

# Recent State (& Federal) Climate Action

## How It Can Help Local Efforts to Achieve Climate Action Plans

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# Getting to Zero – State-level View

## 100% Clean Electricity

Renewable & zero-carbon generation  
Energy storage  
Dispatchable clean energy  
Better integration of distributed energy resources

## 100% Clean Transportation

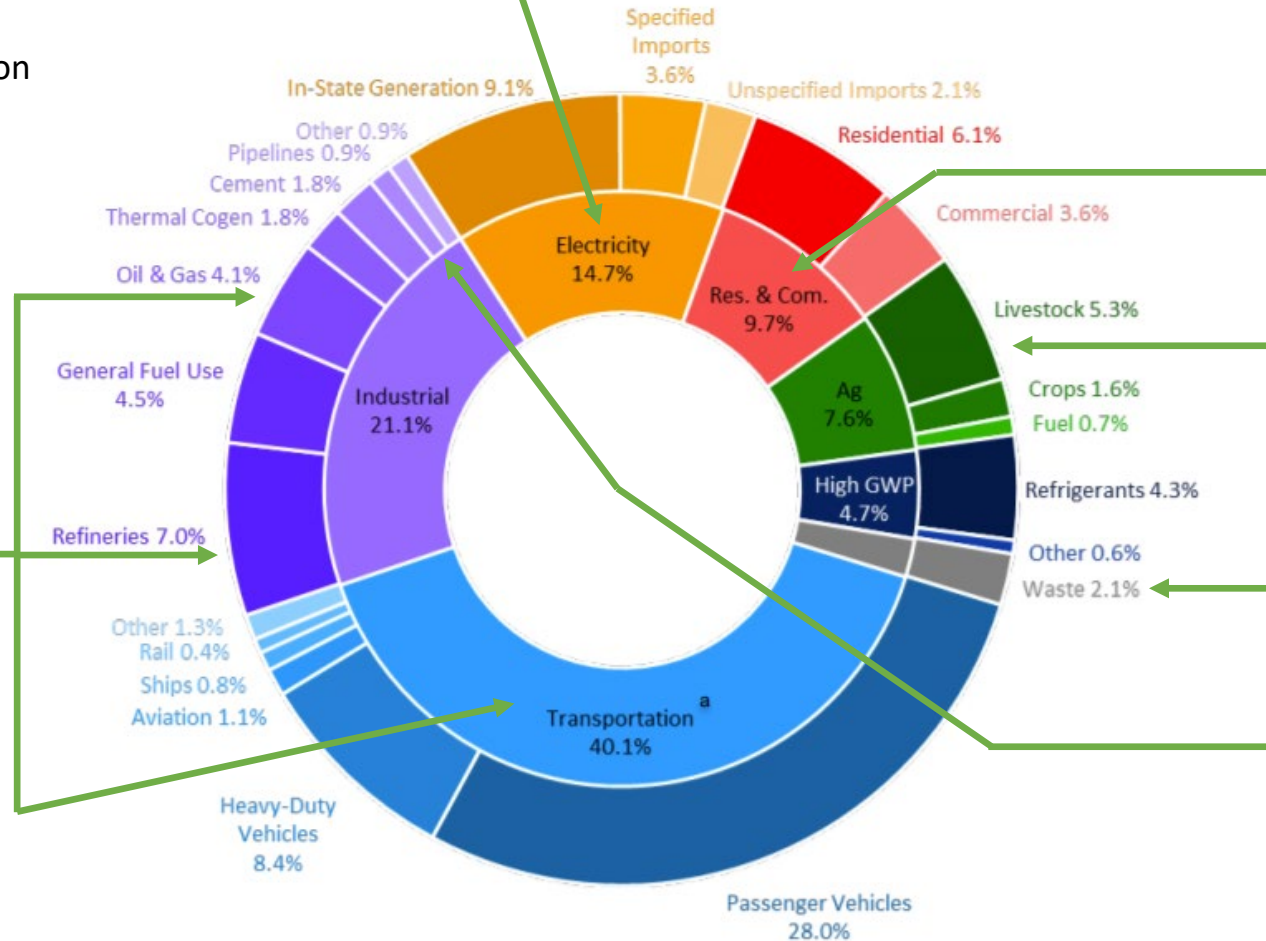
ZEV adoption  
Charging infrastructure  
Low carbon fuels  
Reduced VMT

