



SB 350 Integrated Resource Plan Workshop

April 30, 2018




CALIFORNIA
AIR RESOURCES BOARD

1

Workshop Materials and Submitting Comments

- This presentation is posted:
<https://www.arb.ca.gov/cc/sb350/sb350.htm#meetings>
- The presentation webcast is available: <https://video.calepa.ca.gov/>
- Written comments associated with the workshop and Draft Staff Report may be submitted until 5 pm (PDT) Monday, May 14, 2018, at this site:
<https://www.arb.ca.gov/cc/sb350/sb350.htm#meetings>
- During this workshop, e-mail questions to: coastalm@calepa.ca.gov



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2

Agenda

- ▣ Background
- ▣ Proposed Approach
- ▣ Update Process
- ▣ Next Steps
- ▣ Questions



3

Background



4

SB 350

- SB 350 (2015) requires CARB, in coordination with CPUC and CEC, to:
 - Establish GHG emissions reduction targets for the electricity sector and for each load serving entity (LSE) or publicly-owned electric utility (POU)*
 - Ensure that targets reflect electricity sector's percentage in achieving economy-wide greenhouse gas emissions specified in SB 32

* Exceeding 700 GWh annual threshold



5

Objectives of Integrated Resource Plans

- SB 350 requires load-serving entities and publicly owned electric utilities to develop integrated resource plans (IRPs) that:
 - **Meet greenhouse gas reduction targets**
 - Achieve 50% RPS
 - Serve customers at just and reasonable rates
 - Minimize impacts on ratepayers' bills
 - Ensure system and local reliability
 - Strengthen diversity, sustainability, and resilience of bulk transmission and distribution systems and local communities
 - Enhance distribution systems and demand-side energy management
 - Minimize localized air pollutants and other GHG emissions with early priority on disadvantaged communities
- CPUC and CEC have IRP proceedings with their respective stakeholders



6


CARB Board Resolution

Board Resolution 17-46

“...the Board hereby determines that the Final Plan should inform the preliminary 2030 GHG planning target range for the electricity sector, which in coordination with the California Public Utilities Commission and the California Energy Commission, will be evaluated and revised, as appropriate, as part of the Board’s process to establish GHG planning targets for the electricity sector and each load-serving entity for use in Integrated Resource Plans pursuant to SB 350.”

	1990	2030 Scoping Plan Ranges ¹⁷
Agriculture	26	24-25
Residential and Commercial	44	38-40
Electric Power	108	30-53¹⁷
High GWP	3	9-11 ¹⁸
Industrial	98	83-90 ¹⁹
Recycling and Waste	7	8-9 ²⁰
Transportation (Including TCU)	152	103-111
Natural Working Lands Net Sink*	-7 ²¹	TBD
Sub Total	431	294-339
Cap-and-Trade Program	n/a	32-79
Total	431	260

Source: 2017 Scoping Plan, Table 3.




GHG Planning Targets Evaluated

Proposed Range

- ▣ 30-53 MMTCO₂e
 - ▣ Provides flexibility to accommodate a range of factors including POUs and LSEs with constraints and those able to plan for greater GHG reductions
 - ▣ Meets the minimum requirements of existing statutes and enables planning beyond those requirements

Alternatives Evaluated

- ▣ 30-42 MMTCO₂e
 - ▣ Narrow and more ambitious range
 - ▣ May not be achievable for all POUs and LSEs due to cost-effectiveness and other unique regional factors



GHG Planning Targets Evaluated

Alternatives Evaluated (continued)

- ▣ 42-53 MMTCO₂e
 - ▣ Not sufficiently broad enough to accommodate some POUs and LSEs planning for greater GHG reductions
- ▣ 65 MMTCO₂e
 - ▣ 40% below 1990 GHG levels of electricity sector
 - ▣ Inconsistent with 50 percent RPS in 2030 as it equates to 41 percent RPS in 2030



9

Recommendations from CPUC and CEC

Electricity sector GHG planning targets

- ▣ CPUC: GHG emissions planning point target of 42 MMTCO₂e by 2030
 - ▣ If a range is established, it should encompass 42 MMTCO₂e
- ▣ CEC: GHG range established in 2017 Scoping Plan Update

POU and LSE GHG planning targets

- ▣ CPUC: two options for LSEs
 - ▣ Use of a GHG Planning Price of \$150 per MTCO₂e in 2030
 - ▣ GHG Benchmark
 - ▣ Apportionment based on CARB's Cap-and-Trade EDU Allowance Allocation methodology for 2030
 - ▣ Further apportionment based on LSE projected 2030 load share
- ▣ CEC: Apportionment based on CARB's Cap-and-Trade EDU Allowance Allocation methodology for 2030



10

Proposed Approach



11

CARB's Proposed Approach

- Electricity sector GHG planning target range for use in IRPs
 - 30-53 MMTCO₂e
- Use Cap-and-Trade EDU Allocation Methodology for 2021-2030 to determine percentage of 2030 GHG emissions for each POU and Investor Owned Utility (IOU)
- Apportion IOU 2030 GHG emissions percentage among Community Choice Aggregators (CCAs), Electric Service Providers (ESPs), and IOUs based on projected share of IOU's 2030 load



