OPIS
A DOW JONES COMPANY

OPIS Biofuels Market Methodology

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This document outlines the methodology employed by OPIS, a Dow Jones company, in the assessment of daily Biofuels and RINs prices

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Introduction

OPIS methodologies are developed in consultation with market stakeholders to ensure fair, accurate, and representative price assessments. Each benchmark is underpinned by clearly defined processes that reflect actual market behavior and conditions. View OPIS Spot Price Assessment General Methodology here.

Price Discovery

OPIS applies a full-day assessment process across all covered markets, gathering, testing and evaluating pricing data throughout the trading session. OPIS Biofuels and RIN spot price assessments are published daily.

Data submission timeframes are specified in this guide for each region's price assessments. Information on publishing dates is made publicly available through the OPIS Holiday Publishing Schedule. Registered stakeholders are notified in advance of any schedule changes.

OPIS Average prices represent the numerical mid-point of the OPIS Low and the OPIS High, assessed using spot market data discovered during the data submission timeframe. Last prices represent where OPIS assesses spot market close based on market data discovered at the data submission deadline. Locate the market specific OPIS Price Code reference and API codes here.

U.S. Atlantic Coast

OPIS assesses daily Low, High, and Average prices for U.S. Atlantic Coast biofuels.

Data Submissions

U.S. Atlantic Coast Biofuels assessments reflect pricing information submitted between 9 a.m. to 5 p.m. Eastern Time.

Biofuels Products & Specifications

- **SME:** Soy methyl ester (SME) B100 biodiesel, ASTM specifications, not including any tax credits. B99 blends, truck and in-tank sales can also be considered and factored for assessment purposes. RINs are included for the calendar year corresponding to the product delivery date.
- **Ethanol:** Denatured fuel-grade ethanol. Deliveries in the first quarter of a given year may include RINs from the previous calendar year.
- **In-Tank Ethanol:** Denatured fuel-grade ethanol. Deliveries in the first quarter of a given year may include RINs from the previous calendar year. In the absence of transactional data, NY ITT is calculated by applying a differential to New York Harbor barge ethanol spot prices.

Locations

- **New York**
    - **Ethanol:** FOB barge New York Harbor
    - **SME:** FOB rail New York-area terminals

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- **New York In-Tank:** FOB New York In-Tank Transfer

Timing

- **SME:** 3-30 days from publication date
- **Ethanol**
  - **Prompt:** Current-month, any time delivery. Timing rolls seven days before the end of the calendar month, including weekends and holidays.
  - **Forward:** Next month, any time delivery. Timing roll aligns with the prompt roll schedule.
- **In Tank Ethanol:** Prompt, with transfer within seven days.

Volume

- **SME:** Minimum 25,000 gal
- **Ethanol:** Minimum 5,000 bbl
- **In-Tank Ethanol:** Minimum 5,000 bbl

Pricing Mechanism: US $/gal

U.S. Gulf Coast

OPIS assesses daily Low, High, and Average prices for U.S. Gulf Coast biofuels.

Data Submissions

U.S. Gulf Coast biofuels assessments reflect pricing information submitted between 9 a.m to 5 p.m. ET.

Biofuels Products & Specifications

- **SME:** Soy methyl ester (SME) B100 biodiesel, ASTM specifications, not including any tax credits. B99 blends, truck and in-tank sales can also be considered and factored for assessment purposes. RINs are included for the calendar year corresponding to the product delivery date.
- **Ethanol:** Denatured fuel-grade ethanol. Deliveries in the first quarter of a given year may include RINs from the previous calendar year.

Locations

- **Gulf Coast**
  - **SME:** FOB rail, Houston area
  - **Ethanol:** FOB barge, Houston-area terminals
- **Dallas:** FOB rail, Dallas/Fort Worth-area terminals
- **Tampa:** FOB rail, Tampa-area terminals

Timing

- **SME:** 3-30 days from publication date.
- **Ethanol:** Prompt, 3-15 days from publication date

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Volume

- **SME:** Minimum 25,000 gal
- **Ethanol:**
    - Gulf Coast: Minimum 5,000 bbl
    - Dallas: Minimum 25,000 gal
    - Tampa: Minimum 25,000 gal

Pricing Mechanism: US $/gal

U.S. Midwest

OPIS assesses daily Low, High, and Average prices for U.S. Midwest biofuels.

