



Edmonton | February 2019

EV and PV in Calgary

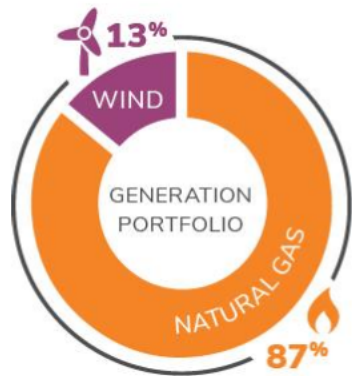
Forecasts of Distributed Solar and Electric Vehicle Adoption in Calgary

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ENMAX Company Overview

ENMAX operates across the energy value chain – both as a regulated wires company, and a competitive power generator and energy retailer. We power the potential of people, businesses and communities by safely and responsibly providing electricity and energy services in a way that matters to them now and in the future. ENMAX continues to explore ways to transform our systems and services to provide progressive solutions for our customers and is a leader in Canada for system reliability and the top retailer for both energy and solar in the province of Alberta.



\$5.6 B

total assets

1,800

employees

963,829

Retail metered customer locations in Alberta

\$412.8 M

In EBITDA

\$40 M

dividend to The City of Calgary

19,977 GWh

Electricity sold

ENMAX facts as of 2017

Awards and Recognition

One of Alberta's Top Employers

Corporate Knights' Best 50 Corporate Citizens in Canada for 10 Consecutive Years

Canadian Energy Association (CEA) Gold President's Award for Safety Excellence

CEA Award of Excellence in Innovation – Shepard Energy Centre and District Energy Centre

Our Services

Power Delivery

- System Operations and Maintenance
- Customer Connections
- Meter Reading
- Tariff Billing

Connect Calgary customers, provide regulated services and grow and maintain our system – having invested over \$1.8 billion in our transmission and distribution infrastructure to-date.



Energy Retail Services

- Electricity
- Natural Gas
- Customer Experience
- Billing Services
- Renewable Energy

Provide electricity and natural gas plans, renewable energy, energy resource management and customer care and billing to over 660,000 residential, commercial and municipal customers and 40+ communities across Alberta.



Distributed Generation

- Solar
- Wind
- Combined Heat and Power
- District Energy
- Battery Storage

Provide a suite of distribution services, including solar. Largest distributed solar system provider in Alberta. Installed over 1,000 solar systems since 2009, and responsible for 56 per cent of the grid-connected solar in Alberta.



Power Services

- Electrification of Transportation
- Utility Integrations
- Procurement
- Engineering
- Construction
- Maintenance

Specialize in underground shallow utility infrastructure, outdoor lighting, installation of fibre optic cable, electronic communications, security systems and Light Rail Transit systems.



