

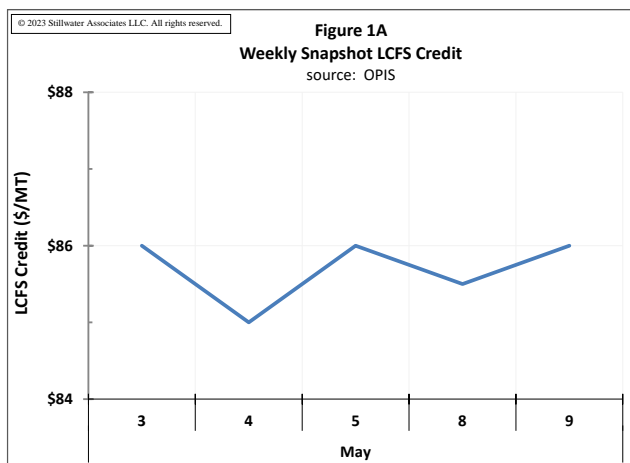
Low Carbon Fuel Standard (LCFS) Weekly Update May 10, 2023

In this week's edition...

- ⇒ Credit prices increased, closing at \$86/MT.
- ⇒ Trading volumes and the number of trades decreased while the range increased.
- ⇒ Oregon CFP 4Q2022 data show slight net credit.

Weekly LCFS Credit Price Trend

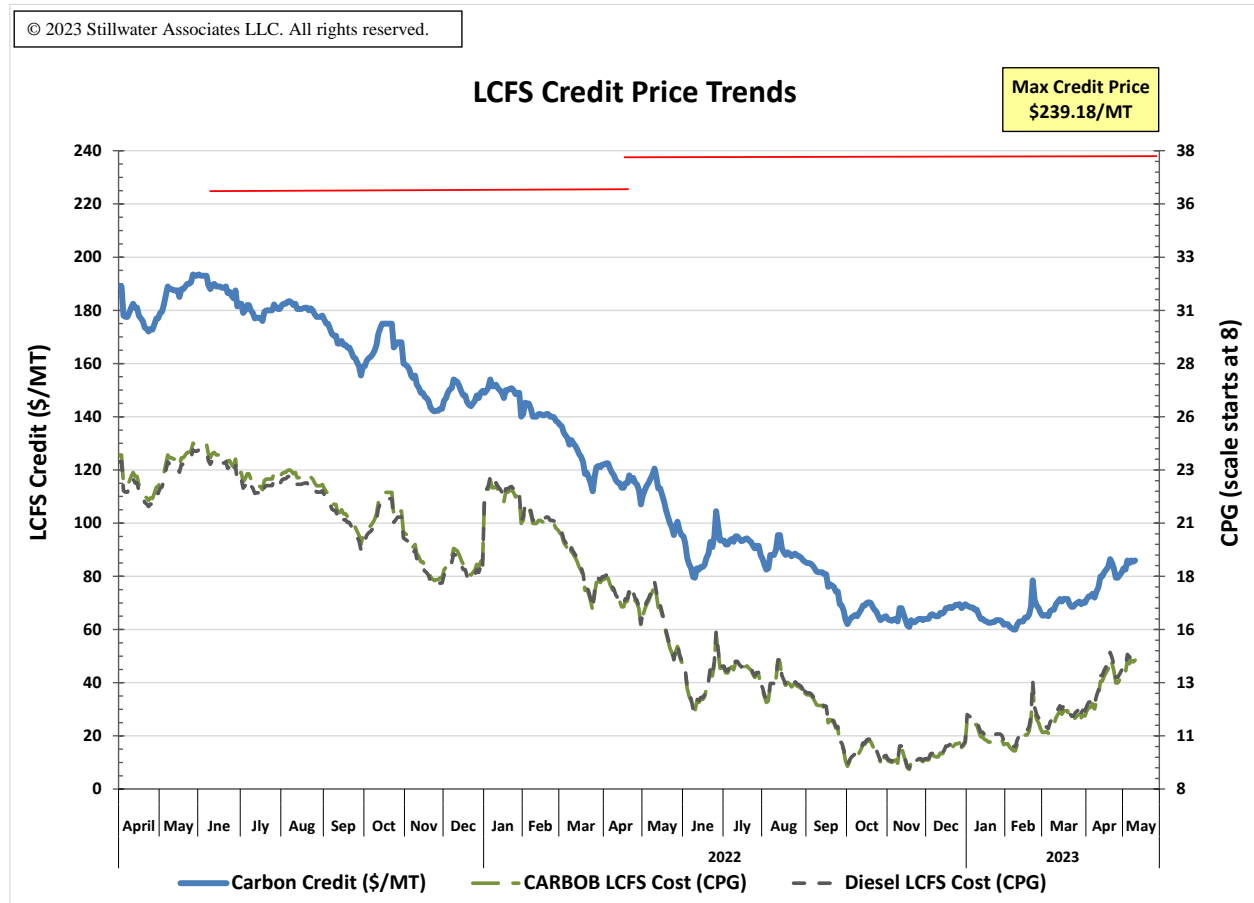
For the week of May 3–9, credit prices started at \$86/MT – up \$3.50/MT (~4%) from the previous week's closing price. Credit prices decreased to \$85/MT before slightly increasing to close at \$86/MT – up \$3.50/MT (~4%) from the previous week's closing price. The same week last year averaged \$115/MT. Based on the 2023 benchmark, a credit price of \$86/MT correlates to 12.92 cents per gallon (CPG) for CARBOB and 13.07 CPG for ULSD.



