DOCKETED	
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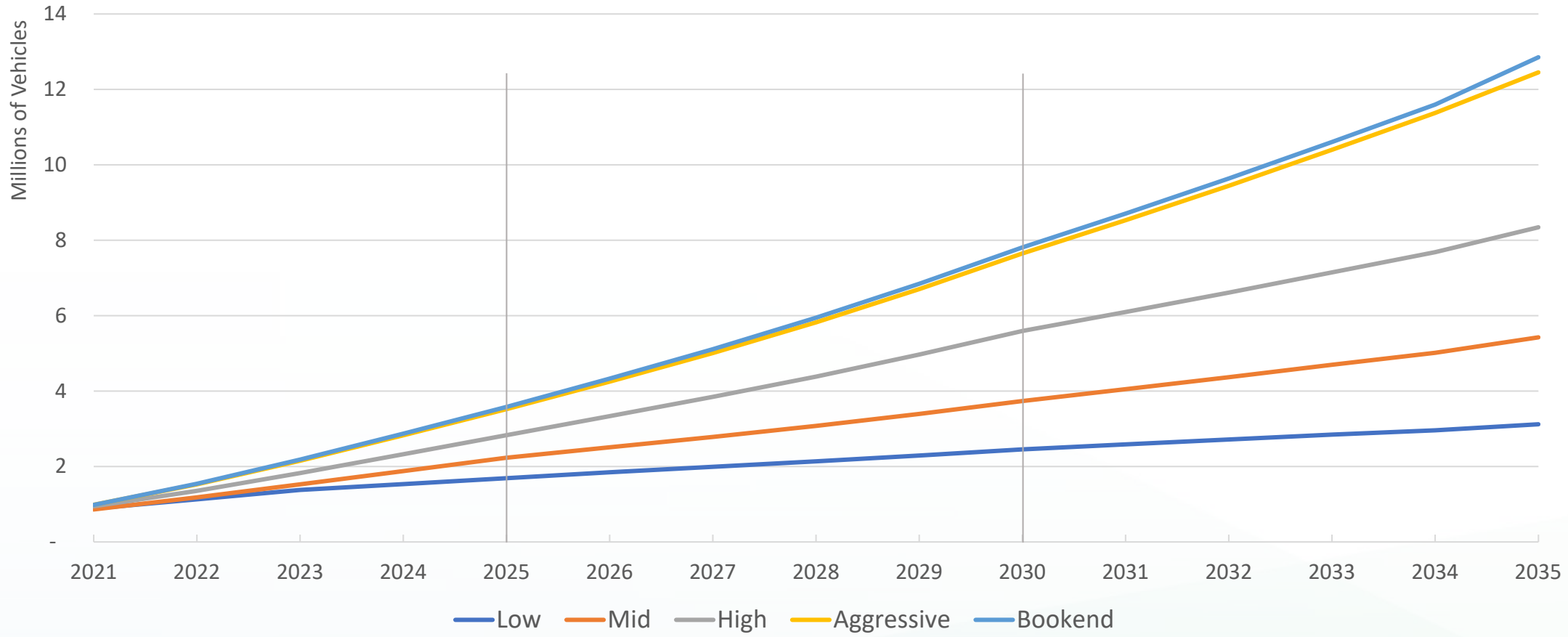
Light-Duty Vehicle Forecast: 2021 IEPR

