



Social Costs in California

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Agenda

- State of the (best) State
- 2020 and 2030 GHG targets
- Consideration of social costs

California Air Resources Board

- Established in 1967 by the California Legislature to:
 - Attain and maintain healthy air quality
 - Conduct research into the causes of and solutions to air pollution
 - Systematically attack the serious problems caused by motor vehicles, which are a major cause of air pollution in the State

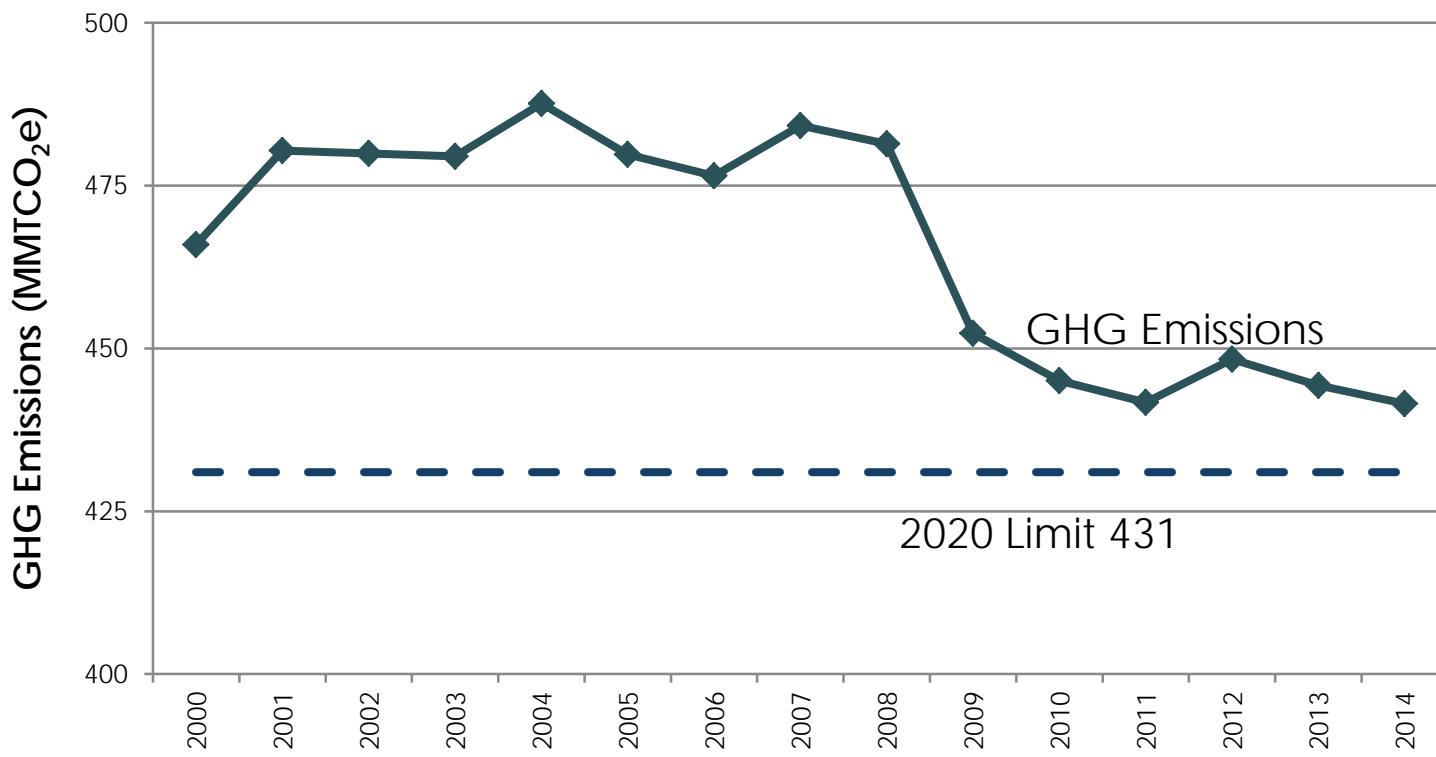
AB 32 – Global Warming Solutions Act of 2006