In addition to the direct cost of LCFS credit prices, the LCFS program's incremental crude CI provision adds deficits to all CARBOB and ULSD in California. At a credit price of \$86/MT, the incremental added cost of the 2023 incremental crude provision is 1.13 CPG for CARBOB and 1.27 CPG for ULSD. Given the cost of this additional deficit, the total added cost of the LCFS program is 14.05 CPG for CARBOB and 14.34 CPG for ULSD.

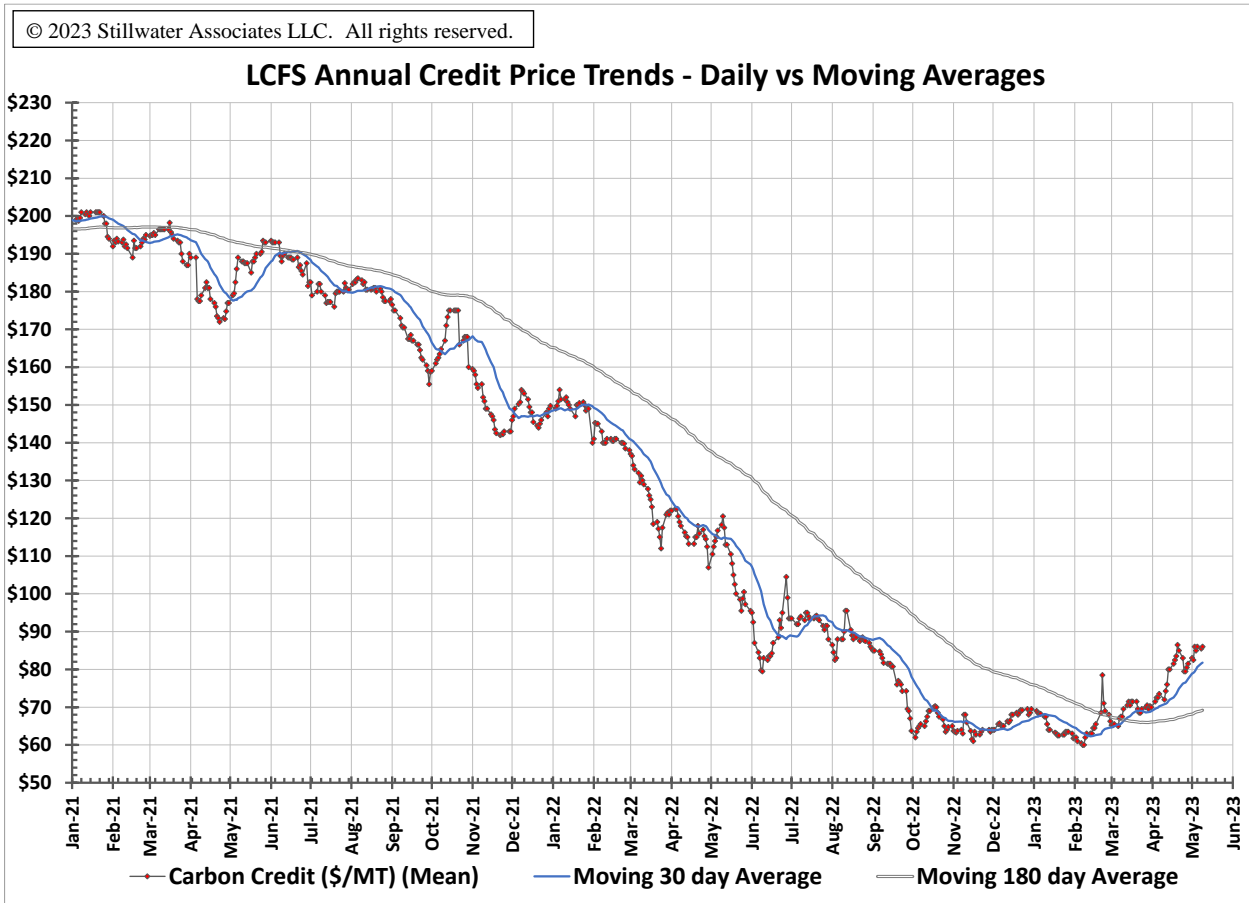
Long-Term LCFS Credit Price Trends

For 2023 year-to-date, LCFS credit prices have averaged \$70/MT, reaching an annual high of \$86.50/MT on April 20th and a low of \$60/MT on