

Incentivizing Electric Vehicles -- California's ZEV Program

从加州零排放车项目 谈鼓励电动车

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Overview

内容



Advanced Clean Cars

- Regulation background
- Complimentary programs
- 法规背景
- 辅助政策

The Road to 80,000 ZEVs: History of the California ZEV Regulation

通往8万辆零排放车之路：零 排放车项目的历史回顾

Advanced Clean Cars

1990: ZEV requirement first adopted

1990-1999: ZEV technology development, introduction of **Partial Zero Emission Vehicles (PZEV)**

2000-2005: Regulation modified to resolve legal issues and support both BEVs and FCVs

2008: Requirements for 2009-2017 updated

2012: Requirements for 2018-2025 adopted

1990: 首个零排放车要求确立

1990-1999: 技术进步，开启了部分零排放车时代

2000-2005: 政策调整以解决法律权限问题以及支持电动车和燃料电池车

2008: 2009-2017年段零排放车要求确立

2012: 2018-2025年零排放车要求确立

ZEV: How The Regulation Works

零排放车项目：法规如何执行

Advanced Clean Cars

- Large manufacturers must produce a minimum percentage of total sales each year as zero emission vehicles (ZEVs)



Battery Electric Vehicles



Hydrogen Fuel Cell

- May substitute some with near-zero emission vehicles



Plug-in Hybrid Electric Vehicles



Conventional Hybrids (< 2018 MY)



Clean Gasoline Vehicles (<2018 MY)

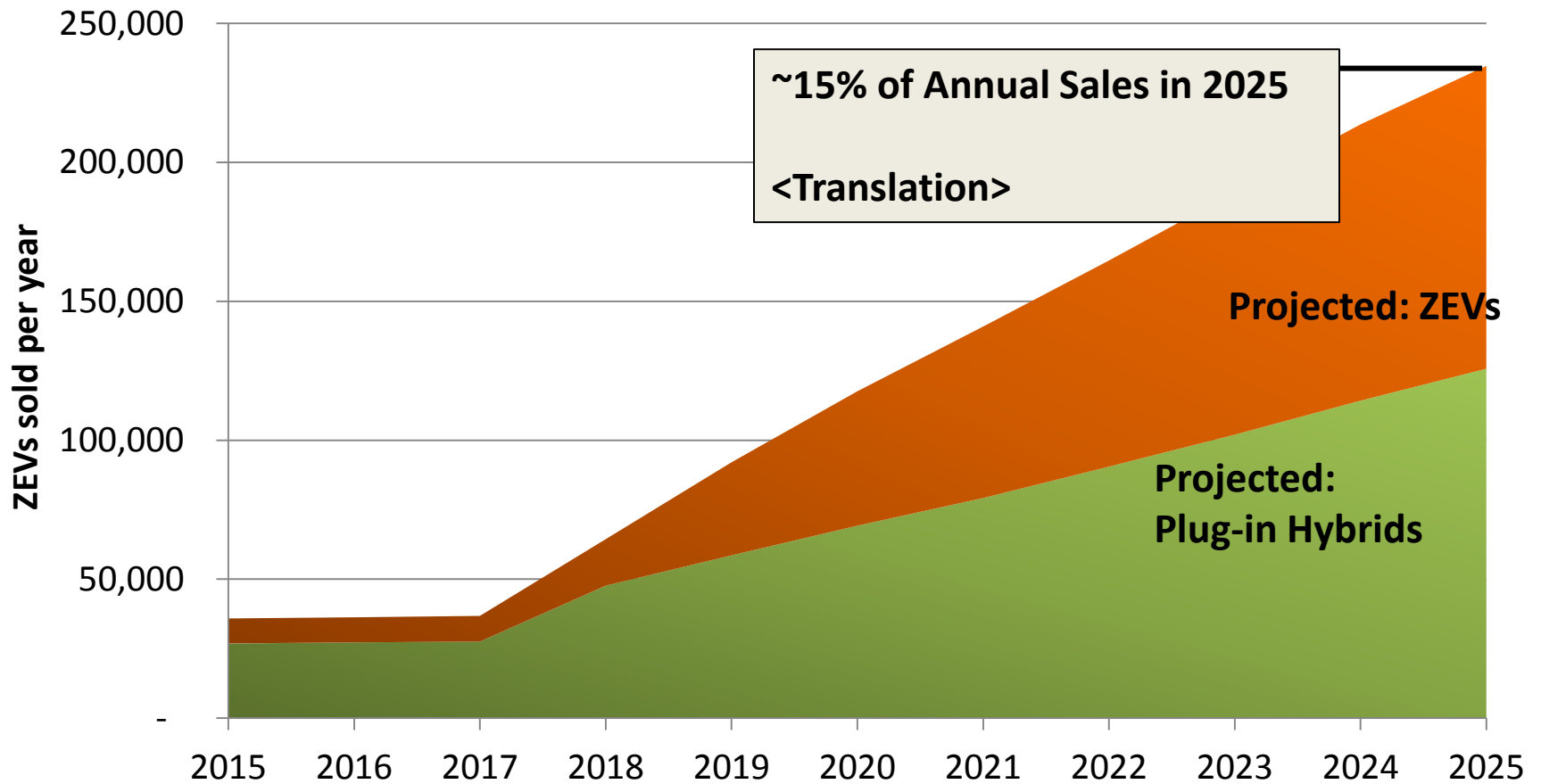
- 主要企业必须生产到一个最低年销售率目标的零排放车
 - 纯电动车
 - 氢燃料电池车
- 允许用一部分近零排放车替代
 - 插电式混合动力车
 - 传统混合动力
 - 清洁汽油车



