



California Cap-and-Trade: An Effective Strategy to Reduce GHG Emissions



Introduction

In October 2011, the California Air Resources Board (CARB) unanimously adopted USA's first state-administered cap-and-trade regulations, a landmark set of air pollution controls to address climate change. It is the centerpiece of AB 32, California's historic climate change law that mandates a reduction in carbon pollution to 1990 levels (427 million metric tons of carbon dioxide equivalent, MMTCO₂e) by 2020. The CARB's cap-and-trade program is consistent with the design of another regional cap-and-trade mechanism, Western Climate Initiative (WCI), which is a collaboration of seven western states and four Canadian provinces.

Under the cap-and-trade program, the CARB sets an emission target, or cap for any specific type of pollution. Each industry covered under the system is then allocated an individual cap based on its emissions. These caps are accounted for through a system of emission allowances.

Emission allowances can be bought, sold or traded by entities that fall under the program to help them meet their emission cap. The principle behind cap-and-trade is that it will create market incentives for companies to find the most cost effective strategies to reduce any covered emissions.

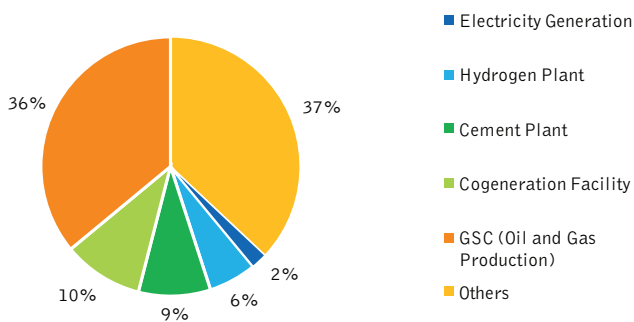
California Cap-and-Trade Program

California's cap-and-trade regulation puts a cap on the aggregate GHG emission released from major sectors, like industrial, utility and transportation fuels, that account for approximately 85% of the state's GHG emissions.

Allowances and offsets are two compliance instruments under this program. The regulators create allowances equal to the total number of emissions under the cap, and require capped entities to surrender one allowance for every unit of emission they emit (measured in metric tons of carbon dioxide equivalent). The cap is set to start its emissions levels in 2012, and declines by 2-3% per year through 2020. Fewer allowances are available each year, requiring emitters to reduce their emissions or pay increasingly high allowance prices. The cap level is set for 2020 to ensure that California complies with AB 32's emissions reduction target. Allowances for each industrial sector are set at about 90% of average emissions, based on a benchmark that rewards efficient facilities.

Offsets are tradable credits that represent GHG emissions reductions that are made in areas or sectors not covered by the Californian Cap-and-trade program. Offsets of up to 8% of a facility's compliance obligation are allowed under the program.

GHG Emissions from In – State Sources by Facility Type

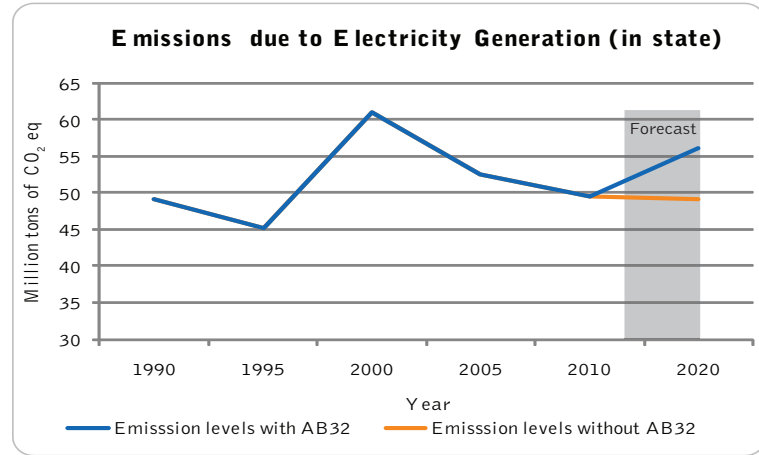


Source: EDF

Emissions from industrial, utility, and transportation fuels sectors – accounting for roughly 85% of the state's GHG pollution, come under this program, which is divided into three compliance periods:

- 2013-2014: Covers utilities that generate or import electricity into California and large industrial emitters (25,000 tons emissions/year),
- 2015-2017: Covers fuel providers and distributors
- 2018-2020: By the end of the program, it is expected to include roughly 350 large businesses, representing about 600 facilities.

Impact on Electricity Generation (in state) Sector



Source: California EPA, GHG Inventory

California's electricity sector is responsible for approximately 1/4 of the state's anthropogenic GHG emissions. The electricity sector is expected to contribute significantly to emissions reduction; it is expected that approximately 40% of emissions reduction achieved under AB32 will be attributed to the electricity sector.

The chart depicts emission levels for electricity generated (in state) with real time values up to the year 2010 and projections through 2020. It illustrates two scenarios – emission levels with AB 32 implementation and emission levels without AB 32. As denoted, on effectively implementing AB 32, a drop of around 15% in the emissions levels can be witnessed.

Significant Implications of the Program

The Californian cap-and-trade program has a robust regime. There is a penalty, if a facility emits more than the cap. In such a case, the facility would have to submit four compliance instruments for every one missed ton of emission, thereby creating a strong motive to stay within limits. For a 2013 permit, California carbon allowances trade at USD 18 per metric ton of carbon dioxide, which is USD 3 more than the current price on emissions in the six year old European Union carbon market. It sends a clear market signal for facilities to continue finding innovative ways of decreasing emissions and developing clean energy technologies.

One of the critical factors to determine how many free allowances an industrial facility will receive, is its average industrial performance. It denotes that an industrial facility which showcases its average amount of pollution per unit produced could receive nearly all its pollution allowances for free. This factor should instead be made dependent on industry best practices, so that only those facilities that use the best green technologies would be able to cover all of their emissions for free. It is a move that will encourage all facilities to adopt best practices available in the industry.

According to State Sen. Jean Fuller (representing California's 18th Senate district), one of the critics of the cap-and-trade program, Californian companies will experience 10% competitive disadvantage (from the year 2013) over surrounding states. It may cause many companies to shift its base. The ensuing loss of jobs and manufacturing is viewed to add on to the State's piling economic troubles.

There is also fear that fuel and electricity providers and food processors will be forced to pass along their price increases to achieve their emissions reduction. California farmers competing in the global marketplace will be put under competitive disadvantage when the new cap-and-trade taxes on food processors take effect.

Conclusion

Climate change and global warming are challenges that require solutions at the international level. California's cumulative emission cuts between 2013 and 2020 are insignificant when one compares the US' average emission levels in a year. Recently, the Canadian province of Quebec has adopted the Californian cap-and-trade model. The Californian model, a state initiative to participate in the international challenge of addressing climate change, would be a good start for other countries to emulate when they finally decide to act.

Sources :

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