EXPERTISE



Efficiency



Renewables



Mobility

SERVICES



Assess Opportunities



Design Strategies



Evaluate Performance

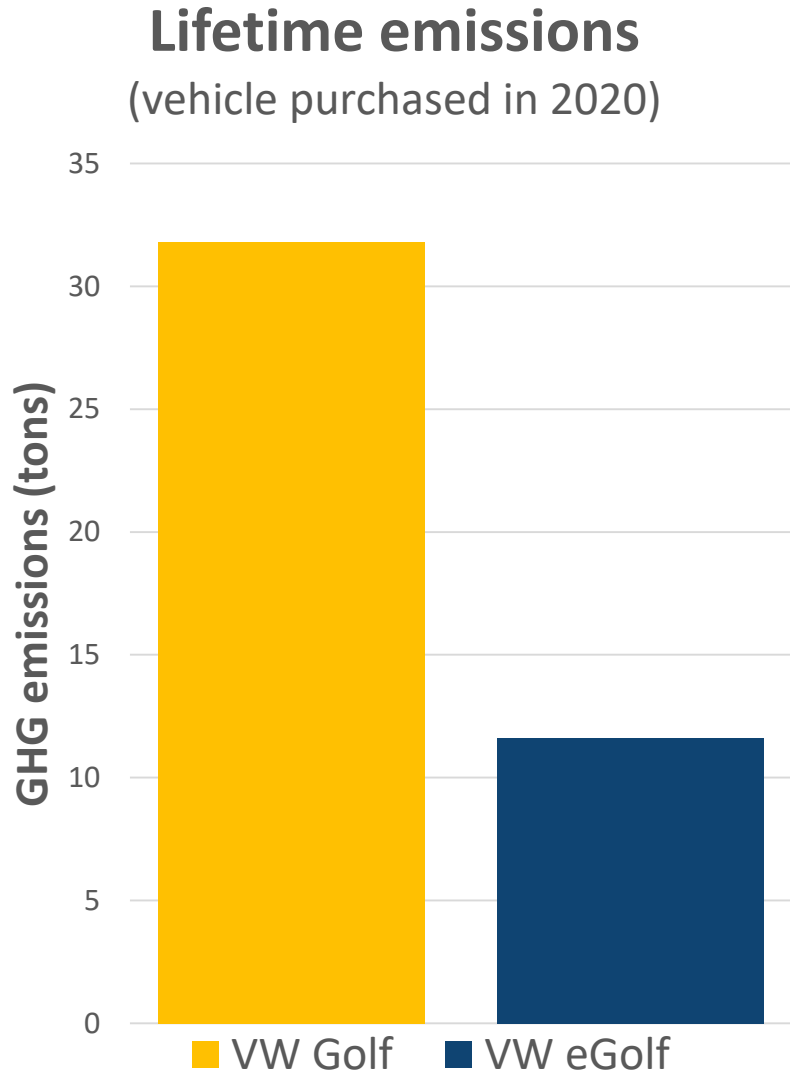
CLIENTS



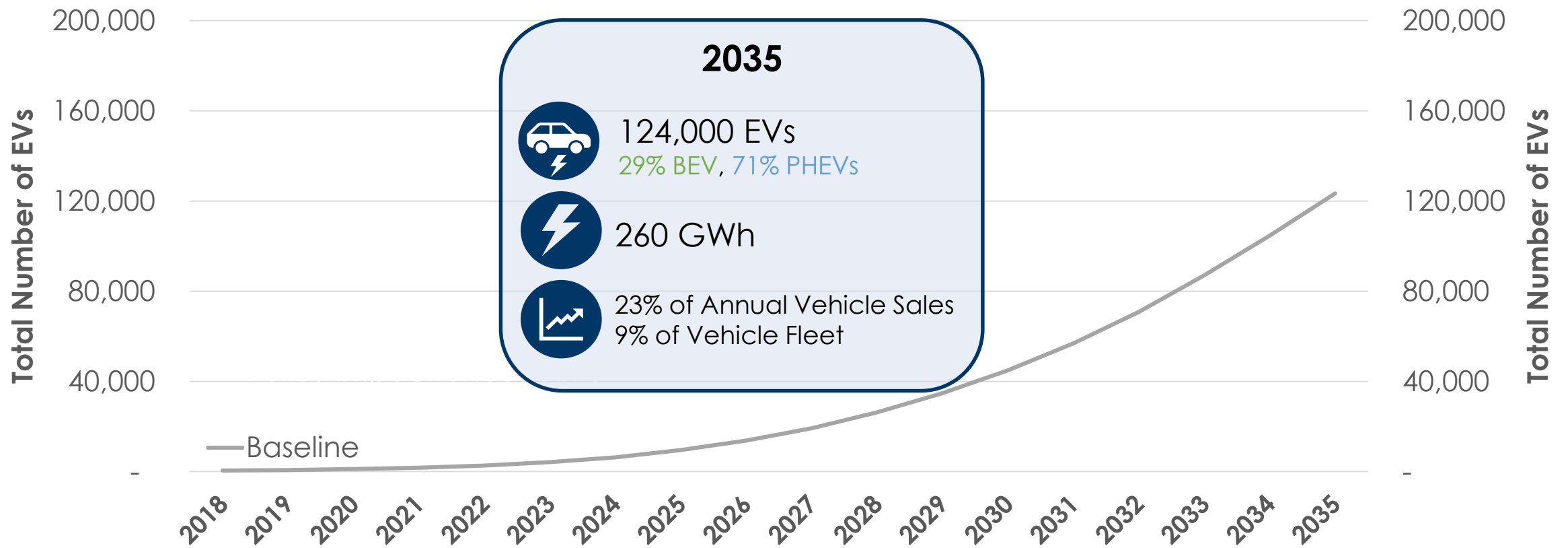
Why EVs in Alberta ?



EVs in Alberta currently far cleaner (lower GHG emissions). Will continue to get cleaner as the grid decarbonizes.