Data Submissions

U.S. Midwest Biofuels assessments reflect pricing information submitted between 9 a.m. to 5 p.m. ET.

Biofuels Products & Specifications

- **SME:** Soy methyl ester (SME) B100 biodiesel, ASTM specifications, not including any tax credits. B99 blends, truck and in-tank sales can also be considered and factored for assessment purposes. RINs are included for the calendar year corresponding to the product delivery date.
- **Ethanol:** Denatured fuel-grade ethanol. Deliveries in the first quarter of a given year may include RINs from the previous calendar year.
- **Rule 11 Ethanol:** Denatured fuel-grade ethanol, covered under AAR Rule 1. Deliveries in the first quarter of a given year may include RINs from the previous calendar year.

Location

- **Chicago**
    - **SME:** FOB rail, Chicago-area terminals
    - **Ethanol:** FOB Kinder Morgan Argo terminal
    - **Rule 11 Ethanol:** FOB rail, Chicago area
- **Nebraska:** FOB rail, Nebraska area, shipping on the Burlington Northern and/or Union rail lines.

Timing

- **SME:** 3-30 days from publication date
- **Chicago Ethanol**
    - **Prompt:** 3-10 days from publication date
    - **Dead Prompt:** within 2 days from publication date
- **Rule 11 Ethanol:** Prompt, within 5 days from publication date
- **Nebraska Ethanol:** Prompt, within 5 days from publication date

Volume

- **SME:** Minimum 25,000 gal
- **Ethanol:** Minimum 5,000 bbl
- **Rule 11 Ethanol:** Minimum five 25,000-gal railcars

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- **Nebraska**: Minimum five 25,000-gal railcars

Pricing Mechanism: US $/gal

U.S. West Coast

OPIS assesses daily Low, High, and Average prices and cash differentials for U.S. West Coast Biofuels. Renewable diesel and sustainable aviation fuel cash differentials are assessed versus the NYMEX ULSD futures and may be reported as a differential to US West Coast spot diesel fuel and jet fuel products.

Data Submissions

U.S. West Coast Biofuels assessments reflect pricing information submitted between 9 a.m. to 5 p.m. ET.

Biofuels Products & Specifications

- **Ethanol:** Denatured fuel-grade ethanol. Deliveries in the first quarter of a given year may include RINs from the previous calendar year. Los Angeles, San Francisco, Oregon and Washington ethanol assessments represent a proxy carbon intensity score matching their respective state's annual target gasoline standard for that year of compliance.
- **RD 100%:** 100% ASTM D975 renewable diesel, made from a variety of feedstocks. Includes 1.7 D4 biomass-based diesel RINs for the current calendar year corresponding to the product delivery date. Los Angeles RD 100% & San Francisco RD 100% include California Low Carbon Fuel Standard (LCFS) obligation; Portland RD 100% includes the Oregon Clean Fuels Program (CFP) obligation; Seattle RD 100% includes the Washington Clean Fuel Standard (CFS) obligation. Renewable diesel assessments represent a carbon intensity score of a 37.93 CI proxy.
- **RD 99%:** 99% ASTM D975 renewable diesel, made from a variety of feedstocks, splash blended. No fuel standards, RINs, or tax credits included. Renewable diesel assessments represent a carbon intensity score of a 37.93 CI proxy.
- **SAF 100%:** 100% ASTM D7566 sustainable aviation fuel, made from a variety of feedstocks. Includes 1.6 D4 biomass-based diesel RINs for the current calendar year corresponding to the product delivery date. Los Angeles 100% SAF and San Francisco 100% SAF include the California LCFS obligation. Sustainable aviation fuel assessments represent a carbon intensity score of a 38.68 CI proxy.
- **SAF 99%:** 99% ASTM D7566 sustainable aviation fuel, made from a variety of feedstocks, splash blended. No fuel standards, RIN, or tax credits included. Sustainable aviation fuel assessments represent a carbon intensity score of a 38.68 CI proxy.

