To reach California’s GHG reduction goals, eventually we must replace many of the things we rely on today that require combustion

- California set a goal to **reduce GHG emissions 40%** below 1990 levels by 2030, and 80% by 2050.

- The largest contributor is **transportation**, followed by the electric sector.

- The most **practical and economical** way to create real change is for sectors to **work together** to find an affordable alternative to fossil fuels.
By 2030, we need to increase light duty electric vehicle stock *20 times* from today’s levels.
California’s charging station goal: 250,000 by 2025

- To achieve Governor Brown’s bold charging station goal, SCE’s territory could see as many as 91,000 public charging stations installed in the next 8 years.
- This scale of deployment will face tremendous logistical challenges.
- Utility programs will play an important leading role but will not be the sole provider of charging stations in CA.

CA Charging Station Port Goal by Utility Territory (2025)

- PG&E
- SDG&E
- Other
- SCE ~91,000
- ~20,000 public stations

Range anxiety, awareness and cost continue to persist as the primary barriers to adoption; thus, creating a complex web of issues for key stakeholders.

**Customer Barriers**
- Can’t Charge at Home
- BEV Range Not Sufficient
- Cost is too high
- Have to wait for Subsidy
- Unaware of Public Charging
- Unaware of Subsidies
- Unaware of EVs

**OEM Barriers**
- Lower Service Revenue
- High Staff Turnover
- Dealers Not Educated
- Battery Costs High
- Lose Money on EVs
- Cost & Complexity of Permits
- Different Parking Lot Standards
- Site Upgrades Costly
- EVSE too costly
- Public EVSP Not Economic
- BEV not Available in Vehicle Class

**Charging Provider Barriers**
- Public EVSP Not Economic
- Site Upgrades Costly
- EVSE too costly
- Home Upgrades for EVSE costly

**ILLUSTRATIVE PARTIAL LISTING**
- Unaware of Public Charging
- Unaware of Subsidies
- Subsidy Not Claimed
- Subsidy Too Complex

Energy for What’s Ahead™
We need a diverse set of programs to overcome adoption barriers in order to reach California’s goals.

**An infrastructure program** continues the “make ready” model established through and supported by Charge Ready Pilot at workplace, fleet, destination and MUD.

**ME&O activities** will be essential to CR2 portfolio (key adoption barrier).

**“Targeted” Programs** focus on specific customer segments, technologies or locations at scale. (e.g., rebates, State Parks, Schools)

**“Pilot” programs** used to test functionality of technologies and/or hypotheses around business models. Pilots should not presuppose expansion and therefore require “gap funding”.

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**Overlay: Multi-unit Dwellings, Disadvantaged Communities, Local Partnerships, Ridesharing, Olympics, Demand Response**