argus consulting services
argusmedia.com

Issue 24-8
Wednesday
14 August 2024

Argus Biofuels Outlook

Overview

The European Commission announced provisional anti-dumping duties on China-origin biodiesel, HVO and UCO, which at current prices makes importing Ucome from China uneconomical. As European countries should fulfil blending targets this year without any further Ucome or HVO imports from China, European Ucome prices are unlikely to rise to the point of reopening the arbitrage for Chinese producers. German year-to-date biofuels consumption data has been below blending levels required to meet this year's mandate, implying that fuel suppliers are meeting part of their 2024 GHG-reduction target through tickets carried over from 2023. Combined with weaker road fuel demand across Europe, there is little to support biodiesel or HVO prices rising significantly until 2025 when new compliance targets come into effect.

RIN prices in the US fell on the back of record ethanol production, but also on a group of refiners succeeding in challenging the EPA's denial of small refinery exemptions. A lack of guidance for the implementation of the 45Z tax credit has resulted in some groups pushing for an extension of the BTC, which may change producers' focus from SAF back to RD next year.

Ethanol production in Brazil during the sugarcane harvest peak has contributed to keep the hydrous ethanol/gasoline price ratio below the 70pc threshold, supporting demand. But expectations of lower yields and international sugar prices staying favourable should support prices and tighten ethanol supply over the coming months.

Key biofuel prices, prompt

	Jun 24	Jul 24	Aug 24e	Sep 24e
Europe				*$/t*
RED FAME 0°C CFPP fob ARA	1,242	1,167	1,154	1,145
RED Rapeseed OME fob ARA	1,277	1,210	1,184	1,185
RED UCOME fob ARA	1,348	1,376	1,346	1,313
RED HVO fob ARA (Class I)	1,503	1,510	1,488	1,469
RED HVO fob ARA (Class II)	1,559	1,583	1,575	1,570
SAF fob ARA (Class II)	2,036	2,098	1,962	1,976
Bionaphtha fob ARA	1,653	1,682	1,667	1,653
UCO cif ARA	961	972	951	927
Ethanol Regular fob ARA	1,019	983	990	987
US (biofuels)				*¢/USG*
Ethanol Chicago	192	189	182	175
Ethanol USGC	206	202	195	189
B100 SME Chicago	416	434	397	364
R100 (UCO) del California	526	529	527	514
US feedstocks (US Gulf coast del rail)				*¢/lb*
Soybean oil crude degummed	45	49	43	40
Tallow bleached fancy	45	49	44	42
UCO	45	47	44	42
South America				*$/t*
Anhydrous fob Santos	672	684	704	683
Asia-Pacific				*$/t*
RED HVO Class II fob Singapore	1,458	1,487	1,480	1,472
UCO fob China	848	853	842	813
RED Ucome fob China	1,000	1,000	1,000	910

EUROPE

Summary

This month

The European Commission announced provisional anti-dumping duties on 19 July, ranging 12.8-36.4pc on China-origin biodiesel, hydrotreated vegetable oil (HVO) and used cooking oil (UCO), but sustainable aviation fuel (SAF) was not included in the scope. German ticket prices found a new low in July, reflecting the ticket oversupply in the market driven by carryover from 2023 and an abundance of advanced biofuels imports. Ethanol's low premium over gasoline has been reflected in an increased share of biofuels blended this year in Germany, based on data up to May. UCO methyl ester (Ucome) prices hit a 10-month high, following a rally in waste and advanced grades on 5 July, but retreated on weak road fuel demand. HVO, SAF and bionaphtha gained after significant losses in the previous two months, including nine months of consecutive losses for SAF.

Next month

The European Commission's provisional duties are set to come into force on 16 August. We expect the duties to impact demand for UCO-based biofuels, affecting Ucome and HVO Class II, and leaving consumption 34pc and 6pc down on the year in August. We expect the duties will effectively remove Chinese Ucome imports into Europe in the future as Ucome fob Amsterdam-Rotterdam-Antwerp (ARA) prices are unlikely to rise to around $1,450/t for a workable arbitrage for Chinese producers to return, based on current Ucome fob China prices and shipping rates.

3-6 months ahead

We expect biodiesel consumption to pick up in September, marking peak monthly demand for 2024 at 1.26bn litres. The contribution of Ucome to diesel biofuels should drop to 20pc in the fourth quarter, compared with 26pc a year earlier. The exclusion of SAF from the duties is expected to incentivise Chinese hydrotreaters to shift from HVO to SAF production. As a result, we expect SAF prices to stay low for the foreseeable future, despite SAF mandates kicking in from 2025.

6-12 months forward

EU member states have to transpose the RED III legislation by April 2025, which includes the 1pc advanced biofuel and renewable fuels of non-biological origin (RFNBOs) target. We expect that this and increasing targets in most countries will drive the uptake of advanced biofuels in 2025, including HVO, biodiesel and ethanol. With many countries reaching blend walls for biodiesel and ethanol, much of the increase will be made up by advanced HVO (included in the "HVO-Other" category). This will be exacerbated by a drop in Ucome and HVO Class II consumption resulting from the duties on the finished biofuels and on UCO. Although UCO demand averaged 481,000t per month in 2023, the duties are expected to contribute to dropping consumption to 387,000t in 2024 and then 328,000t in 2025.

Regulation

EU sets provisional duties on Chinese biofuels

The European Commission announced on 19 July the provisional anti-dumping duties on biodiesel, HVO and UCO originated in China resulting from the investigation launched in December 2023 and covering imports from October 2022 to December 2023.

The duties ranged 12.8-36.4pc for most companies and SAF has provisionally been excluded from the scope of the investigation, but the inclusion of duties on UCO was unexpected. The temporary duties will come into effect on 16 August and a final measure is due in February 2025. Interested parties will be able to comment on these measures from 16 August until 2 September.

UK confirms SAF mandate from 2025

The UK government has confirmed that, subject to parliamentary approval, it will introduce a 2pc SAF mandate starting 1 January 2025. Fuel suppliers will have to deliver a 2pc share of SAF in 2025, increasing to 10pc in 2030, 15pc in 2035 and 22pc in 2040, where the obligation will remain "until there is greater certainty regarding SAF supply".

An obligation for power-to-liquid (PtL) SAF will be introduced from 2028 at 0.2pc of total jet fuel demand, rising to 0.5pc in 2030 and 3.5pc in 2040. The contribution of SAF produced through hydrotreatment (HEFA) will be capped from 2028, at limits declining to 71pc in 2030 and 35pc in 2040.

Buyout mechanisms will be set at the equivalent of £4.70/l ($6.01/l) and £5.00/l for the main and PtL obligations, respectively. The government also confirmed on 17 July that it will introduce a revenue support mechanism to support SAF production that it aims to introduce by the end of 2026.

Spain introduces SAF, marine and hydrogen multipliers

Spain has announced that SAF and marine fuels will contribute towards its renewable energy targets, starting retrospectively in the 2024 financial year, with a multiplier of 1.2. Spain also announced that the contribution of renewable hydrogen, biogas and RFNBOs towards its renewable energy targets will now be double counted.

Portugal to repeal advanced fuel tax exemption

Portugal's government has announced it plans to repeal exemptions from the tax on energy and oil products for advanced or waste-based biofuels that were introduced in 2021, as blending of these fuels has significantly surpassed the 0.5pc sub-target for Annex IX Part A fuels that has been in place since 2021.

The ISP tax is currently set at €0.443/l for fossil diesel and €0.578/l for fossil gasoline, but the government has not stated at what level the ISP would be set for advanced biofuels.

Tax-exempted and double-counted advanced products accounted for 61pc of national biofuels production in January-March, up from 25pc a year earlier.

Netherlands consulting on PtX, AtJ subsidies

The Dutch government has opened a consultation until 27 September into the design of subsidy schemes for alcohol-to-jet (AtJ) and power-to-X (PtX) SAF projects. For the AtJ subsidy, the Netherlands is targeting pilot and demonstration projects that use biomass streams from Annex IX Part A. Pilot projects will be eligible for a maximum subsidy of €25mn ($27mn), and demonstration projects will be eligible for a maximum subsidy of €30mn.

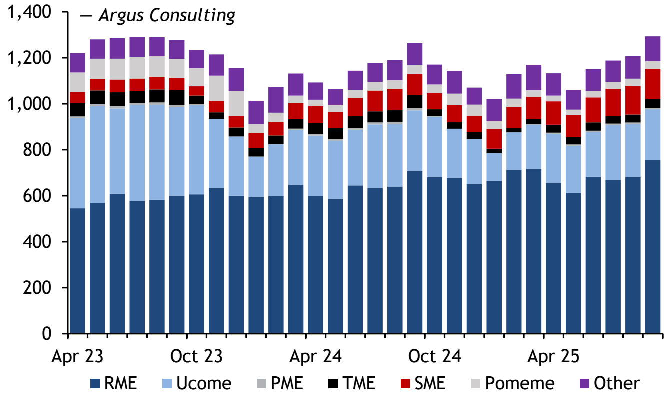
Demand

Biodiesel

Ucome demand to fall on anti-dumping duties

With biofuels consumption data released for May, we estimate biodiesel demand to have dropped 3pc on the month to 1.06bn litres, with demand easing across all grades. We expect demand to have recovered 8pc in June and to have increased a further 3pc in July, following the seasonal increase in diesel demand in the summer months. We expect consumption to lift just 1pc in August and pick up 6pc in September to 1.26bn l, marking the peak month for biodiesel demand this year, but down on the 1.28bn l blended in September 2023.

European biodiesel demand *mn litres*



We have adjusted down our view of current and upcoming Ucome demand, given the lower trading activity in markets, initially due to uncertainty around the European Commission's anti-dumping investigation, and then because of the anti-dumping duties themselves. The European Commission's provisional duties announced on 19 July ranged 12.8-36.4pc, with 23.7pc being the lowest applied to biodiesel producers.

We expect the Ucome share of biodiesel demand to average 22pc in the third quarter, well below the 32pc share in last year's third quarter, which tends to be a period of seasonally high Ucome demand. A further decline to a share of 20pc is forecast for the fourth quarter, compared with 26pc a year earlier. Going into 2025, we expect Ucome to make up just 17pc of the year's biodiesel demand, compared with an already low 21pc in 2024 when contrasted to 29pc in 2023 and 27pc in 2022. We do expect some Ucome demand to remain as domestic biodiesel producers continue or increase production activity on reduced competition from China. Demand for advanced Fame (included in the Other category) is less impacted in our forecasts as we expect imports of Annex IX Part A feedstocks could increase with the new measures, therefore shifting advanced Fame production from Chinese to European biodiesel capacity.