## 100% Clean Homes & Buildings

All-electric new construction  
Electric-ready when remodeling  
Electric appliances on replacement  
Low GWP refrigerants

## Reduce Methane Emissions

Pipelines: in-state leaks + huge (uncounted) out-of-state emissions  
Agriculture: livestock  
Waste: landfills, water treatment



California GHG Inventory

# Getting to Zero – City GHG Inventories

## Los Altos GHG Inventory (excluding city government)

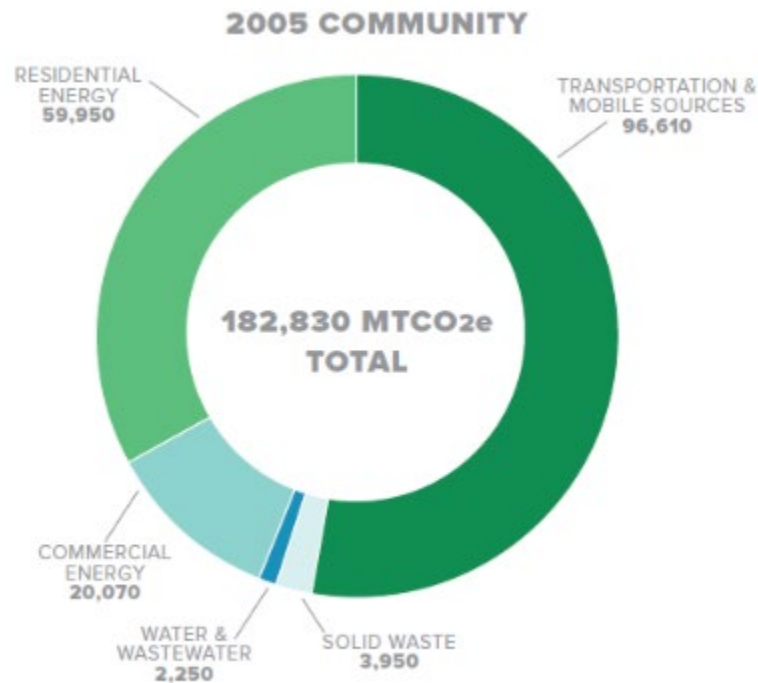


Figure 6 2005 Community emissions sources

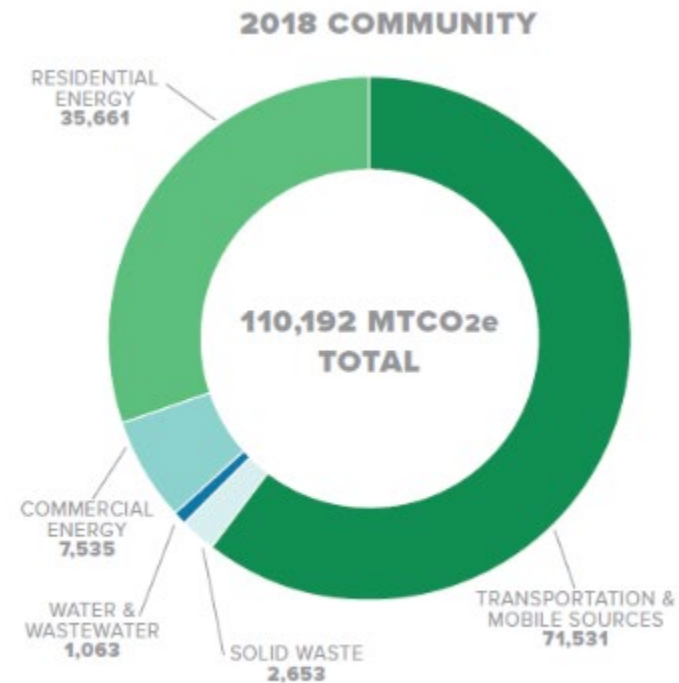


Figure 8 2018 Community emissions sources



# Cross-sector Efforts

## Economy-wide net-zero target

- AB 1279 codified net-zero by 2045, with at least 85% emissions reductions
- Solidifies CARB's authority past existing 40% by 2030 target

## Net-zero for state government

- SB 1203 requires state government agencies to create plans for achieving net-zero within their own operations by 2035
- Focus will be on electricity, buildings, transportation, and negative emissions offsets for residual emissions



# Decarbonizing Electricity



## Interim Targets

- SB 100 (2018) set a target of 100% of retail sales of by 2045
- SB 1020 set targets for 90% by 2035, 95% by 2040, & 100% of electricity used by state agencies by 2035