December 2, 2021

2021 Light Duty ZEV Forecast Scenarios

	Low	Mid	High	Aggressive	Bookend
Consumers' PEV Preference	Constant at 2017 Level	Increase with PEV market growth	Increase with PEV market growth	Increase with PEV market growth	Increase with PEV market growth
Federal Tax Credit	Decreasing starting 2019	Decreasing starting 2019	Decreasing starting 2019	Decreasing starting 2019	Decreasing starting 2019
Clean Fuel Rewards	2030	2030	2035	2035	2035
State Rebate	To 2023	To 2025	BEV & FCV To 2030	BEV & FCV To 2035	BEV, PHEV & FCV To 2035
HOV Lane Access	To 2023	To 2025	BEV & FCV to 2030	BEV & FCV to 2030	BEV & FCV to 2030
Availability of PEVs (in 2035)	ZEV models available in **14** of 15 CEC LDV classes	ZEV models available in **15** of 15 CEC LDV classes	ZEV models available in **15** of 15 CEC LDV classes	ZEV models available in **15** of 15 CEC LDV classes	ZEV models available in **15** of 15 CEC LDV classes
PEV Cost Component / Battery Price (2035)	**~$93/kWh**	**~$69/kWh**	**~$46/kWh**	**~$32/kWh**	**~$32/kWh**
BEV Max. Range	~255 miles	~300 miles for Standard, 350 Premium	~400 miles for Standard, 450 for premium	~400 miles for Standard, 450 for premium	~450 miles for Standard, 500 for premium
Refuel Time (2030)	15 -21 min	15 -21 min	10-16 min	10-16 min	10-16 min
Time to Station (2030)	7-8 min	Same as gasoline	Same as gasoline	Same as gasoline	Same as gasoline

Total Light-Duty ZEV Stock

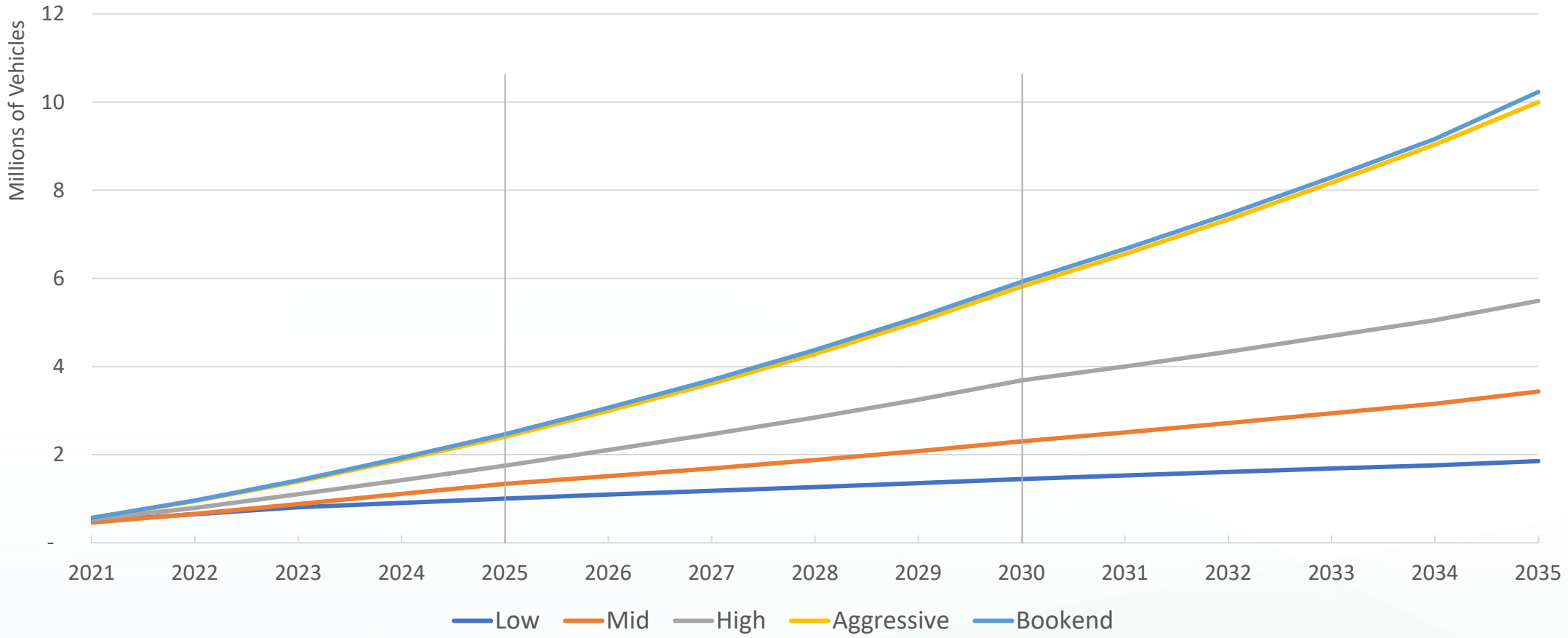


Source: CEC Staff.