German demand adjusted for ticket hangover

The German greenhouse gas (GHG) based mandate allows advanced biofuels to be double-counted when blended beyond the advanced target, making them one of the most cost-efficient compliance options for obligated parties to fulfil targets. The influx of advanced biofuels in 2023 resulted in overblending, and obligated parties therefore generating an excess of GHG compliance tickets. This resulted in the ticket price crashing from €457/t ($500/t) of CO_2 in 2022 to €247/t of CO_2 in 2023. Because the German system allows tickets to be carried over into the following compliance period, the market in 2024 remained well supplied with tickets, resulting in the ticket price halving again, averaging €122/t of CO_2 for the year so far and as low as €101/t of CO_2 for the July average.

The other implication of ticket carryover from 2023 is that the requirement for blending biofuels is now lower than the 9.35pc GHG-reduction target in 2024 would otherwise require if no tickets had been carried over. Market sources have suggested that the ticket carryover from 2023 could be as much as 6mn t of CO_2, which could cover about a third of the GHG-reduction requirement for 2024.

We have revised down our expectations for German biofuel demand in 2024, and factored this trend into the forecast, taking a view that ticket carryover from 2024 into 2025 will likely continue. We estimate the sole effect of the excess of GHG compliance tickets could be reducing German Ucome consumption by as much as 35pc and crop-based biodiesel demand by up to 15pc this year compared with a scenario in which there had been no ticket carryover from 2023.

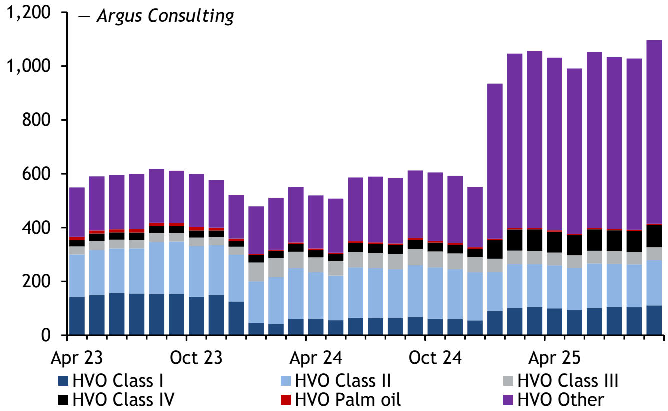
HVO

Targets to drive advanced HVO demand in 2025

We expect HVO demand to have dropped 2pc in May to 508mn litres, but increased diesel demand over the summer will have lifted demand in June to 586mn l, and consumption is expected to have held at that level for July and August. We expect HVO demand to continue to rise 5pc to 610mn l in September, and then to average 582mn l in the fourth quarter. Significant increases in HVO demand are forecast for 2025, with monthly consumption averaging over 1bn l.

Much of this jump in demand is expected to be met by HVO made from advanced feedstocks (HVO-Other), other than Pome oil-based HVO (Class IV). This is driven in part by the RED III target for 2025 requiring that 1pc of energy supplied to the transport sector is produced from advanced feedstocks or

European HVO demand *mn litres*



European demand outlook *mn litres*

Product	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	3Q24	4Q24	1Q25	2Q25	3Q25
Biodiesel											
POMEME	29	28	35	37	38	39	114	137	97	76	94
PME	6	9	7	9	10	9	29	5	3	16	19
RME	599	586	644	633	640	707	1,979	2,008	2,092	1,951	2,103
SME	73	72	79	91	94	93	278	215	276	307	374
TME	48	46	53	48	50	57	154	87	60	102	107
UCOME	262	253	242	277	272	264	813	672	478	613	691
Other	75	71	83	82	86	94	262	259	313	278	298
Total	**1,092**	**1,064**	**1,144**	**1,177**	**1,189**	**1,263**	**3,629**	**3,383**	**3,317**	**3,343**	**3,687**
HVO											
HVO Class I	62	55	66	64	64	68	196	177	297	296	319
HVO Class II	173	167	187	185	181	192	558	556	468	481	489
HVO Class III	54	53	58	58	57	60	175	173	148	141	142
HVO Class IV	27	26	33	32	32	34	98	96	228	231	236
HVO Palm oil	6	5	6	7	7	7	20	19	14	15	16
Other	197	201	237	244	244	251	739	728	1,883	1,911	1,956
Total	**520**	**508**	**586**	**589**	**585**	**612**	**1,786**	**1,749**	**3,039**	**3,076**	**3,158**
Ethanol											
Ethanol 1G	573	562	554	558	555	547	1,660	1,568	1,243	1,369	1,422
Cellulosic ethanol	102	99	101	100	101	99	300	285	458	486	517
Total	**675**	**661**	**655**	**658**	**656**	**646**	**1,960**	**1,853**	**1,701**	**1,855**	**1,939**
Grand Total	**2,309**	**2,252**	**2,405**	**2,443**	**2,450**	**2,542**	**7,434**	**7,038**	**8,056**	**8,274**	**8,784**

renewable fuel of non-biological origin. As well as advanced targets, we expect increased general targets in most member states in 2025. Advanced HVO has been a competitive compliance option for markets that double-count advanced biofuels and have limited room to blend advanced ethanol or biodiesel.

Duties and tickets add pressure to German HVO

We expect UCO-based HVO (Class II) demand to fall from an average monthly 180mn litres in 2024 to 161mn litres in 2025. The provisional anti-dumping duties will weigh on imports of both the feedstock and the finished product.

Seeking alternatives, European HVO producers could turn to advanced feedstocks that they could import from China without facing anti-dumping duties. We also expect more UCO volumes to be drawn into SAF production to meet the ReFuelEU Aviation targets starting in 2025, as SAF is not included under the provisional anti-dumping scope, and ReFuelEU does not include any limits on Part B feedstocks such as UCO.

Specific to the German market, the excess of GHG compliance tickets should affect HVO demand across classes more than for biodiesel, as HVO remains the marginal compliance option. We also expect an impact on crop biodiesel but not as severe as for HVO. On that basis, we have revised down our German HVO Class II demand forecast more than in other markets.

Ethanol

Ethanol demand slows in summer

Ethanol demand is expected to have dropped 2pc in May to 661mn l, with a 1pc drop expected in June before holding flat for July and August. The lower demand is reflected in lower ethanol imports, with May imports from outside the bloc down 16pc on the year. Despite this, total demand for the first five months of the year is still up 6pc compared with the same period last year.

The UK continues to be the EU's largest supplier, often finding a favourable arbitrage to import ethanol from the US for domestic consumption and to redirect its own production to the EU. Demand across the fourth quarter is expected to average 618mn l, which is 10pc down on the year.

Our analysis of compliance costs for Germany shows that 1G and advanced ethanol were the cheapest compliance options for much of 2024. Data up to May 2024 shows that German ethanol consumption has been up 11pc for the first five months compared with last year. In contrast, biofuel blending in diesel is down 9pc in the same period.

European ethanol demand is expected to slip in 2025, with average blending at 611mn l compared with 642mn l in 2024 and 658mn l in 2023. We also expect some demand to shift from 1G ethanol to advanced ethanol from 2025, following the RED III introduction of a combined advanced biofuels and RFNBO target. As a result, we expect advanced ethanol to average 163mn l across 2025, up by 61pc on the 101mn l per month average across 2024.

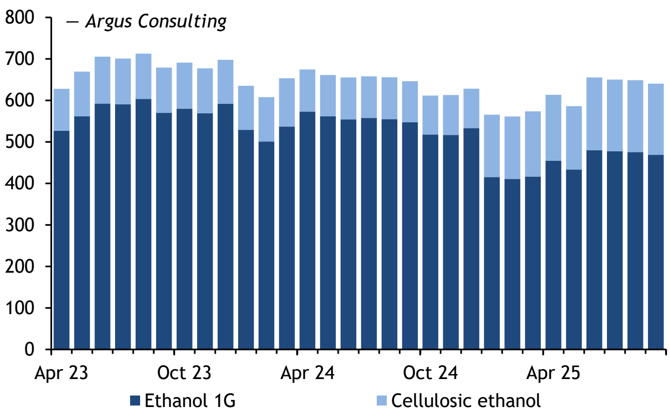
Feedstocks

Demand for UCO-based biofuels to drop

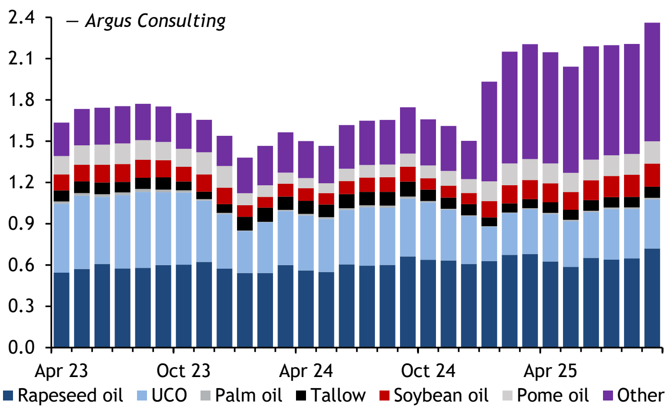
UCO-based biodiesel and HVO have had a significant role in the European biofuels landscape, making up 27pc of biofuels blended into diesel in 2022 and 29pc in 2023. But we do not foresee UCO-based biofuels to return to these levels this year or next.

We currently estimate UCO demand will drop, from 406,000t per month in 2022 and 481,000t in 2023 to 387,000t in 2024

European ethanol demand *mn litres*



Biodiesel and HVO feedstock demand *mn t*



and 328,000t in 2025. Reported biofuels consumption data for 2024 reflects the trend towards lower UCO shares in biofuel feedstocks. For example, Polish consumption data for the first quarter indicated 7,900t of UCO consumption, compared with an average 21,600t in the four previous quarters, dropping from an average 9pc share to just 3pc.

