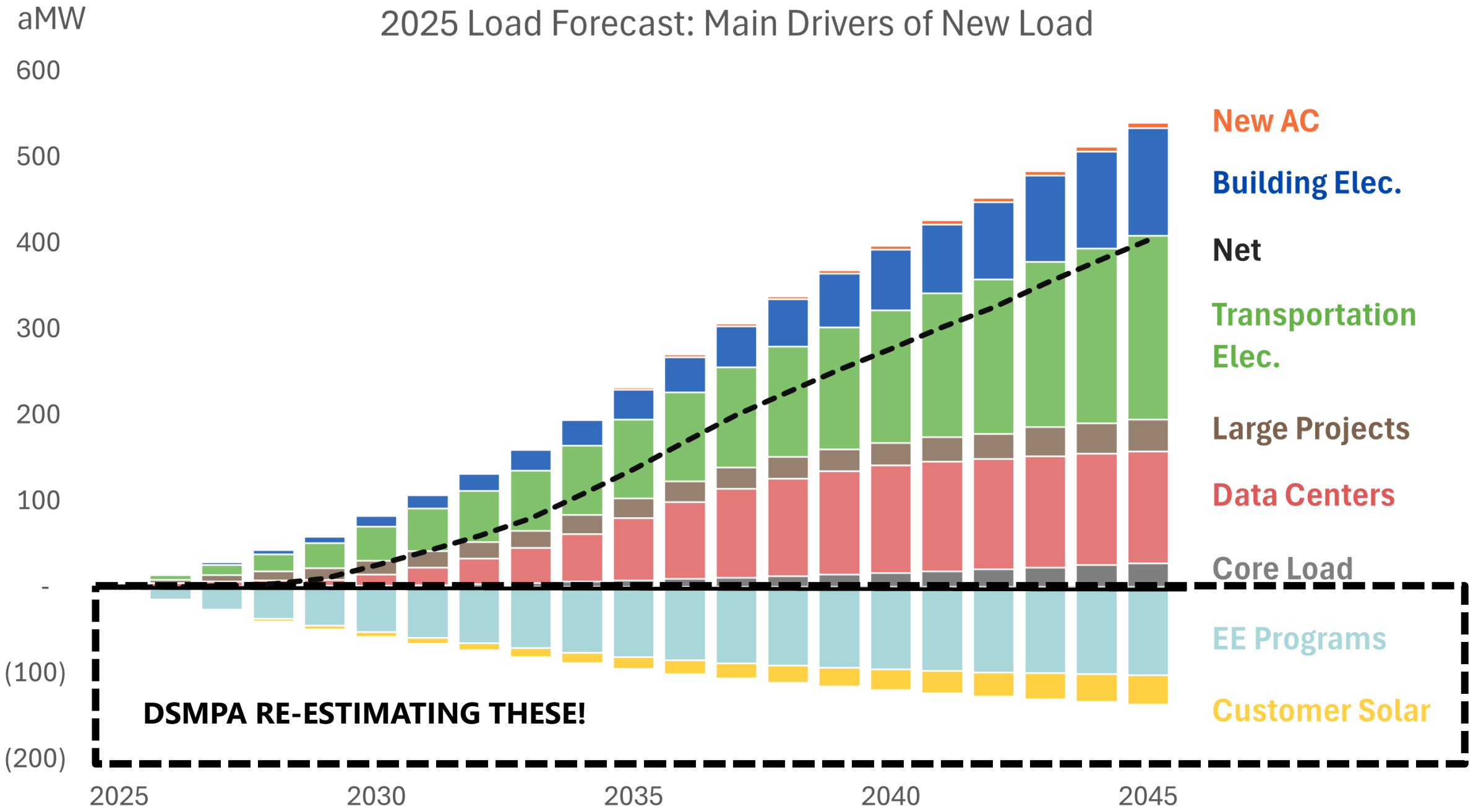
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DSMPA RE-ESTIMATING THESE!

2028 DSMPA Key Assumptions

- Energy Efficiency
- Demand Response
- Customer Solar

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Main Categories of Demand Side Inputs

	Category	Definition	Source
	**Energy Efficiency Measures**	Device that results in energy savings (e.g., Energy Star clothes dryer)	Aligns with 9th Power Plan assumptions; additionally vetted by City Light experts.
	**Demand Response Products**	Reduce or shift loads at peak times (e.g., Time of Use rates)	
	**Customer Solar**	Behind the meter generation on customers' rooftops	Work with consultant to update total available potential

The 9th Power Plan Informs DSMPA Assumptions

- The **Northwest Power and Conservation Council** (NWPCC) is currently preparing **9th Power Plan** for WA/OR/ID/MT
  - A long-term strategy for the region's electricity supply

- The DSMPA **must** mirror the methodology of the 9th Plan
  - 1,000s of measure-level inputs vetted by technical experts
  - Lends transparency and credibility to result
  - BUT can make utility-specific adjustments as needed.

