AB 32 Global Warming Solutions Act of 2006

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The passage of AB 32, the California Global Warming Solutions Act of 2006, marked a watershed moment in California's history. By requiring in law a sharp reduction of greenhouse gas (GHG) emissions, California set the stage for its transition to a sustainable, low-carbon future. AB 32 was the first program in the country to take a comprehensive, long-term approach to addressing climate change, and does so in a way that aims to improve the environment and natural resources while maintaining a robust economy.

What Does AB 32 Do?

AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020 — a reduction of approximately 15 percent below emissions expected under a "business as usual" scenario.

Pursuant to AB 32, CARB must adopt regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. The full implementation of AB 32 will help mitigate risks associated with climate change, while improving energy efficiency, expanding the use of renewable energy resources, cleaner transportation, and reducing waste.

Why is AB 32 Needed?

According to leading climate scientists from around the world, anthropogenic climate change (that caused by humans) is a significant and growing problem that must be addressed in order to avoid the worst effects. Climate change is the result of various

GHGs that are emitted into the atmosphere, such as carbon dioxide (CO_2) and methane (CH_4), which have a heat forcing effect on the atmosphere. Sharp rises of GHGs over the last century and a half have led to higher overall worldwide temperatures, reduced snowpack in the higher elevations, greater fluctuations of temperature and precipitation, global sea level rise and more frequent and severe extreme weather events, including hurricanes, heatwaves and droughts.

AB 32 describes the problem for California:

> The Legislature finds and declares all of the following:
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> (a) Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.
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> (b) Global warming will have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry. It will also increase the strain on electricity supplies necessary to meet the demand for summer air-conditioning in the hottest parts of the state.

Separate from AB 32, the State of California is also making efforts to adapt to a changing climate. The State's climate change adaptation efforts are being led by the Natural Resources Agency.

What Gases or Compounds are Covered Under AB 32?

AB 32 includes the major GHGs and groups of GHGs that are being emitted into the atmosphere. These gases include:

1. Carbon dioxide (CO_2)
2. Methane (CH_4)
3. Nitrous oxide (N_2O)
4. Hydrofluorocarbons (HFCs)

5. Perfluorocarbons (PFCs)
6. Sulfur hexafluoride (SF_6)
7. Nitrogen trifluoride* (NF_3)

*Nitrogen trifluoride was not listed initially in AB 32 but was subsequently added to the list via legislation.

Other compounds, including some aerosols, can also have a strong heat forcing effect on the atmosphere. This includes black carbon, comprised of microscopic particles which are emitted from incomplete combustion of biomass and fossil fuels. Reducing black carbon and other so-called short-lived climate pollutants (methane, tropospheric ozone and some hydrofluorocarbons) will help us slow the acceleration of climate change sooner than by reducing emissions of other GHGs alone. It will also improve public health, and will be an important element of California's climate change program strategy.

CARB annually updates a statewide GHG inventory. The inventory includes estimates of GHGs emitted to the atmosphere by human activities in California.

How Will AB 32 Goals be Met?

AB 32 requires CARB to develop a Scoping Plan which lays out California's strategy for meeting the goals. The Scoping Plan must be updated every five years. In December 2008, the Board approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. In May 2014, CARB approved the First Update to the Climate Change Scoping Plan (Update), which builds upon the initial Scoping Plan with new strategies and recommendations. The Update highlights California's progress toward meeting the near-term 2020 GHG emission reduction goals, highlights the latest climate change science and provides direction on how to achieve long-term emission reduction goal described in Executive Order S-3-05.

Reductions in GHG emissions will come from virtually all sectors of the economy and will be accomplished from a combination of policies, planning, direct regulations, market approaches, incentives and voluntary efforts. These efforts target GHG emission reductions from cars and trucks, electricity production, fuels, and other sources. The status of these efforts can be found in Appendix B of the Update.

Who is Implementing AB 32?

AB 32 directs the California Air Resources Board (CARB) to be the lead agency to implement the law. The Climate Action Team, made up of relevant state agencies, is charged with helping direct state efforts on the reduction of GHG emissions and engaging state agencies.

The Climate Action Team includes:

- California Environmental Protection Agency
- Governor's Office of Planning and Research
- California Air Resources Board
- Business, Consumer Services, and Housing Agency
- Government Operations Agency
- California Natural Resources Agency
- California Department of Public Health
- Office of Emergency Services
- California Transportation Agency
- California Energy Commission
- California Public Utilities Commission
- California Department of Food and Agriculture
- Department of Forestry and Fire Protection
- Department of Fish and Wildlife
- Department of Transportation
- Department of Water Resources
- Department of Resources Recycling and Recovery
- State Water Resources Control Board

How is the Implementation of AB 32 Funded?

