



California Council for Environmental and Economic Balance

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CCEEB Carbon Neutrality Principles for California

CCEEB defines carbon neutrality as the cost-effective and technologically feasible mitigation of greenhouse gas (GHG) emissions balanced by carbon removal from natural sinks and mechanical sequestration so that net GHG emissions are less than or equal to the carbon removed. Cost effectiveness is achieved when mitigation and carbon removal costs are below the social cost of carbon, which is the avoided cost of damages from climate change.

Carbon neutrality is an important pursuit environmentally and has major implications for all Californians and their economic prosperity. Moreover, what we do matters globally if it can be replicated in other states, regions, and countries. There should be an openness and optimism to any viable new solutions that move us toward our goals; allowing for innovation is key. We offer the following carbon neutrality principles with this in mind.

Efficiency

California should design climate policies that achieve GHG targets at the lowest possible cost.

- Mitigation and carbon removal should be cost effective and affordable to protect workers from undue economic impacts, both in terms of jobs and increased costs.
- Harm to the competitiveness of key sectors such as construction, energy, manufacturing, goods movement, agricultural and other sectors should also be avoided.
- Where possible, climate policies should aid in the reduction of criteria and toxic pollutants. Similarly, multimedia strategies may increase co-benefits.
- Policies should not conflate the cost of mitigation with the social cost of carbon.
- Policies and funding may be needed to support to development and deployment of emerging technologies not cost-effective today but critical to achieving carbon neutrality, recognizing that commercial feasibility may be possible in the future.
- Market-based solutions for decarbonizing the economy are preferred because they inherently seek lower cost reductions and drive energy, industrial, and transportation innovation. This also helps minimize leakage, which in turn recognizes the importance of industry to California jobs and the economy.

Climate policies should focus on economy-wide emission reductions, not on specific sectors.

- Some sectors have cost-effective, technologically feasible, and commercially available solutions available today. Others will take more time to develop.
- Some sectors (e.g., shipping, road freight, aviation) have complex networks of interests and control, making decarbonization challenging without an unusual degree of collaboration among

parties across the value chain. Many also cross jurisdictional lines. Solutions and energy infrastructure will depend on clear alignment among shippers, fleet operators and equipment manufacturers.

Technology and Fuel Neutrality

Allow industrial sectors to find their own pathway to decarbonization; trying to mandate specific technologies prematurely could strand substantial assets without providing equivalent benefit.

Legislation, regulations, subsidies, and incentives meant to enable GHG reductions, removal or should not be applied disproportionately across industries. Policies should create a level playing field that provide opportunities for all solutions to compete in achieving our goals.

Reliability and Continuity of Service

Energy resource adequacy standards must ensure that sufficient resources are available to meet energy load under the broadest practicable range of weather and resource outage conditions, and should be subject to a standard for acceptable frequency of loss-of-load events.

- Resource adequacy should be measured directly through loss-of-load-probability modeling, and a system is judged to be sufficient based on the frequency and duration of reliability events. For example, the standard could be 2.4 hours per year (i.e., 24 hours over 10 years).¹

Carbon Mitigation, Sequestration and Storage

Carbon removal in the form of sequestration and storage is vital for meeting California decarbonization goals and would help minimize the costs and negative economic impacts on the state.

- Sequestration focuses on natural and working lands (NWL) as carbon “sinks.”
- Carbon Storage is mechanical and focused on where it is needed most, regardless of sector.
- Where project limitations exceed cost effectiveness and technological feasibility, the State should have a way to socialize the costs broadly with public funds to help achieve goals, or it should modify regulations and permitting to help improve the cost effectiveness of projects.

Cost effectiveness, technological feasibility, and commercial availability should dictate the balance between mitigation and carbon removal (i.e., sequestration and storage). Neither mitigation nor removal should be prioritized over the other.

Carbon sequestration and storage projects will take time to develop. As such, California should deploy cost-effective, affordable, technologically feasible, and commercially available mitigations today while developing abundant sequestration and storage opportunities for tomorrow. This will set right pace for California’s economic sectors to achieve carbon neutrality.