Energy Efficiency: Summary of Key Inputs/Decisions

Selected a list of 120 measure categories, informed by the 9th Power Plan and internal expertise. This is a summary of evidence-based adjustments:

Program alignment	Market conditions	Data Center loads
• Assumed more conservative adoption rates for few measures without City Light programs	• Made downward adjustments to adoption rates for affected segments due to vacancy*, interest rates, and economic uncertainty	• Will not contribute to EE targets due to: High load uncertainty + Large Load Policy + No deemed measures in 9th Plan

**According to Cushman & Wakefield, average downtown office building vacancy rate is ~35%.*

Demand Response Types of Products

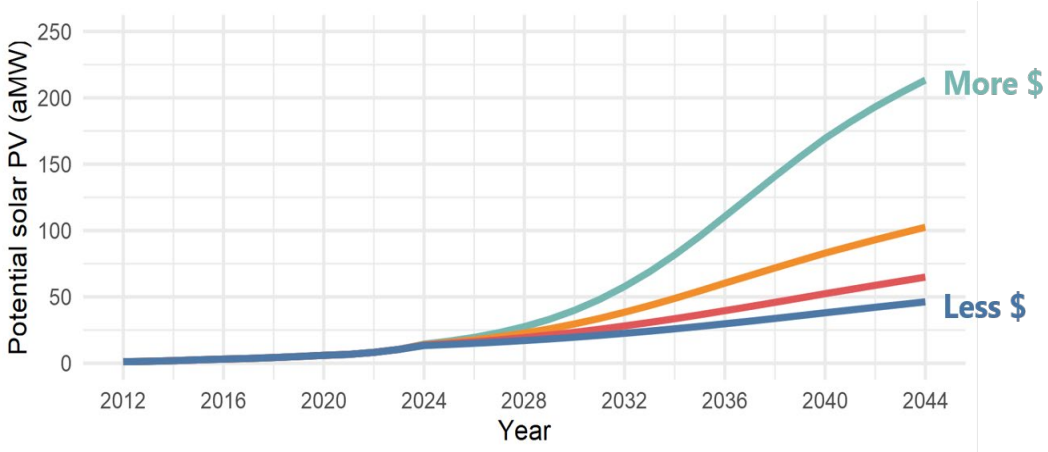
- **Pricing Programs**: programs that encourage people to shift use through prices (time-varying rates)
- **Curtailment**: programs where businesses or industrial facilities manually reduce usage during events
- **Direct Load Control**: programs where the utility temporarily controls specific appliances
- **Smart Thermostat (Load Shifting)**: programs that use wi-fi thermostats to shift heating or cooling automatically
- **Battery-Based**: programs that let the utility draw power from the battery or charge it at certain times to support the grid
- **EV Programs**: programs that shift electric vehicle charging or fleet charging to off-peak times

Demand Response Products

Program Type / Sector	Pricing	Curtailment	Direct Load Control (DLC*)	Smart Thermostat	Battery-based	EV
Residential	• Critical Peak Pricing • Time-of-Use (Opt-in and Opt-Out)		• Grid-Connected Electric Water Heater • Grid-Connected Heat Pump Water Heater	• Bring-Your-Own Thermostat	• Batteries Program* • Bring-Your-Own Battery Program	• Residential Managed EV
Commercial	• Critical Peak Pricing • Time-of-Use	• Commercial Curtailment	• Medium Comm. HVAC switch	• Small Comm. Bring-Your-Own Thermostat	• Large Comm. Battery • Small Comm. Battery	• Heavy, Medium, and Light Duty EV Load Mgt*
Industrial	• Critical Peak Pricing	• Industrial Curtailment				

Customer Solar Scenario and Sensitivities

- The base scenario lets the model determine which incentive level is most cost-effective. In a sense, the model will pick a line from the graph representing profiles from the adoption analysis
- One sensitivity will identify the value of 'grid-enabled' customer solar where batteries are incentivized and used to support the grid through a DR program
- Another sensitivity will model natural market adoption (the "do-nothing" case)
- Community solar (small-scale solar) is modeled separately



DSMPA Scenarios

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Scenario Plan for 2028 DSMPA

Scenario	Description	Definition
1	Base Case	Aligns with 2025 City Light Load Forecast
2	High Electrification	Reflects expected load under higher electrification of buildings and transportation

Scenario Plan for 2028 IRP

DSMPA

Input	Baseline	High Electrification	Constrained World
Load	Base	High	Base
Demand-Side	Base	High	Base
Resource Cost	Mid	Mid	High
Market Price	Mid	Mid	High
Market Availability	Base	Base	Low
Transmission Flexibility	Base	Base	Low

Next Steps

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Upcoming Advisory Panel Meetings

Estimated Timeframe	Potential Agendas
April 2, 2026	*Introductions & Timeline*
May 7, 2026	*IRP Input Preview*
July 2, 2026	*Load Forecast Overview & DSMPA Inputs*
September	IRP Resource Adequacy & Portfolio Proposal
November	IRP Portfolios & DSMPA Results

THANK YOU

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