Despite the European Commission's anti-dumping duty product scope being defined as "fatty-acid mono-alkyl esters and/or paraffinic gasoils", the announcement included CN codes for UCO, implying that duties will also be applied to imports of the feedstock. Many market participants believe that this will not affect UCO trade as it could still be traded using other customs codes that are not covered in the scope, especially given the commission did not indicate that UCO was originally part of the investigation. We still expect that the duties will make Chinese biofuel and UCO imports less attractive, and are therefore expected to reduce European reliance on UCO-based biofuels, with their share in the biodiesel and HVO feedstocks to drop to 25pc in 2024 and to 15pc in 2025.

Prices

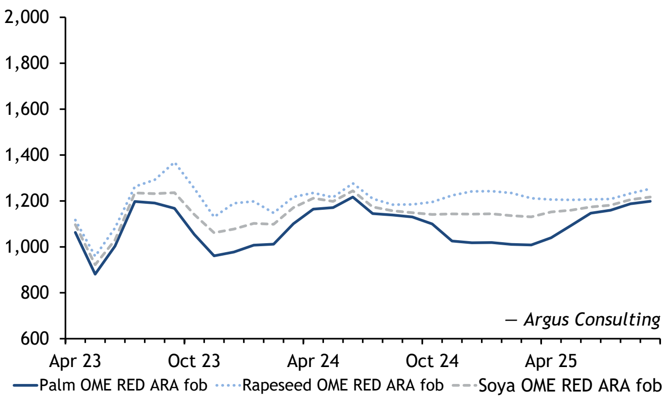
Biodiesel

SME imports weigh on crop biodiesel prices

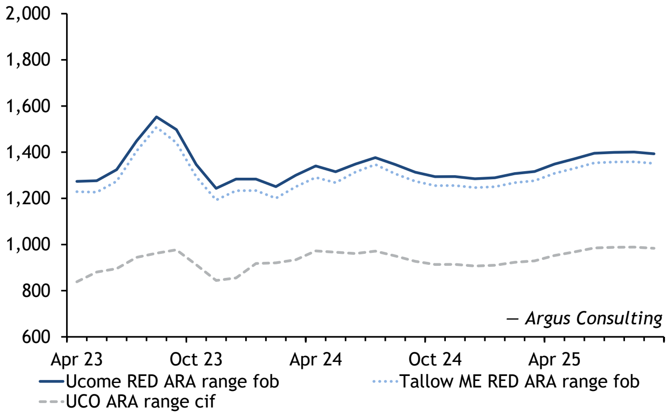
Imports of Argentinian soybean oil methyl ester (SME) rose in the last quarter keeping a downward pressure on crop-based grades. In an already weak biodiesel market, continued deliveries in July further weakened Fame 0 prices, which fell 6.0pc to $1,167/t. Ample supply also pressured average rapeseed oil methyl ester (RME) prices, which fell 5.2pc to $1,210/t.

Ucome prices did not mirror crop-based grades and were up 2.1pc to $1,376/t, supported by prices rallying on 5 July to

European crop-based biodiesel prices *$/t*



European waste-based biodiesel prices *$/t*



$1,515/t, a three-month high, despite prices for crop-based grades falling. The spread between Ucome and RME continued to widen through the month, reaching $195/t on 31 July, its widest since last September.

Duties to have minimum impact on prices

Ucome prices are expected to weaken over the coming months, tracking falling diesel prices. Ucome should continue to hold a firm premium over RME this year, and prices should increase next year on the back of more stringent mandates.

The announced provisional anti-dumping duties on Chinese products will effectively remove China's Ucome from the European market. Based on current Ucome fob China prices and shipping rates, Ucome fob ARA would have to rise to $1,450/t for a workable arbitrage for Chinese producers to return.

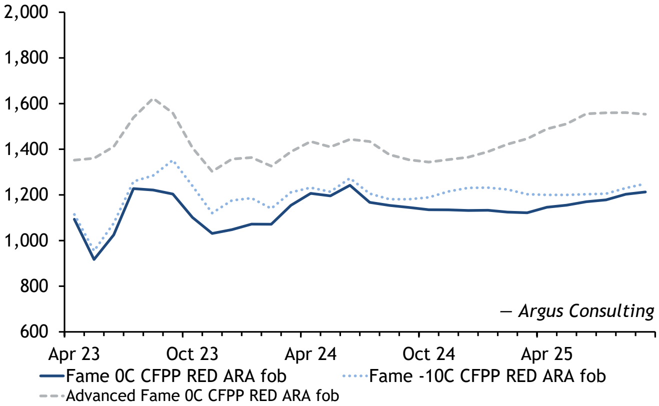
But our latest analysis of global biodiesel and HVO production capacity suggests that Europe will manage without Chinese imports this year, assuming that European operation rates rise, Argentina maximises its SME export allowance, and HVO shipments from Singapore remain. The picture is less clear for 2025 as operational European capacity combined with these trade flows would only fulfil two-thirds of the expected biodiesel and HVO demand. But if announced expansions in Europe go ahead as planned, there should be sufficient domestic capacity to meet next year's obligations, and Ucome imports would remain unnecessary.

Advanced Fame 0 premiums contract

Advanced Fame 0 prices averaged $1,434/t in July, down 0.7pc as its premium to Ucome contracted to $35/t by the end of the month, its lowest since March 2023.

The Advanced Fame 0 premium to Ucome weakened further in the first week of August, and now stands at $15/t, an

European FAME prices *$/t*



all-time low. It appears oversupplied tickets in Germany have started weighing on demand for double-counted Annex IX Part A product, which this year remained an attractive option to blend above the sub-mandate, either to fulfil the remainder of the obligation or to sell advanced GHG quoten to other obligated parties. We continue to expect Advanced Fame 0 premiums will rise this year, but at a much slower pace, reaching $80/t by December.

HVO

Class II premium widens on dumping duties release

HVO Class II prices averaged $1,583/t in July, up 1.5pc on the previous month as the HVO Class II premium to diesel rose by $80/t in the latter part of the month. HVO Class I and Class III premiums, however, were unchanged, and outright prices for both products continued to track diesel prices through the month. Average prices for HVO Class I and Class III were up 0.5pc and 0.6pc, respectively, to $1,510/t and $1,536/t. Firmer HVO Class II prices also led to a larger premium against Class I and Class III, which at $73/t and $47/t were the highest average monthly premiums since March.

The slight boost in HVO Class II differentials was short-lived, and prices continued to weaken in the following weeks as road fuel demand remained weak, and prices came under supply pressure. HVO Class II has held its premium against Class I and Class III, and we expect this to continue the rest of the year. Prices across all HVO grades are forecast to remain weak through to October, before firming up in the fourth quarter on rising diesel prices. Prices may also be supported by demand rising ahead of compliance targets tightening in 2025 — provided lower import volumes this year result in a lower carryover of tickets into next year.

SAF

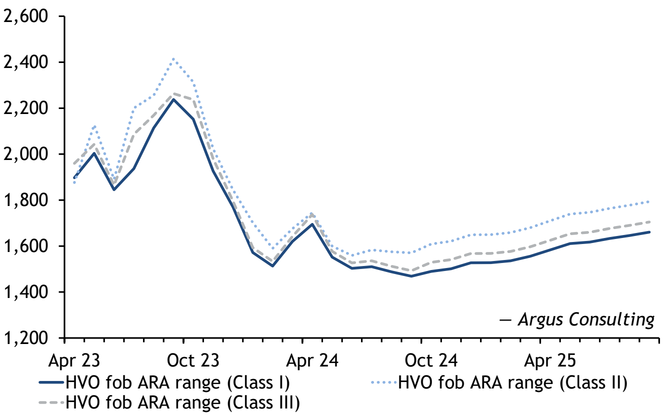
Duties exclusion to keep SAF prices low

European SAF prices gained 3.1pc to $2,098/t in July, which included prices moving to $2,222/t on 4 July, temporarily recovering to prices last seen in April before coming back down towards the end of July and staying below $2,000/t from 26 July onwards and into the start of August.

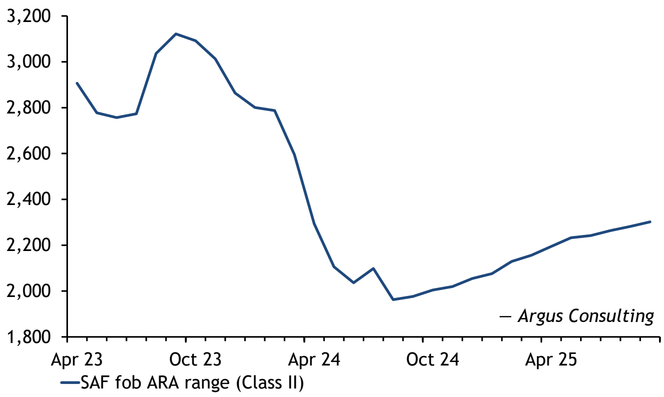
The main driver for the depressed SAF price, which averaged over $3,000/t in 2023 and over $3,500/t in 2022, is oversupply amid limited demand. SAF mandates coming into force in 2025 will alleviate the issue of low demand but large SAF capacities in Asia and Europe will continue keeping prices low.

The European Commission anti-dumping duties apply to biodiesel, HVO and UCO but do not include SAF in their scope. The exclusion incentivises Chinese hydrotreaters to shift to SAF production to maintain access to the European market for finished biofuels. Producers choosing to switch their hydrotreatment facilities from producing HVO to SAF could lead to an even greater oversupply of SAF as mandates kick in next year.

European HVO prices *$/t*



European SAF prices *$/t*



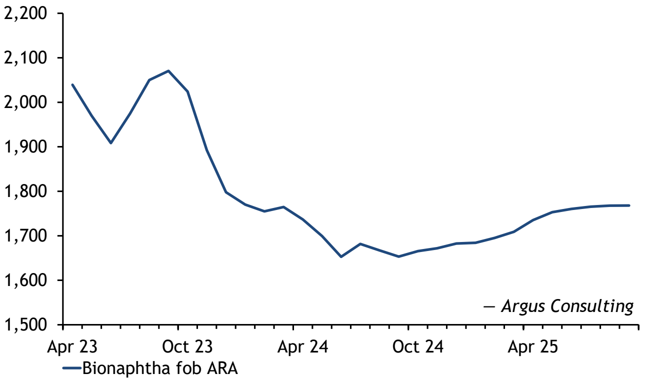
We expect SAF prices in August to drop 6.5pc to $1,867/t, which would mark a new low. As a result of the expected oversupply, we forecast prices will stay low, only slowly gaining across the following months but staying below $2,400/t for the forecast period though to September 2025.

