



Senate Bill 350 Integrated Resource Planning Electricity Sector Greenhouse Gas Planning Targets



July 26, 2018
Sacramento, California

Overview

- ▣ Background and Process
- ▣ Proposed GHG Planning Targets
- ▣ Staff Recommendation

Senate Bill 350

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

* Exceeding 700 GWh annual threshold

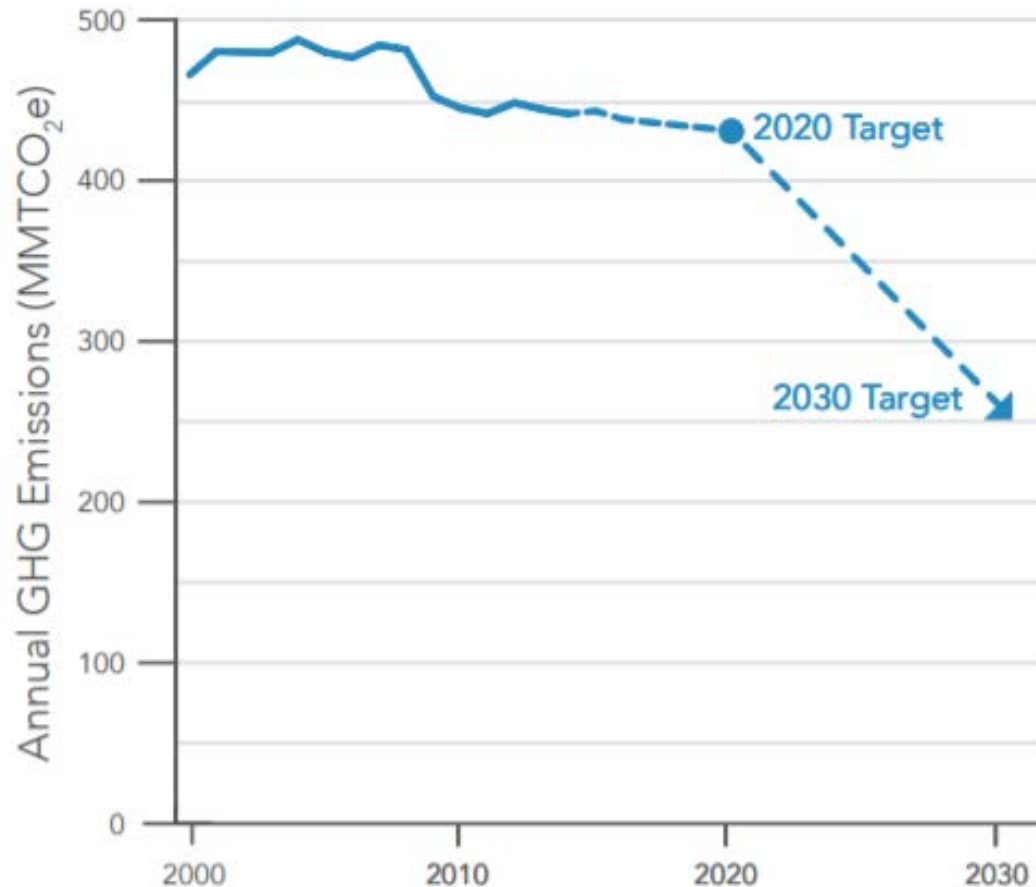
Integrated Resource Plans (IRPs)



- IRPs are an energy resource planning tool
- IRPs balance multiple requirements
- IRPs help ensure that LSEs and POU's are planning for lower GHG emitting resources to meet the State's 2030 GHG goal

