

California Air Resources Board Approves Low Carbon Fuel Standard Amendments

November 14, 2024

On November 8, 2024, the California Air Resources Board (CARB) voted to amend the Low Carbon Fuel Standard (LCFS) in order to further advance California's goal of net carbon neutrality by 2045, as required by the California Climate Crisis Act of 2022. The LCFS changes include updated targets to reduce the carbon intensity of transportation fuels used in California — that is, displace fuels such as diesel and gasoline with alternative fuels that are less carbon intense.

According to CARB, the LCFS is intended to lower the carbon intensity of the fuel mix in California and encourage the use of low-carbon transportation fuels. CARB suggests that the LCFS has reduced the intensity by almost 13%, displacing 320 million metric tons of CO₂ from gasoline and diesel emissions since the program's inception. The program functions by assigning annual carbon intensity benchmarks to transportation fuels — measured in terms of the quantity of lifecycle greenhouse gas emissions per unit of energy (gCO₂e/MJ). Producers of transportation fuel must demonstrate compliance with the annual benchmarks. Producers whose products are more carbon intensive than the target are left with a deficit and generally must pay a fee to purchase additional compliance credits. Producers that are below the target generate credits.

Producers with a deficit have two avenues for meeting the target. First, they can change the total makeup of their energy production to lower its overall carbon intensity (CI), for example by introducing an alternative, lower-carbon energy into their energy mix. Second, they can purchase credits from producers whose carbon intensity was below the target or from entities that generated credits through an approved green energy project. Many producers with a deficit use a combination of these approaches to reach the annual goal.

Key changes include the following:

- *Updated and accelerated carbon intensity targets for years 2025–45.*

CARB not only provided new incremental carbon intensity targets for the years 2031–45, but it accelerated the targets for 2025–30 by approximately 9% in its effort to reduce the overall carbon intensity of California's transportation fuel pool by 30% by 2030 and 90% by 2045. The latest targets continue decreasing each year until 2045. For comparison, the prior regulations set 79.55 gCO₂e/MJ as the goal for the years 2030 and beyond, but the amended schedule sets a target below 79.55 gCO₂e/MJ for 2025 and a new target of 9.91 gCO₂e/MJ for years 2045 and beyond. A revised figure for years 2025–30 is provided below.

Year	Prior Average Carbon Intensity Target (gCO _{2e} /MJ)	New Average Carbon Intensity Target (gCO _{2e} /MJ)
2025	85.77	76.60
2026	84.52	75.16
2027	83.28	73.72
2028	82.04	72.28
2029	80.80	70.84
2030	79.55 (for 2030 and subsequent years)	69.40

- *True-up provision for inaccurate carbon intensity calculations.*

CARB included a mechanism to reduce the risk of enforcement against companies that overgenerate credits due to increases in CI scores. This provision allows producers of low-CI fuels to set a conservative margin of error (i.e., higher CI score) for credit generation and receive credits at the end of the year if their verified operational CI score proves to be lower. If, however, a producer's verified operational CI score is higher than the certified CI score, then the producer will be required to retire additional credits at a rate four times the difference in scores (though without additional monetary penalties). This provision goes into effect for the 2025 compliance year.

- *More stringent verification processes.*

A third-party inspector must verify carbon savings for projects to generate credits under the new regulations. Additionally, project and pathway credit applications must be supported by meter calibration showing that they produce the emissions benefits they claim.

- *Cap on using certain biofuels to generate program credits.*

The amendments limit the ability of transportation fuel producers to use biodiesels derived from soybean oil, canola oil, and sunflower oil to meet carbon intensity targets. Under the new scheme, producers will receive decreases in their carbon intensity scores for using these biofuels up to 20% of their total energy mix. Beyond the 20% threshold, the carbon intensity of biofuels will be set at a rate equal to that year's target without regard to their actual carbon output.

- *Stricter limits on generating credits through palm oil, hydrogen, and methane capture.*

While biofuels derived from vegetable oils have received a large percentage of LCFS credits, a few other types of renewable energy are being limited or phased out under the new amendments. Biofuels derived from palm oils will no longer be eligible for credit generation. Hydrogen will be subject to stricter requirements beginning in 2030, including a requirement that it be at least 80% renewable. Additionally, agricultural entities' ability to generate credits by capturing methane from cattle farming will phase out over a period of 30 years.

- *Credits for creating infrastructure to fuel zero-emission vehicles.*

The updates include incentives for new infrastructure supporting zero-emission vehicles to

encourage the switch from combustion engines to electric in the transportation sector. Creators of zero-emission vehicle infrastructure for light-, medium-, and heavy-duty vehicles will be eligible to generate LCFS credits.

- *Prioritization of projects directly benefitting California.*

Projects commencing in 2030 or beyond will have a deliverability requirement for hydrogen and biomethane, meaning that the energy producers can count only those low-CI fuels toward their overall CI score if 50% or more of the fuel is delivered to the grid in California.

CARB approved the changes by a vote of 12–2 after receiving written and oral comments from community members and stakeholders. Two dissenting votes is an anomaly for CARB, which often votes unanimously, but is unsurprising given that the amendments have received criticism from both sides: Some argue that the new targets will put a strain on California residents due to increased retail gas prices, while others argue that the amendments fail to sufficiently curtail the use of carbon-intense fuels. Energy producers and credit generators should familiarize themselves with updates set to begin as early as 2025 and plan a path toward compliance.

Sidley is at the forefront of key California environmental laws affecting low carbon fuel sources and other resources including the Low Carbon Fuel Standard (LCFS), California Gas Price Gouging and Transparency Law (SB X1-2), Senate Bill (SB) 54, Assembly Bill (AB) 32, and the California Air Resources Board (CARB). We advise clients in connection with environmental impact matters and represent them in a range of California litigation matters.

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