



# Social Costs in California

*Emily Wimberger  
California Air Resources Board  
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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

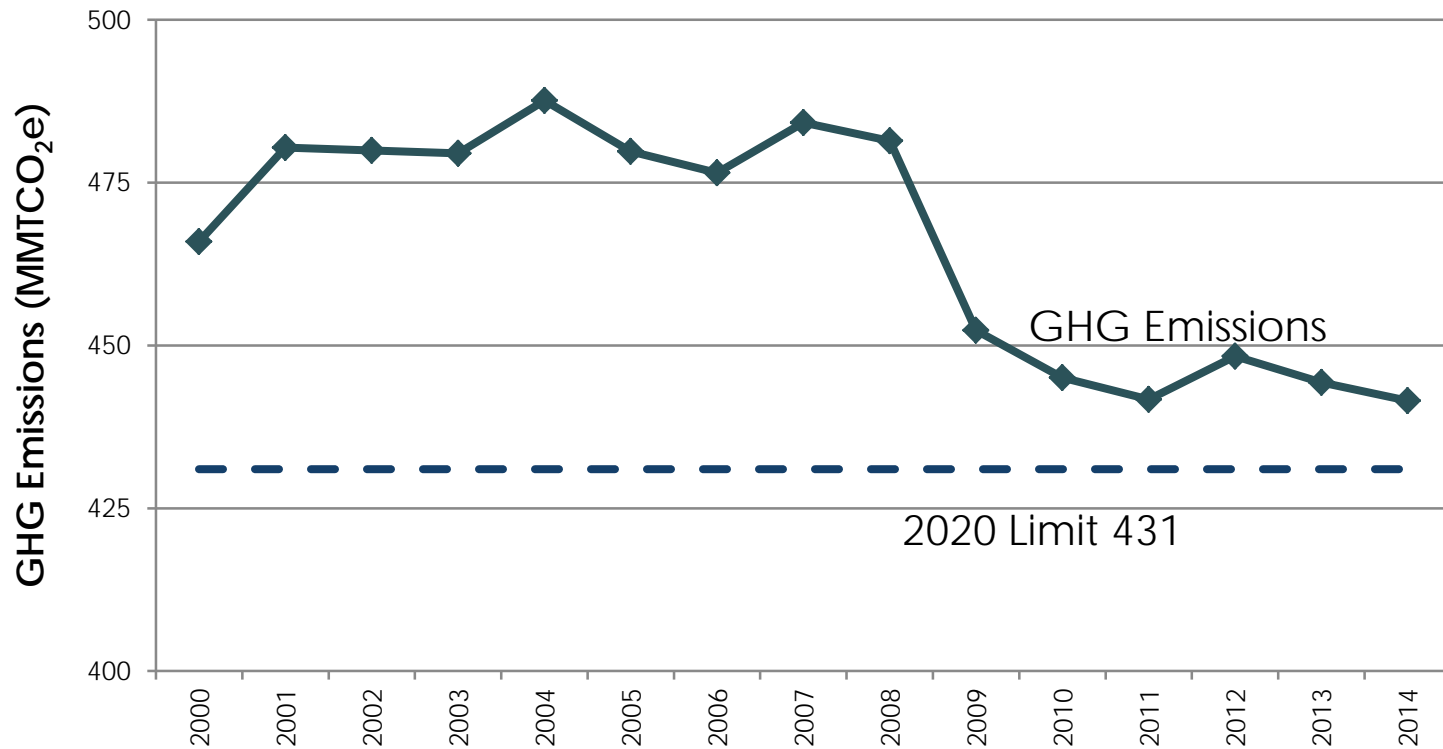
# AB 32 – Global Warming Solutions Act of 2006

- 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

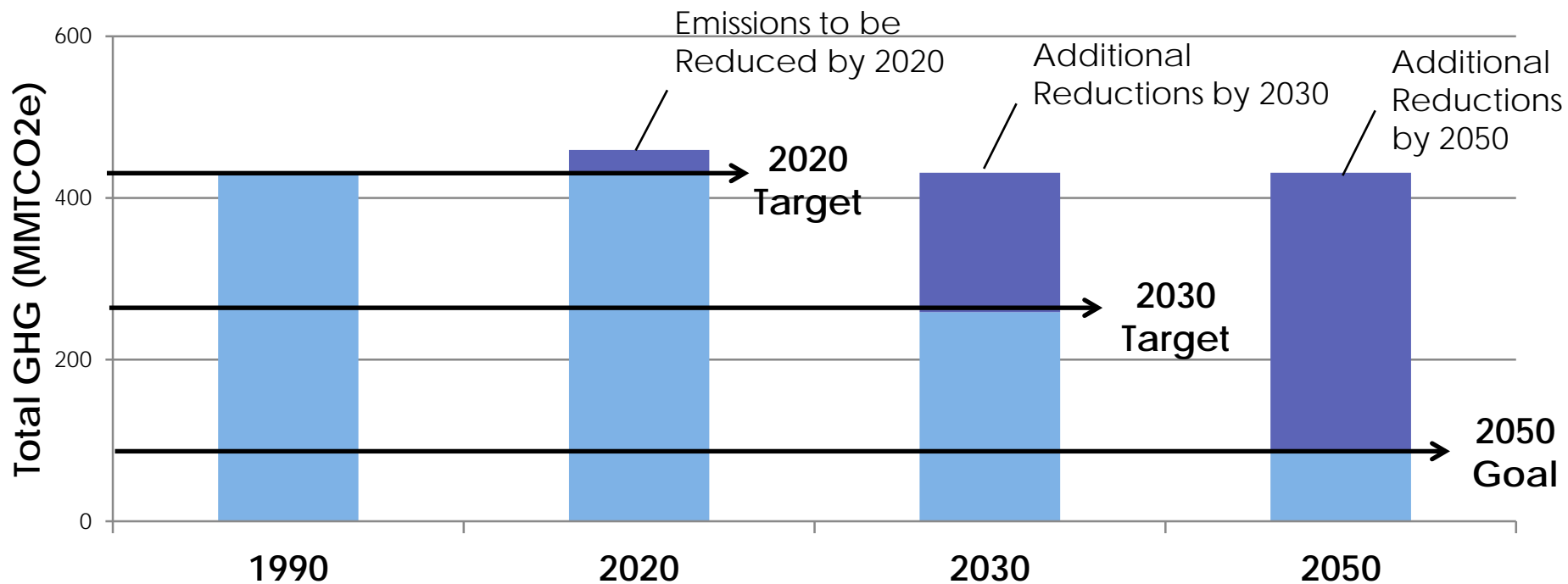


Current modeling shows GHG emissions will be below the 2020 target

# 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

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