



California: Leading the Future of Transportation

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NASEM EV Workshop

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California's

Clean Electricity Goals



2020

33%

Under the Renewables Portfolio Standard, eligible resources include solar, wind, geothermal, biomass and small hydroelectric.



2030

60%

2045

100%



Under SB 100 which expands eligibility to include additional carbon-free resources

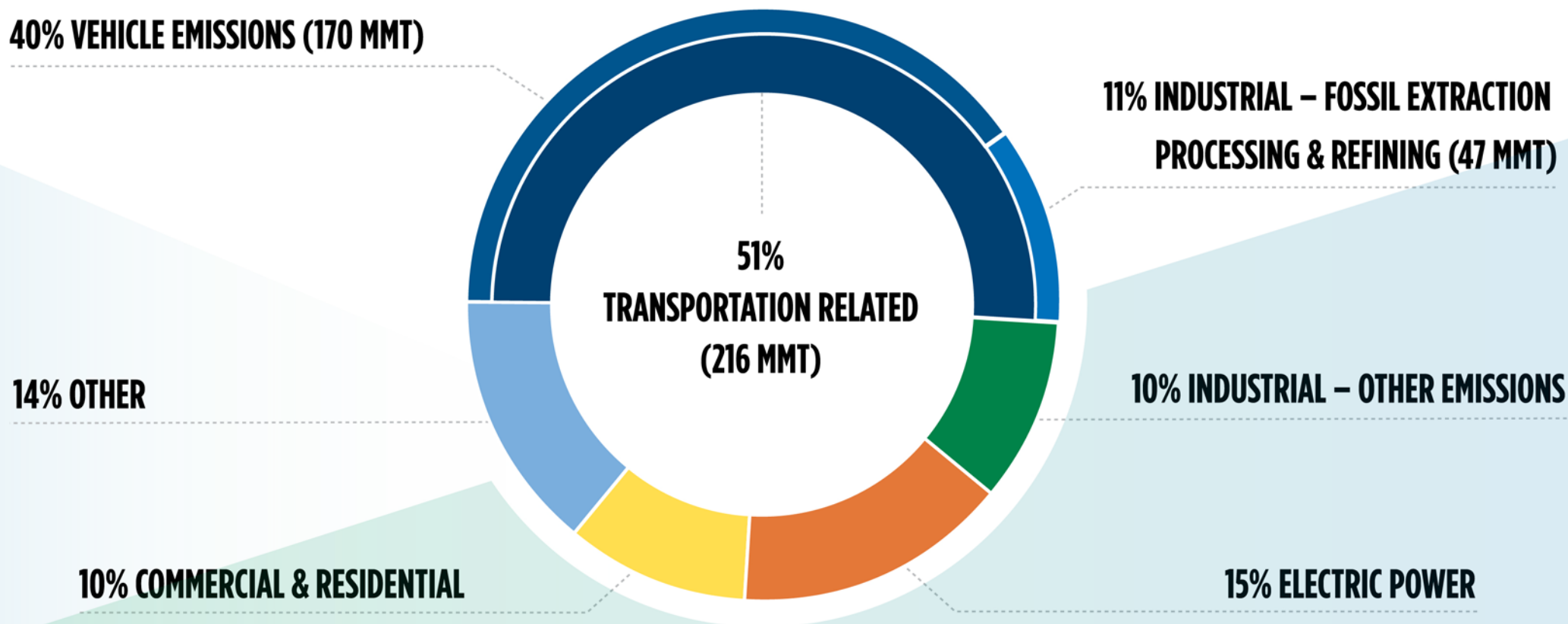


The Problem

Transportation is the greatest and increasing source of greenhouse gas emissions (GHGs) in California.

Transportation-Related Emissions Account for More Than Half of the State's GHG Emissions