Policy Marker Year ZEV Population (Millions)

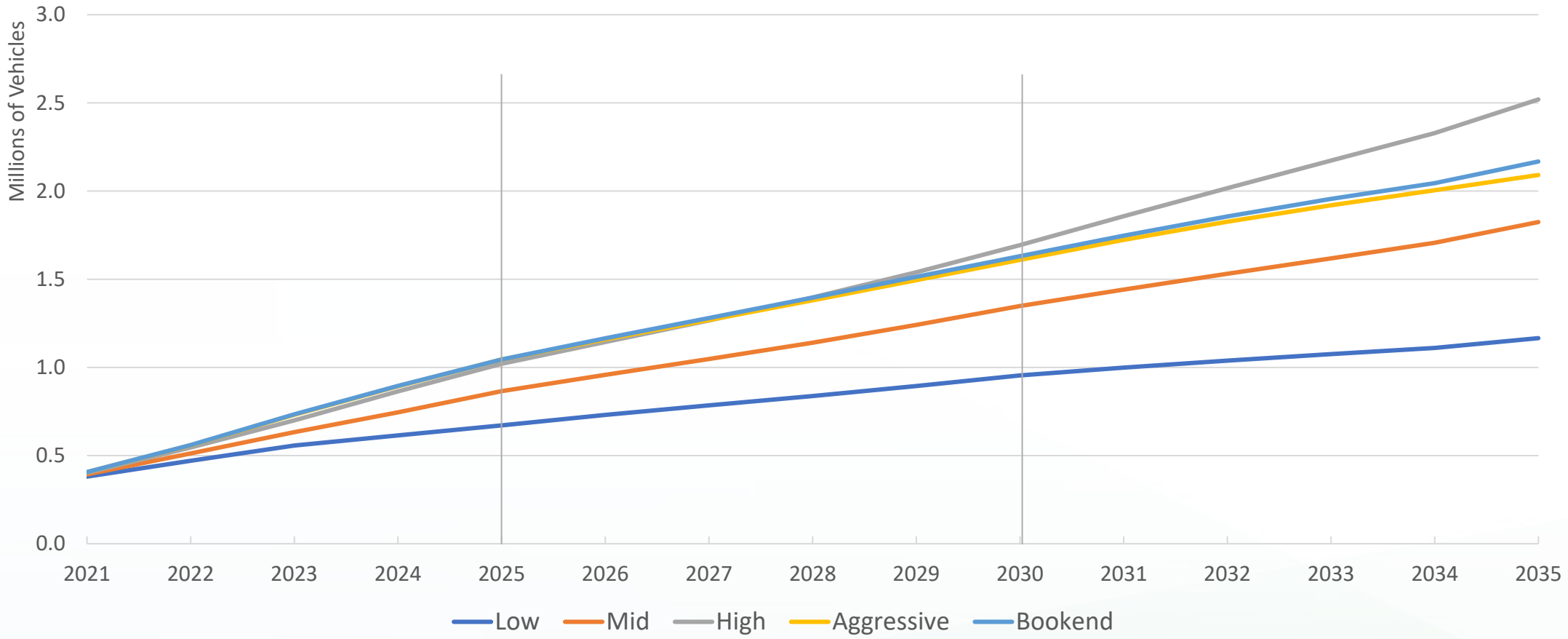
Year	Low	Mid	High	Aggressive	Bookend
2025	1.7	2.2	2.8	3.5	3.6
2030	2.5	3.7	5.6	7.7	7.8
2035	3.1	5.4	8.3	12.4	12.9