¹ See https://www.ethree.com/wp-content/uploads/2019/06/E3_Long_Run_Resource_Adequacy_CA_Deep-Decarbonization_Final.pdf.

Sequestration and storage are long term and foundational components of carbon neutrality. As technological feasibility and cost effectiveness improves, these projects will be able to aid in the prevention of environmental and economic leakage.

- Adopt robust policies for NWL and Mechanical Sequestration
 - Increase accuracy of NWL sequestration inventory and methodologies.
 - Create reliable and robust protocols for sequestration projects.
- Adopt near term policies to facilitate the long term need to incentivize carbon storage.
 - Develop a robust but efficient permitting process for carbon storage projects.
 - Create reliable and robust protocols for the permanence of carbon storage projects.
 - Cap-and-Trade should account for carbon capture, storage, and utilization.

Reporting and Crediting Protocols - Account for Positive and Negative Emissions

“A ton is a ton is a ton.”

- Emissions mitigated, sequestered, or stored across the suite of regulatory programs should all count toward the carbon neutrality goal.
- CARB should establish a singular accounting mechanism or ledger that fully accounts for positive and negative emissions.
- CARB should provide market certainty that negative emissions projects will be counted towards carbon neutrality.

Abundant, high-quality mitigation and sequestration credits can help contain costs prior to and after 2030.

- CARB should coordinate policies across its climate programs to allow for negative carbon accounting. Carbon removal and negative emissions should both generate credits.
- California should avoid unnecessary constraints on the crediting program in order to encourage innovation and creative solutions.
- To encourage investment in real and quantifiable mitigation, sequestration or storage projects, California should not limit use of generated credits.
 - CARB should include all qualified national and international program credits. This will ensure that local benefits are captured while still leading the developing world towards a low-carbon future.

Establish a Program to Monitor California’s Economic Health and Markets

CARB should develop a public dashboard, updated quarterly, that monitors specific economic indicators and GHG mitigation programs, including market elements of Cap-and-Trade, the Renewable Portfolio Standard, and the Low Carbon Fuel Standard. This should include primary and secondary market functions and pricing, indicators to detect market manipulation, utility rates per customer class, offset supply, evidence of contract/resource shuffling, progress towards achieving the 2045 target, total cost of the Scoping Plan, and related economic trends, such as jobs in manufacturing, commercial and residential rental vacancy rates, home sales,

volume of trade through ports, GSP, and indicators used by the Department of Finance to monitor the health of California's economy.

- If certain legislatively determined thresholds are exceeded, a comprehensive review of the Carbon Neutrality program would be triggered to investigate what measures are not cost effective and how the program could be re-balanced to bring relevant economic indicators below the thresholds.

CARB should develop a more structured process and approach for evaluating the comparative cost effectiveness of program measures, as well as the relative cost effectiveness of those measures vis-à-vis the Scoping Plan, and identify any potential problems. This should include permitting cost, lifecycle costs, lost/gained time of production, and new land costs for compliance.

Leadership through Linkages

California must expand its leadership through linkages with market-based programs. These programs have driven significant global public and private sector investment in low, zero, and negative carbon technologies, energy, and fuels.

- Linkage shows leadership, and spurs coordinated global action.
 - Linkage allows for the transference of CA stringency and technology-forcing policies to other jurisdictions.
 - Linking to other national and regional carbon markets ensures a supply of high-quality and tradable market instruments for to a broader set of compliance entities thus lowering the risks of going alone.
- Linkage reduces the economic risks to capped businesses by ensuring their competitors are playing by similar rules.
- Absent widespread linkage with economies equal to or greater than California, CCEEB believes additional cost-containment measures should be adopted to soften the economic impact of this regulation and limit leakage of jobs and emissions.

CCEEB looks forward to engaging with the Administration, the Legislature, and other public stakeholders to help shape California's future. It will not be easy, but with well-designed policies that provides steady and reliable market signals, California can meet its long-term climate and energy goals.