

Achieving Carbon Neutrality in California Using Cap-and-Trade

IETA's Position

1. Background

In June 2020, the governing Council of the International Emissions Trading Association (IETA) published its vision for net zero climate ambition at an international level¹. This position paper tailors IETA's Council Guidance to the California policy context. IETA believes that outlining its position ahead of the upcoming Scoping Plan will inform considerations and scenarios regarding California's cap-and-trade (C&T) program.

2. Carbon Neutrality by 2045

In September 2018, Governor Jerry Brown issued Executive Order B-55-18, which established a goal for California to “achieve carbon neutrality as soon as possible and no later than 2045, and to achieve and maintain net negative emissions thereafter”.² IETA supports this goal because of the scientific imperative for achieving carbon neutrality to hold temperature rise to well below 2 degrees—including best efforts to no more than a rise of 1.5 degrees Celsius—³ and the reality that doing so will involve balancing anthropogenic emissions sources with removals from sinks of greenhouse gases (GHGs) in the second half of the century.⁴ IETA commends California for enhancing its ambition in response to the climate crisis. That said, since this enhanced ambition will come with significant additional costs, California should provide additional compliance flexibilities to ensure that the goal is met in the most cost-effective way possible.

3. Achieving Enhanced Ambition Using Cap-and-Trade

To date, California primarily relied on direct policies set by the Legislature and the California Air Resources Board (CARB) to achieve emission reductions. California also created a C&T program, which to date has served as a backstop to ensure state targets would be met if direct policies underperformed.⁵ IETA believes that California must shift more of the burden of climate action onto the C&T program to succeed in achieving its carbon neutrality targets, as this represents the most cost-effective path forward.

Continued dependence on direct policies results in unnecessarily expensive abatement and strains California's fiscal resources. For example, even today, with relatively modest levels of ambition, California's Legislative Analyst's Office (LAO) found that “the state's transportation-specific policies are generally much

¹ IETA Council Guidance on Net Zero Climate Ambition. 2020.

https://www.ieta.org/resources/IETA-Council/Net%20Zero%20Guidance/IETA_Net_Zero_Climate_Ambition_1June2020.pdf

² Executive Department of the State of California. 2018. Executive Order B-55-18 to Achieve Carbon Neutrality. <https://www.ca.gov/archive/gov39/wp-content/uploads/2018/09/9.10.18-Executive-Order.pdf>

³ United Nations Framework Convention on Climate Change. 2015. The Paris Agreement. https://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf

⁴ International Emissions Trading Association. IETA Council Guidance on Net Zero Climate Ambition. https://www.ieta.org/resources/IETA-Council/Net%20Zero%20Guidance/IETA_Net_Zero_Climate_Ambition_1June2020.pdf

⁵ California Air Resources Board. 2008. Climate Change Scoping Plan: A Framework for Change. <https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/psp.pdf>

more costly ways to reduce emissions than carbon pricing policies, such as C&T”.⁶ Additionally, limiting the state’s dependence on direct policies will increase market demand for allowances, thereby leading to higher auction revenues. Furthermore, certain forms of direct policies, such as subsidies, drain California’s fiscal resources. These negative features of direct policies will only increase as California enhances ambition via its carbon neutrality goal.

In contrast, furthering reliance on C&T would provide a promising path to carbon neutrality. An extended and updated C&T program that accounts for negative GHG emissions and a net zero goal would align incentives for reductions, removals, and sequestration and therefore minimize abatement costs. Moreover, instead of adding cost to the state budget, the C&T program could raise significant new revenue for climate protection. To date, the C&T program has raised over 13 billion dollars through auctioning of allowances,⁷ which California then invests in projects that provide substantial economic and environmental benefits, particularly to disadvantaged and low-income communities.⁸

IETA proposes that California extend its C&T program and establish caps that decline to net zero by 2045. These caps should specifically provide for a way to account for negative emission technologies (NETs) and approaches, which the United Nation’s Intergovernmental Panel on Climate Change (IPCC) finds are essential to achieving carbon neutrality. Specifically, all climate models employed by the IPCC agree that carbon neutrality by 2050 cannot be achieved without large scale deployment of carbon removal technologies, such as carbon capture utilization and sequestration (CCUS). More generally, IETA recommends reducing dependence on direct policies so that the C&T program can take a central role by reducing more emissions at lower costs. It is time for the C&T program to evolve from California’s backstop for direct policies to California’s workhorse for achieving carbon neutrality.

