# Calif. climate fight gets harder soon

**By Julie Cart, CalMatters**

By most measures, California has earned the right to brag about how much it has cleaned up its environmental act. The air in much of smog-shrouded Southern California has been scrubbed. A passenger car for sale here today is 99 percent cleaner than one on offer in the early 1970s. The fossil fuels required to power the state's economic engine have decreased by a third since their peak in 2001, while economic activity has expanded in that time by an equal measure.

In addition, California's response to climate change is a one-of-a-kind hybrid, knitting together market-based programs such as the cap-and-trade system for reducing carbon dioxide and other harmful emissions; strict regulations to promote energy efficiency in buildings; and generous financial incentives for "green" projects, drawn from more than $6 billion in carbon-trading proceeds.

It's working. California is poised to meet its goal to reduce greenhouse gases 33 percent, to 1990 levels, by the year 2020. Its targets for use of more renewable energy by that date are, in some cases, already exceeded.

So take a bow, California; you've done the easy stuff. But hold on tight for what comes next. The state's overarching plan was intended to ease industry and consumers into a carbon-free future bit by bit; ten years in, the training wheels are off.

Emissions-reduction must hit 40 percent by 2030 and twice that by 2050. In 12 years, half the state's energy must come from renewable sources such as wind and sun. California's 14 million buildings must operate twice as efficiently, and the

number of electric cars on the road will have to multiply more than 10 times. Failure would likely mean more extreme measures in later years and, many experts say, could affect public health.

The scope of the state's approach is all-encompassing. By law or executive order, every state agency must consider climate change when making any planning decision. Developers must take into account how far motorists travel to reach a destination, forests will be managed so that trees store more carbon dioxide and highway builders have to calculate the possibility that rising seas might inundate the roads.

The near term looks good. But for the 2030 goals and beyond, normally upbeat officials are guarded.

"Getting a 40 percent reduction [by] 2030 is no small thing. There will be lots of challenges," said Ken Alex, director of the state Office of Planning and Research, who sees the entire field when it comes to emissions reductions. "Sometimes I'm optimistic, sometimes I'm pessimistic. I'm pessimistic about the political will it takes to get there."

The most difficult work begins with California's single most polluting sector: transportation, which accounts for nearly half the state's greenhouse-gas emissions.

Mary Nichols, who chairs the California Air Resources Board, acknowledged that squeezing emissions from transportation will be the most difficult lift of all the 2030 standards, saying the gains require no less than a "deep transformation."

That will include cutting gasoline use in half, reducing the miles that car-centric Californians drive, dramatically ramping up the adoption of electric vehicles and building a network of readily available charging stations.

"There's no question that transportation is a critical piece, maybe the critical piece, in solving our energy problems,"

said Sean Hecht, co-executive director of UCLA's Emmett Institute on Climate Change and the Environment.

One reason it's difficult is that transportation emissions are produced largely outside the clutches of state regulation: think airplanes, trains, and ships. Another is sluggish technological change for heavy-duty and medium-duty trucks, buses and shuttles, although adoption of all-electric municipal buses is growing as costs come down.

Although California has decreed that auto manufacturers sell a percentage of zero-emission vehicles, there is no mandate that drivers purchase the pricey cars. Regulators and legislators have been reluctant to force consumers to buy them, as they have with TVs, heavy appliances and other products.

That would change with legislation proposed by Assemblyman Phil Ting, a Democrat from San Francisco. Ting's bill would ban the sale of gasoline-powered cars in California by 2040, mirroring bans proposed by some European countries. The idea went nowhere when Ting proposed it last year, and its prospects now are unclear.

While gas-sipping hybrids such as the Prius are nearly ubiquitous and certainly helpful, only true zero-emission vehicles can bring about the scale of change the state's goals require, experts say.

"There's no way to get there without significant reduction in passenger-vehicle emissions," said Ting, who drives an electric car. He said that more access to charging stations would be transformational.

"People talk about the lack of infrastructure, yet there's electricity everywhere they park their car, unless they are in the forest," he said. "People park their car much nearer to electricity than they do to gasoline. In transportation they talk about 'the last mile.' Here we have the 'last foot' issue. We just need the extension cord for the last foot."

Much of that work falls to the California Energy Commission, which has tied together charging stations that trace a north-south, mainly coastal path. The easier task of attracting electric car buyers in Southern California and the Bay Area has been accomplished. The challenge now is engaging inland drivers, in places such as Bakersfield, Fresno and Redding.

John Kato, deputy director of the commission's Fuels and Transportation Division, agreed that the new benchmarks are "challenging, but we believe the private sector will take up the baton," with automakers producing a wider variety of vehicles, across a broad price range, appealing to more buyers.

An unexpected private-sector benefit comes from Volkswagen, which settled an emissions-cheating case by agreeing to spend more than $800 million building charging stations (from which the company will also profit) throughout the state.