AB 32 authorizes the collection of a fee from sources of GHGs. In 2010, CARB adopted a regulation to collect a fee to administer the program, called the AB 32 Cost of Implementation Fee Regulation. This fee is collected annually from large sources of GHGs, including oil refineries, electricity power plants (including imported electricity), cement plants and other industrial sources. There are approximately 250 fee payers that emit 330 million metric tons of GHG emissions per year. Funds collected are used to cover annual expenses for CARB and other State agencies to implement AB 32.

Are there Other Funds Used to Reduce GHG Emissions in California?

Yes, in addition to California's regulatory and market-based programs aimed at reducing GHG emissions, investments from various sources provide incentives for companies to reduce emissions. Combining strategic financial investments with policy support can accelerate market transitions to cleaner technologies. One important source of funding is the Greenhouse Gas Reduction Fund (GGRF), which will be used to fund a variety of projects that will provide long-term reductions in GHG emissions. Funding for the GGRF comes from auction proceeds that are part of CARB's Cap-and-Trade program. As directed by legislation, CARB's Investment Plan evaluates opportunities for GHG reductions and identifies priority investments in the state to help achieve emission goals and realize important co-benefits.

More detailed information on funding for reducing GHG emissions in California can be found on the Cap-and-Trade Auction Proceeds webpage, and in the First Update to the Scoping Plan starting on page 104.

What Are the Specific Requirements of AB 32?

The requirements are that CARB shall do the following:

- Prepare and approve a Scoping Plan for achieving the maximum technologically feasible and cost-effective reductions in GHG emissions from sources or categories of sources of GHGs by 2020, and update the Scoping Plan every five years.
- Maintain and continue reductions in emissions of GHG beyond 2020.
- Identify the statewide level of GHG emissions in 1990 to serve as the emissions limit to be achieved by 2020.
- Identify and adopt regulations for discrete early actions that could be enforceable on or before January 1, 2010.
- Adopt a regulation that establishes a system of market-based declining annual aggregate emission limits for sources or categories of sources that emit GHG emissions.
- Convene an Environmental Justice Advisory Committee to advise the Board in developing and updating the Scoping Plan and any other pertinent matter in implementing AB 32.

- Appoint an Economic and Technology Advancement Advisory Committee to provide recommendations for technologies, research and GHG emission reduction measures.

What Is the Timeline for Implementing AB 32?

- By January 1, 2008 – CARB adopts the Mandatory Reporting Regulation for GHGs to require reporting, verification, monitoring and enforcement.
- By January 1, 2009 - CARB adopts a Scoping Plan indicating how emission reductions will be achieved from significant sources of GHGs via regulations, market mechanisms and other actions.
- During 2009 - CARB staff drafts rule language to implement its plan and holds a series of public workshops on each measure (including market mechanisms).
- By January 1, 2010 - Early action measures take effect.
- During 2010 - CARB conducts series of rulemakings, after workshops and public hearings, to adopt GHG regulations including rules governing market mechanisms.
- By January 1, 2011 - CARB completes major rulemakings for reducing GHGs including market mechanisms. CARB may revise the rules and adopt new ones after January 1, 2011, in furtherance of the 2020 cap.
- January 1, 2012 - GHG rules and market mechanisms adopted by CARB take effect and are legally enforceable.
- November 14, 2012 - CARB holds its first quarterly auction of GHG emissions allowances as part of the Cap-and-Trade program.
- January 1, 2013 - Cap-and-Trade program begins with a GHG emissions cap that will decline over time.
- September 17, 2013 - CARB issues first carbon offset credits as part of the Cap-and-Trade program.
- May 22, 2014 - CARB approves First Update to the Climate Change Scoping Plan.
- December 31, 2020 - Deadline for achieving 2020 GHG emissions cap.

What Other Key Bills and Policies in California Address Climate Change?

Assembly Bills and Senate Bills:

- Assembly Bill 1493 (Pavley, Chapter 200, Statutes of 2002) – GHG Standards for Passenger Vehicles

- Senate Bill 375 (Steinberg, Chapter 728, Statutes of 2008) – Sustainable Communities
- Senate Bill X1-2 (Simitian, Chapter 1, Statutes of 2011) – Renewables Portfolio Standard
- Assembly Bill 341 (Chesbro, Chapter 476, Statutes of 2011) – Commercial Recycling
- Senate Bill 535 (De León, Chapter 830, Statutes of 2012) – Disadvantaged Communities

Governor's Executive Orders:

- Governor’s Executive Order S-3-05 – 2050 GHG Reduction Goal
- Governor’s Executive Order B-16-12 – Goal for Plug-In Vehicles
- Governor’s Executive Order B-18-12 – Energy Efficiency of State-Owned Buildings
- Governor's Executive Order B-30-15 - Reduction target of 40 percent below 1990 levels by 2030
- Governor's Executive Order B-55-18 - Achieve Carbon Neutrality by 2045

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