Battery Electric Vehicle Stock



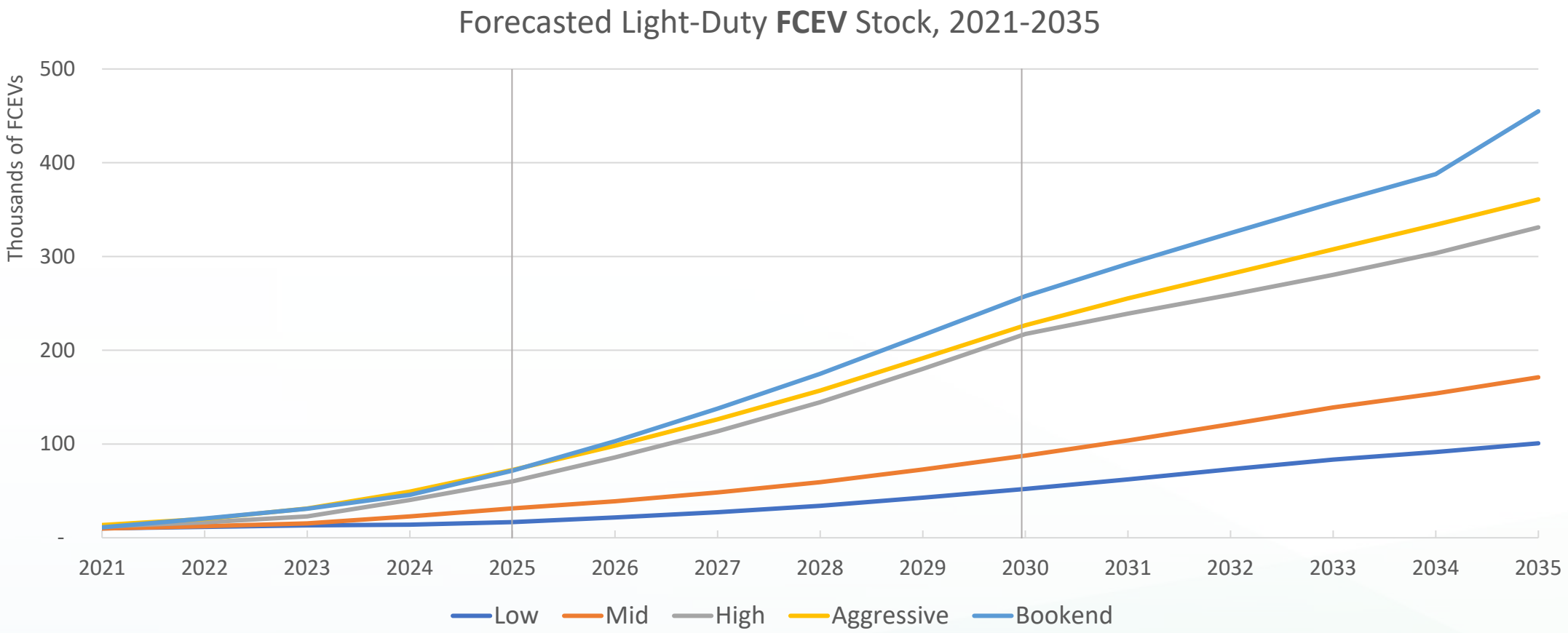
Source: CEC Staff.