California's GHG Targets

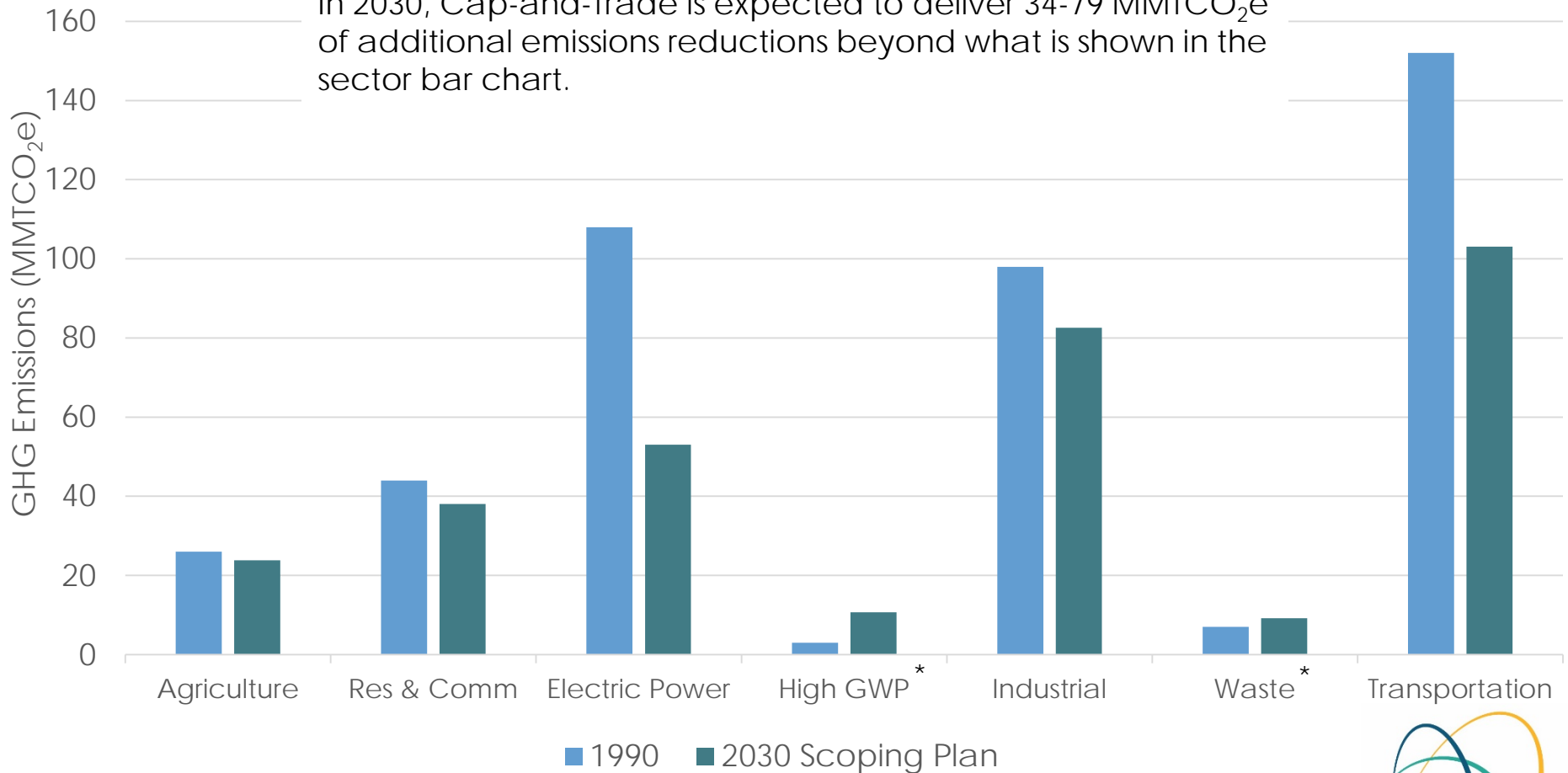
CALIFORNIA'S PATH FORWARD



Source: 2017 Scoping Plan Update, Executive Summary.

Estimated Changes in GHG Emissions by Sector

In 2030, Cap-and-Trade is expected to deliver 34-79 MMTCO₂e of additional emissions reductions beyond what is shown in the sector bar chart.