With no policy action, we expect **120,000 EVs on Calgary's roads by 2035**



EV Adoption: Sensitivities



Sensitivities

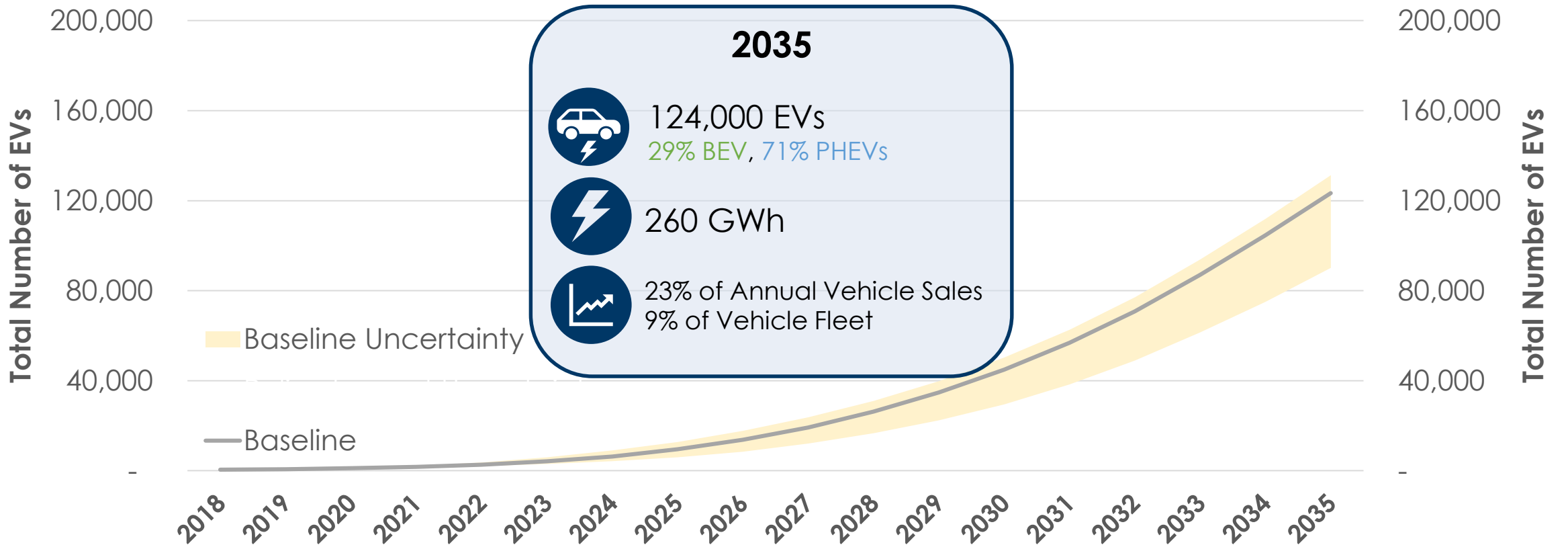
Global competitiveness of the EV market

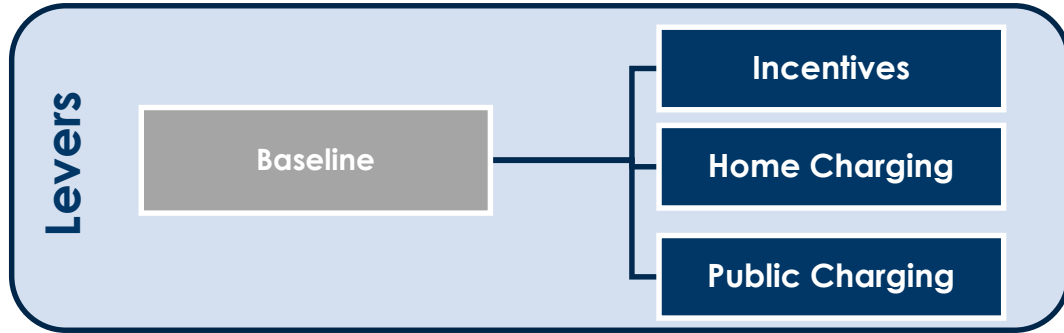
- Lithium-ion battery costs
- Vehicle availability
- Technology advancements.