Plug-in Hybrid Vehicle Stock



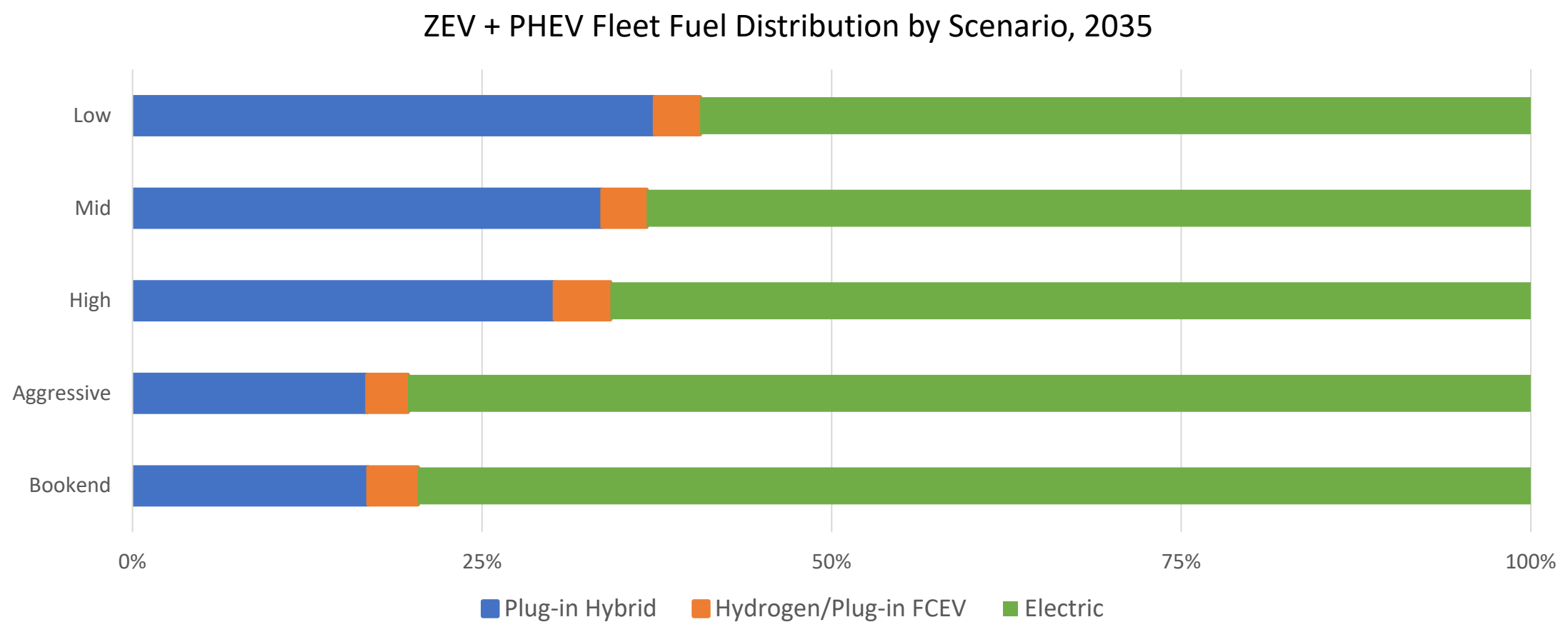
Source: CEC Staff.

Fuel Cell Electric Vehicle Stock



Includes plug-in hybrid FCEVs. Source: CEC Staff.

Significantly fewer PHEVs in Aggressive and Bookend Cases



Source: CEC Staff.

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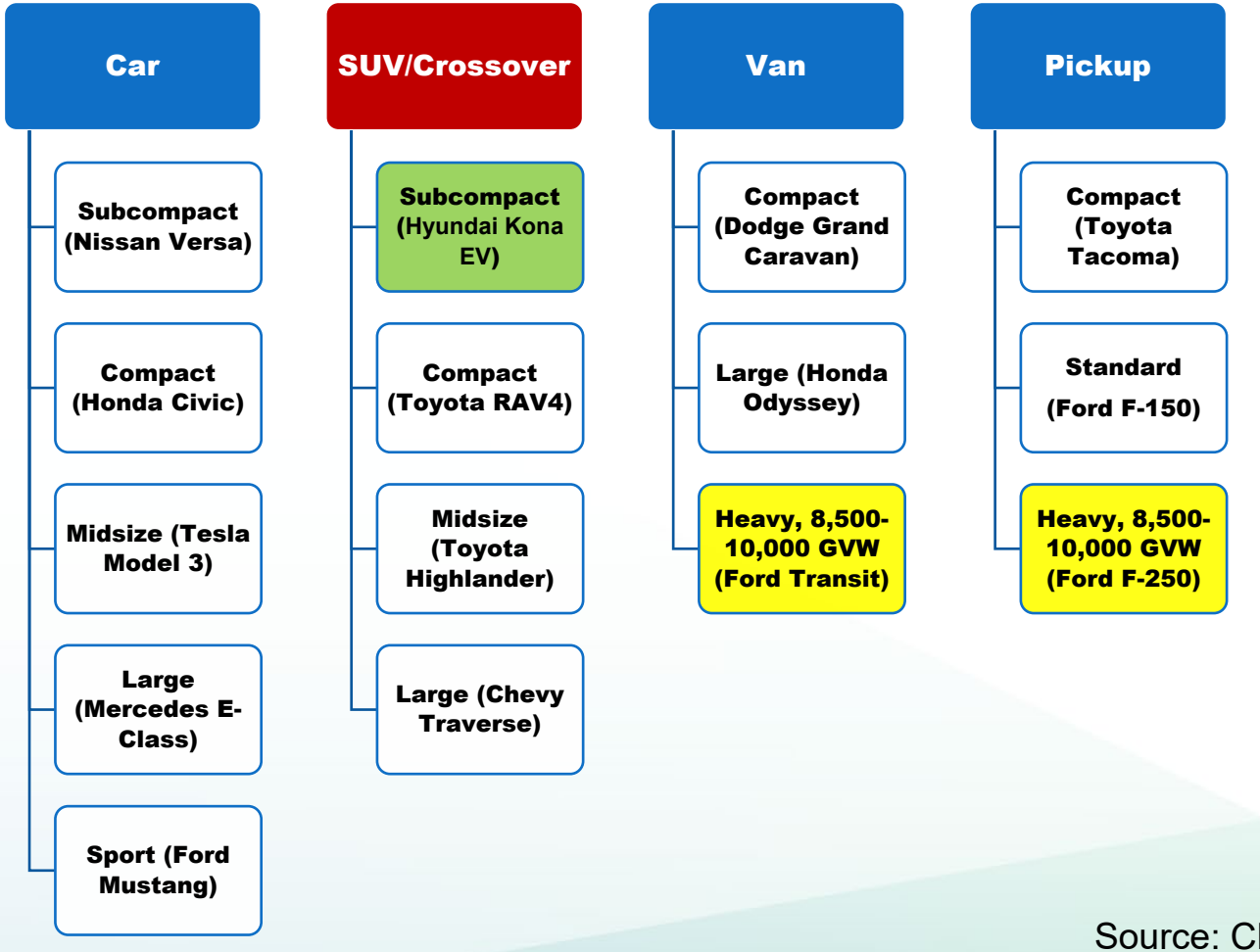
Appendix