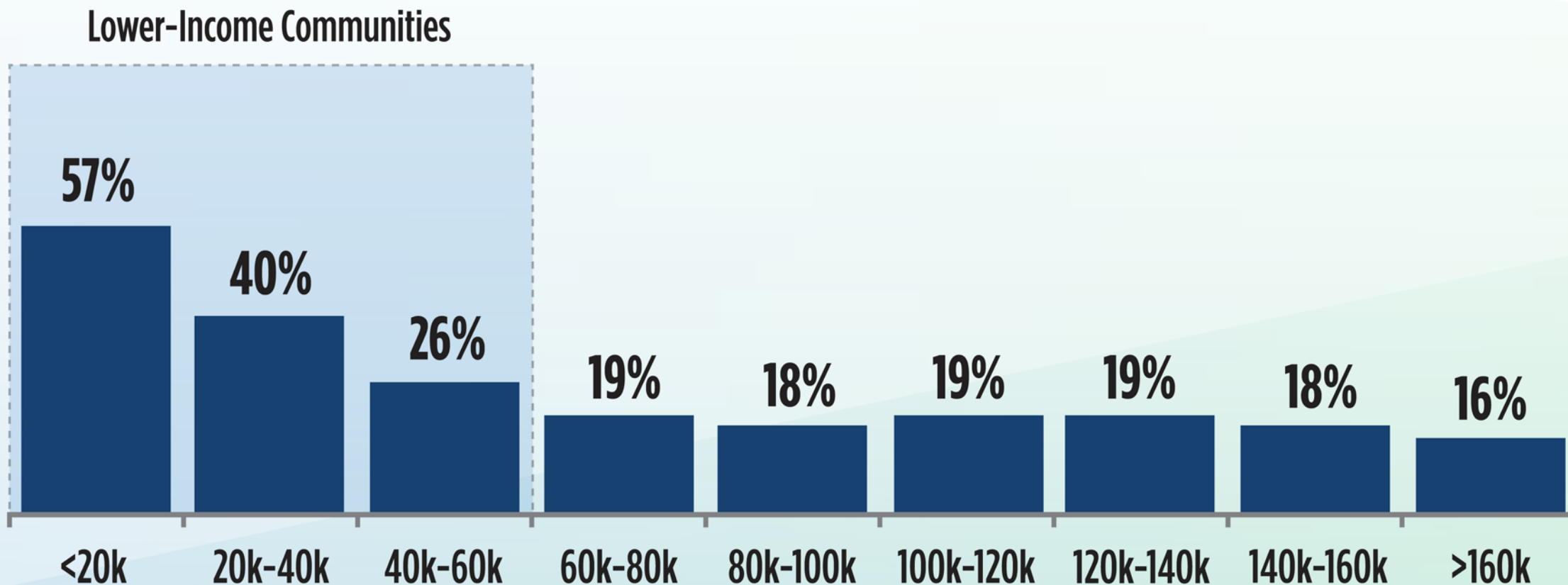
California 2018 GHG Emissions 425 Million Metric Tons (MMT) CO₂e



Source: 2020 Integrated Energy Policy Report Update Volume 1

Disparities in Transportation-Related Pollution Exposure by Race and Income

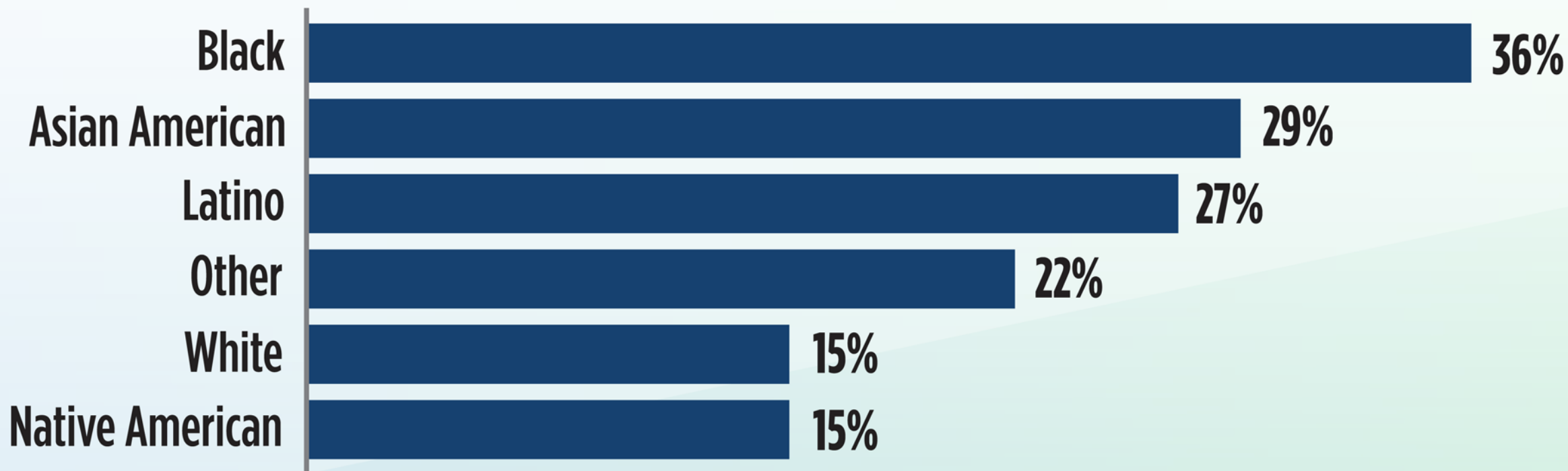
Percent of Residents Exposed to High Diesel PM Census Tract Median Household Income