Bionaphtha

Bionaphtha follows hydrotreated biofuels

Bionaphtha prices have followed the slight uptick in HVO and SAF prices following losses in the last two months, gaining 1.8pc to $1,682/t. However, we expect the downward trend to continue across August and September, dropping by 0.9pc and then by 0.8pc month on month, before prices find some limited upside in the fourth quarter but staying below $1,700/t until the end of the first quarter of 2025.

European bionaphtha prices ***$/t***



Ethanol and ETBE

Ethanol competitive at narrowing premiums

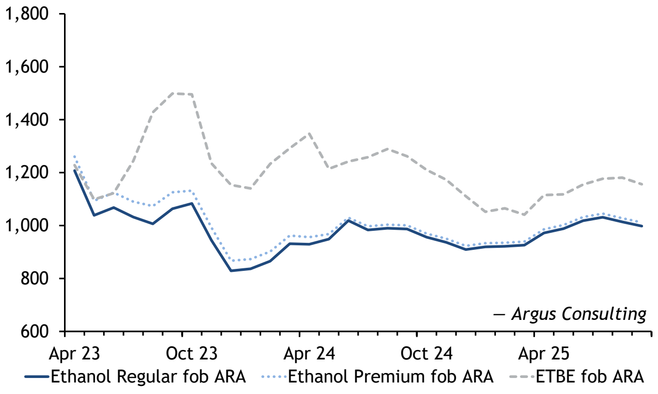
Regular ethanol prices fell by 3.5pc to $983/t in July while gasoline prices lifted around 2pc, resulting in the premium over gasoline dropping back down from $193/t to $143/t. We expect ethanol to maintain a premium between $100/t and $150/t for the remainder of the year and into the start of 2025.

The narrow premium over gasoline for much of 2024, which was below $100/t for January to May this year, is making ethanol a cost competitive compliance option in comparison to other biofuels. The premium even reversed in April, when gasoline prices were higher than ethanol prices. As the cheapest compliance option in many European markets, fuel suppliers have blended 7pc more ethanol in the first

European price outlook ***$/t***

Product	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	3Q24	4Q24	1Q25	2Q25	3Q25
Crop-based biodiesel											
FAME 0 fob ARA	1,207	1,196	1,242	1,167	1,154	1,145	1,155	1,134	1,126	1,157	1,198
FAME -10 fob ARA	1,232	1,214	1,273	1,206	1,181	1,181	1,189	1,212	1,219	1,201	1,228
Advanced FAME 0 fob ARA	1,434	1,410	1,443	1,434	1,376	1,353	1,388	1,354	1,419	1,518	1,558
PME fob ARA	1,165	1,171	1,217	1,145	1,139	1,130	1,138	1,048	1,013	1,093	1,182
RME fob ARA	1,235	1,216	1,277	1,210	1,184	1,185	1,193	1,220	1,230	1,206	1,231
SME fob ARA	1,212	1,198	1,244	1,174	1,157	1,149	1,160	1,142	1,137	1,162	1,201
Waste-based biodiesel											
UCOME fob ARA	1,340	1,315	1,348	1,376	1,346	1,313	1,345	1,291	1,304	1,372	1,398
TME fob ARA	1,290	1,268	1,314	1,346	1,306	1,274	1,309	1,252	1,265	1,331	1,356
UCO cif ARA	972	967	961	972	951	927	950	911	921	968	987
HVO											
HVO Class I fob ARA	1,694	1,552	1,503	1,510	1,488	1,469	1,489	1,506	1,540	1,604	1,647
HVO Class II fob ARA	1,745	1,600	1,559	1,583	1,575	1,570	1,576	1,626	1,663	1,732	1,778
HVO Class III fob ARA	1,737	1,577	1,527	1,536	1,512	1,493	1,514	1,546	1,581	1,646	1,690
SAF											
SAF fob ARA	2,294	2,106	2,036	2,098	1,962	1,976	2,012	2,026	2,120	2,223	2,282
Bionaphtha											
Bionaphtha fob ARA	1,737	1,700	1,653	1,682	1,667	1,653	1,667	1,673	1,696	1,750	1,767
Ethanol											
Ethanol Regular fob ARA	929	949	1,019	983	990	987	987	934	922	993	1,014
Ethanol Premium fob ARA	956	968	1,030	997	1,003	1,001	1,001	948	936	1,007	1,028
ETBE fob Rotterdam	1,347	1,214	1,242	1,258	1,289	1,262	1,270	1,165	1,053	1,129	1,171

European ethanol and ETBE prices *$/t*



five months of the year compared to demand for biofuels blended into diesel dropping 8pc in the same period.

ETBE prices lifted 1.3pc to $1,258/t in July and we expect prices to firm further to $1,289/t in August. We forecast ETBE prices to drop over the fourth quarter of the year, averaging $1,165/t, with further drops expected in 2025, but holding above $1,000/t for the forecast period.

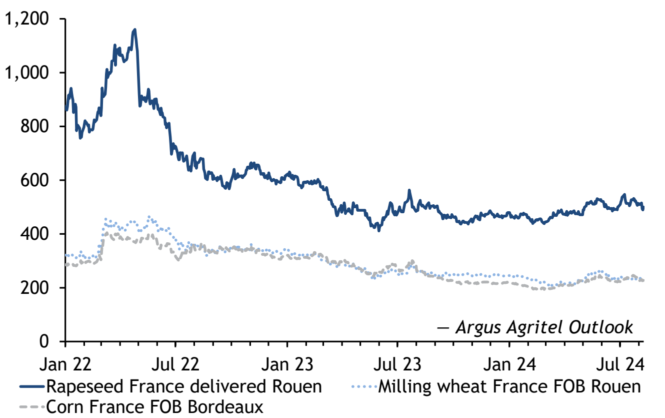
Fundamentals

Agriculture

Nuts 2 delays support rapeseed imports

Wet weather earlier this year will likely impact this year's European rapeseed crop, with low levels still expected, but recent crop performance in France, Germany and Ukraine have contributed to ease tightness in the region's supply and demand. European rapeseed prices rose 4.7pc to $521/t in July, marking the highest prices since February 2023. Rapeseed oil prices followed a similar trend and although the European Commission's provisional anti-dumping duties announcement

Biofuel agricultural feedstock prices *$/t*



on 19 July did result in a 2.9pc jump in rapeseed oil prices on the day, the duties are not expected to provide significant support to rapeseed oil or rapeseed prices because of unchanging biofuel crop caps.

Exports to Europe are supported by a delay of EU countries' Nuts 2 (nomenclature of territorial units for statistics) greenhouse gas calculation validations, which determine the GHG savings for crop cultivation and therefore crop-based biofuels. The Nuts 2 values are already available for Canada, Australia and Argentina, and may favour imports from these countries as crushers aim to delay crushing European rapeseed until GHG savings calculations are finalised. Europe rapeseed imports from these countries in the first three weeks of July were 37pc up on the same period last year. Canada is expecting a decent crop yield, up 2mn t on the previous year at 21mn t, despite the country's recent heatwave. This will be accompanied by record crushing activity at 12mn t, which would leave a minimum 8.5mn t of export potential.

Bad European wheat crop offset by other regions

European wheat production is expected to be lower than in previous years as France expects 25mn t, well below last year's 35mn t and the smallest wheat harvest in 41 years. The tough harvest is the result of lower yields owing to excessive rain and a smaller planting area. Wheat crops in Germany and in the UK are also pointing towards lower acreage and yields.

Russian wheat yields were not as bad as expected for the winter wheat, while excellent conditions are promising for the spring wheat to be harvested in autumn. This could offset the losses in western Europe, with support from good crop yields in Kazakhstan, Australia and Canada. The strong performance of the wheat crops in other regions has tempered expectations for the wheat price, supporting only moderate price rises this year.

Corn prices fall on strong US crop

Western European corn crop is looking decent but there will still be a need for imports to cover European demand. US crops are supported by excellent conditions that could lead to a record yield, which is weighing on prices as CME corn prices fell 9.5pc on the month in July. But with Argentinean crops suffering and Ukrainian crops well below previous averages, corn prices should pick up again toward the end of the year and into next year on less competition from South America and the Black Sea region.

Fossil fuel demand and prices

Gasoline cracks fall on faint demand

Cracks fell for the second consecutive month in northwest Europe, by $1.22/bl to $13.24/bl. Despite the atypical drop, the daily crack spread was rangebound in Europe through July as a rise in exports from the region provided a floor for a weakening market. An anticipated sharp rise in demand in Europe has not materialised, leading to an unseasonal stock build. Latest EU-15 + Norway data show June gasoline stocks in a surplus for the first time since September 2023, with stocks standing at 110.1mn bl, about 900,000 bl above the 2015-19 average.

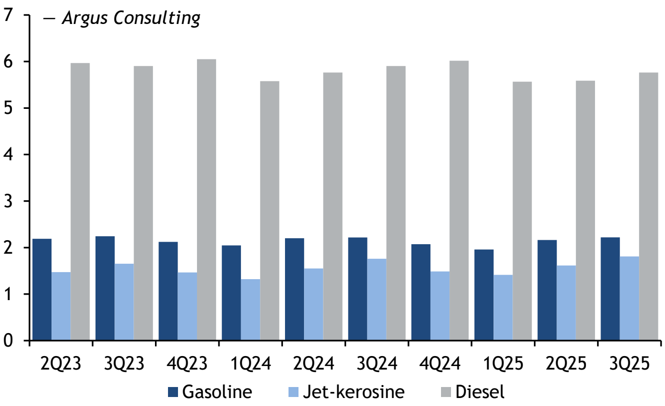
Global naphtha crack spreads have generally continued to rise in recent months as tight supply in petrochemical markets supports naphtha demand while blending economics in Europe remained favourable in July. In northwest Europe, petrochemical producers are restocking olefins and aromatics ahead of seasonal steam cracker maintenance. As a result, European crackers are increasing their runs, buoying demand for naphtha.