12

Electricity Sector GHG Planning Target Range

Sources of Uncertainty in Electric Supply and Demand

Electricity Sector GHG Emissions


Additional Wind, Solar, Geothermal, Biomass, Hydropower, Storage, Regionalization

Electricity Demand

ZEVs
Building Electrification
Industrial Electrification
Population Growth
Increased Industrial Production

Residential and Commercial Energy Efficiency
Industrial Energy Efficiency
Decreased Industrial Production

- CARB proposes electricity sector GHG Planning Target Range of 30-53 MMTCO₂e
- This range can accommodate an uncertain future for the sector and individual entities
- Increased electricity demand can coincide with reduced electricity sector GHG emissions and/or reduced statewide GHG emissions



13

Apportionment of Electricity Sector Target Range to POUs and LSEs


Blue: 6 EDUs – CPUC jurisdiction (76.9%)

Brown: 16 EDUs report to CEC (21.4%)

Grey: 32 EDUs below 700 GWh threshold (1.7%) of which four EDUs (0.07%) are CPUC jurisdictional

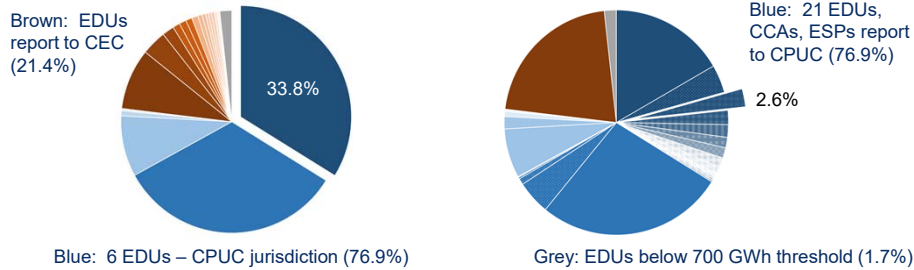
CARB's Cap-and-Trade EDU Allocation Methodology for 2021-2030* apportions electricity sector GHG emissions among 6 EDUs reporting to CPUC and 16 EDUs reporting to CEC

*utilizing the year 2030, adjusted to include covered industrial entity electricity demand



14

Example 2030 GHG Emissions Percentage for CCAs



- For example, PG&E is associated with 33.8% of electricity sector GHG emissions as an EDU under Cap-and-Trade Allocation Methodology
- East Bay Community Energy's projected 2030 load share is 7.7% of PG&E's load
- East Bay Community Energy is associated with 2.6% ($33.8\% \times 7.7\%$) of 2030 electricity sector GHG emissions



15

ESP GHG Planning Targets

- Individual ESP GHG planning target ranges established by apportioning the aggregated ESP GHG planning target range from each host-EDU by the proportion of ESP retail sales
- ESP retail sales based on a three-year historical average from 2015-2017 as reported in CEC Energy Consumption Data Management System (ECDMS), form CEC-1306B
 - For entities not reporting in ECDMS, CARB proposes to utilize annual retail sales from CEC Power Source Disclosure (PSD) reports
 - Where three-years of recent data is not available, CARB is proposing to utilize the average of the most recent two-years of data
 - These sources are the best publicly available data for ESPs
- Based on this approach, CARB proposes to disclose public statewide GHG planning target ranges for each ESP



16

POU and LSE GHG Planning Target Ranges

- Individual POU and LSE proposed GHG Planning Target ranges presented in Draft Staff Report
- Individual ESPs are listed in the Draft Staff Report
 - CARB is requesting stakeholder feedback on the proposed approach for establish ESP GHG Planning Target ranges
- LSE GHG Planning Target ranges will be updated in Final Staff Report to accommodate six additional CCAs based on CPUC Ruling in Rulemaking 16-01-007



17

Update Process



18

Updates to GHG Planning Targets

- Electricity sector GHG planning targets
 - Updated with Scoping Plan Updates
 - Board approved, every five years
- POUs submit updated IRPs to CEC at least every five years
- CPUC IRP process repeats every two years
 - Individual LSE GHG planning targets updated to accommodate new CCAs/ESPs
 - CPUC may use their inherent regulatory authority to further implement or impose IRP requirements on LSEs while maintaining electricity sector GHG planning target range