Source: 2020 Integrated Energy Policy Report Update Volume 1

Disparities in Transportation-Related Pollution Exposure by Race and Income

Percent of Residents Living in High Diesel PM Exposure Communities, by Race



The image is a composite. The background features a range of large, rugged mountains with significant snow cover under a clear sky. In the middle ground, a dense urban skyline is visible, with several prominent skyscrapers. A semi-transparent blue horizontal band is superimposed over the middle of the image, passing behind the skyline. In the foreground, a suburban residential area with many palm trees is visible, suggesting a warm climate. The text is centered within the blue band.

The Solution

Clean zero-emission transportation.



California's Electric Vehicle Goals

2025



1.5 MILLION
EVS SOLD



250,000
CHARGERS INSTALLED



200 PUBLIC
HYDROGEN STATIONS

2030



5 MILLION
EVS SOLD

2035



100%
ELECTRIC SALES
FOR NEW PASSENGER
VEHICLES



100%
ELECTRIC OPERATIONS
FOR DRAYAGE TRUCKS AND
OFF-ROAD VEHICLES
& EQUIPMENT

2045



100%
ELECTRIC OPERATIONS
FOR MEDIUM-
AND HEAVY-DUTY
VEHICLES

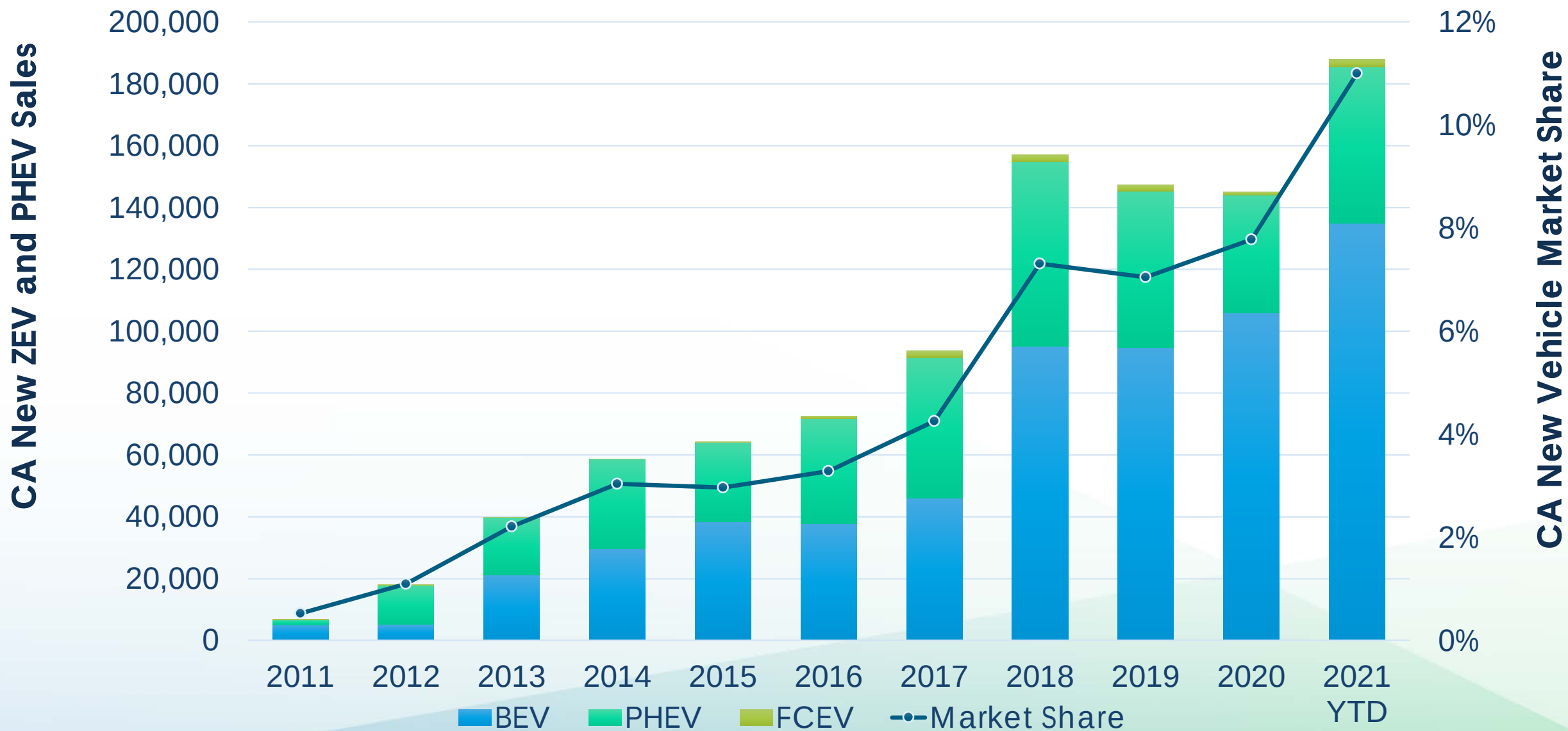
CA's 2021 Budget Prioritizes ZEVs

\$1.2 billion over 3 years for ZEV infrastructure & manufacturing grants



1. **\$500M for ZEV infrastructure**
2. **\$425M for ZEV infrastructure for 1,125 drayage trucks, 1,000 school buses, and 1000 transit buses**
3. **\$250M for ZEV manufacturing grants**

