

Platts Sustainable Aviation Fuel and Renewable Diesel prices

S&P Global Platts Renewable Distillate published values follow extensive consultation of producers, consumers, traders and others in the oil, biofuel and renewable fuel markets as the demand for sustainable aviation fuel and renewable diesel grows in consumption and supply.

On August 17, 2020 Platts launched daily values of sustainable aviation fuel (SAF) and hydrotreated vegetable oil (HVO) in Northwest Europe.

- HVO Ex Works Northwest Europe
- SAF Ex Works Northwest Europe

This was followed on September 21, 2020, by the launch of two US West Coast SAF values.

- SAF with credits, US West Coast
- SAF without credits, US West Coast

On December 3, 2020 US coverage added Renewable Diesel (RD) prices.

- RD with credits, US West Coast
- RD without credits, US West Coast

Asian SAF and HVO was launched on January 18, 2021 for Southeast Asia.

- HVO Southeast Asia
- SAF Southeast Asia

What are these prices?

Cost-based values reflecting the production of sustainable aviation fuel (SAF) and hydrotreated vegetable oil (HVO) through hydroprocessing.

These are ex-refinery prices based on calculations from S&P Global Platts Analytics based on existing Platts assessments and other fixed costs

Why has Platts launched these assessments?

Even in an environment where airlines are under exceptional pressure from demand destruction, the green agenda is still progressing and commitment to decarbonize is being reconfirmed. Looking at aviation, for example, the Carbon Offsetting and Reduction Scheme

for International Aviation program (CORSIA) aims to halve the industry's 2005 carbon emissions by 2050 by way of carbon neutral growth. SAF is one key component in airlines' sustainability toolboxes that can be used to meet these lower carbon goals.

By launching a cost-based calculation where there is no spot market, we are adding critical transparency that allows market participants to compare the cost of traditional jet fuel with new SAF.

What is the specification for these products?

EMEA

HVO and SAF is published on an ex-refinery Northwest European basis in US dollar per metric ton on a daily basis.

USA

SAF and RD are published on an ex-refinery, California basis in US cents/gallon.

SAF prices with and without environmental credit values are also published in \$/mt using a 3.4 conversion factor and in \$/barrel using a 0.42 conversion factor. This implies a \$/mt to \$/b conversion factor of 8.105.

SAF values reflect ASTM D7566 standard specification for Aviation Turbine Fuel Containing Synthesized Hydrocarbons, with a relative density of 776 kg/cu m (at 15 degrees Celsius).

The RD values with and without credits are also published in \$/mt using a 3.39 conversion factor and in \$/barrel using a 0.42 conversion factor. This implies a \$/mt to \$/b conversion factor of 8.071.

The USWC RD prices reflect ASTM D975 standard specification, with a relative density of 779 kg/cu m (at 15 degrees Celsius).

Asia

HVO and SAF are published on FOB Singapore basis in US dollar per metric ton and US dollar per barrel on a daily basis. SAF uses a \$/mt to \$/b conversion factor of 8.105. HVO uses a \$/mt to \$/b conversion factor of 8.071.

Price calculation inputs

EMEA

SAF: The SAF inputs are Used Cooking Oil CIF ARA and Hydrogen Netherlands SMR, added to fixed renewable refinery costs, then deducting the by-product credits to include FOB ARA Propane, Naphtha CIF NWE cargoes and Diesel CIF NWE ARA Cargoes.

HVO: The HVO inputs are Used Cooking Oil CIF ARA and Hydrogen Netherlands SMR, added to fixed renewable diesel refinery costs, then deducting the by-product credits to include FOB ARA Propane and Naphtha CIF NWE cargoes.

The Platts symbols for the specific assessments used in the price calculations can be found in the Global Biofuels specification guide on Platts.com.

USA

SAF: The inputs are Packer Grade Beef Tallow Dlvd Chicago and Hydrogen California SMR w/o CCS (incl CAPEX), added to fixed renewable aviation fuel refinery costs, then deducting the by-products of Gasoline Unl 84 Los Angeles CA Pipeline, Propane non-LST Mt Belvieu pipe Mo01 and ULSD No2 CARB Diesel Los Angeles CA Pipeline.

The primary SAF value is inclusive of environmental credits. Platts publishes an additional value without environmental credits by deducting the value of Renewable Identification Numbers under the Renewable Fuel Standard, credits from the Low Carbon Fuel Standard administered by CARB and, when applicable, the federal biomass-based diesel blender's tax credit.

