# Where Are We in Climate Action Planning 2019?

Nilmini Silva-Send

October 1, 2019



### California Climate and Energy Policy Context



# California Health and Safety Code s. 38505

- California Air Resources Board must regulate seven greenhouse gases:
- Carbon dioxide  $(CO_{2})$ Methane  $(CH_4)$ Nitrous oxide  $(N_2O)$
- Sulfur hexafluoride (SF<sub>6</sub>) Hydrofluorocarbons (HFCs) Perfluorocarbons (PFCs) Nitrogen trifluoride (NF<sub>3</sub>)

High Global Warming Potential Gases – HGWP

# California Emissions by Greenhouse Gas 2017



## California Emissions by Category 2017



## Typical City Emissions by Category



EO S-03-05 (2005)	By 2020, reduce GHG emissions to 1990 levels	
	By 2050, reduce GHG emissions to 80% below 1990 levels	



EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	
	By 2050, reduce GHG emissions to 80% below 1990 levels	
AB 32 (2006)	1990 GHG level by 2020	



EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	
	By 2050, reduce GHG emissions to 80% below 1990 levels	
AB 32 (2006)	1990 GHG level by 2020	
EO B-30-15 (2015)	40% < 1990 GHGs by 2030	



EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	
	By 2050, reduce GHG emissions to 80% below 1990 levels	
AB 32 (2006)	1990 GHG level by 2020	
EO B-30-15 (2015)	40% < 1990 GHGs by 2030	
SB 32 (2016)	40% < 1990 GHGs by 2030	



EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	
	By 2050, reduce GHG emissions to 80% below 1990 levels	
AB 32 (2006)	1990 GHG level by 2020	
EO B-30-15 (2015)	40% < 1990 GHGs by 2030	
SB 32 (2016)	40% < 1990 GHGs by 2030	



EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	
	By 2050, reduce GHG emissions to 80% below 1990 levels	
AB 32 (2006)	1990 GHG level by 2020	
EO B-30-15 (2015)	40% < 1990 GHGs by 2030	
SB 32 (2016)	40% < 1990 GHGs by 2030	
EO B-55-18 (2018)	Carbon neutral by 2045	

California Greenhouse Gas Emissions 2000-2017 and Targets

600.0



EO B-55-18 (2018)	Carbon neutral by 2045	
SB 32 (2016)	40% < 1990 GHGs by 2030	
EO B-30-15 (2015)	40% < 1990 GHGs by 2030	
AB 32 (2006)	1990 GHG level by 2020	
	By 2050, reduce GHG emissions to 80% below 1990 levels	
EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	
EO S-03-05	By 2020, reduce GHG emissions to 1990 levels	

California Greenhouse Gas Emissions 2000-2017 and Targets

600.0



## Energy Policy is driven by Climate Policy



Source: California Energy Commission, Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model, June 2018.

# California Energy and Climate Change Regulations

- 1. Electricity Sector: Renewable Portfolio Standard (**RPS**); Direct Access/Choice; PV goals
- 2. Vehicle efficiency standards and Electric Vehicle Goals
- 3. Efficiency regulations: building standards, appliance standards
- 5. SB 375: land use and transportation GHG targets
- 6. Cap and trade
- 7. City climate action plans

# California Energy and Climate Change Regulations

- 1. Electricity Sector: Renewable Portfolio Standard (RPS); Direct Access/Choice; PV goals
- ✤ 2. Vehicle efficiency standards and Electric Vehicle Goals
  - 3. Efficiency regulations: building standards, appliance standards
  - 5. SB 375: land use and transportation GHG targets
  - 6. Cap and trade
- **7**. City **climate action plans**

## Electricity Sector – more renewables

Required renewables on the grid (RPS)

- Applies to all electricity service providers (DA, CCAs, public utilities and IOUs)
  - 33% RPS-eligibles by 2020
  - o 60% **RPS-eligibles** by 2030 (SB100)
  - 100% zero-carbon electricity by 2045 (SB100)
- Local CAPs renewables goals > state standards
  - City of San Diego CAP 2015: 100% renewable electricity by 2035
  - $\,\circ\,$  Solana Beach (2017), Del Mar (2016) 100% by 2035
  - Chula Vista (2017) by 2035 100% by 2035