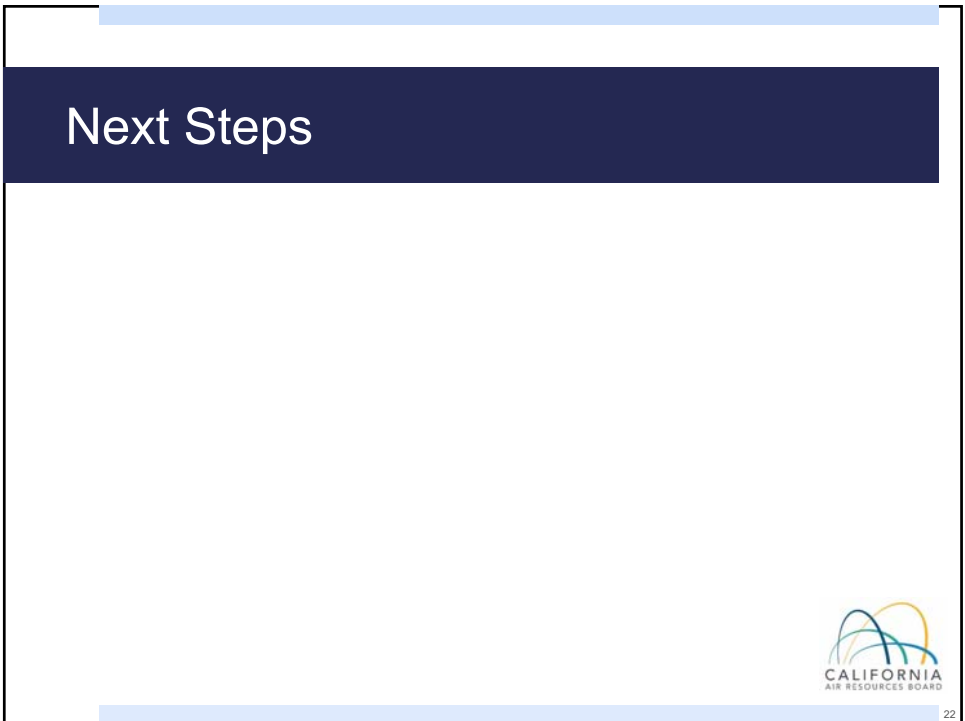
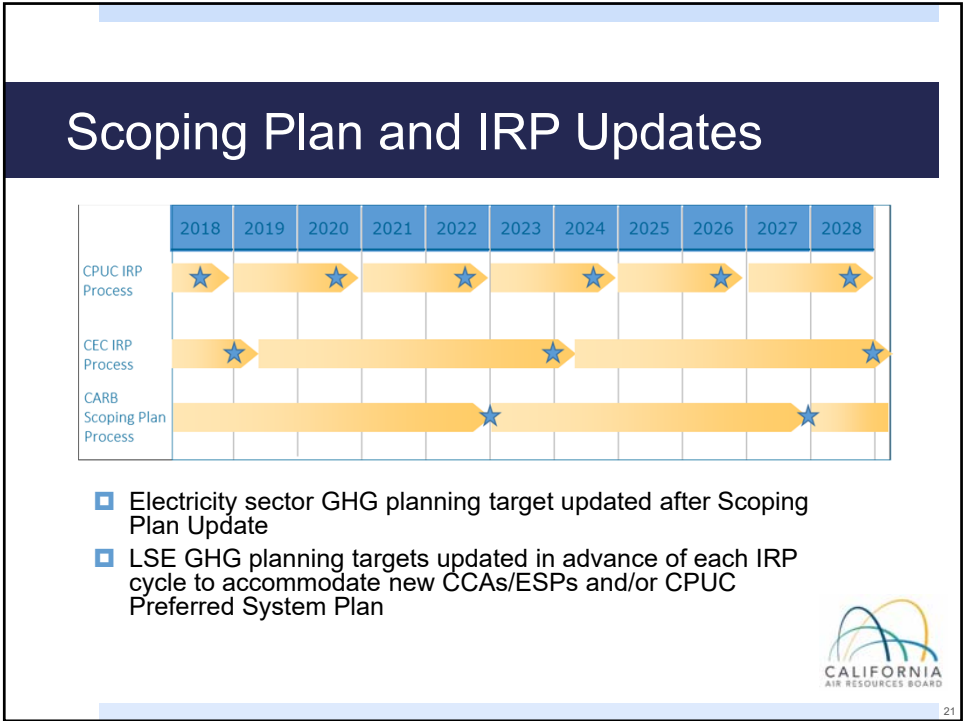
19

Updates to GHG Planning Targets

- Interim updates to POU and LSE targets
 - If electricity sector planning target range maintained, changes consistent with Board approved methodology, delegated to Executive Officer
- Off-cycle updates to electricity sector range
 - Based on materially changed circumstances with Board approval



20



Next Steps and Tentative Schedule

- ▣ Written comments on workshop and Draft Staff Report may be submitted until 5 pm (PDT) Monday, May 14, 2018, via the April 30th workshop comments link on the IRP webpage: <https://www.arb.ca.gov/cc/sb350/sb350.htm#meetings>
- ▣ Comment period on the Environmental Assessment closes at 5 pm (PDT) on Monday, June 11, 2018 and comments should be submitted to:
https://www.arb.ca.gov/lispub/comm/bcsubform.php?listname=sb350irp2018&comm_period=A
- ▣ Final Staff Proposal (Summer)
 - ▣ Final EA and Response to Comments
- ▣ Board Hearing (Summer)