Refinery maintenance remains threat to Europe

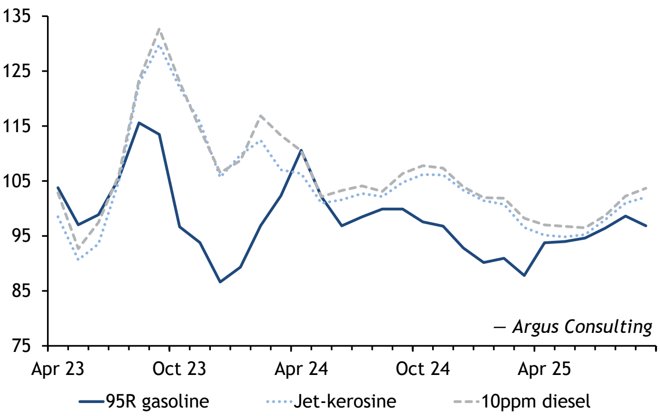
Diesel cracks weakened in Europe in July, with the impact of supply disruption proving less severe than expected and demand continuing to struggle in the face of macroeconomic headwinds. Diesel cracks in northwest Europe and the Mediterranean dropped by $2.02/bl and $1.01/bl, respectively, to $18.87/bl and $17.56/bl in July. European supply is on the rise as domestic refining operations continue to recover. The refinery utilisation rate in the region increased to 80pc in June, from 76.4pc in May, and is likely to have remained robust in July. Mediterranean refineries that recently experienced technical problems are also returning.

Northwest European and Mediterranean jet fuel cracks fell by $1.71/bl and $1.53/bl, respectively, to $17.47/bl and $13.56/bl in July. This was supply driven as a robust stream of imports from Kuwait and India helped push ARA stocks to 7.8mn bl in July, the highest since August 2020. Although air traffic has been climbing in recent months, the peak has failed to reach 2019 levels. But holiday travel will continue to support jet fuel demand over the next month, with cracks remaining capped by the strong stock build.

European fuel demand *mn b/d*



European fuel prices *$/bl*



NORTH AMERICA

Summary

This month

Argus renewable diesel (RD) margin indicators reached a record low in July on weaker diesel prices and higher feedstock costs, while earnings reports showed Phillips 66, Valero, Neste, PBF and CVR suffering second-quarter losses in their respective RD segments, citing poor margins. B99 biodiesel activity picked up for deliveries in the fourth quarter as blenders try to take advantage of the biomass-based diesel blender's tax credit (BTC) before it expires. A narrowing R99-B99 spread suggests that RD is becoming more competitively priced against biodiesel in California, which could deter biodiesel consumption in the state as buyers switch to RD.

Next month

If uncertainty persists around the BTC and clean fuel production credit (CFPC) under the Inflation Reduction Act (IRA), the B99 forward curve could shift to contango as lack of guidance on those credits would make it difficult for producers to lock in margins in advance. Low carbon fuel standard (LCFS) credit prices are likely to continue to react to the recent proposed change to 2025 targets, but the next few weeks will confirm if this week's reaction was short-lived or if prices will shift to a new range in anticipation of a less oversupplied credit bank.

3-6 months ahead

R100 and SAF100 prices are expected to hit their lowest in September because of record-low D4 RIN credit values. But R100 prices are poised to rally in September-December as we approach the busier demand seasons for distillates and credits recover from their lows. We also anticipate feedstock prices to take a downturn through September-October amid lower demand for soybeans from China and a successful US soybean harvest that has resulted in high yield conditions. We expect feedstock prices to increase towards the end of the year when South America, which is experiencing dry weather, switches to being the leading soybean producer.

6-12 months forward

When the BTC expires in January we expect D4 RIN prices to receive support owing to the price's inverse relationship with a soybean oil-based renewable diesel producer's margin. Removal of the BTC is also expected to assist waste-based feedstocks to be at a premium to soybean oil as demand for waste-based feedstocks increase. Further support for a heavier transition to waste-based feedstocks may also come on the back of the California Air Resources Board's (CARB's) announcement of a cap on credit generation from soybean- and canola-biomass-based diesel, thought to be effective in 2028 for companies that are already exceeding that cap, and April 2025 for all other companies. CARB's additional proposal of a 9pc one-time step down of the 2025 target is expected to tip the programme's credit bank into a decline in 2025, supporting higher price values.

Regulation

US court overturns blanket SRE denials

The US Court of Appeals ruled against the Environmental Protection Agency's (EPA's) 2022 decision to deny all small refinery exemptions (SREs) that small refineries had requested to be waived from Renewable Fuel Standards (RFS) obligations for the 2016-21 compliance years. The EPA's decision to deny the SREs was overturned and sent back to the agency for further review.

As part of the same judgement, the court sided with the EPA's decision to give 31 small refineries an "alternative approach" to showing compliance with the RFS in 2018. The EPA provided that flexibility after finding there were "virtually insurmountable obstacles" to compliance because of the agency's belated denial of exemptions.

Biofuel group plans to sue EPA for RFS delay

The Clean Fuels Alliance America has announced it plans to sue the EPA over its timeline for finalising the 2026 biofuel blending obligations, arguing that planned delays jeopardise the industry's growth. The EPA is now targeting March 2025 to propose the RFS obligations for 2026 and December next year to finalise its regulation, but the EPA was originally supposed to finalise 2026 requirements by November 2024.

EPA clarifies UCO supply chain audits

The EPA has clarified that it has been auditing biofuel producers and used cooking oil (UCO) supply chains, and that audits are considered a routine practice in the implementation of the RFS. Under the RFS, the EPA requires renewable fuel producers to submit UCO collection points that are used for biofuels production. This mirrors state-level LCFS programmes, whereby supply chain documentation is part of the third-party verification required for fuels to generate credits.

The increased vigilance regarding UCO feedstocks follows the European Commission's anti-dumping measures announced on 19 July that will impose duties of 12.8-36.4pc on biodiesel, renewable diesel and UCO imports from China into Europe.

US lawmakers pressure Treasury on 45Z credit rules

A group of 52 members of Congress have requested the US Treasury Department finalise guidance around the IRA's 45Z credit by September, with a final rule by November. The credit offers up to $1/USG for road fuels and $1.75/USG for aviation fuels, and will come into effect in January — replacing other fuel-specific credits expiring at the end of this year. The Treasury Department has not yet finalised guidance around qualifying for the credit, including more details on calculating the carbon intensity (CI) of fuels derived from agricultural feedstocks. Biofuels groups say that prolonged uncertainty about the 45Z guidance could jeopardise planned investments in upping production of RD, sustainable aviation fuel (SAF) and biofuel feedstocks.

In response to continued uncertainty around the 45Z guidance, a bipartisan group of lawmakers has proposed legislation extending the $1/USG blender's tax credit (BTC) into 2025. The text of the bill has not yet been released, but a draft version would restrict fuel that is allowed a credit under 45Z from also qualifying for the $1/USG BTC.

CARB to tighten LCFS targets by next April

In a formal amendment released on 12 August, CARB indicated it will pursue a one-time tightening of annual targets for gasoline and diesel by 9pc in 2025, up from the current 1.25pc annual reduction and the 5pc step down first proposed in December 2023. The move follows the board's aim to draw down the oversupply of LCFS credits and revive credit prices, which have been suppressed.

Public comment on the proposals will continue to 27 August ahead of a planned 8 November public hearing and potential board vote. The programme changes could be in place by the end of the first quarter of 2025, according to CARB.

Final rulemaking language also introduced a new 20pc/yr cap on a company's credit generation from biodiesel or RD from soybean oil or canola oil. Companies that have a certified pathway and are already exceeding that cap would have until the end of 2027 to adjust supply before facing limited credit generation. All other companies would immediately face the requirement upon adoption of the measure, which staff expect to occur by April 2025.

CARB drops intrastate jet obligation

In the 12 August amendment, CARB dropped the previously proposed obligation on jet fuel used in intrastate flights, estimated to make up 10pc of California's jet fuel consumption, after participants warned the measure would incite more credit purchases than renewable jet fuel buying. But language was added that secures alcohol-to-jet (AtJ) as a pathway under the programme.

Demand

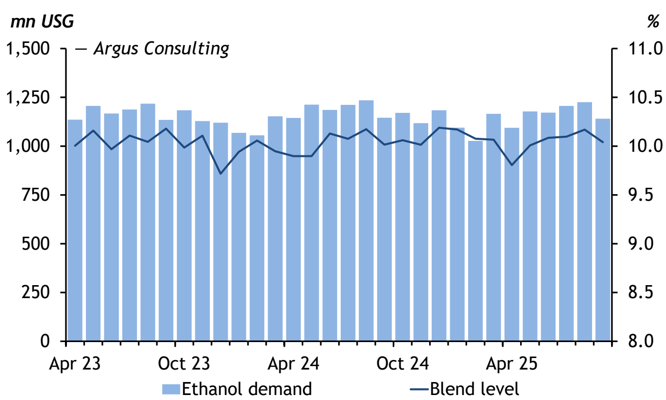
Ethanol

Higher USGC refinery margins support ethanol blending

Ethanol blending slumped in mid-July, dropping 4pc between the first and second week of the month, as gasoline demand dropped 6.5pc. Although this often takes place following the 4 July holiday week, the fall off seemed steeper than in prior years. Ethanol blender net input slid 37,000 b/d during the week ending 12 July, to just 885,000 b/d, which was the lowest weekly blending figure since March, but it also pulled down ethanol blending 0.5pc behind the same time last year. Spot price gains for ethanol in June could have cut into the cost benefits of blending the biofuel into gasoline, along with ongoing pressure on gasoline blendstock values moving into July. But by 15-18 July, ethanol's discount to gasoline widened by around 50¢/USG on the back of stronger gasoline prices compared with its biofuel blend component. July ended with ethanol averaging 56¢/USG under gasoline amid higher cracks at the US Gulf coast.

Moving forward, we still expect the ethanol blend rate into gasoline this summer to peak in August, but at 10.17pc compared with the 10.23pc we were forecasting in the July issue.

US ethanol demand and blend level



US ethanol exports rise to record in 1H

US ethanol exports climbed to a record high in the first half of the year, driven by strong domestic production and foreign demand. US ethanol exports averaged 125,600 b/d in January-June, up by a third from the same period last year and 2.2pc higher than the previous first-half record set in 2018. Exports would set a full-year record if the pace is maintained through the end of 2024. Canada took in its lowest volume for 2024 to date, while still claiming the top slot for the 39th month in a row. The UK, EU, India, and Colombia rounded out the top five and all saw month-to-month improvements. Robust domestic production has fed the rise in US exports, with output averaging 1.03mn b/d through June, the third-highest rate through the first six months but still behind 2018 and 2019.