Location

- **Los Angeles**
    - **Ethanol:** FOB rail, Los Angeles-area terminals
    - **RD 100%, RD 99%:** FOB barge or rail, delivered into Los Angeles-area terminals

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    - **SAF 100%, SAF 99%:** FOB barge or rail, delivered into Los Angeles-area terminals
- **San Francisco**
    - **Ethanol:** FOB rail, San Francisco-area terminals
    - **RD 100%, RD 99%:** FOB barge or rail, delivered into San Francisco-area terminals
    - **SAF 100%, SAF 99%:** FOB barge or rail, delivered into San Francisco-area terminals
- **Oregon:** FOB rail, delivered Portland-area terminals
- **Phoenix**: FOB rail, delivered Phoenix-area terminals
- **Portland:** FOB barge or rail, delivered Portland-area terminals
- **Seattle:** FOB barge or rail, delivered Seattle-area terminals
- **Washington:** FOB rail, delivered Seattle-area terminals

Timing

- **Ethanol**
    - **Prompt:** 1-5 days from publication date
    - **Any:** 6-15 days from publication date
- **Renewable Diesel (RD):** Prompt timing, shipping within the current month, until the final week of the month.
- **Sustainable Aviation Fuel (SAF):** Any timing, shipping within the current month, until the final week of the month.

Roll

- **Renewable Diesel**
    - **Los Angeles RD:** Timing roll aligns with Los Angeles CARB diesel fuel prompt timing.
    - **San Francisco RD:** Timing roll aligns with San Francisco CARB diesel fuel prompt timing.
    - **Portland RD and Seattle RD:** Timing roll aligns with Pacific Northwest ULSD prompt timing.
- **Sustainable Aviation Fuel**
    - **Los Angeles SAF:** Timing roll aligns with Los Angeles Jet Fuel prompt timing.
    - **San Francisco SAF:** timing roll aligns with San Francisco Jet Fuel prompt timing.

US West Coast Refined Products methodology is located in the [OPIS US Refined Products Market Methodology](#).

Volume

- **Ethanol:** Minimum five 25,000-gal railcars
- **Renewable Diesel:** Minimum 5,000 bbl
- **Sustainable Aviation Fuel:** Minimum 5,000 bbl

Pricing Mechanism: US $/gal

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Calculations

- **RD 100% =** OPIS RD 99% Assessment + OPIS Fuel Credit Assessment x (Annual Fuel Standards Target – OPIS 37.93 CI Proxy Baseline) x RD Energy Density of 129.65 x Normalizing Factor of 0.0001 + (OPIS D4 RIN x 1.7).
- **SAF 100% =** OPIS SAF 99% Assessment + OPIS Fuel Credit Assessment x (Annual Fuel Standards Target – OPIS 38.68 CI Proxy Baseline) x SAF Density of 126.37 x Normalizing Factor of 0.0001 + (OPIS D4 RIN x 1.6).

Brazil

OPIS assesses daily Low, High, and Average prices for Brazil ethanol.

Data Submissions

Brazil biofuels assessments reflect pricing information submitted between 9 a.m. to 5 p.m. ET.

Products & Specifications

- **Ethanol Anhydrous:** Low water content (less than 1%) ethanol product supplied by mills that have registered with the EPA under the RFS.
- **Ethanol Hydrous:** Higher water content (more than 1%) ethanol product supplied by mills that have registered with the EPA under the RFS.

Location: FOB Santos, and Brazil-area export terminals

Timing: Prompt, loading 5-30 days from publication date

Volume: Minimum 50,000 bbl

Pricing Mechanism

- US $/gal
- US $/cbm
- Brazil R$/cbm

Exchange Rate: OPIS utilizes the $/real exchange rate published daily by Banco Central do Brasil (Central Bank of Brazil), which is issued at 1 p.m. Sao Paulo time.

Low Carbon Fuel Standards

OPIS assesses daily Low, High, and Average prices for Low Carbon Fuel Standard programs. In line with the OPIS methodology, OPIS will give the greatest weight in its daily assessment process to confirmed transactions, followed by bids and offers. In the absence of confirmed transactions, bids, or offers, assessments will be based on notional values in line with OPIS methodology.

Calculation variables, including energy densities, baselines, and program targets, are accessible via the official websites of the respective administering agencies. These

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components remain subject to modification at the discretion of said agencies and in alignment with established regulatory schedules.

Data Submissions

Low Carbon Fuel Standard assessments reflect pricing information submitted between 9 a.m. to 5 p.m. ET.