Transportation Energy Demand Cases

Demand cases represent different levels of transportation electricity demand

Demand Case	Population	Income	Petroleum Fuel Prices	Electricity, Natural Gas, and Hydrogen Prices
High Demand	High	High	High	Low
Mid	Mid	Mid	Mid	Mid
Low Demand	Low	Low	Low	High

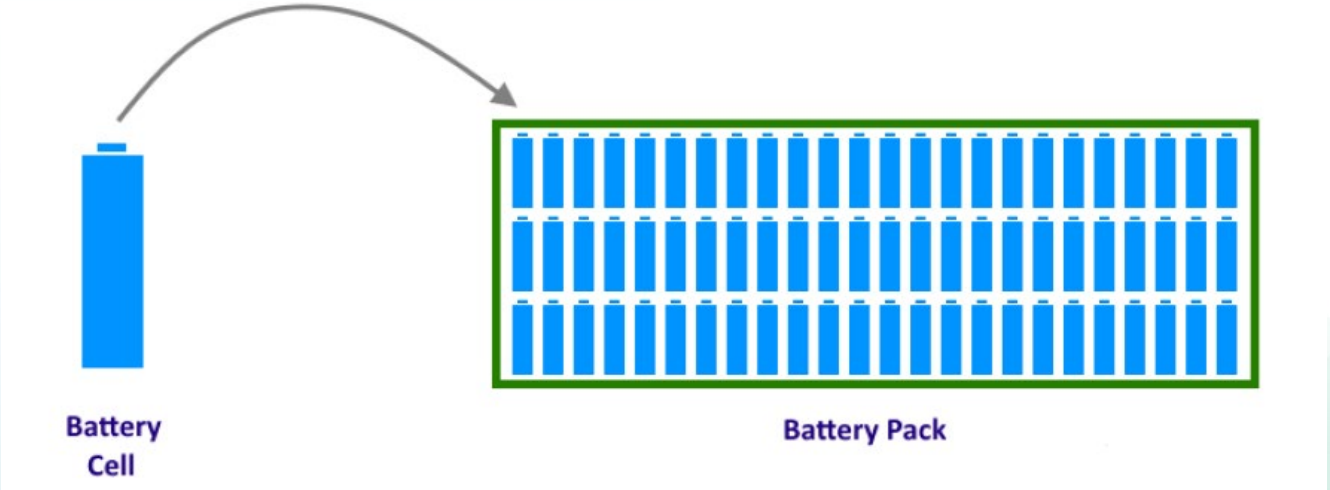
Light Duty Vehicle Classes: 15 New Classes in Standard & Luxury vs 18 Legacy Classes