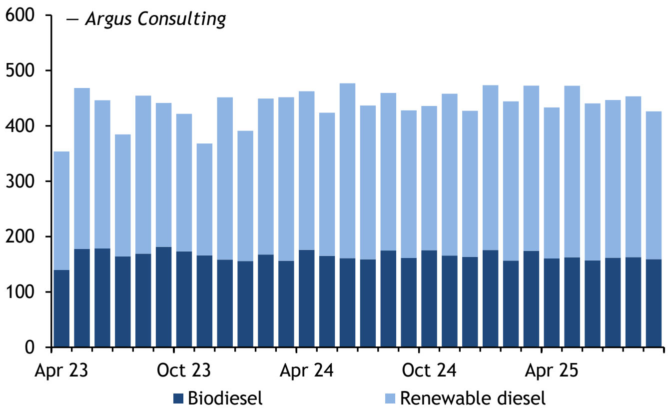
Renewable diesel

Surplus supply falls 31pc in May as imports, output slow

Soft RD demand at 259mn USG in May is expected to have contributed to a lower surplus of supply. The RD blend rate pushed down to 5pc from 5.67pc in April, but the biggest factors adding to the lower surplus supply were imports that hit a seven-month low, and production and stocks that were at six and five-month lows, respectively. Gross supply was at its lowest level since November 2023, and May was the first month of the year in which RD imports were not at a new five-year high.

We expect US RD demand to have risen in June to 316mn USG but forecast some of those gains to be reversed by July, reaching 278mn USG. This is predicated on a 6.21pc national RD blend rate in June and 5.47pc in July.

US biodiesel and RD consumption *mn USG*



US northeast demanding more RD

Renewable diesel is becoming increasingly available in the US northeast despite a lack of supportive policy that exists in other states such as California's Low Carbon Fuel Standard (LCFS). There have been four foreign vessels supplying around 300,000 bl of RD that have arrived in the New York City area during the first half of the year, up from one vessel supplying 172,000 bl all last year.

US fuel supplier Sprague Operating Resources in June started offering RD for delivery and rack loading at a second location in New York state and said that it expects to continue investments to make RD more available across the US northeast. And New York City said in May that it was on track to fully transition its municipal fleet, the largest of any city in the US, to RD by the end of June. In July, North Brunswick, New Jersey's, municipal fleet announced it will run entirely on RD from Finnish refiner Neste.

US biofuel demand outlook

Product	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	3Q24	4Q24	1Q25	2Q25	3Q25
Biofuel											*mn USG*
Ethanol	1,143	1,211	1,184	1,210	1,233	1,144	3,587	3,467	3,281	3,438	3,566
Biodiesel	176	165	161	159	175	161	495	504	506	480	484
Renewable Diesel	286	259	316	278	285	267	829	817	884	866	842
Total	**1,605**	**1,635**	**1,661**	**1,647**	**1,692**	**1,572**	**4,911**	**4,788**	**4,672**	**4,785**	**4,893**
Biodiesel and renewable diesel feedstocks											*mn lbs*
Canola oil	361	397	369	324	314	293	931	1,012	1,173	1,150	904
Corn oil	339	341	429	356	373	352	1,081	1,039	1,059	1,069	1,062
Soybean oil	1,070	1,076	1,213	1,204	1,168	1,072	3,443	3,110	2,934	3,101	3,362
Tallow	605	521	690	649	670	610	1,929	1,966	2,370	2,148	2,121
Yellow grease	700	513	595	490	641	616	1,748	1,999	2,035	1,756	1,706
Other	120	125	91	77	96	96	270	256	301	335	263
Total	**3,195**	**2,973**	**3,386**	**3,100**	**3,262**	**3,038**	**9,401**	**9,382**	**9,872**	**9,559**	**9,418**

Biodiesel

Blending levels to average record high by year-end

US biodiesel blending levels are forecast to stay above 3.15pc through the remainder of the year and average 3.27pc by December, when the BTC is expected to expire. The 3.27pc average blend rate represents the highest level since at least 2019.

So far in August, blend economics as measured by the difference in D4 RIN credits and the SBO-heating oil (BOHO) spread have recovered the losses seen in July, holding in positive territory, which should encourage a rise in blending. We forecast August blending levels at 3.41pc compared with 3.21pc in July and expect blending economics to stay pressured as winter approaches, when biodiesel sees less demand as it does not perform well in cold weather.

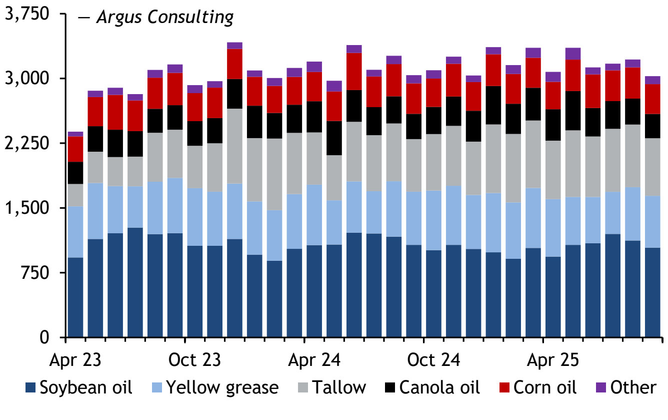
Feedstocks

P66 Rodeo likely driving higher vegetable oil share

The RD/biodiesel combined feedstock mix tilted back to vegetable oils, with a 51pc share compared with 47pc the month before. The soybean oil share crept up to 37pc from 35pc, while the used cooking oil share fell to 18pc from 23pc. This may reflect the ramp up of Phillips 66's 0.8bn USG/yr Rodeo refinery, which is starting on vegetable oils before transitioning to lower-carbon intensity feedstocks as the pretreatment units come on line.

US renewable diesel capacity rose to 4.58bn USG/yr in May, up from 4.13bn USG/yr in the previous month and 3.86bn USG/yr the month before that. We believe this increase reflects the start-up of Phillips 66's plant. US RD capacity is up by 0.7bn USG/yr since the start of the year, but there is more to come on line with plants from Chevron, Global Clean Energy and others.

US biodiesel and RD feedstocks demand *mn lbs*



Credits

RINs/RVO

SRE court decision, record ethanol output pressure RINs

Most RIN values dropped in July, following a federal court rejecting the US Environmental Protection Agency's denial of numerous small refinery exemption requests. The decision, which could be overturned, will buy time for those facilities before they need to purchase RINs to meet their obligations for the years in question.

D4 and D6 credits fell by 14pc to 55.75¢/RIN by 5 August after trading at around 64¢/RIN on 26 July, the day of the court's decision. The slide in RIN prices was compounded after the EIA reported US ethanol production reaching record-high levels in the week ended 26 July. Production was driven by encouraging operating margins for most producers and solid demand expectations.

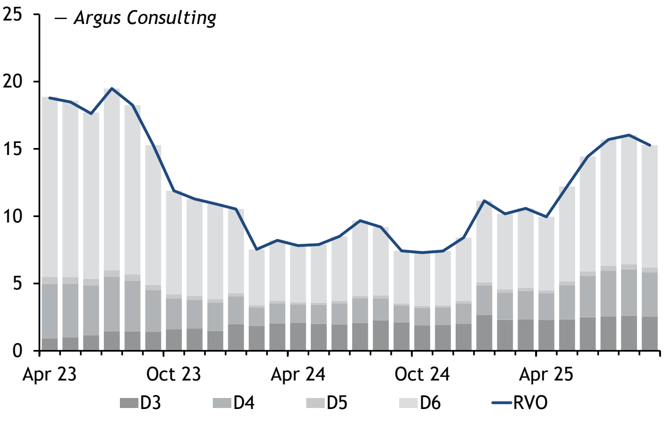
Although RIN prices have pulled back from the six-month highs seen before the court decision in July, they have started to recover those losses moving into August on the back of a tick up in soybean oil prices and on lower CARB diesel values.

Looking ahead to the end of August and September, D4 RINs are forecast to fall to around 58.5¢/RIN and 45¢/RIN, respectively, which is not as low as previously anticipated, on expectations of a rise in conventional diesel prices through to October.

Biomass-based diesel imports drive D4, D5 oversupply

D4 and D5 RIN generation climbed by more than 3pc on the month and 6pc year on year to 749mn in June following the sharp decline in May, with the increase driven entirely by imported RD and biodiesel, which was partially offset by lower

Argus RVO breakdown by RIN category *¢/USG*

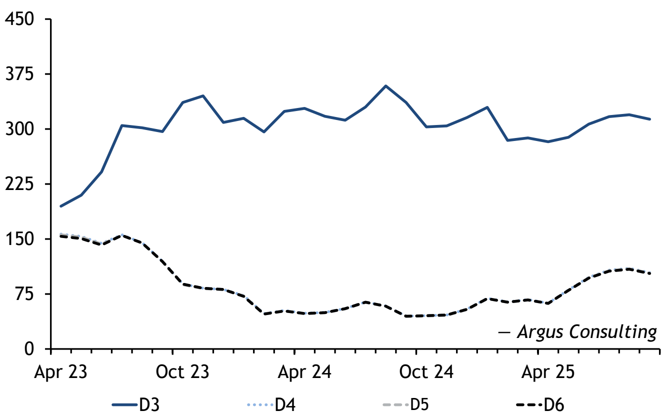


domestic production inching down by 1pc on the month. D4 RIN production from SAF slipped to just 10mn in June from 29mn in May.

Gross D4 and D5 RIN generation is on pace for 9.5bn RINs in 2024, but the net number will be lower owing to exports, versus a volume obligation of just 5.5bn RINs, keeping the market in massive oversupply and compressing prices. In terms of the other RIN categories, D3 RINs rose by 6pc year on year and are now up 17pc year to date to 909mn RINs, but still below the 1.09bn blending obligation. This shortage should keep D3 RIN pricing supported. D6 RIN generation fell by 6pc on the year and is now flat year to date for a pace of 14.8bn RINs, falling just short of the 15bn blending obligation and requiring additional D4 and D5 RINs to make up the shortfall.