2015-2025 ZEV Requirements

2015-2025年零排放 车要求

Advanced Clean Cars



ZEV Regulation Reviews

零排放车法规回顾

Advanced Clean Cars

- Technology still rapidly evolving
 - 7 regulation reviews since adoption to adjust
- Likely more to come
 - Still limited market introduction
 - Studying consumer response
 - Watching technology and cost progress
- 技术仍在飞速发展
 - 自建立零排放车项目以来有过7次回顾和调整
- 后续会有更多
 - 市场引入仍有限
 - 研究消费者反映
 - 见证技术成本的下降

Complementary Policies

辅助政策

Advanced Clean Cars

- History
 - Infrastructure support
 - Incentives
 - Partnerships
- 历史
 - 基础设施
 - 激励政策
 - 伙伴关系

History

历史

Advanced Clean Cars

- 1990's: California's first incentive programs (ZIP I and ZIP II)
- 2000: California Fuel Cell Partnership opens
- 2008: Incentives modified
- 2010: Incentives modified; CA Plug-in Electric Vehicle Collaborative established
- 2012: CA Gov. Brown signs Executive Order for 1.5 million ZEVs in CA by 2025
- 2013: Gov. Brown & 7 other governors sign Multi-State ZEV MOU to support 3.3 million ZEVs by 2025

- 1990's: 首次激励政策
- 2000: 加州燃料电池伙伴关系开始
- 2008: 激励政策调整
- 2010: 激励政策再次调整；加州插电式车联盟建立
- 2012: 加州州长Brown签署行政要求在2025年前加州实现150万辆零排放车
- 2013: 加州州长和其他7位州长签署跨州零排放车支持，在2025年前实现330万辆

Expanding Infrastructure: Hydrogen

扩大加氢基础设施

Advanced Clean Cars

- Public H2 stations (open)
 - 9 (+1 in final testing)
 - 17 more to open by 2014/2015
- Future stations
 - Funding for ~15 more by 2017
 - New funding for 10-12/year up to 100 stations
- 公共加氢站
 - 9个（+1最后测试中）
 - 2014-15年新设17个
- 未来计划
 - 在2017年前资助15个
 - 新的资金提供给100个加氢站建设，时间跨度未来10-12年

Expanding Infrastructure: Public EV Charging

扩大基础设施：公共电动车 充电站

Advanced Clean Cars

- Existing
 - ~1000 Level 2 stations with over 2800 connectors (SAE J1772)
 - 67 quick chargers (CHAdeMO)
- Future
 - CEC funds – \$2.5M for 39 quick chargers in So Cal
 - NRG Energy settlement: \$100 million
 - 200 combo Level 2/fast charger station sites
 - Infrastructure for 10,000 level 2 for multi-family housing, workplace, schools and hospitals.

- 现有
 - 1000个2级站2800连接点
 - 67个快充站
- 未来
 - CEC资助250万建立39个快充站
 - NRG能源协定：1亿美元
 - 200个二级和快充综合站
 - 10000个二级充电基础设施分别在住家、工作场所和医院

Creating a Suite of Incentives: Consumer Acceptance

建立消费者能接受的激励体系

Advanced Clean Cars

- Rebates to vehicle purchaser
- Policies to increase ZEV usage in rental and car sharing fleets
- Expanded education at auto dealerships
- Federal tax credits
- HOV lane access
- Statewide policy providing parking benefits at state owned buildings and parking lots
- Encourage workplace charging infrastructure
- 购买补贴
- 鼓励租用和合用零排放车
- 增加对售车行的培训
- 联邦税收激励
- 拼车道使用权
- 整州范围内提供停车位激励
- 激励工作场所充电设施的建立

Building Volumes: Partnerships

建立规模：伙伴关系

Advanced Clean Cars

- Public-Private Partnerships focused on technical issues
 - California Plug-In Electric Vehicle Collaborative
 - Fuel Cell Partnership
 - H2 First and H2 USA
 - 9 other states have adopted ZEV regulation (MA, ME, NY, NJ, VT, CT, RI, MD, OR)
 - Equal to 2x California's projected ZEV compliance
 - Multi-state MOU and Action Plan to support commercialization of ZEVs
- 政府和企业形成技术问题上的伙伴关系
 - 加州插电式车辆联盟
 - 燃料电池车联盟
 - H2 First和H2 USA
 - 其他9个州也采用了零排放车项目
 - 相当于加州计划的两倍
 - 跨州的合作和行动来共同支持零排放车市场化

- Even with a mandate, long process to get to today
- Supporting policies as important or more
 - Infrastructure development
 - Financial and non-financial incentives
 - Partnerships

- 即使有强制要求，零排放项目到今天成功也是经过了漫长的摸索
- 各种支持政策非常重要
 - 基础设施的建立
 - 经济和非经济激励
 - 伙伴关系