Baseline

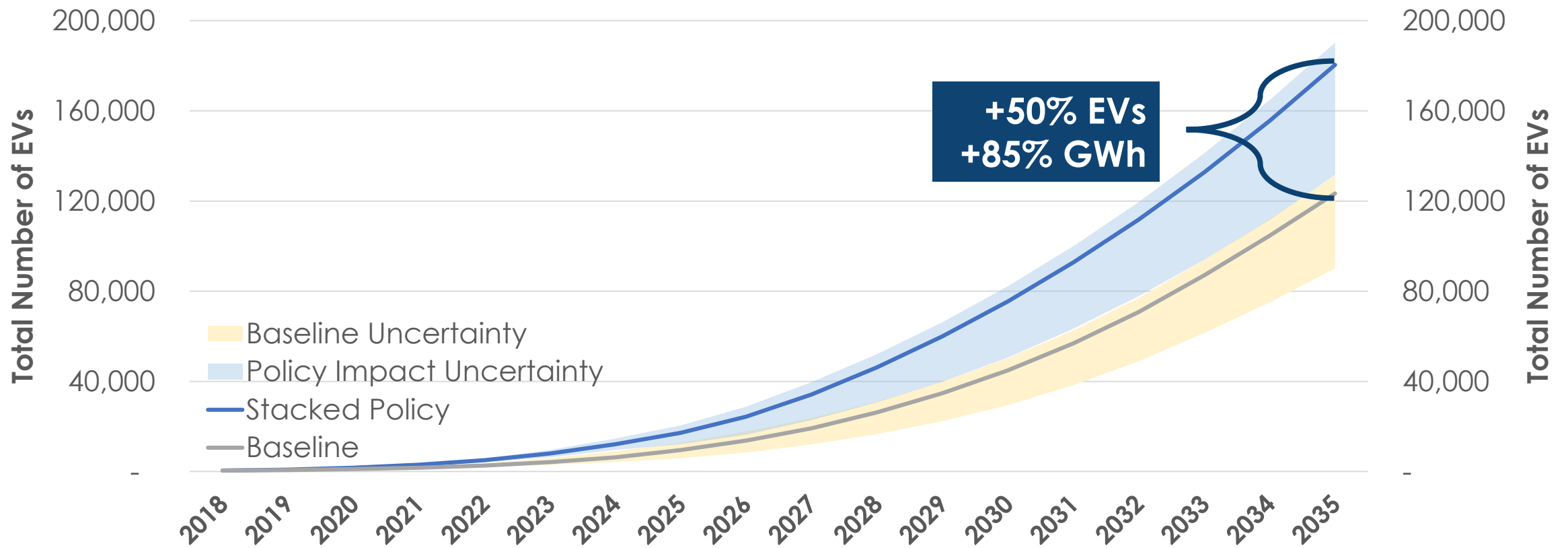
Conservative Scenario

Aggressive Scenario

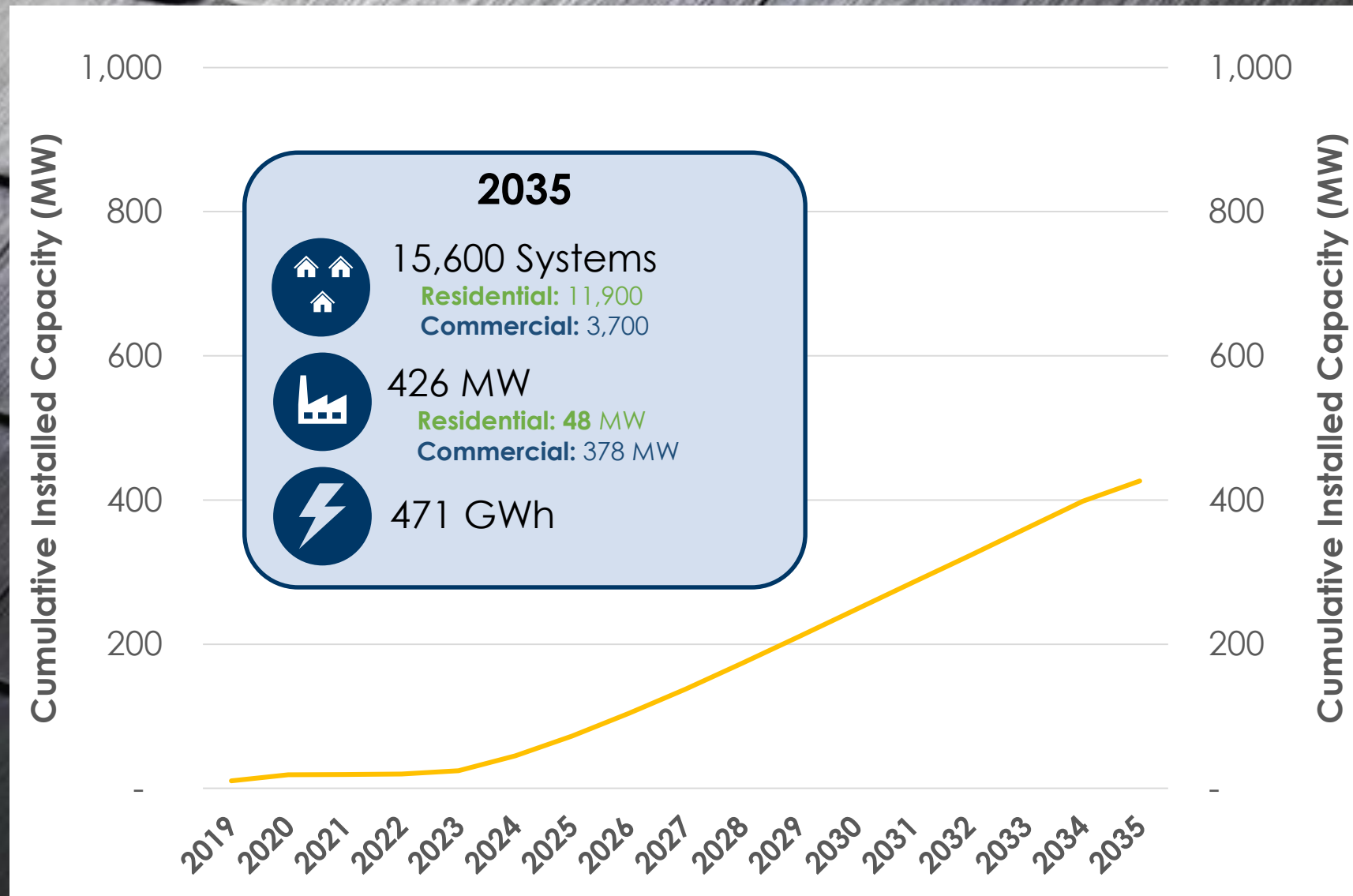




