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PROJECT CLIMATE

CALIFORNIA CLIMATE POLICY FACT SHEET: CAP-AND-TRADE

California's climate policy is framed by three greenhouse gas (GHG) emission reduction targets: to 1990 levels by 2020, to 40 percent below 1990 levels by 2030, and to 80 percent below 1990 levels by 2050. Central to achieving these GHG emission reduction targets is California's cap-and-trade program, which was introduced by the California Air Resources Board (CARB) in 2012. Cap-and-trade is a market-based emissions trading system that establishes a declining cap on emissions over time and distributes tradeable credits under the cap. California's cap-and-trade program applies economy-wide, setting a limit on approximately 85 percent of California's GHG emissions, and serves as a complement to and general backstop for the state's sector-specific policies such as the Renewables Portfolio Standard and Low-Carbon Fuels Standard. This California Climate Policy Fact Sheet outlines the basic components and legal background of the cap-and-trade program.

Understanding California's Cap-and-Trade Program:

CARB implements and enforces California's cap-and-trade program, pursuant to the broad emission reduction mandate the state legislature set in Assembly Bill 32 (Health & Safety Code § 38500 et seq.). Under the program, CARB sets a declining cap on statewide emissions in accordance with emission reduction targets and generates a number of credits under the cap. If an entity in California creates GHG emissions as part of its activities—for example, electricity generation, manufacturing, or fuel refining—it must comply with the program by purchasing credits (or allowances) in an amount equal to that level of emissions. Each year, the cap declines and the number of overall credits available (and therefore emissions) decreases accordingly.

Cap-and-trade is designed to achieve the following climate change mitigation goals:

- Realizing GHG emission reduction targets with certainty through a strict cap on emissions that decreases each year;
- Minimizing economic impact on consumers and the economy by allowing emissions trading in an open market;
- Providing flexibility for entities in achieving compliance (e.g. temporal flexibility, use of alternative compliance instruments, reducing emissions, etc.); and
- Generating revenue for electric utility ratepayers and additional statewide GHG emissions reduction efforts through credit auctions.

California Cap-and-Trade Program Features:

- Scope: California's program covers GHG sources responsible for approximately 85 percent of the state's emissions. This amounts to around 450 entities across the electricity generation, large industrial, and fuel supply industries.
- Covered entities: Entities that emit 25,000 or more metric tons of carbon dioxide equivalent (MT CO_2e) per year. Covered entities must report verified GHG emissions data to CARB annually via the Mandatory Reporting Regulation (MRR).
- The cap: CARB determined what the state's emissions were in 1990 and collected data on emissions for over two years. The cap declines approximately 3 percent each year through 2020, and approximately 5 percent per year through 2030.
- Compliance: There are two types of compliance instruments: allowances and offsets. An allowance is a tradable credit to emit up to one MT CO_2e. An offset is a tradable compliance instrument that represents a GHG reduction or GHG removal enhancement of one MT CO_2e. A covered entity may only meet up to 8 percent of its compliance obligation using offset credits, a limit that

declines over time. Offset projects, such as forest projects and livestock biogas control systems, must be verified by a CARB-accredited third party based on the requirements that they be real, additional, permanent, verifiable, quantifiable, and enforceable.

- Auctions: Emitters purchase credits at quarterly auctions administered by CARB. Emitters that purchase more credits than they need can trade them or bank them for future use.
- Trading: Entities that cannot meet their GHG emissions allotment by reducing their emissions, purchasing allowances at the quarterly auction, or purchasing offsets may trade with other covered entities that have more credits than they need. This mechanism is designed to increase flexibility, minimize economic impacts, and incentivize emission reduction where it is most affordable.
- Use of revenues: Revenue generated by the CARB auctions is returned to utility ratepayers through the California Climate Credit and funds the Greenhouse Gas Reduction Fund and the California Climate Investments program, which support investments in energy efficiency, clean transportation, solar energy, and other GHG-reducing projects.

Evolution of California's Cap-and-Trade Program:

- Executive Order S-3-05 established a GHG emission reduction target for California to reduce GHG emissions to 80 percent below 1990 levels by 2050.
- AB 32 tasked CARB with developing a plan to achieve technologically feasible and cost-effective statewide GHG emission reductions of 1990 levels by 2020. The law did not require CARB to follow any specific regulatory path, instead allowing flexibility in the measures used to achieve this reduction, but it did require CARB to consult with key state energy agencies and account for equity, health, and economic considerations. Pursuant to AB 32, CARB laid out a range of GHG reduction actions in its initial Scoping Plan in 2008. In 2012, CARB introduced the economy-wide cap-and-trade program, which took effect in 2013.
- Senate Bill 32 (Health & Safety Code § 38566) increased and extended the emission reduction mandate to 40 percent below 1990 levels by 2030.
- Assembly Bill 398 (Health & Safety Code § 38562 et al.) extended authorization of the cap-and-trade program through 2030, adding a credit price ceiling and limiting local authorities' ability to require further reductions.
- Assembly Bill 617 (Health & Safety Code § 42705.5 et al.), a companion bill to Assembly Bill 398, requires CARB to develop a uniform, statewide, annual reporting system of criteria air pollutants and toxic air contaminants and to develop a strategy to reduce these pollutants in communities that experience disproportionately high exposure burdens under the market-based system.

Key Outcomes and Next Steps for California Cap-and-Trade Policy

California's cap-and-trade program has helped reduce statewide GHG emissions and bolster the state's clean energy economy. The state has met its GHG emission reduction targets to date, program compliance is strong, the state's economy has continued to grow, and the quarterly allowance auctions have generated $9.5 billion to date for the Greenhouse Gas Reduction Fund. Given that recent legislation only addressed the cap-and-trade program through 2030, additional legislation, program refinements, and GHG emission reduction approaches will be needed to position California towards meeting its 2050 GHG emission reduction target. In particular, there is concern that an oversupply of credits, low credit prices, and the ability to comply with credits banked early in the program could hinder the program's effectiveness in achieving the 2030 and 2050 goals. In the meantime, however, California's cap-and-trade program has proven to be an environmentally effective, economically efficient, and administratively functional tool for responding to climate change.