US independent Delek has temporarily idled three biodiesel plants in Texas, Arkansas, and Mississippi as it explores alternative uses for the sites amid a decline in the BD market and a tough D4 RIN price environment. The refiner's plants produce a combined 2,600 b/d of BD from feedstocks such as UCO, other fats and greases, and vegetable oils such as soybean oil and canola oil. D4 RIN generation is expected to oscillate between bullish and bearish factors, such as biodiesel and RD plants continuing to close or idle, imports driving more RIN generation ahead of the BTC expiry at the end of this year, and additional RD throughput. Marathon and Neste's Martinez facility is expected to hit full rates in October-November, while Diamond Green Diesel's Port Arthur and PBF's Saint Bernard Renewables plants will be coming out of their scheduled July turnarounds.

RIN price forecast *¢/RIN*



LCFS

California credit inventory builds at slower pace

CARB data showed the California LCFS programme still building credits in the first quarter, although the pace of the build slowed owing to rolling to the tougher 2024 carbon intensity (CI) benchmarks, which both raised deficits per gallon and reduced credits per gallon compared with the 2023 CI benchmark.

Credits outpaced deficits by 43pc, or 2.5mn t, in the first quarter, compared with 54pc, or 3mn t, in the fourth quarter of 2023. This now marks the 12th quarter in a row of oversupply and puts credit inventories at 26mn t. RD now makes up 65pc of total diesel consumption in California, up from 58pc last quarter. But credits from RD consumption fell by 7pc on the quarter as volumes eased by 5pc, which reflects the impact of the tougher 2024 CI benchmark.

The release of the quarterly data appeared to do little to move prices, but prices were on an upward trajectory for most of July, during which time they moved up by $4/t. Despite the recent gains, LCFS spot credits are still at near nine-year lows.

The actual CI reduction in 2023 of the California LCFS programme relative to 2010 levels was 15.3pc, which was achieved three years ahead of the original schedule. This has created a scenario of credit oversupply that is expected to continue in

US RIN & LCFS price outlook

Credit	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	3Q24	4Q24	1Q25	2Q25	3Q25
RIN											¢/RIN
D3	328	317	312	330	359	336	342	308	301	293	317
D4	49	50	55	64	59	45	56	49	67	80	107
D5	48	49	55	63	58	44	55	48	66	80	107
D6	48	50	55	64	58	45	56	49	66	80	106
RVO ¢/USG	8	8	9	10	9	7	9	8	11	12	16
LCFS											$/t
California LCFS	62	48	48	48	48	48	48	48	51	54	69

2024. But CARB's proposal of a 9pc one-time step down of the 2025 target resulted in LCFS credits ending 13 August at their highest level in more than three months. Although we expect the changes could tip the credit bank into a decline in 2025 and support prices, the following days will indicate whether prices will stay at these elevated levels, or if the spike in credit prices will be a short-lived knee-jerk reaction to the CARB announcement. Our current forecast has been generated using our prior assumption of a 7pc step down.

Oregon CFP credit bank continues to grow

Oregon has also released its first-quarter data, which showed the state's use of RD continued to climb and accounted for 60pc of all new credits generated since early 2024. RD represented more than 29pc of the liquid diesel fuel pool during the quarter.

Overall, the pace of Clean Fuels Program (CFP) credit generation slowed in the quarter but still exceeded deficits by about 105,000t, bringing the total volume of credits available for future use to nearly 1.3mn t.

Washington builds nearly 1mn LCFS credit reserve

Washington's new Clean Fuel Standard ended its first year with nearly 1mn t of credits for future compliance, according to state data.

The Washington Department of Ecology reported about 986,000t of credits in its LCFS available for future compliance by the end of 2023. The credit reserve rose by nearly half in the fourth quarter from the previous quarter as rising consumption of ethanol and biodiesel, and an increase in residential electric vehicle charging credits offset a drop in RD consumption.

BC adds to LCFS credit bank

British Columbia LCFS participants added to the credit reserve bank last year despite generating fewer new credits than deficits from fuels in 2023.

Credits generated from initiative agreements, which grant advance credits for projects to provide lower-carbon transportation fuels as they are still under development, helped the number of credits available for future compliance grow by more than 300,000t in 2023.

Without credits generated from the grant programme, participants would have drawn down the provincial credit bank by about 190,000t.

Annual data also showed a growing share of RD in the Canadian province's diesel pool. Consumption of the fuel nearly doubled from the previous year to roughly 12,000 b/d and generated the bulk of new programme credits for the year. BD use subject to programme requirements fell by 1.8pc to about 2,300 b/d. Ethanol use rose by 8.9pc to about 8,100 b/d.

Prices

Ethanol

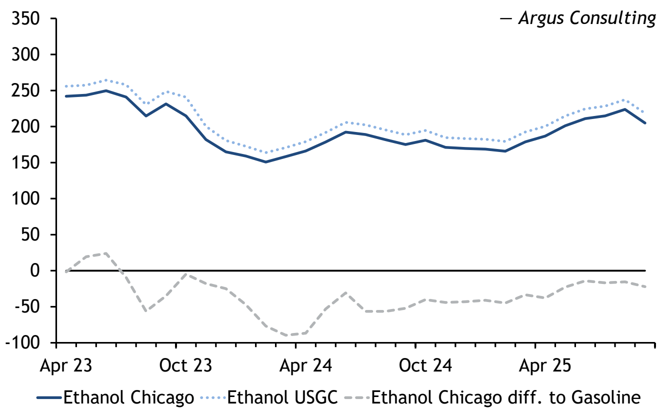
Ethanol prices break multi-month gains

Spot price losses for ethanol in July represented the first decline after four straight monthly price gains. Ethanol spot trading in Chicago averaged $1.89/USG during July. That had nearby in-tank ethanol transfer prices falling 3.2¢, or 1.7pc below the June average. At the same time, spot CBOB gasoline rose 8.7¢, or 3.9pc, during the month, averaging $2.29/USG in July. The 56.4¢ spot price discount for ethanol versus CBOB in July rose by 25.6pc between June and July.

Ethanol prices are expected to face pressure from gasoline values towards the end of this year, reaching as low as $1.69/USG in December. Prices will remain down through February before seeing a rapid rise towards the end of the first quarter of 2025.

In terms of margins, they are probably twice as big as they were at the beginning of the second quarter. This improvement is a function of both rising ethanol prices, falling corn costs, and strong export demand. Looking ahead to the third quarter, ethanol margins are off to a strong start and ethanol utilisation on the west coast has risen to 91pc quarter to date.

US ethanol prices ¢/USG



Biodiesel

B99 diffs in backwardation as BTC set to expire

Front-quarter fourth-quarter trading has been the most active timeframe for B99 biodiesel transactions as all participants are trying to take advantage of the BTC before it expires. There were lower fourth-quarter RIN-less price differentials for B99 in July compared with those for the third quarter, putting the B99 curve in backwardation by 20¢/USG. Biodiesel suppliers have been reluctant to offer first-quarter 2025 and even December 2024 volume as they eye a potential BTC extension. October-November were the most liquid timing for transactions in July, but if uncertainty persists around the BTC and CFPC under the IRA, the B99 forward curve could shift to contango as lack of guidance on those credits would make it difficult for producers to lock in margins in advance. Sales books would shift from 60 days to 30-35 days forward.

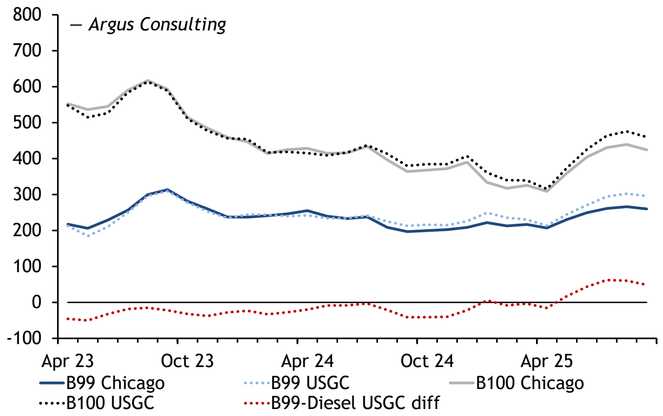
B99 biodiesel differentials against Nymex ultra-low-sulphur diesel (ULSD) futures mostly rose on the month across regions in July. Differentials for B99 in Chicago and Houston rose by around 0.5¢ and 3¢ to average Nymex minus 11¢/USG and Nymex minus 7.5¢/USG. We foresee Houston B99 differentials against conventional diesel to be pressured for the remainder of the year before rising to a premium in January.

R99-B99 narrowing signals lower California demand

A narrowing R99-B99 spread suggests that RD is becoming more competitively priced against biodiesel in California, which could deter buyers from blending the two as blend economics deteriorate. As a result, volumes of biodiesel consumed in California could decline as buyers switch to RD.

California B99 biodiesel averaged 20-30¢/USG lower than R99 RD in July, compared with 148¢/USG lower in August 2021, when the trend of blending RD emerged.

US biodiesel prices ***¢/USG***



Renewable diesel

Stronger credits outweigh lower diesel

R100 prices nudged higher by 3¢/USG in July despite CARB ULSD falling by 5.5pc on the back of weaker Nymex ULSD futures. R100 also rose in July despite California's Carbon Allowance values tumbling to the lowest in a year after a CARB presentation suggested the agency would be delaying long-anticipated tightening of the Cap-and-Trade Program until 2026. Until then, the influx of new renewables has reduced demand for the credits.

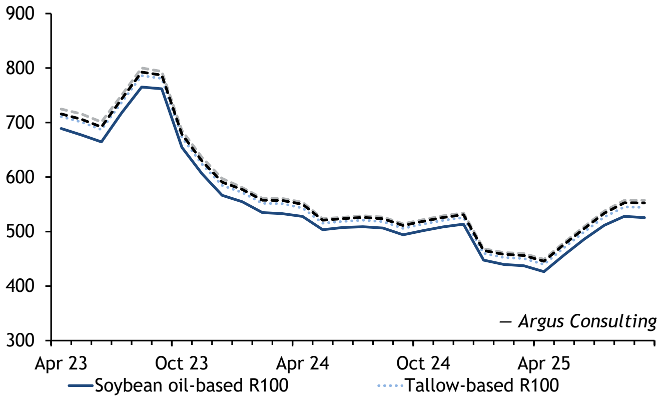
Although R100 RD prices rose in July on the back of stronger California LCFS and D4 credits, R100 prices are expected to hit their lowest level in September because of record-low D4 RIN credit values. But prices are poised to rally in September-December as we approach the busier demand seasons for distillates and credits recover from their lows. But we forecast R100 across all feedstock types to decrease by 66¢ on the month to average $4.60/USG by January, when the BTC expires.

