Can California Reach its Climate Targets?
CALIFORNIA CLIMATE POLICY MODELING
WorkShop and Dialogue
UCDAVIS
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5 million EVs by 2030: Market Perspectives

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California PEVs 2018-2030: Can We?

If we can sell 2.5 millions by 2025

About 30% market share?
What If we start with 1.5 millions by 2025?

We need to sell about million ZEVs per year by 2030 (60% market share?)

If we have 1.5 millions by 2025

Gil Tal, UC Davis
EV Market Perspectives

- Market Demand
- EV Sales
- Enforcing Policy
- ICE Limiting Policies
- PEV Supply
Key Challenges for OEMs

- **Driving Range Extension**
  From 80 to 300+ miles

- **Affordable Vehicle Price: price parity with ICEVs for all segments**
  Lower battery price $100/kWh cell $125 pack

- **Quick Charging**
  80% SOC in 20 min
  80% in 5 minutes

- **Lower cost PHEVs**
  New drivetrain designs
Batteries and BEVs: the next 10 years

BEV Lithium Ion projected pouch cell parameters
How large is the market shift away from cars?

California Fleet 2012-2017

- Car
- Van
- SUV
- Truck

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54% of California households bought new vehicles between January 2010 and June 2017.

- **Purchased no new vehicles:** 46%
- **One:** 37.5%
- **Two:** 13.6%
- **Three or more:** 2.8%

**New vehicles purchased by households:**
- **12% of all new vehicles:** 0%
- **51%**
- **37%**

Source: Gil Tal, UC Davis
In 2017, 30% of the new PEV buyers were already buying their second car. A strong new PEV market will need a strong used PEV market.
More than half of new PEVs are coming back to market after 2-3 years lease
New PEV sales ≠ PEV adopters

For example:
• First time new PEV buyers
• Second and multiple time new PEV buyers
• First time buyers who no longer have PEV
• First time used PEV buyers
• Second and multiple time used PEV buyers

As most car sales happened in the used market, healthy market growth will generate more than one adopter in the new or used market.
California PEVs 2018-2030: Yes we Can

Number of cumulative adopters in each cluster

Number of adopters per year in each cluster

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Next Steps:

• Model market share by vehicle segment (fewer cars)
• Model BEV and PHEV adoption by HH size, house type and vehicle segment
• Model the secondary market

Open Questions:

• Can we make it to 5 millions with current policies?
• Supply
• Infrastructure to support BEVs
• New PEV Incentives
• Secondary market Incentives
Thank you

Questions?

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