- Requires California to reduce its GHG emissions to 1990 levels by 2020
- Objectives:
 - Develop a balanced approach to address climate change
 - Improve air quality and public health
 - Provide a consistent policy approach to drive investment in clean technology
 - Provide a model for future national and international climate change efforts
 - Achieve 1990 emissions by 2020; maintain and continue reductions past 2020
 - Coordinate efforts across government agencies

Programs Implemented Under AB 32

- ❑ Cap-and-Trade Program
- ❑ Low Carbon Fuel Standard
- ❑ 33 percent Renewable Portfolio Standard
- ❑ Advanced Clean Cars
- ❑ SB 375

Progress to Date Reducing GHGs

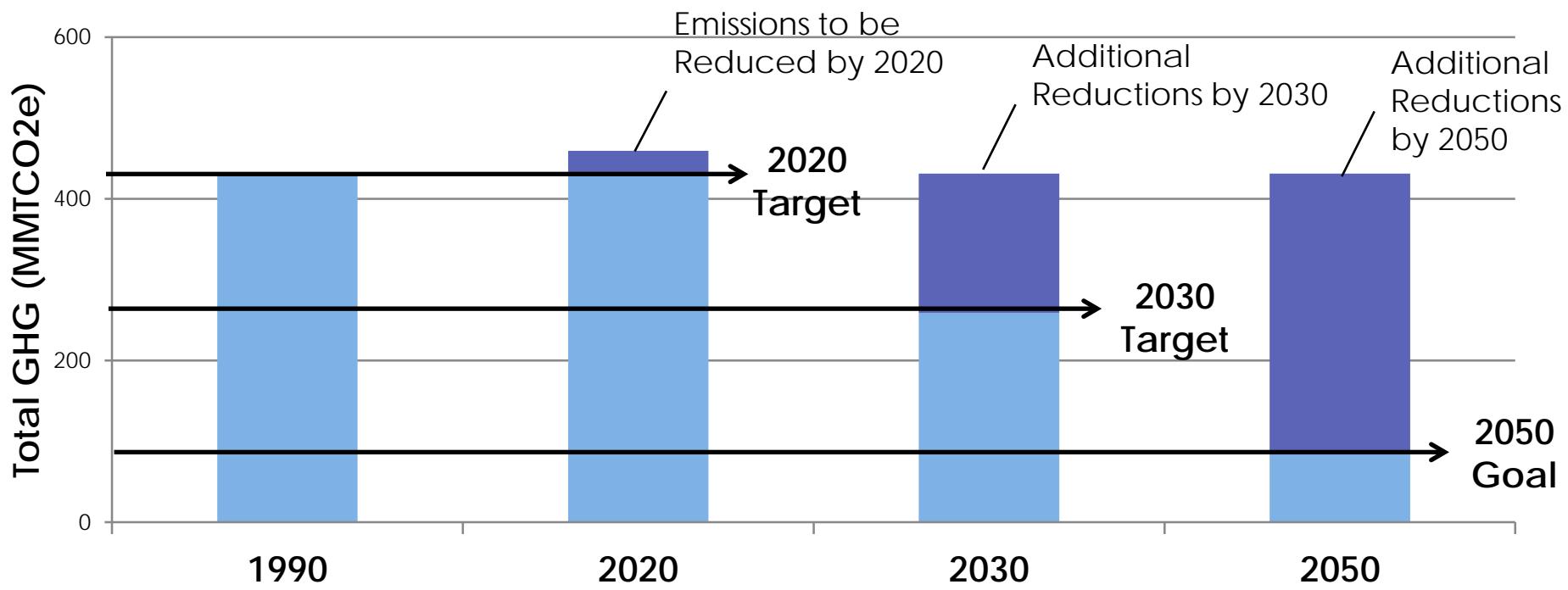


Current modeling shows GHG emissions will be below the 2020 target

2030 Scoping Plan

- Assembly Bill 32 (AB 32) established 2020 GHG target
- Executive Order B-30-15
 - Reduce GHG emissions 40% below 1990 levels by 2030
 - Update Scoping Plan to incorporate 2030 GHG target
- Senate Bill 32 (SB 32) codifies 2030 GHG target
- AB 197
 - Consider the social costs of GHG reductions
 - Prioritize measures resulting in direct emission reductions
 - Follow existing AB 32 requirements—including considering cost-effectiveness and minimizing leakage