February 8th. The year-average price for 2022 was \$98/MT. The maximum allowable credit price for June 1, 2022 through May 31, 2023 is \$239.18. Credit price trends for the past two years are displayed in the figure below.



LCFS Annual Credit Price Trends – Daily vs. Moving Averages

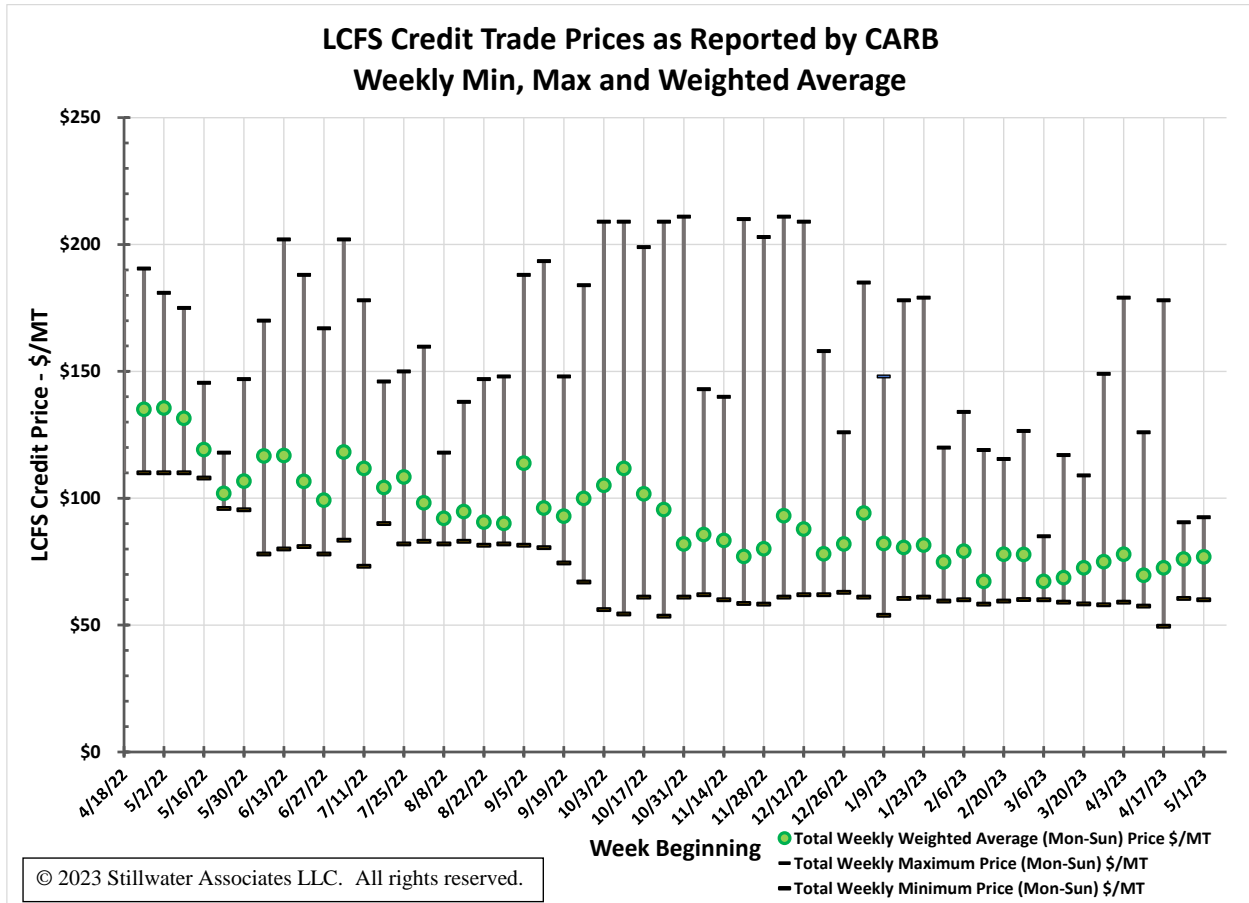
The figure below shows daily OPIS prices along with 30- and 180-calendar-day moving averages.¹ As can be seen, the 30-day moving average continues on an upward trajectory with the 180-day moving average continuing to curve upward as well. Credit prices remained above both the 30- and 180-day moving averages this week.