4. Ensuring Flexibility Within Cap-and-Trade

Enhanced ambition requires assurances on compliance flexibilities. In the context of C&T, compliance flexibilities are typically defined as geographical or temporal in nature, the former including linkage and the latter including banking. That said, even before discussing compliance flexibilities, IETA must address a concern it has pertaining to CARB’s emphasis on direct reductions for achieving carbon neutrality.

a. Using Net Emissions Through Removals and Sequestration

The cost of direct reductions will increase dramatically as abatement efforts expand. In this case, using NETs—including carbon offsets, through removals and sequestration— could provide more cost-effective abatement. For example, all scenarios in the recent E3 report, “Achieving Carbon Neutrality in California” contained at least some degree of carbon dioxide removal in order to achieve carbon neutrality.⁹ However, in recent workshops, CARB has emphasized a strategy to “strive for zero emission from all sources”.¹⁰ From

⁶ Legislative Analyst’s Office. 2018. Assessing California’s Climate Policies—Transportation.

<https://lao.ca.gov/reports/2018/3912/climate-policies-transportation-122118.pdf>

⁷ California Air Resources Board. 2020. California Cap-and-Trade Program: Summary of Proceeds to California and Consigning Entities.

⁸ ClimateXChange. 2020. Cap-and-Trade in California: Health and Climate Benefits Greatly Outweigh Costs. https://climate-xchange.org/wp-content/uploads/2018/08/California_Cap_and_Trade-3-13-2020-spreads.pdf

⁹ E3. Achieving Carbon Neutrality in California: Draft Report. https://ww2.arb.ca.gov/sites/default/files/2020-08/e3_cn_report_aug2020.pdf

¹⁰ California Air Resources Board. Achieving Carbon Neutrality in California: A Report by E3. https://ww2.arb.ca.gov/sites/default/files/2020-08/carb_cn_report_aug2020.pdf

a climatic perspective, there is no difference between direct reductions or negative emissions, and CARB's carbon neutrality strategy should reflect this. IETA believes more emphasis should be placed on NETs.

Embracing NETs will provide an opportunity for California to lead globally. As per leading IPCC scientists, scaled deployment of CCUS and other NETs are required to achieve carbon neutrality by 2050 at substantially lower societal cost. California has a chance to be a global leader in advancing NET technologies for global deployment while driving and enabling more innovative and larger net reduction approaches.

b. Enhancing Geographic Flexibilities

Climate change cannot be solved by California alone. The most efficient way to deliver the goals of the Paris Climate Agreement is for governments around the world to work toward a series of C&T linkages and harmonizations that eventuate in a global carbon pricing system. This would lead to potential cost reductions of about \$250 billion per year globally by 2030, according to a recent study performed by the University of Maryland. If these savings were invested in enhanced ambition, then international trading has the capacity to facilitate additional abatement under the Paris Agreement by 50% or ~5 GtCO₂ per year in 2030.¹¹ If international cooperation on natural climate solutions (NCS) is widely deployed, the additional mitigation could grow to 9 GtCO₂ per year.¹² Instead of acting alone, trading between jurisdictions can enable and galvanize global community action to get farther and faster towards “net zero” together.

California's linkage with Quebec in 2014 showed a first step toward international cooperation. Yet the vision of a broad and unified Western Climate Initiative has yet to materialize. This linkage with Quebec remains strong after California won a recent legal battle when the Eastern District Court ruled that the state's linkage was constitutional. IETA intervened on the state's behalf, making the business case for maintaining the linkage. Building on this legal victory, IETA encourages CARB to pursue additional linkages across the hemisphere, including Oregon and Washington. Conversations regarding linkage with these two states should be streamlined and California should require alignment in design only for few features that are critical for market functioning, as outlined, for example, by Table 2 of Burtraw et al. (2013).¹³

Geographic flexibility also pertains to offsets. In this regard, IETA commends CARB on their leadership on the Tropical Forest Standard. However, other restrictions on offsets should be reconsidered because of California's carbon neutrality goal. For example, quantitative usage limits should be updated and increased to “maximize sequestration”.¹⁴ As another example, direct environmental benefits may need to be streamlined or revised.