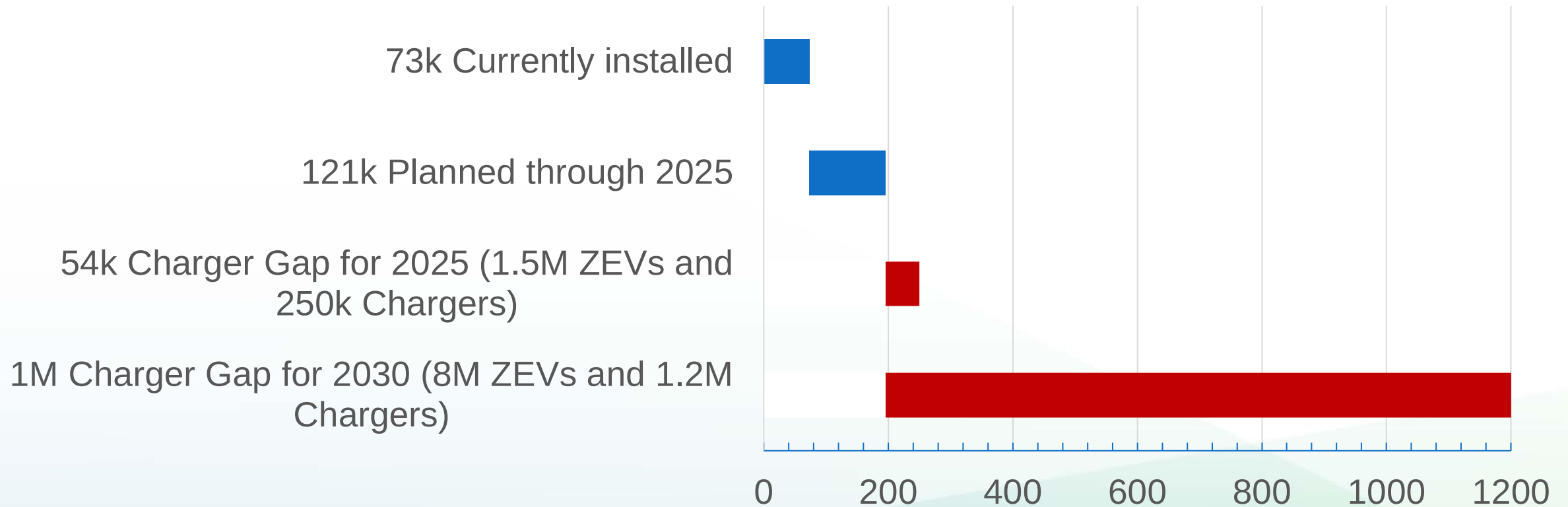
ZEVs Gaining Momentum and Market Share



Total EV Chargers in CA

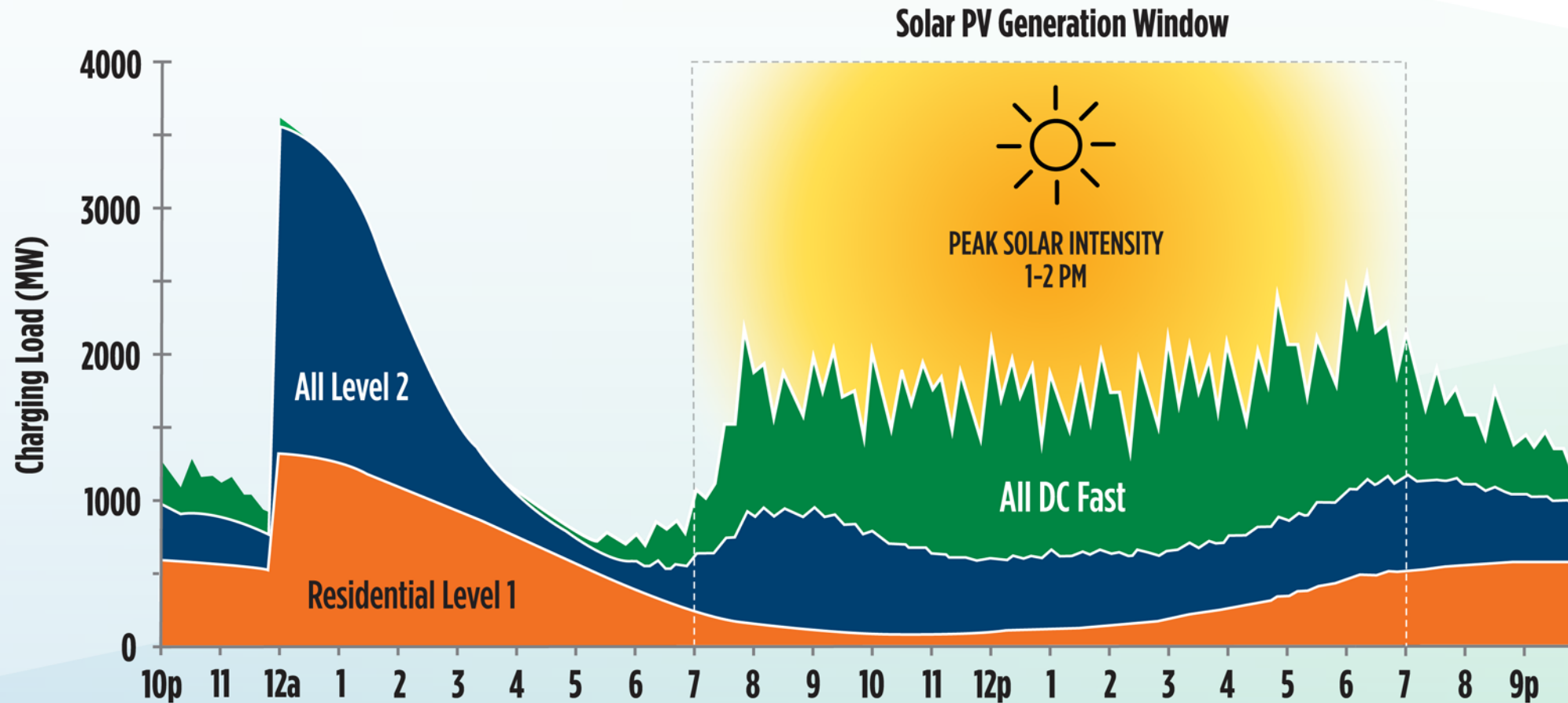
	Public	Shared Private	Grand Total
Level 1	301	350	651
Level 2	27,392	40,050	67,442
DC Fast	5,742	624	6,366
Total	33,435	41,024	74,459

Massive Scaleup in Passenger Vehicle Charger Infrastructure Needed to Reach 2030 Goals



Managing Charging Impacts on the Grid for Maximizing Renewable Energy Use Will Be Important as the PEV Market Grows

Load Profile for a Typical Weekday for EVI-Pro 2 with 5 Million PEVs



Source: 2020 Integrated Energy Policy Report Update Volume 1

Investing in School Buses with Vehicle-to-Grid Capability



The Ford F-150 Lightning: Will it be a gamechanger?





Thank You!

ZERO EMISSIONS