¹ Moving averages are widely used technical indicators that smooth out price trends by filtering out “noise” from random short-term price fluctuations, providing a clearer view of the direction prices are trending. They are used by traders and investors for the “technical analysis” of financial data such as stocks or commodities prices or trading volumes to inform decisions of when to buy or sell stocks or commodities. In addition to helping identify trends, moving averages are also used to determine support and resistance levels. In an uptrend, the average may act like a floor (support), so the price recovers with an upward movement. In a downtrend, a moving average may provide resistance with the price pausing before dropping again.

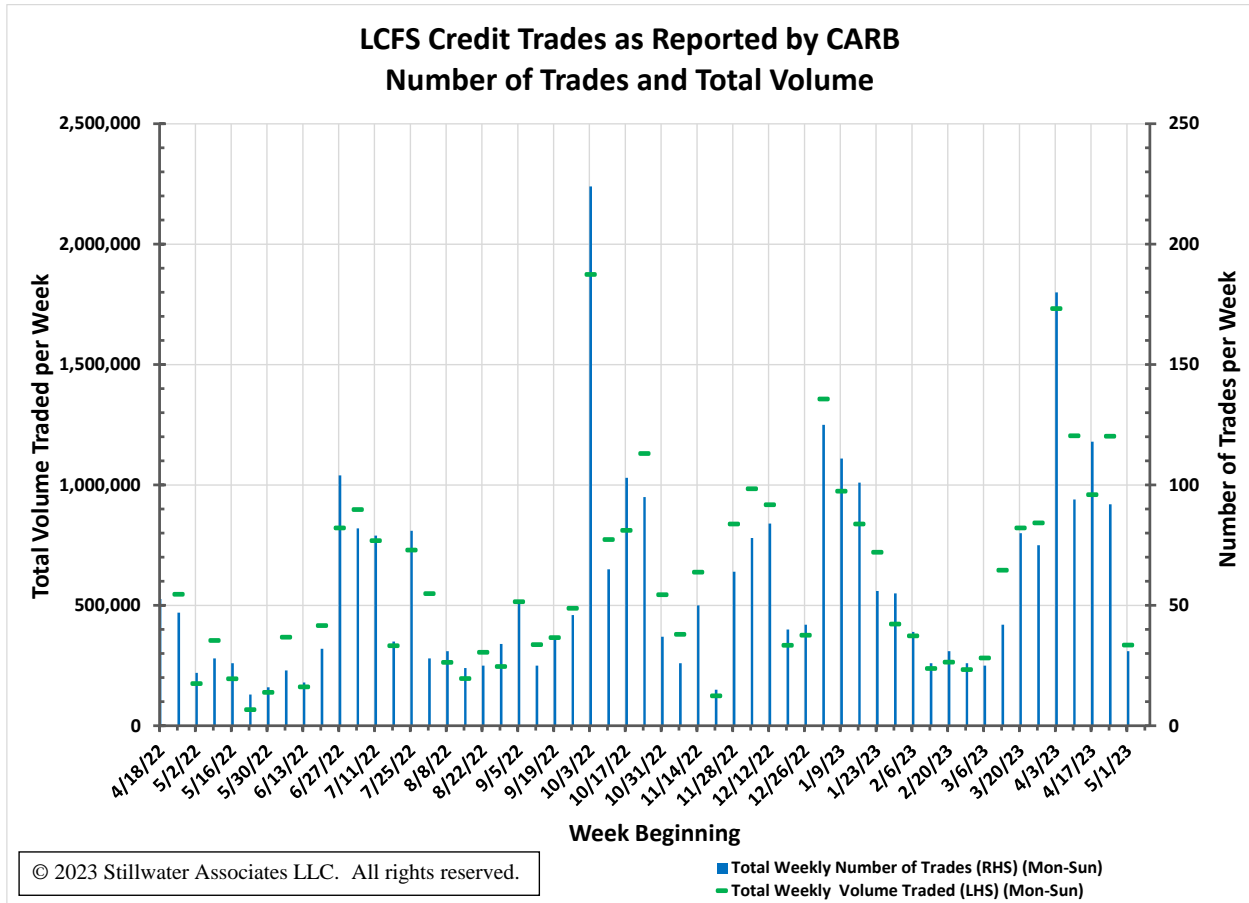
LCFS Trade Price Trends

The figure below shows the minimum, maximum, and volume-weighted average weekly price for the past twelve months. The range of prices illustrates that the transactions for some credits have been contracted in prior periods when credit prices were different, or the credits are discounted for commercial purposes.