## Electricity Sector – more choice?

#### **Direct Access**

- Commercial and industrial customers can buy from other ESPs
- AB 1890 (1998) ~13% of IOU load, capped, suspended 2001
- SB 237 (2019): Expanded Direct Access
  - Increased statewide cap by 4,000 GWHs for non-residential customers
  - CPUC will be addressing expansion of DA
    - Rulemaking proceeding to consider re-opening DA for all, in 2020

## Electricity Sector – more choice?

#### **Direct Access**

- Commercial and industrial customers can buy from other ESPs
- AB 1890 (1998) ~13% of IOU load, capped, suspended 2001
- SB 237 (2019): Expanded Direct Access
  - Increased statewide cap by 4,000 GWHs for non-residential customers
  - CPUC will be addressing expansion of DA
    - Rulemaking proceeding to consider re-opening DA for all, in 2020

Likely no effect on GHG reduction goals

## Electricity Sector – more choice?

#### **Community Choice Aggregation (AB117)**

- Communities (cities, counties) may procure energy on behalf of citizens
- Local governments can become electricity providers (direct or contracted)
- "Choice" is about choice in electricity generation mix
- Automatic opt-in
- Local control over rates, governance

 IOU retains control and responsibility over transmission and distribution



### Electricity Sector – more distributed solar....

#### **Distributed Generation**



## Distributed Solar by City, San Diego County, 2018



## Transportation – vehicle fuel efficiency standards.....

#### 2012-2016 model years

- Average 35.5 mpg in 2016. 251 grams CO2/mile.
- Proposed 2017-2025.
  - Achieve average 54.5 mpg by 2025. 166 grams CO2/mile.
  - Criteria pollutant benefits: PM2.5 <11%, NOx 36%, ROG < 21% compared with 2016
- EPA 2019 revised determination for 2022-2025 standards
  - Preferred option: freeze at MY 2020 standards through 2026
  - Removal of CA waiver to regulate air pollutants esp vehicle standards

## Transportation – vehicle fuel efficiency standards.....



## Transportation – vehicle fuel efficiency standards.....



## Transportation – vehicle CO2 emission standards.....



Updated June 2019 Details at www.theicct.org/info-tools/global-passenger-vehicle-standards

## Transportation – vehicle CO2 emission standards.....



Updated June 2019 Details at www.theicct.org/info-tools/global-passenger-vehicle-standards

#### Transportation Fuels – more electric

#### **California New Sales**





CA Goals: 5 million EVs (2030) 250,000 EVCS 200 H stations

# Transportation – clean vehicles – San Diego county cities.....





By Mariordo (Mario Roberto Durán Ortiz) - Own work, CC BY-SA 4.0, https://commons.wikimedia.org/w/index.php?curid=76121904

# What Does the State Expect from Local Governments? (shaped by litigation)



## What Does the State Expect from Local Governments?





## CAPs Adopted Since 2015 in the San Diego Region

Jurisdiction	Year Adopted	Туре
City of San Diego	2015, update 2021?	CEQA Qualified
Chula Vista	2017	Guidance
Del Mar	2016	Guidance
El Cajon	July 2019	CEQA Qualified
Encinitas	2018	CEQA Qualified
Imperial Beach	July 2019	Guidance
La Mesa	2018	CEQA Qualified
Lemon Grove	2019	CEQA Qualified
Oceanside	2019	CEQA Qualified
San Diego (County)	2018	In litigation
San Marcos	2019?	CEQA Qualified
Solana Beach	2017	Guidance
Vista	2019?	CEQA Qualified

# Mitigation Measure Trends (CAPs Since 2015, San Diego Region)

- High renewable electricity supply, more PV
- Require energy audits for residential, non-res
- Reach codes
- Increase electric vehicle charging stations
- Increase solid waste diversion
- Increase alternative modes, density (in transit areas), mixed use
- Urban forestry/tree planting
- Minor measures (parking changes, permitting via internet, school bus conversions, construction equipment alternative fuel, etc.)

### **KEY ISSUES**

#### Equity

- L.A.'s Green New Deal Sustainable City pLAn 2019
- Equity in mitigation and adaptation

Carbon Neutrality

- Carbon Sequestration
- Need to consider working and natural lands
- Carbon Offsets
  - Local versus anywhere
- Shift from reducing emissions to reacting and adapting to impacts
  - Sea level rise
  - Wildfire
  - Heat waves
- System vulnerabilities and resilience to impacts



Illustration by Angus Maguire for the Interaction Institute for Social Change (2016)





## Thank you!

Nilmini Silva-Send silvasend@sandiego.edu

October 1, 2019

