

California approves sweeping climate change strategy that's short on details

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California's air quality regulators approved a much-disputed blueprint Thursday for meeting the state's ambitious greenhouse gas reduction goals, focused on transitioning away from fossil fuels and toward

widespread electrification of the economy.

The document produced by the California Air Resources Board (CARB), called a scoping plan, has been criticized by [climate experts](#) and activists for being thin on actionable detail and relying on unrealistic carbon removal technologies. But the air board said it is confident the plan will set the state on a path toward staving off the worst impacts of climate change.

"Implementing this plan will achieve deep decarbonization of our entire economy, protect [public health](#), and provide a solid foundation for continued economic growth and drastically reduce our state's dependency on fossil fuel combustion," said CARB chair Liane M. Randolph. "No economy, much less the fourth largest economy in the world, is pursuing such an aggressive and comprehensive action on climate."

The objective of the plan, which must be released every five years and has undergone several revisions, is to reduce the state's yearly emissions from 404 million metric tons in 2019 to some 50 million metric tons by 2045 and achieve [carbon neutrality](#).

It sets more aggressive goals than previous state mandates, aiming to cut emissions to 48% below 1990 levels instead of 40%, and reduce oil use by 94% from 2022 levels by 2045, up from 91% in the September version of the plan.

Critics said California is not on track to meet current goals, let alone more ambitious ones. Danny Cullenward, a climate economist who serves on an advisory committee for the state's system for trading greenhouse gas credits, said the scoping plan is missing concrete actions, an accountability device and means to track progress.

"You will not find any of those things in this document, which talks a really big talk about some long term directions that are very important. The technical analysis underlying the document is borderline farcical," he said, having found errors in its methodology.

"What's going on is this plan is so incredibly high level that it doesn't actually connect to any of the decisions that the board has to take in any of its policy programs."

The document offered few details, for example, on how California's system for trading greenhouse gas credits—the cap and trade program—will factor into meeting emission reduction goals despite it being a pillar of the state's climate change strategy.

The plan envisions a sweeping electrification its transportation sector, industry and home powering with [clean energy](#) over the next decade: everything from vehicles, trucks and trains, to commercial buildings and home appliances such as heat pumps and induction stove tops. Achieving these targets would cost \$18 billion in 2035 and \$27 billion in 2045, according to CARB estimates.

It details at length the board's commitments to [environmental justice](#), as well as working with indigenous communities and partnerships with the private sector. Many advocates ahead of the board's vote lamented the impacts of environmental pollution in low-income communities of color across the state.

"We applaud the call for an inter-agency process to coordinate the phasedown of oil refining and extraction in California," said Mabel Tsang, political director at the California Environmental Justice Alliance, a group that applauded the board's visitation of communities living near [oil refineries](#) and gas-fired power plants.

"The plan still paves the way for billions in subsidies for oil and gas executives by using carbon capture schemes to lock in refineries, dirty gas power plants, and polluting bioenergy and hydrogen facilities."

The air board's scoping plan is generally based on elimination of [fossil fuels](#) in the transportation and industrial sectors, and the capture and storage of carbon under natural lands. Carbon removal technologies, which involve capturing and storing carbon dioxide emissions, have not yet been proven to work at a large scale and are seen as risky by some.

These changes will be based on state's ability to meet increased demand for clean and affordable electricity, planning for 20 gigawatts of offshore wind by 2045 and a massive scale-up of other renewable sources without the addition of new natural gas plants. By some estimates, the transition away from fossil fuels will lead electricity use to soar by as much as 68% in 2045.

Carbon capture and sequestration projects, the plan posits, will be needed to "minimize emissions where no technological alternatives may exist." Carbon removal projects would be paired with emission sources like a cement plant or oil refinery to capture, compress, and sequester carbon underground—to the tune of 100 million metric tons by 2045 as requested by Gov. Gavin Newsom.

Air resources board member John Balmes, a professor of medicine at University of California, San Francisco said he is concerned about environmental and health impacts of carbon removal technologies and called on the body to study the issue in more depth.

"I think we have to be on top of this unproven technology," he said. "I know the legislature and the governor have expressed interest in it, but I would hope that we could reach our [carbon](#) neutrality goal in 2045 by reducing primary sources. We'll see."

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