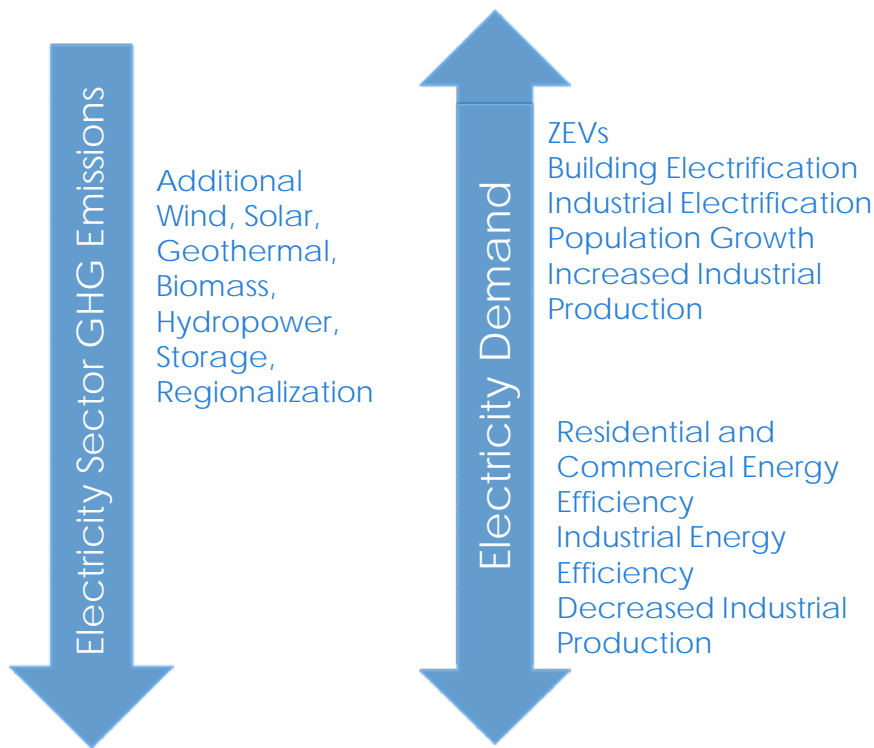
Source: 2017 Scoping Plan Update, Board Presentation.