National trends are cause for optimism, said Paul Cort, an attorney with the environmental group Earthjustice. "There is an acceleration in acceptance and uptake among car buyers," he said. "It took us 10 years to get to the first million electric vehicles; the second million was achieved in two years; the third million will be on the road in one year."

One success story has been the state utilities' swift integration of renewable energy into the state electric grid, partly because of a dramatic decline in the cost of solar energy. Emissions from power generated in the state fell by more than 19 percent last year, partly due to the ramping up of hydroelectric power with last year's heavy rains. The Public Utilities Commission that regulates energy companies reports that they have met or will soon meet the 2020 targets.

State Sen. Kevin de León, a Democrat from Los Angeles who is currently running to unseat Democratic Sen. Dianne Feinstein, recently set an even higher bar, proposing 100 percent

renewable energy throughout the state by 2045.

It will be more difficult to find further savings from existing energy-efficiency programs, long a bulwark of California's carbon-reduction efforts. The state is phasing out incandescent light bulbs and the building codes for new construction continue to mandate efficiency. But still to be tackled is the thorny problem of retrofitting millions of old and outdated homes and businesses.

At least one analysis calculates that natural gas used in hot water heaters and to warm residential and commercial buildings is causing nearly the same emissions as the state's power plants. Converting gas-fired buildings to fully electric is daunting, and hugely expensive.

With so many reductions required, the Air Resource Board's post-2020 strategy is one element—a critical one—of the state's multiagency approach to climate change. That strategy elevates the cap-and-trade system, in which companies can pay to pollute by buying credits, to a much more significant role. Cap and trade limits emissions on 80 percent of California's polluters.

The agency has never precisely quantified cap and trade's contribution to greenhouse-gas reduction. Officials projected it at 17-20 percent in a planning document in 2008—a year before the program launched—but are unable to say if those assumptions have been borne out. The board has not conducted the complicated analysis required to determine the program's actual role in cutting emissions.

Nonetheless, last month it adopted a plan to reach post-2020 objectives that ups the ante: It forecasts that cap and trade, which lawmakers recently extended to 2030, will be responsible for nearly 40 percent of California's emissions reductions by that time, a figure disputed by some as unrealistic.

Some critics of the program say another factor could cause the

state to miss its 2030 emissions targets: the banking system that allows individual companies to hold tens of millions of carbon credits in reserve.

According to separate analyses by the nonpartisan Legislative Analyst's Office and independent economists, refineries, cement plants and other major polluters could produce emissions in the next decade that are well above the state's ever-tightening limits and use their banked credits, purchased cheaply, to offset their excess.

Chris Busch, an economist and research director at the think tank Energy Innovation, said his analysis showed that because of the oversupply of allowances the "effectiveness of the program could be compromised."

Ross Brown, who analyzes cap and trade for the LAO, said in an interview that there's a "decent to good chance" that banked credits could vault emissions to more than 30 percent over legal limits in 2030.

The issue has the attention of the state Legislature, which has directed the air board to investigate. So far, the agency has shrugged off the concerns.

Rajinder Sahota, who oversees the cap-and-trade program for the air board, said that although the analyses may be correct in that emissions may exceed the cap in any given year, the agency is confident that the cumulative emissions between 2021 and 2030 will fall and California will meet its goals.

"We expect to see fluctuations over time," she said. "There are a number of factors that account for emissions in any given year—the economy, business decisions. In a perfect world, you'd like to see a decline over time. But it doesn't always work that way."

Sahota said the analyses of banked credits are a "paper exercise."

“Most of the allowances in the program are still in the ARB’s account,” she said. The LAO’s calculations would require a company to spend hundreds of millions of dollars for credits now on a bet that the price will rise as emissions limits get stricter, she said.

“The data show that is not happening,” Sahota said.

Nevertheless, she and air board chairwoman Nichols said the plan is open to revisions.

Gov. Jerry Brown’s personal investment in California’s climate-change policies has been a force multiplier, spurring the myriad state agencies to adopt, and state industries to adapt to, the prospect of a carbon-less future. But Brown is in his final year in office, and the Legislature’s to-do list is crowded with other enormous issues, such as poverty and housing.

Whether lawmakers will continue to invest in programs that, to some, don’t seem to immediately improve the lives of Californians, is an open question.

One critic is state Sen. John Moorlach, a Republican from Costa Mesa who is also an accountant.

“I come from a world where you measure things so you can manage it,” the senator said. “It’s a matter of priorities. Sacramento is pumping itself on the chest, thinking it is going save the world. I’m not convinced this is the right use of our resources.”

Such doubts could present hurdles as the global-warming clock winds down.

“We are running out of time. That’s clear,” said Ken Alex. “To me, it’s about political will and scale. We feel confident that it’s doable.  But do we have the political will to get there?”