Social Costs in California

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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.
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
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

<table>
<thead>
<tr>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Measures in bold are included in the Scoping Plan)</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Range of GHG Reductions (MMTCO₂*)</th>
<th>Range of Social Cost of Carbon $million USD (2015 dollars)</th>
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</thead>
<tbody>
<tr>
<td>50 percent Renewables Portfolio Standard (RPS)</td>
<td>13–15</td>
</tr>
<tr>
<td>Mobile Sources CTF and Freight</td>
<td>12–14</td>
</tr>
<tr>
<td>18 percent Carbon Intensity Reduction Target for LCFS -Liquid Biofuels</td>
<td>~4</td>
</tr>
<tr>
<td>20 percent Refinery Measure</td>
<td>2-5</td>
</tr>
</tbody>
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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/