Source: CEC staff

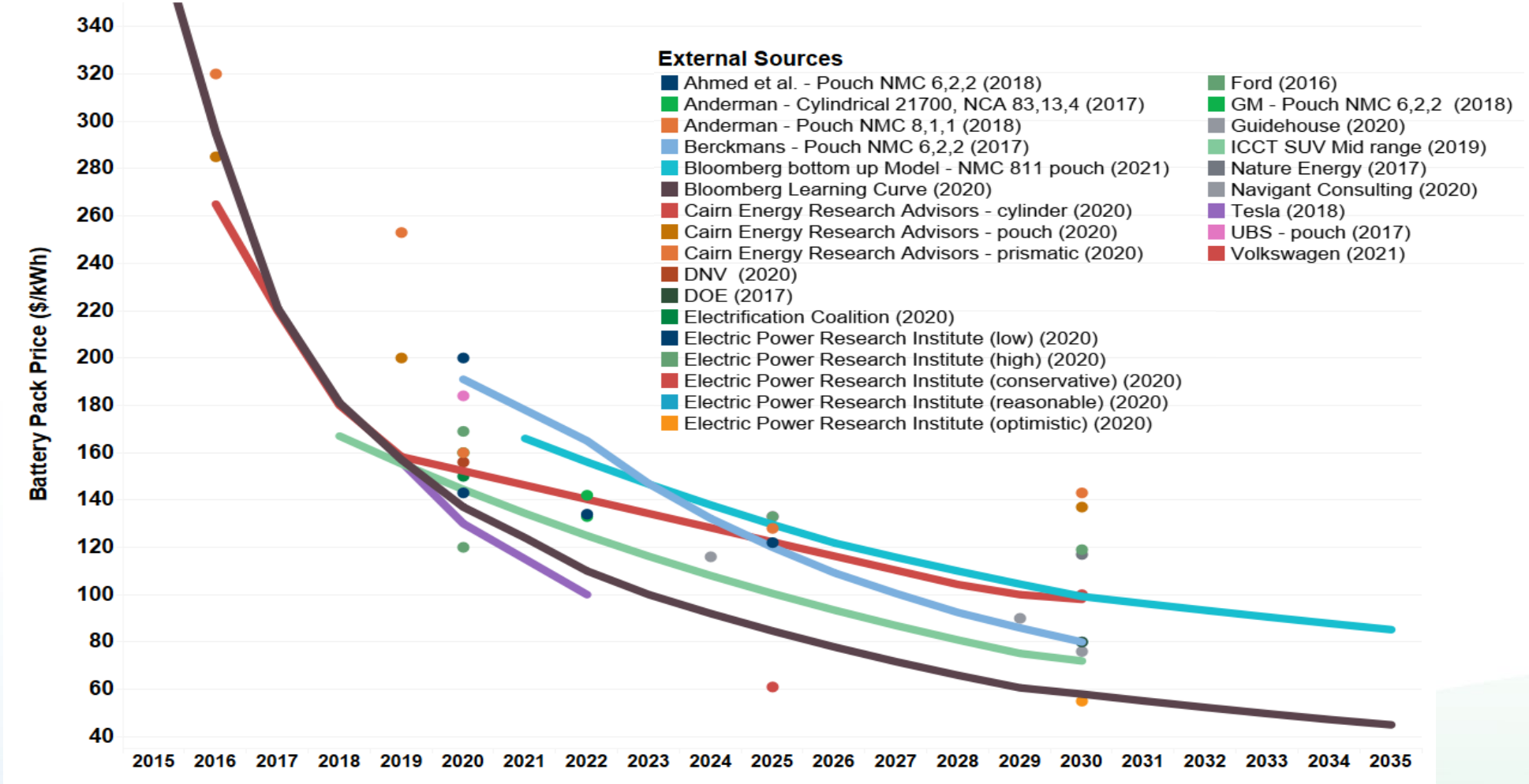
Battery price background information

- Scenarios based on estimates from publicly available battery price forecasts
- Lithium-ion batteries only (no solid-state battery or other battery chemistry)
- Prices shown are for battery packs ($/kWh), not battery cells



Source: CEC Staff

Battery Price Estimates from External Sources



CEC Battery Price Scenarios