¹¹ IETA & CPLC. 2019. The Economic Potential of Article 6 of the Paris Agreement and Implementation Challenges: https://www.ieta.org/resources/International_WG/Article6/CLPC_A6%20report_no%20crops.pdf.

¹² Yu, Sha and Edmonds, Jae. “The Value of Article 6” (presentation to 19th Annual IEA-IETA-EPRI Workshop on Greenhouse Gas Emissions Trading, 2 October 2019)

<https://iea.blob.core.windows.net/assets/imports/events/20/19thIEAIEAEPRIHGTradingWorkshopSha.pdf>

¹³ Burtraw, Dallas, Palmer, Karen, Munnings, Clayton, Weber, Paige and Matt Woerman. Linking by Degrees: Incremental Alignment of Cap-and-Trade Markets. Resources for the Future DP 13-04.

<https://media.rff.org/documents/RFF-DP-13-04.pdf>

¹⁴ California Air Resources Board. Achieving Carbon Neutrality in California: A Report by E3.

https://ww2.arb.ca.gov/sites/default/files/2020-08/carb_cn_report_aug2020.pdf

c. Maintaining Temporal Flexibilities

Banking is a critical element of every successful C&T program. Importantly, banking rewards companies that take early action and allows for intertemporal cost minimization. One potential implication of banking is that annual emissions may not be below annual targets in any particular year if cumulative emissions reductions are achieved early. This possibility, regardless of how unlikely it is, has drawn attention from C&T opponents. IETA recommends CARB consider either implementing an accounting framework and/or work in conjunction with the Legislature to change the format of targets from annual to cumulative to align allowance banking with state climate goals.

Another potential implication of banking is lower allowance prices, which have inappropriately drawn the ire of C&T opponents. Low allowance prices simply reveal that California's entire policy mix is generally on track to meeting their targets, and perhaps that direct regulations are crowding out abatement that C&T would have otherwise achieved more cost-effectively. Moreover, low prices can yield substantial abatement, as argued by a recent study finding that the European Union Emissions Trading System reduced emission nearly 4 percent between 2008 and 2016 despite relatively low allowance prices.¹⁵

5. Opportunities Beyond Cap and Trade

There are many opportunities outside of the C&T program to leverage market-based incentives for emissions reductions. The California Environmental Quality Act (CEQA) requires certain large projects to provide mitigation for their GHG emissions. In some localities, carbon offsets are permitted to be used to achieve this mitigation, particularly voluntary offsets originating from inside and outside of California. The use of voluntary offsets under CEQA are important for stimulating offset demand in the short-term, which would invite a long-term supply side response that would ensure a healthy supply of carbon offsets over the coming decades.

6. Leadership Through Successful Abatement

One of California's main goals is to continue to be a leader in climate policy and to export its policies around the world. If California hopes to meet these goals and achieve carbon neutrality on time, it is critical that it does so at the least cost and impact to its citizens. If further compliance flexibilities are not added in response to enhanced ambition, California takes unnecessary risks with the economy and could become a cautionary tale of decarbonization.

There are established and effective methodologies for quantifying reductions, removals, and sequestration of GHGs that can be employed to minimize costs and maximize environmental integrity. An extended and updated C&T program would serve as the perfect vehicle for achieving carbon neutrality effectively and efficiently. Therefore, it is the ideal instrument for California to rely on to maintain its climate leadership through mid-century and beyond.

¹⁵ Bayer, Patrick and Michael Aklin. 2020. The European Union Emissions Trading System Reduced CO₂ Emissions Despite Low Prices. PNAS: 117(16): 8804-8812.

7. Conclusion

IETA commends CARB for designing a successful C&T program to date, and we believe California should allow this mechanism to drive the state forward in meeting its ambitious carbon neutrality goals. We look forward to engaging with CARB staff and other stakeholders further on this topic. Please direct questions to IETA's West Coast Representative, Clayton Munnings (munnings@ieta.org).