GHG Reduction Targets



*Executive Order B-30-15 and SB 32

**Executive Orders S-3-05 and B-16-2012

Note: MMT = Million Metric Tons

Achieving the 2030 Target

- Continuation of programs established to reach the 2020 GHG emissions reduction target
 - Cap-and-Trade Program
 - Low Carbon Fuel Standard
 - Renewable Portfolio Standard
 - Advanced Clean Cars Program
 - ZEV Program
 - Sustainable Freight Strategy
 - Short-Lived Climate Pollutant Strategy
 - SB 375 Sustainable Communities Strategy

AB 197

- ❑ Companion bill to SB 32
- ❑ For each potential reduction measure in the Scoping Plan requires:
 - ❑ The range of projected GHG emission reductions
 - ❑ The range of projected air pollution reductions
 - ❑ The cost-effectiveness, including avoided social costs
- ❑ Consider the social cost of GHG emissions when adopting rules and regulations that achieve GHG reductions beyond the 2020 limit

AB 197 Social Cost Definition

- “An estimate of the economic damages, including, but not limited to, changes in net agricultural productivity; impacts to public health; climate adaptation impacts, such as property damages from increased flood risk; and changes in energy system costs, per metric ton of greenhouse gas emissions per year”

Social Costs in the 2030 Scoping Plan

- ❑ Rely on the established federal values for the Social Cost of Carbon and Social Cost of Methane
- ❑ Support the Interagency Working Group methodology for one global value for the social cost of carbon
- ❑ Support continued refinements to the social cost of carbon as outlined in the January 2017 NAS report
 - ❑ Dedicated to following the best available science and modeling
 - ❑ Support refinements to the social cost of methane and nitrous oxide

Draft Scoping Plan Example

Measure (Measures in bold are included in the Scoping Plan)	Range of GHG Reductions (MMTCO₂*)	Range of Social Cost of Carbon \$million USD (2015 dollars)
50 percent Renewables Portfolio Standard (RPS)	13–15	\$230–\$1,260
Mobile Sources CTF and Freight	12–14	\$170–\$1,200
18 percent Carbon Intensity Reduction Target for LCFS -Liquid Biofuels	~4	\$55–\$340
20 percent Refinery Measure	2–5	\$55–\$460

Proposed Plan estimated to result in \$2.4 to \$11 billion in avoided environmental damages in 2030

California Specific Social Costs

- ❑ Committed to one global value for the social cost of carbon
- ❑ Continue to identify comprehensive costs of air pollution and climate change in addition to the global cost of carbon
 - ❑ Health impacts
 - ❑ Attention to natural and working lands

Social Costs in California

- ❑ California Public Utilities Commission
 - ❑ Social cost of methane considerations in natural gas proceedings
 - ❑ Consideration of GHG impacts in electricity proceedings
- ❑ California Energy Commission
 - ❑ Consideration of social impacts
- ❑ Regulations
 - ❑ Cap-and-Trade
 - ❑ Oil & Gas
 - ❑ Future regulations that reduce GHGs beyond 2020 limit
- ❑ Scoping Plans
 - ❑ Updated every five years
- ❑ Support refinements to the established social cost of carbon

Additional Information

- Air Resources Board Climate Programs

<https://www.arb.ca.gov/cc/cc.htm>

- Scoping Plan

<https://www.arb.ca.gov/cc/scopingplan/scopingplan.htm>

- California Public Utilities Commission

<http://www.cpuc.ca.gov/>

- California Energy Commission

<http://www.energy.ca.gov/>