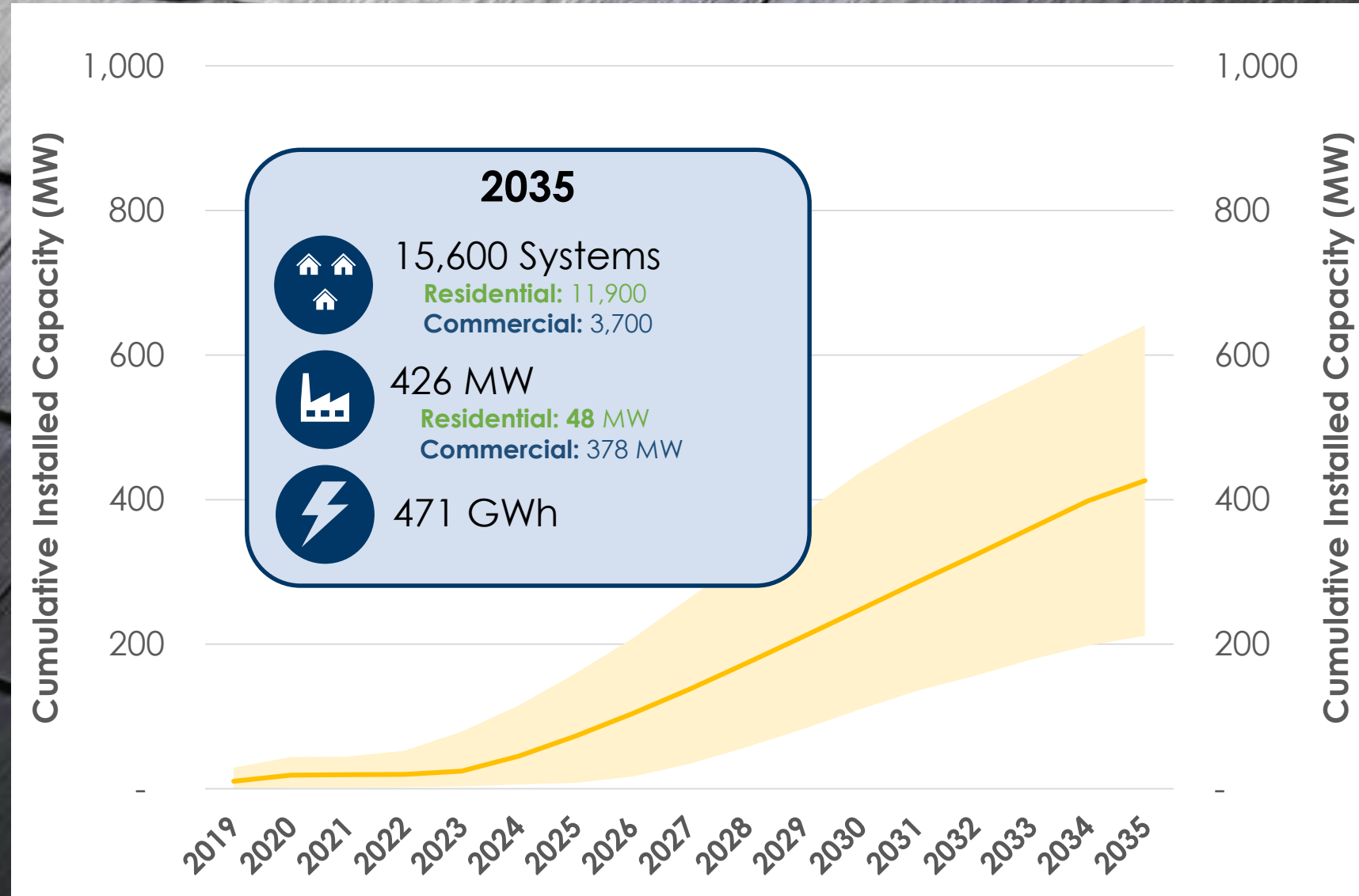
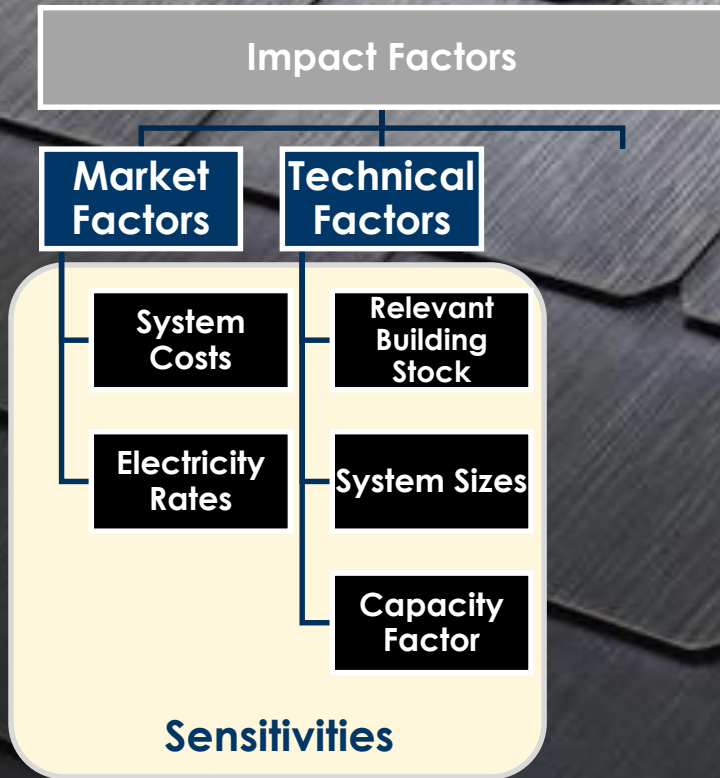
With policy action, we expect **>180,000 EVs on Calgary's roads by 2035**