LCFS Trading Trends

The figure below shows a history of weekly volumes traded and number of deals for the past twelve months. The week beginning May 1st saw 31 trades totaling 334,523 MT compared to 92 trades totaling 1,201,500 MT last week (revised upward from 77 trades totaling 1,010,166 MT). The same week last year saw 47 trades totaling 545,179 MT.



News for the Week of May 3-9**California LCFS News**

- On May 4th, [Flying Magazine reported](#) that “United Airlines is increasing its use of sustainable aviation fuel (SAF) on flights at San Francisco International Airport (KSFO)—a move that stands to triple the airline’s use of SAF for flight operations in the span of a year.”
- May 8th, [Biomass Magazine reported](#) that Aemetis Inc.’s first quarter financial results show progress with energy efficiency projects at its ethanol plant in Keyes, California. “The company also discussed development of its dairy renewable natural gas (RNG) projects and proposed renewable diesel and sustainable aviation fuel (SAF) facility.”
- On May 9th, the [Weekly Credit Transfer Report for May 1-7](#) was posted on CARB’s website.

Oregon CFP News

- On May 3rd, the Oregon Department of Environmental Quality (DEQ) posted a notice including the following:
 - All regulated parties are in compliance with the CFP for 2022.
 - There will not be a [Credit Clearance Market](#) for 2023.
 - The April 2023 [monthly credit transaction report](#) has been posted.
 - The 4Q2022 [quarterly data summary](#) has been posted.
 - There is now a dedicated web page for [Registering Fuel Supply Equipment](#) which consolidates the new forms, user guide, and guidance document.

Canadian CFR News

- On May 4th, [Yahoo! Finance reported](#) that Calgary based Expander Energy has signed an agreement with Rocky Mountain Clean Fuels Inc. to build its first Biomass to Liquids project and produce 8 million liters/year of low-carbon renewable Bio-Synthetic Diesel by 2025. The project will convert construction wood waste into Bio-SynDiesel® with a lifecycle CI of 32.5 g/MJ, “significantly exceeding Canada’s Clean Fuel Standard requirement for diesel fuel of 79.0 gCO_{2e}/MJ by 2030.”

Potential Michigan CFS

- [Senate Bill No. 275 \(SB0275\)](#) which would establish a Clean Fuels Standard in Michigan saw no action this week. Michigan’s 2023 legislative session ends December 31st.

Proposed Minnesota CTFS

- [SF 2584 Clean Transportation Fuels Standard](#) (CTFS) and its [companion bill HF 2602](#) saw no action this week. Minnesota’s 2023 legislative session ends May 22nd.

Proposed Vermont LCFS

- The [Clean Fuels Program bill](#) (S.24) saw no action in the Vermont state senate this week. Vermont's 2023 legislative session ends May 19th.

Proposed New York CFS

- [Senate Bill 1292](#) and [Assembly Bill 964](#) – bills which would establish a clean fuel standard in New York state – saw no action this week. New York's 2023 legislative session ends June 8th.

Proposed Illinois CTS

- [Senate Bill 1556](#), which would establish an Illinois clean transportation standard, saw no action this week. Illinois' 2023 legislative session ends May 19th.

Situational Awareness

- On May 3rd, the fourth annual [State of Sustainable Fleets Market Brief](#) was published, concluding that “the growing momentum towards ZEVs and renewable fuels will bring diesel to an end, driving carbon credits market up.”
- On May 4th, [Brownfield Ag News published an episode of Fueling Conversations](#) featuring Tom Hammer, president and CEO of the National Oilseed Processors Association. Hammer discusses “how processors are making significant investments – in part because of positive signals from the biodiesel and renewable diesel industry – to produce the vegetable oil and meal needed to meet the expected increasing demand for food, feed, and biofuels.”
- On May 9th, [Waste360 published an article](#) highlighting the evolution of DTE Vantage's RNG business - a story of “riding the curve and laying more tracks.”

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