* High GWP and Waste emissions reductions targets are 40% from 2013 levels



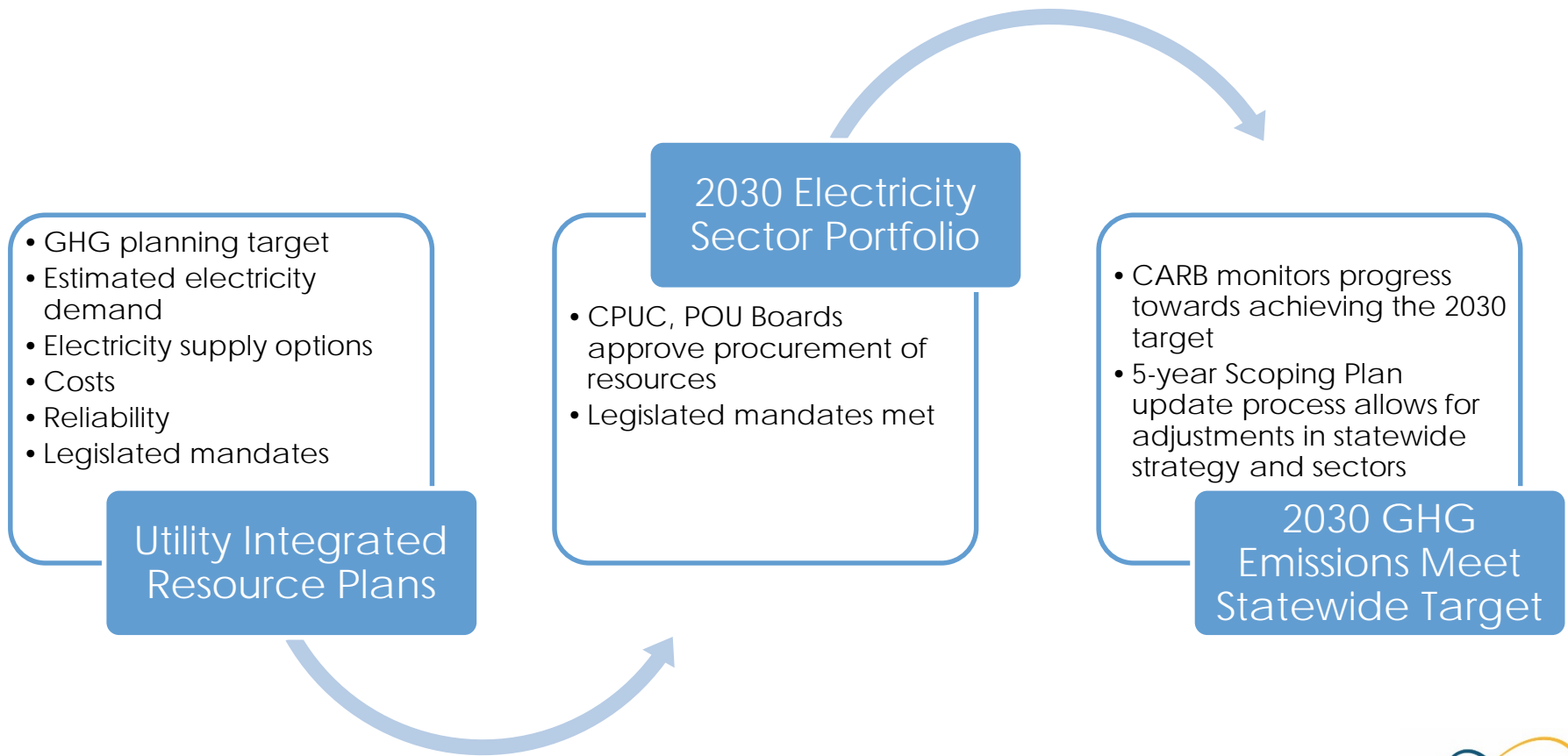
Electricity Sector In Transition

Changes in Electricity Supply and Demand



- Electricity sector plays a prominent role in the shift away from combustion of fossil fuels:
 - Electrification of transportation and building energy demand
 - Increased use of renewable energy
- With effective planning, increased electricity demand can coincide with reduced electricity sector GHG emissions

Planning for 2030 is Critical



Coordination with CEC and CPUC

- ▣ Coordination since December 2015
- ▣ Four Joint Agency Public Workshops
- ▣ CPUC and CEC recommendations
 - ▣ Appendices A and B

GHG Planning Target Setting Public Process

- ▣ Draft Staff Report released April 27, 2018
- ▣ Public comment period
 - ▣ April 27, 2018 – June 11, 2018
- ▣ Comments on Staff Report reviewed
- ▣ Final Staff Report
 - ▣ Released July 13, 2018

Environmental Analysis

- Draft Environmental Analysis (EA) completed
 - Potentially significant impacts found for some resource areas
- Released for public comment
 - April 27, 2018 – June 11, 2018
- CARB prepared the Final EA
 - Released in July 2018

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 ⁶⁶
Agriculture	26	24-25
Residential and Commercial	44	38-40
Electric Power	108	30-53 ⁶⁷
High GWP	3	8-11 ⁶⁸
Industrial	98	83-90 ⁶⁹
Recycling and Waste	7	8-9 ⁷⁰
Transportation (Including TCU)	152	103-111
Natural Working Lands Net Sink*	-7 ^{***}	TBD
Sub Total	431	294-339
Cap-and-Trade Program	n/a	34-79
Total	431	260

Source: 2017 Scoping Plan, Table 3.

CARB's Proposed Approach

- Electricity sector GHG planning target range for use in IRPs
 - 30-53 MMTCO₂e in 2030
- Apportion electricity sector target to each POU and LSE

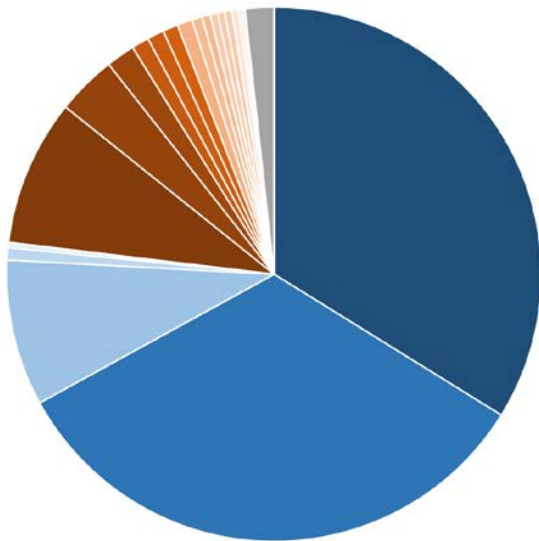
POU and Investor Owned Utility (IOU) share based on estimated 2030 GHG emissions from Cap-and-Trade Allocation Methodology



