Zero Emission Vehicle Policy, Market Development, Lessons Learned in California

Electric Vehicle Policy Bootcamp

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GO-Biz Overview

- Business Investment Services
- International Affairs
- Small Business
- Permits
- Zero Emission Vehicle Market Development
- Infrastructure & Economic Development Bank (I-Bank)
Sets three crucial goals for the ZEV Market:

1. 100% of in-state sales of new passenger cars and trucks will be zero-emission by 2035.

2. 100% zero-emission medium and heavy-duty vehicles in the State by 2045 where feasible and by 2035 for drayage trucks.

3. 100% zero-emission off-road vehicles and equipment by 2035, where feasible.
Transportation is the dominant source of emissions
Executive Order Policy Directives

- **GO-Biz:** ZEV Market Development Strategy
- **Air Resources Board:** regulations and strategies
- **Energy Commission:** charging infrastructure assessment
- **Air Resources Board, Energy Commission, Public Utilities Commission and other agencies:** accelerate deployment of fueling/charging infrastructure
- **And related actions** to ensure enhanced clean mobility options, just workforce transition, continued fuel carbon intensity reduction
Market Update: California’s interim goals

- 5 million ZEVs by 2030 on CA roads
- 250,000 charging stations, including 10,000 DCFCs by 2025
- 200 hydrogen stations by 2025
Market Update

Vehicles

- 2020 through Q3, ZEVs = 9% of passenger market share (including BEV, PHEV, and FCEV)
- 2019 passenger market share was 7.8%
- Average increase of new ZEV registrations between 2007 and 2018 was 82%
- Nearly 100 passenger electric models set to debut by the end of 2024, in a variety of classes
- Currently 100 MHD ZEVs available within 9 vehicle platforms, with 213 expected by 2023 from 51 manufacturers
Infrastructure

- Charging: 67,343 public and “private shared” – 27% of 2025 goal
  - DCFC 54% of 2025 goal
- Hydrogen: 44 stations – 22% of 2025 goal
Total Investment in EVCS is Ramping Up

Total Investment in California's Public EVCS Infrastructure Since 2010

- Private Investment
- Tesla Cumulative Investment
- Electrify America Investment
- NRG Settlement Investment
- Total CTP Investment in Public
- Cumulative 'Public' IOU Investment
- Total Number of Connectors
We have not seen any major impact of COVID-19 on the installation of EVCS in California

Statewide Shelter-in-Place begins March 22

EVCS Investment Through First 5 Months of 2020

EVCS Investment Through First 5 Months of 2019
Market Update

Economic Development and Jobs

• In 2020 through September, EVs were California's number one export with $3.96B in exports.

• An estimated 275,600 direct EV industry jobs have been created statewide.

• In California, the EV industry pays an average annual wage of $91,300, above the average annual wage across all industries of $68,500.

• EV industry “clustering” is supporting geographically concentrated job growth, innovation and commerce, as suppliers and related businesses locate nearby. For example, workers are employed in activities related to charging networks and installation of infrastructure.
Policy & Market Lessons Learned

• Equity & community engagement
• One size does not fit all
• Incentives, workforce, education & outreach
Policy & Market Lessons Learned

- Piecemeal policy as you go vs. comprehensive strategy
- Complementary policies and funding source diversity
Policy & Market Lessons Learned

- Soft cost solutions
  - E.g., permitting and building code
There’s more... a lot more

- National and international partnerships
- Energy demand forecasting, planning
- Vehicle-grid integration
- Battery production and recycling
- Charging station accessibility, payment options, consumer protection, connector standards, signage
- Mobility options and services
- Workforce development
- State fleet “greening” and holistic transportation planning
- Zero-emission zones
- High-speed rail
- Low Carbon Fuel Standard
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www.business.ca.gov/ZEV