Credit Products & Specifications

- **LCFS Credit:** Credits generated under California's Low Carbon Fuel Standard program, administered by the California Air Resources Board.
- **CFP Credit:** Credits generated under Oregon's Clean Fuels Program, administered by the Oregon Department of Environmental Quality.
- **CFS Credit:** Credits generated under Washington's Clean Fuel Standard, administered by the Washington Department of Ecology.
- **CTFP Credit:** Credits generated under New Mexico's Clean Transportation Fuel Program, administered by the New Mexico Environment Department.
- **Canada CFR Credit:** Compliance Category 2 (CC2) credits generated under Canada's Clean Fuel Regulations program, administered by Environment and Climate Change Canada.
- **British Columbia LCFS Credit:** Credits generated under British Columbia's Low Carbon Fuel Standard, administered by the Ministry of Energy, Mines, and Low Carbon Innovation.

Timing: Prompt**,** transferable in the current calendar year.

Volume: Minimum 1,000 credits

Pricing Mechanism

- US $/mt
- C $/mt

Exchange Rate: For Canadian to US Dollar conversion, OPIS uses the Bank of Canada exchange rate.

Carbon Intensity Products

- California LCFS Carbon Intensity Pts Ethanol
- California LCFS Carbon Intensity Pts Biodiesel
- California SAF Carbon Intensity
- California RD Carbon Intensity
- Oregon CFP Carbon Intensity Pts Ethanol
- Oregon CFP Carbon Intensity Pts Biodiesel
- Oregon RD Carbon Intensity
- Washington CFS Carbon Intensity Pts Ethanol
- Washington CFS Carbon Intensity Pts Biodiesel
- Washington RD Carbon Intensity
- New Mexico CTFP Carbon Intensity Pts Ethanol
- New Mexico CTFP Carbon Intensity Pts Biodiesel

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- New Mexico RD Carbon Intensity
- Canada Carbon Intensity Value Ethanol
- Canada Carbon Intensity Value Biodiesel
- Canada Carbon Intensity Value Renewable Diesel

Timing: Prompt

Pricing Mechanism

- US $/CI
- C $/CI

Calculations

- Carbon Intensity (CI) Points = OPIS Fuel Standard Credit assessment (metric) x Biofuel Energy Density/1,000,000 (normalizing factor)

Carbon Credit per Gallon Products

- LCFS CPG Gasoline
- LCFS CPG Gasoline 90%
- LCFS CPG Diesel
- LCFS CPG Diesel 95%
- LCFS CPG Gasoline Crude CI Deficit
- LCFS CPG Gasoline Crude CI Deficit 90%
- LCFS CPG Diesel Crude CI Deficit
- LCFS CPG Diesel Crude CI Deficit 95%
- LCFS CPG Gasoline Combined LCFS/Crude CI Deficit
- LCFS CPG Gasoline Combined LCFS/Crude CI Deficit 90%
- LCFS CPG Diesel Combined LCFS/Crude CI Deficit
- LCFS CPG Diesel Combined LCFS/Crude CI Deficit 95%
- CFP Carbon CPG Gasoline
- CFP Carbon CPG Gasoline 90%
- CFP Carbon CPG Diesel
- CFP Carbon CPG Diesel 95%
- CFS Carbon CPG Gasoline
- CFS Carbon CPG Gasoline 90%
- CFS Carbon CPG Diesel
- CFS Carbon CPG Diesel 95%
- CTFP Carbon CPG Gasoline
- CTFP Carbon CPG Gasoline 90%
- CTFP Carbon CPG Diesel
- CTFP Carbon CPG Diesel 95%
- Canada Gasoline CPL
- Canada Diesel CPL

Timing: Prompt

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Pricing Mechanism:

- US $/gal
- C $/liter

Exchange Rate: For Canadian to US Dollar conversion, OPIS uses the Bank of Canada exchange rate.

Calculations:

- **Carbon credit value per gallon (CPG) Gasoline/Diesel:** CPG = OPIS Carbon Credit value x (Current CI of Gasoline or Diesel – Target CI of Gasoline or Diesel) x Energy Density of Gasoline or Diesel x 10^-6
- **Carbon credit value per gallon (CPG) Gasoline 90%:** CPG = OPIS Carbon Credit value x (Current CI of Gasoline – Target CI of Gasoline) x Energy Density of Gasoline x 10^-6 x 0.90
- **Carbon credit value per gallon (CPG) Diesel 95%:** CPG = OPIS Carbon Credit value x (Current CI of Diesel – Target CI of Diesel) x Energy Density of Diesel x 10^-6 x 0.95
- **LCFS CPG Crude CI Deficit Gasoline/Diesel:** CPG = OPIS Carbon Credit value x Annual Incremental Deficit x Energy Density of CARBOB or CARB Diesel x 10^-6
- **LCFS CPG Crude CI Deficit Gasoline 90%:** CPG = OPIS Carbon Credit value x Annual Incremental Deficit x Energy Density of CARBOB x 10^-6 x 0.9
- **LCFS CPG Crude CI Deficit Diesel 95%:** CPG = OPIS Carbon Credit value x Annual Incremental Deficit x Energy Density of CARB Diesel x 10^-6 x 0.95
- **LCFS CPG Combined LCFS/Crude CI Deficit Gasoline/Diesel:** CPG = OPIS Carbon Credit value x (Current CI of Gasoline or Diesel – Target CI of Gasoline or Diesel) x Energy Density of Gasoline or Diesel x 10^-6 + OPIS Carbon Credit value x Annual Incremental Deficit x Energy Density of CARBOB or CARB Diesel x 10^-6
- **LCFS CPG Gasoline Combined LCFS/Crude CI Deficit 90%:** CPG = OPIS Carbon Credit value x (Current CI of Gasoline or Diesel – Target CI of Gasoline or Diesel) x Energy Density of Gasoline or Diesel x 10^-6 + OPIS Carbon Credit value x Annual Incremental Deficit x Energy Density of CARBOB or CARB Diesel x 10^-6 x 0.9
- **LCFS CPG Diesel Combined LCFS/Crude CI Deficit 95%:** CPG = OPIS Carbon Credit value x (Current CI of Gasoline or Diesel – Target CI of Gasoline or Diesel) x Energy Density of Gasoline or Diesel x 10^-6 + OPIS Carbon Credit value x Annual Incremental Deficit x Energy Density of CARBOB or CARB Diesel x 10^-6 x 0.95
- **Conversions:** OPIS utilizes the Canadian Fuel Regulations's official liters-to-gallons conversion rate of 3.7854 for its calculations.

Renewable Identification Number (RIN) Credits

OPIS assesses daily Low, High, and Average prices for RINs under the U.S. Renewable Fuel Standard (RFS) administered by the U.S. Environmental Protection Agency. OPIS also assesses a daily Average price for the Renewable Volume Obligation (RVO) under the RFS.

Data Submissions

U.S. RIN assessments reflect pricing information submitted between 9 a.m. to 5 p.m. ET.

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Products & Specifications

- **D3:** Cellulosic RIN Credits, categorized by EPA as cellulosic biofuel credits under the RFS.
- **D4:** Biodiesel RIN Credits, categorized by EPA as biomass-based diesel credits under the RFS.
- **D5:** Advanced Biofuel RIN Credits, as categorized by EPA under the RFS.
- **D6:** Ethanol RIN Credits, categorized by EPA as conventional renewable fuel credits under the RFS.

Location: National

Vintage Timing

- **Current:** Current-year vintage RIN, transferring in the current calendar year.
- **Previous:** Previous-year vintage RIN, transferring in the current calendar year.
- **Previous -1:** Previous-year -1 vintage RIN, transferring in the current calendar year.
- **Next:** Current-year +1 vintage RIN, transferring in the next calendar year.

Roll: Vintages roll on the first business day of the calendar year.

Volume

- **D3, D5:** Minimum of 100,000 credits
- **D4:** Minimum 250,000 credits
- **D6:** Minimum 500,000 credits

Pricing Mechanism

- US $/RIN
- US cts/gal

Calculations

- **RIN RVO:** cts/gal = (OPIS Current-Year D6 RIN x EPA's Annual D6 Percent Standard) + (OPIS Current-Year D4 RIN x EPA's Annual D4 Percent Standard) + (OPIS Current-Year D3 RIN x EPA's Annual D3 Percent Standard) + (OPIS Current-Year D5 RIN x EPA's Annual D5 Percent Standard)
- **2026 Percent Standards**
  - Renewable Fuel 15.50%
  - Advanced Biofuel D5 6.42%
  - Biomass-Based Diesel D4 5.24%
  - Cellulosic Biofuel D3 0.79%

The D6 Percent Standard equals the Renewable Fuel Percent Standard minus the Advanced Biofuel Percent Standard. Because of EPA's nesting under the RFS, the Biomass-Based Diesel Percent Standard and the Cellulosic Biofuel Percent Standard is subtracted from the total Advanced Biofuel Percent Standard to calculate the RVO.

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