IOU share further divided among CCAs, ESPs, and host-IOUs based on load share

Apportionment to IOUs and POUs

Percentage of 2030 GHG Emissions by EDU



Blue: 6 IOUs – CPUC jurisdiction (76.9%)

Brown: 16 POUs report to CEC (21.4%)

Grey: 28 POUs and 4 cooperatives below 700 GWh threshold (1.7%)

EDUs include IOUs, POUs, and cooperatives

$$EDU \% = \frac{2030 \text{ EDU GHG Emissions}}{\sum 2030 \text{ EDU Emissions for all EDUs}}$$

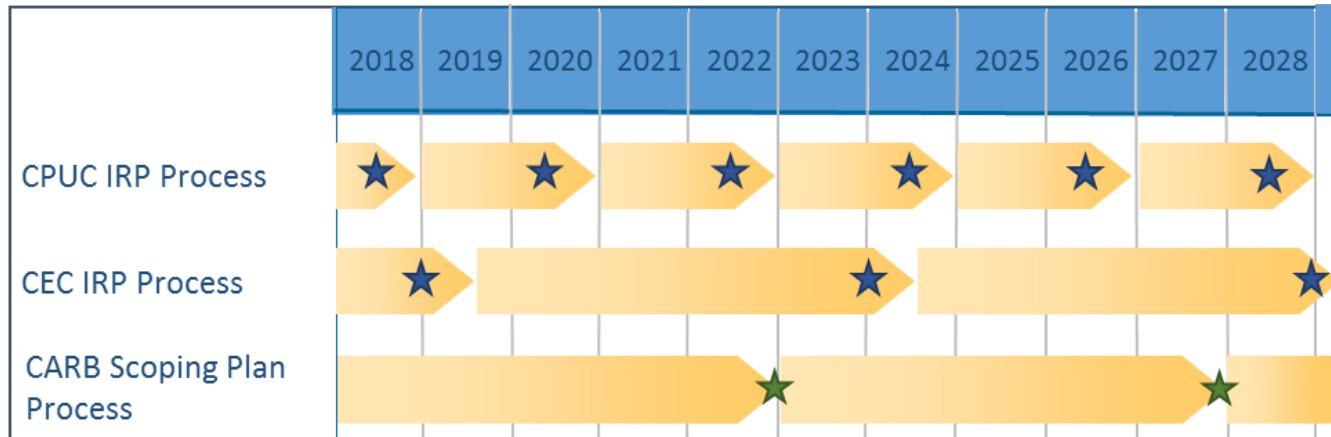
EDU Planning Target Range

$$= EDU \% * 30 \text{ to } EDU \% * 53 \text{ MMTCO}_2e$$

Alternatives Evaluated

- 30-42 MMTCO₂e: Increased action beyond existing statutes or requirements
 - May not be achievable for all POUs and LSEs due to cost-effectiveness and other unique regional factors
- 42-53 MMTCO₂e: Some increased action beyond existing statutes or requirements
 - Not sufficiently broad to signal and enable deeper reductions possible for some LSEs and POUs
- 65 MMTCO₂e: 40% below 1990 levels of electricity sector GHG emissions
 - This is higher than the estimated electricity sector GHG emissions in 2030 under business-as-usual conditions

Scoping Plan and IRP Updates



- Periods associated with IRP filing cycles or the Scoping Plan development process
- ★ May 1 LSE filing deadline with CPUC or January 1 POU adoption deadline as part of the CEC process*
- ★ CARB Scoping Plan adoption

- Board approval required for updates to electricity sector GHG planning targets and associated updated POU and LSE GHG planning targets in coordination with Scoping Plan Updates
- Delegation of authority to EO for LSE planning target updates to accommodate new CCAs/ESPs when there would not result in any changes to electricity sector target

* The CPUC filing deadline for 2018 was extended to August 1

Staff Recommendation

- Approve the proposed Resolution, which includes:
 - Certification of the Final EA, and making the required CEQA findings
 - Approval of the electricity sector, LSE, and POU GHG planning targets
 - Approval of the methodology to update GHG planning targets