## 24/7 Carbon Free Energy Reporting

- SB 1158 requires utilities to measure the % of electricity met from clean sources hourly (rather than annually)
- Will fix incentives and encourage procurement of the types of resources needed to run the grid on clean energy 24/7

## Resource Adequacy (RA) Reforms

- New “slice-of-day” approach will improve reliability and add to incentives for 24/7 clean energy procurement

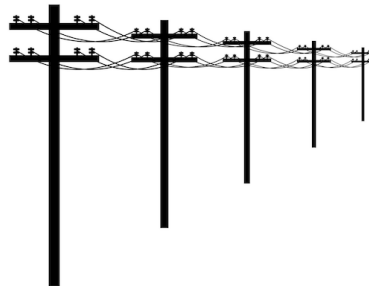
## Diablo Canyon Extension

- 5-year extension, mostly for reliability reasons
- Provides ~6% of state’s total electricity (carbon-free)

## Demand Flexibility Improvements

- New statewide Demand Side Grid Support program
- Pilots to pay for energy efficiency upgrades based on metered load reductions

## Transmission Expansion



- SB 887 requires a longer term approach to planning
- Agency efforts to expedite interconnections near term

# Decarbonizing Transportation



## Zero-emission Vehicle (ZEV) Mandates

### Advanced Clean Cars II

- Mandates on car manufacturers to sell % of ZEV cars: 35% by 2026, 68% by 2030, 100% by 2035

### Advanced Clean Trucks

- Similar rules for sales of new trucks, with slower ramp
- 40-75% of ZEV sales by 2045 (targets vary by class of truck)

### Advanced Clean Fleets

- Regulations in development to require fleet owners (gov and private fleets > 50 trucks) to transition to ZEVs
- Drayage and delivery trucks 100% by 2035

### Clean Miles

- Will require ride-hailing companies to achieve % of electric vehicle miles traveled (eVMT): 50% by 2027, 90% by 2030

# Decarbonizing Transportation



## Financial Incentives

### Tax credits

- Inflation Reduction Act: \$7500 (new), \$4000 (used); no caps

### Rebates & Grants for Light Duty

- Several state programs: [Clean Cars for All](#), [CVRP](#), [CA Clean Fuel Reward](#), [Clean Vehicle Assistance Program](#)
- [CVRP for Fleets](#) provides rebates for local government fleets

### Rebates & Grants for Med/Heavy Duty

- [Clean Truck and Bus Vouchers](#) (CARB)
- [Clean Transportation Program](#) (CEC funding for vehicles and charging/fueling infrastructure)

### Increasing fuel costs

- Programs like Cap & Trade and the Low Carbon Fuel Standard

# Decarbonizing Transportation

## Charging / Fueling Infrastructure

### Building codes



### Funding for public charging & fleets

### Charger Reliability

## Other

### Reducing VMT

- 2022 EV reqs for Multi-family (MFD): 30% of spaces ready for use
  - 18 month interim: propose 50% ready for use
  - AB 1738 calls for building codes to add EV charging requirements for existing buildings, triggered by alterations
  - [Clean Transportation Program](#) (funding for vehicles and charging/fueling infrastructure)
  - Targets for ~1.4M public/shared chargers by 2030
  - IIJA funding for nationwide EV charging & H<sub>2</sub> refueling
  - AB 2061 requires uptime reporting for public EV chargers, aimed at improving reliability
- 
- AB 2097 eliminates parking space minimums for buildings within 0.5 miles of transit



# Decarbonizing Buildings



## Financial Incentives

### Tax credits & rebates

- [Extensive tax credits & rebates](#) (low-income only) in IRA. Covers appliances, wiring, panels, weatherization...
- ~\$300M in state budget for appliance rebates

### Financing

- [GoGreen](#) credit-enhanced private loans
- On-bill Financing (OBF) pilot programs

### Direct installation programs

- ~\$630M in state budget for low-income direct installation
- [ESA](#) and [LIWP](#) programs for efficiency and GHG improvements

### Discouraging new gas hook-ups

- PUC eliminated the gas utility-funded allowances for new hook-ups



# Decarbonizing Buildings

## Mandates

Building codes (& reach codes!)