RD: The RD inputs are Packer Grade Beef Tallow Dlvd Chicago and Hydrogen California SMR w/o CCS (incl CAPEX), added to fixed renewable diesel refinery costs, then deducting the byproducts of Gasoline Unl 84 Los Angeles CA Pipeline and Propane non-LST Mt Belvieu pipe Mo01.

The Platts-published environmental credits deducted for the RD values without credits are Biodiesel RIN Cal Yr02, the Low Carbon Fuel Standard Carbon Credits Front Quarter, and, when applicable, the federal biomass-based diesel blender's tax credit.

Asia

SAF: The SAF inputs are Palm Fatty Acid Distillates FOB Indonesia and Japan Hydrogen SMR w/o CCS Inc. Capex normalized to Singapore using relevant freight costs, added to fixed renewable refinery costs, then deducting the by-product credits to include Propane Refrigerated CFR North Asia normalized to Singapore using relevant freight, Naphtha FOB Singapore Cargo and Gasoil FOB Spore Cargo.

HVO: The SAF inputs are Palm Fatty Acid Distillates FOB Indonesia and Japan Hydrogen SMR w/o CCS Inc. Capex normalized to Singapore using relevant freight costs, added to fixed renewable refinery costs, then deducting the by-product credits to include Propane Refrigerated CFR North Asia normalized to Singapore using relevant freight, Naphtha FOB Singapore Cargo.

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How do the renewable distillate assessment differ from Platts oil assessments?

The SAF and HVO assessments are a calculation which reflects the cost of the renewable distilled based on the yields of a refinery. The European and Asia numbers use Used Cooking Oil as the feedstock while in the USA tallow or animal fat is the main feedstock.

The assumptions are based on existing Platts assessments and other fixed costs to produce a daily prices.

In comparison, other Platts jet fuel assessments reflect repeatable market value at the close of the assessment process.

Platts publishes market information in real-time including but not limited to firm bids and offers, expressions of interest to trade and confirmed trades that are received from market participants throughout the day.

Platts is committed to ongoing review of its methodology specifications and assumptions as the renewable distillate markets continue to develop and evolve and as Platts continues to engage with the marketplace.

What other supporting information does Platts publish?

The daily renewable distillate prices are accompanied by monthly commentary.

In addition, Platts publishes month average renewable distillate values.

Platts also assesses and publishes:

- Global ULSD prices
- Global Jet fuel prices
- California Low Carbon Fuel Standard credit prices
- Renewable Identification Numbers and Renewable Volume Obligation prices
- Used cooking oil and tallow feedstock prices
- Global biodiesel (methyl ester) prices
- Global Hydrogen prices

Where are these prices published?

Publications

- Platts Biofuelscan
- Platts European, US and APAG Marketscans
- Platts Oilgram Price Report.

Platts Global Alert and Platts Biofuels Alert

- Americas Renewable Distillate **PBF0012**
- European Renewable Distillate **PBF1013**
- Renewable fuels Europe **PGA1414**
- Renewable fuels Americas **PGA0483**
- Platts Renewable Fuels Asia **PBF2013**
- Platts Renewable Fuels Asia **PGA2414**

Platts Market Data

Oil products (Platts symbols):

- HVO EXW NWE \$/mt **HVNWA00**
- Sustainable Aviation Fuel EXW NWE \$/mt **BJNWA00**
- Sustainable Aviation Fuel w/ Credits USWC cts/gal **ASAFI00**

- Sustainable Aviation Fuel w/o Credits USWC cts/gal **ASAFJ00**
- Renewable Diesel w/ Credits USWC cts/gal **ARDFI00**
- Renewable Diesel w/o Credits USWC cts/gal **ARDFJ00**
- Sustainable Aviation Fuel Southeast Asia \$/mt **ASFAA00**
- HVO Southeast Asia \$/mt **HVSAB00**

Biofuels (Platts symbols):

- Sustainable Aviation Fuel EXW NWE \$/mt **BJNWD00**
- HVO EXW NWE \$/mt **HVNWD00**
- Sustainable Aviation Fuel w/ Credits USWC cts/gal **ASAFK00**
- Sustainable Aviation Fuel w/o Credits USWC cts/gal **ASAFL00**
- Renewable Diesel w/ Credits USWC cts/gal **ARDFK00**
- Renewable Diesel w/o Credits USWC cts/gal **ARDFL00**
- Sustainable Aviation Fuel Southeast Asia \$/mt **ASMAA00**
- HVO Southeast Asia \$/mt **HVMAB00**

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