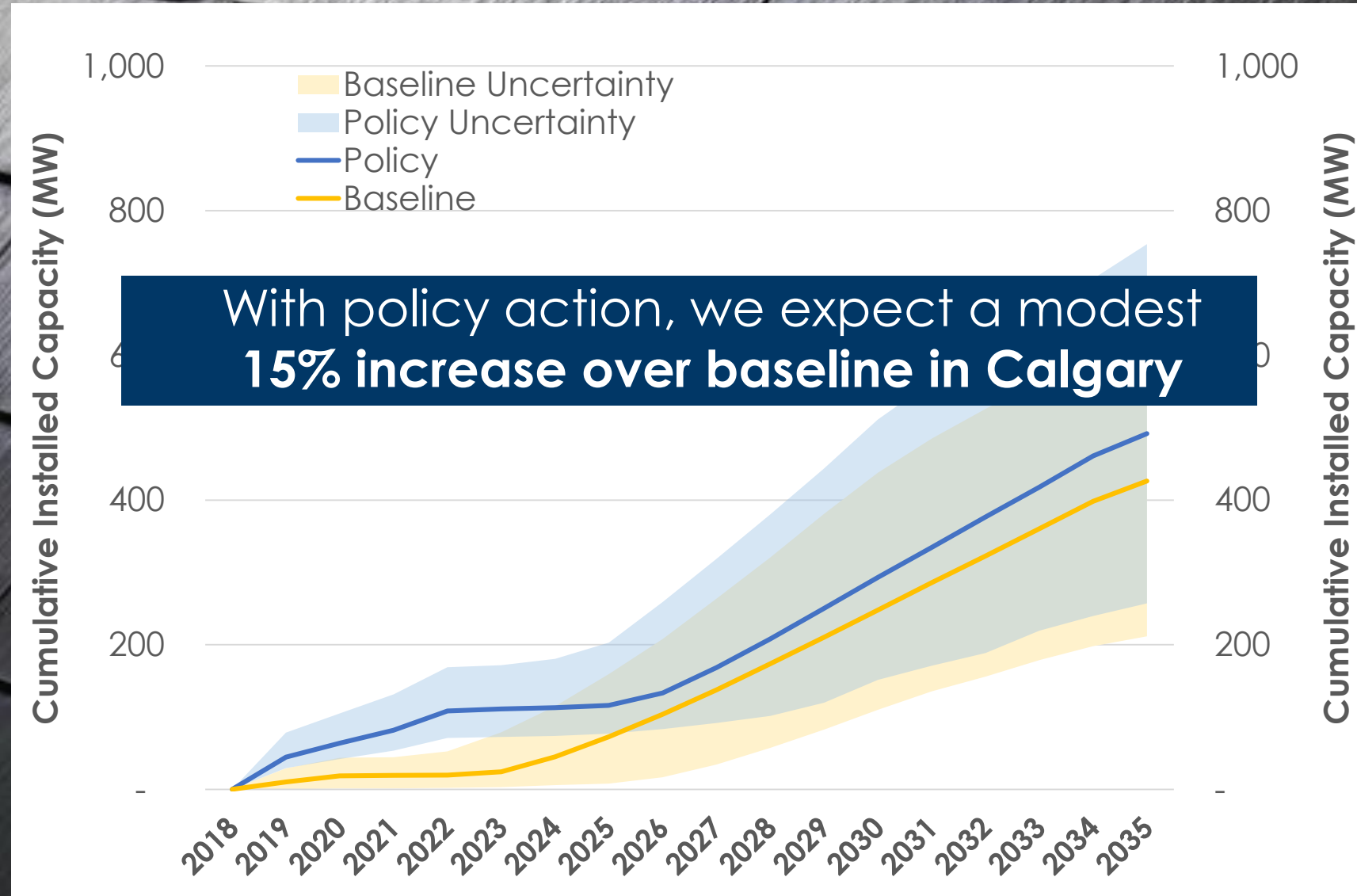
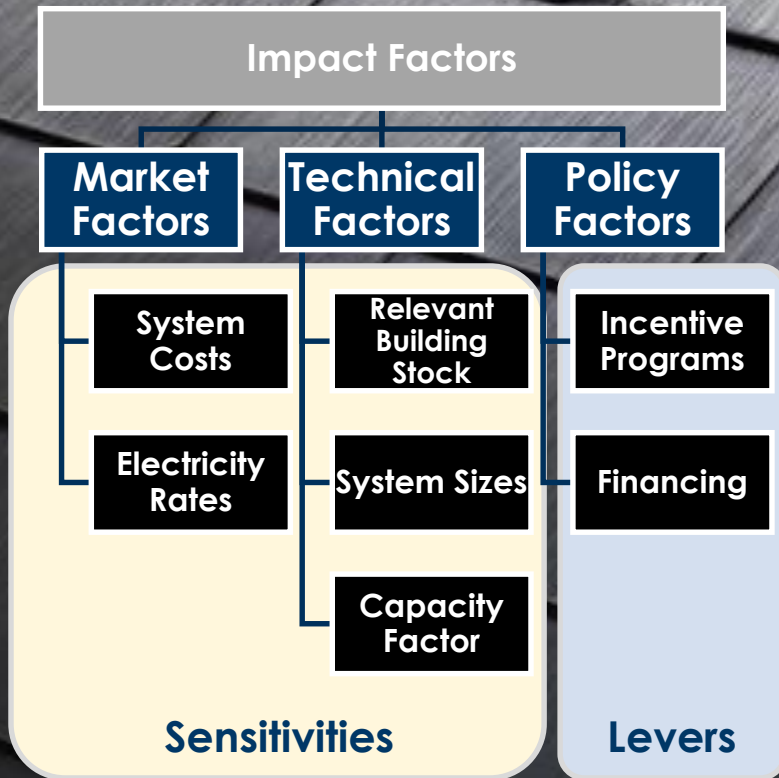
Solar Adoption