Performance standards

Appliance Standards

- 2022 code uses all-electric baseline, strongly encourages electric space/water heating in new construction
  - NYC, DC, CO, WA have passed Building Performance Standards to require improvements to existing (large) buildings
  - Governor signed on to national BPS coalition
  - Working on a BPS bill for 2023
  - BAAQMD considering a zero-emissions appliance standard starting in 2027 (“replace on burn-out” requirement)
  - CARB has proposed similar rules statewide starting in 2030
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- SB 68 requires CEC to publish best practices for consumers, contractors, and local governments

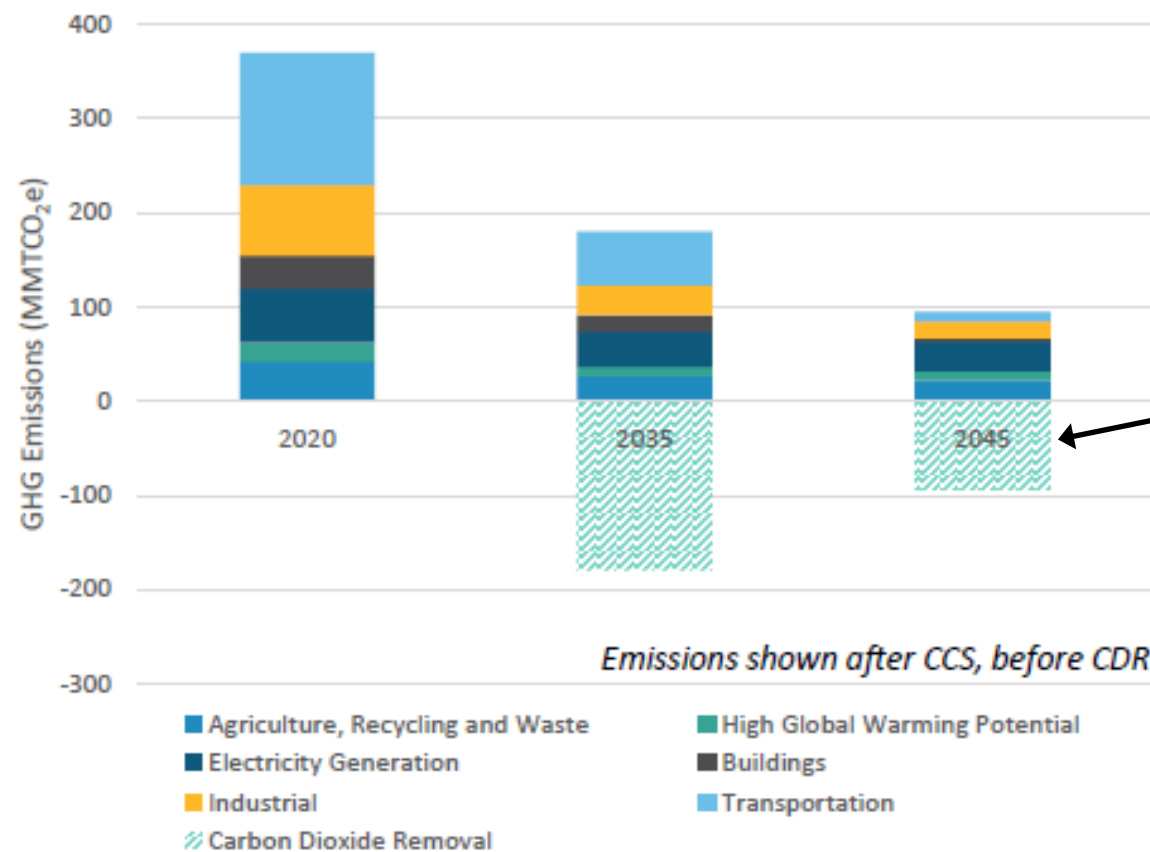
## Other Barriers

Lack of familiarity



# Getting to *Net Zero*

Figure 2-5: Residual emissions in 2020, 2035, and 2045 and potential carbon dioxide removal in 2035, and 2045 for the Proposed Scenario



Estimates needing almost 100 MMT/year of negative emissions in 2045 to offset remaining emissions

# Growing Negative Emissions

## Targets



- Scoping plan calls for 1-2 MMT/year by 2030
- AB 1757 requires state to set targets for natural carbon sequestration by 2030, 2038, 2045

## Mandates / Incentives



- Working on a bill to require polluters to purchase negative emissions credits for a growing % of emissions, 100% in 2045
- Tighter rules to ensure high quality: additionality, permanence