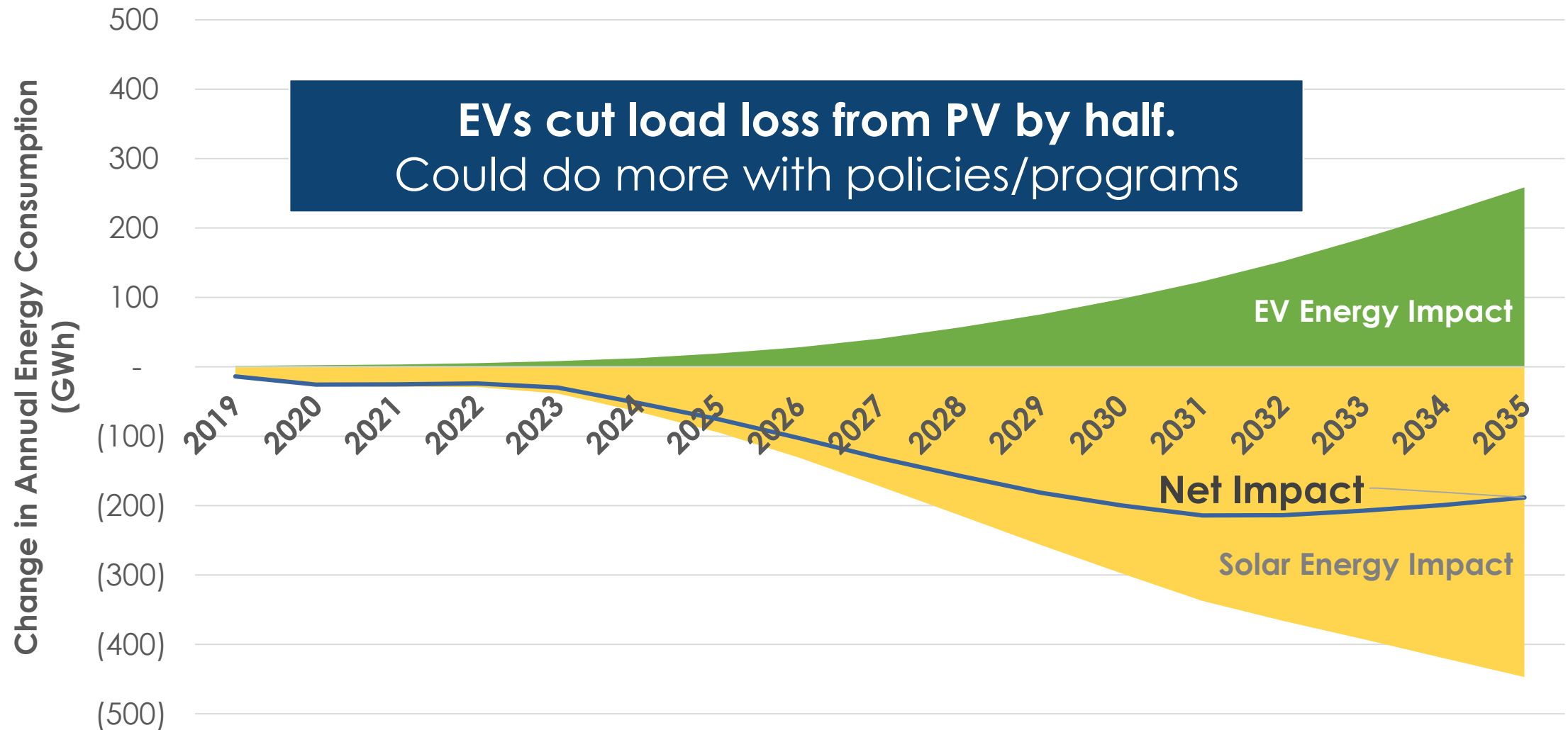
Solar Adoption: Sensitivities



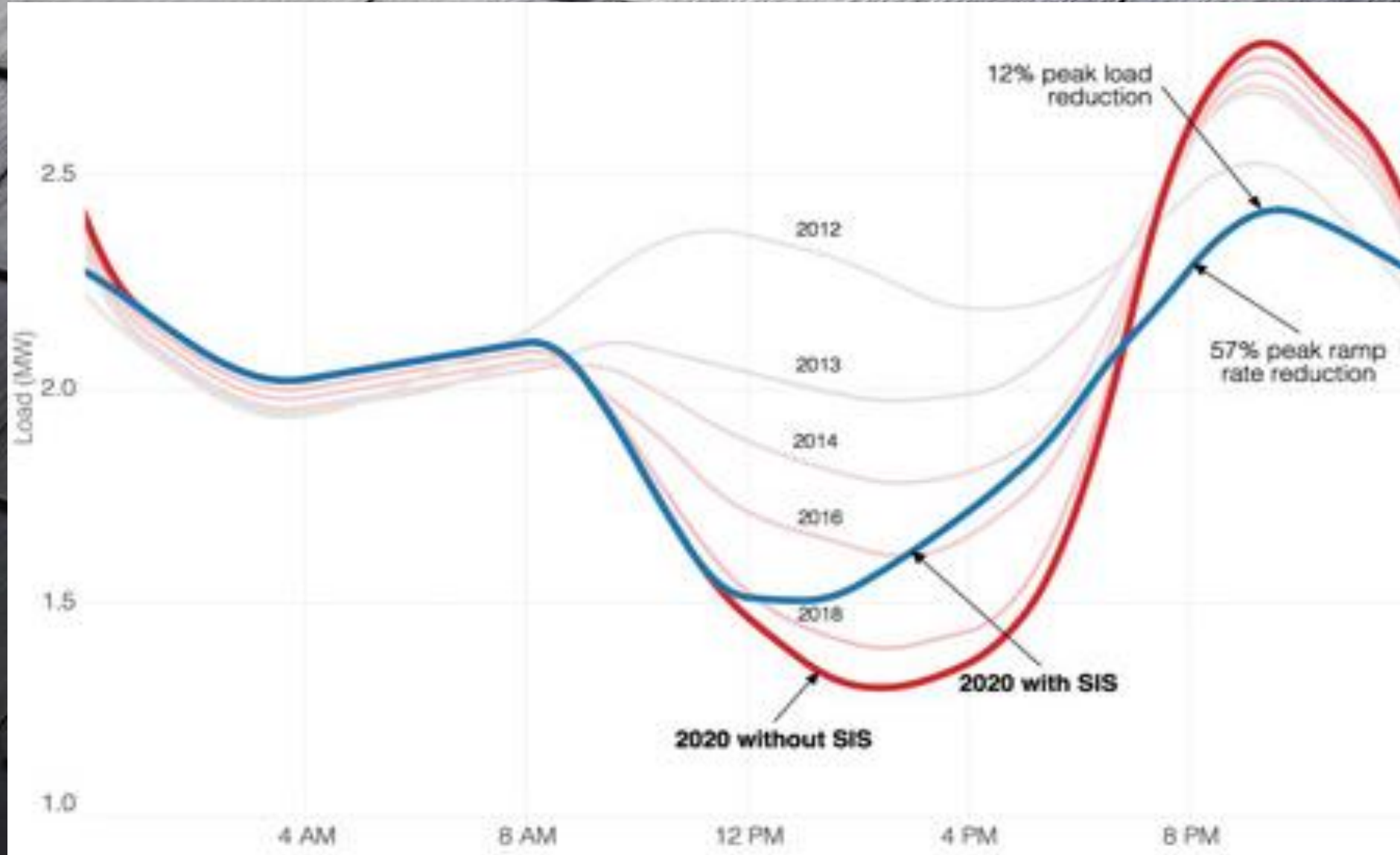
Solar Adoption: Sensitivities + Policy Levers



Energy Impacts: EVs + Solar



Load Impacts: If it looks like a d...





Questions?

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