RD margins hit all-time low

The *Argus* RD margin indicators fell by an average minus 23¢/USG in July on weaker diesel prices and higher feedstock costs. This put our RD margin indicators into their lowest territory for the first time since *Argus* began tracking them in 2021. Earnings reports showed Phillips 66, Valero, Neste, PBF and CVR suffering second-quarter losses in their respective RD segments, citing poor margins.

RD producers have faced narrowing profits this year, but there could be multiple factors supporting a recovery. Declining agricultural feedstocks costs, lower renewable fuel imports in 2025, shuttered biofuels plants, and existing plants focusing on SAF are some of the positive catalysts coming for RD margins. There are also positive demand

US renewable diesel prices ***¢/USG***



factors largely coming from legislative support, such as additional states opting into the low carbon fuels standard and increased renewable volume obligations. The EPA is expected to increase Renewable Volume Obligations for 2026-28.

SAF

SAF100 to fall in 2025 with BTC expiry

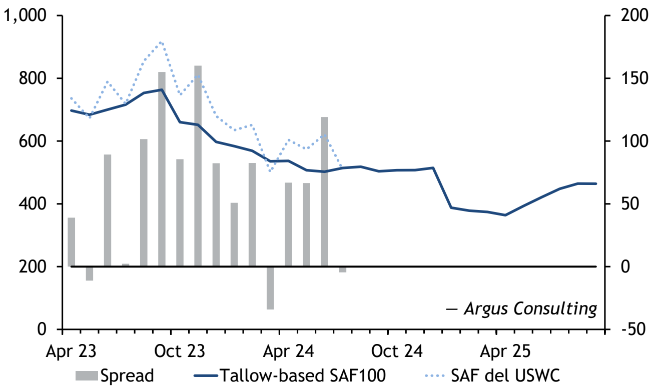
Tallow-based SAF100 prices increased by 2.4pc on the month in July to $5.14/USG amid higher LCFS and D4 RIN credit premiums, along with higher conventional jet fuel prices. We expect prices to hit an all-time low in September, averaging $5.04/USG on the back of record low D4 RIN prices. Moving into next year, we forecast tallow-based SAF100 to drop by $1.26/USG with the lack of a BTC subsidy.

US SAF capacity to grow, BTC push could defer expansion

Various federal tax credits for biofuels will soon be replaced by the IRA's 45Z credit, which offers larger subsidies to low-carbon jet fuels than to road fuels. But a bill proposing to extend the $1/USG BTC would reshuffle those incentives, potentially upending some refiners' plans to convert more of their RD production to SAF.

The proposal would extend an expiring $1/USG credit for biodiesel and RD through 2025 and allow companies to claim that credit instead of 45Z. Effectively, all biodiesel and RD would benefit more under the less prescriptive blender's credit as the new incentive starting in January offers $1/USG exclusively for carbon-neutral road fuels. But the bill would not benefit SAF in the same way. That is because the IRA clarified that SAF could no longer claim the BTC and instead could benefit from a more substantial incentive expiring this year that offers at least $1.25/USG for qualifying aviation fuels.

US SAF prices *¢/USG*



US biofuel price outlook											
Product	**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**	**3Q24**	**4Q24**	**1Q25**	**2Q25**	**3Q25**
Ethanol											*¢/USG*
Ethanol Chicago	166	179	192	189	182	175	182	174	171	200	214
Ethanol USGC	179	192	206	202	195	189	195	187	185	213	228
Biodiesel											*¢/USG*
B99 SME Chicago	255	240	233	238	209	197	214	204	217	229	262
B99 SME USGC	242	234	234	241	225	213	226	219	238	243	298
B100 SME Chicago	428	415	416	434	397	364	398	377	326	357	431
B100 SME USGC	415	409	417	437	413	380	410	392	347	371	467
Renewable diesel (del California)											*¢/USG*
R100 (soybean oil)	528	503	508	509	506	494	503	508	442	456	522
R100 (tallow)	543	515	519	521	518	506	515	520	454	470	539
R100 (UCO)	554	524	526	529	527	514	523	528	463	479	551
R100 (corn oil)	550	521	524	526	523	511	520	525	460	476	546
SAF (del California)											*¢/USG*
SAF100 (tallow)	537	507	502	514	518	504	512	510	380	393	459
Feedstocks (US Gulf coast del rail)											*¢/lb*
SBO crude degummed	45	44	45	49	43	40	44	42	44	47	54
Tallow bleached fancy	41	43	45	49	44	42	45	43	48	50	57
UCO	40	42	45	47	44	42	44	43	48	50	57
Distillers corn oil	46	45	49	51	48	46	48	47	51	53	60

Extending the credit that currently only applies to biodiesel and RD — but taking no action on the expiring credit that covers SAF — could flip the incentive structure set out in the IRA. Some gallons of SAF would earn less of a federal subsidy than diesel alternatives of equivalent CI.

For example, SAF derived from soybean oil or canola oil that might only generate 50-60pc fewer GHG emissions than conventional jet fuel. Fuel of that CI is eligible for a $1.25-1.35/USG subsidy this year, but that same gallon might qualify for just $0.11-0.42/USG when 45Z starts next year. Renewable diesel with identical emissions conversely could claim a higher $1/USG credit next year if this bill passes.

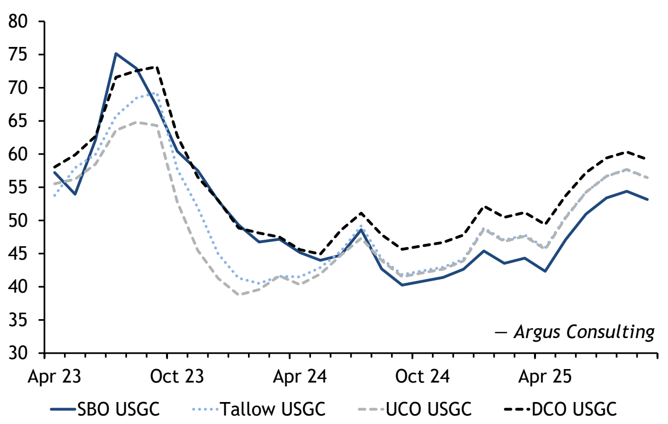
Feedstocks

Prices for various feedstock types converge

Price spreads between low-CI feedstocks such as UCO and distillers corn oil (DCO) and higher-CI feedstocks such as SBO and tallow narrowed in July despite slightly higher California LCFS credits. As LCFS prices rise, rewards tend to increase for less-CI feedstocks, which improves their market premium to higher-CI feedstocks.

Domestic prices for tallow and UCO rose by 3.8¢/lb and 2.6¢/lb in July to 49.2¢/lb and 47.3¢/lb, respectively. SBO prices rose by 3.9¢ on the month to 48.6¢/lb, while DCO prices increased by 2.6¢/lb to 51.1¢/lb. We mostly anticipate prices to take a downturn through September-October amid lower demand for soybeans from China and a successful US soybean harvest that resulted in high yield conditions. We expect prices to increase towards the end of the year when South America, which is experiencing dry weather, switches to being the leading soybean producer. We see waste-based feedstocks gaining a premium to soybean oil in January, with the BTC expiring.

US biofuel feedstock prices *¢/lb*



Fundamentals

Agricultural prices

Corn crop possibly at record yield

US corn crop conditions are lining up for the possibility of reaching a record yield, with latest estimates expecting a yield of 184 bushels/acre, which could support production reaching 387mn t in 2023-24. Prices have faced downwards pressure as a result, and *Argus* forecasts this trajectory to continue owing to a comfortable supply-and-demand balance in the US. US export sales have remained strong over July, but demand from Chinese buyers continues to be weak. The price for US-origin corn currently stands at $184/t, close to Argentina-origin corn at $183/t. Prices could face further pressure if there is no return of Chinese buyers this year, but in the short term, the outlook is bearish.

Soybean prices test new lows

In the soybean market, US crop conditions are also pointing towards higher-than-average results, but weather could impact results in August and September, so the coming months will be crucial in estimating the US' final crop potential. The crop index for soybeans performed well over July, suggesting an above-trend yield. As of 8 August, US origins have even become more competitive than Brazilian soybeans at $408/t compared with $417/t. Soybean prices in August have tested new lows and are forecast to fall further. There is the possibility of a heatwave threatening the crop potential, but adequate deep soil moisture should limit the downgrade in yield. Brazilian soybean planting will develop into being a key market driver beyond September, when planting is expected to begin. For now, Chinese crushing economics and import demand are weak, but China will likely be forced to source large quantities from the US in the last quarter of 2024, which may support prices.

Fossil fuel demand and prices

Demand weak despite driving season

Gasoline crack spreads strengthened relative to benchmark crudes in July on the US Gulf coast. Cracks rose by $2.22/bl to $14.60/bl. The seasonal uptick was expected to finally emerge, after June's atypical dip, as a result of a pick-up in regional demand. Weekly data showed gasoline demand rising to 9.35mn b/d in the second half of July, up by 259,500 b/d on the first half, taking the full-month figure to 9.22mn b/d, slightly up on June, and 180,000 b/d above July 2023. This was the first month of 2024 in which average weekly demand exceeded year-ago levels.

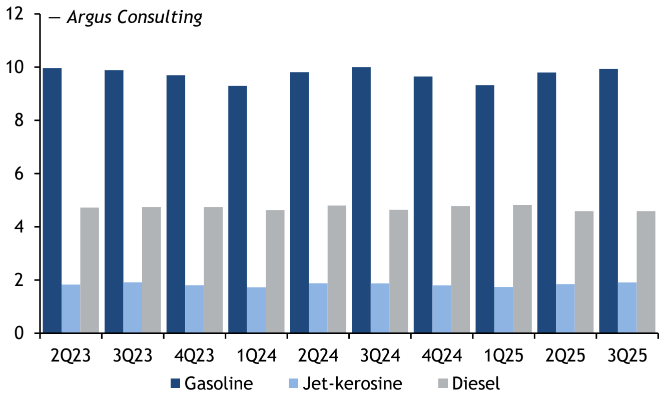
Refining on the US Gulf coast was not massively affected by Hurricane Beryl in early July, with the biggest challenge being power outages. The utilisation rate fell as a result to about 92pc in July. Regional demand was also hit by the hurricane and power outages, and demand was depressed for longer than what would normally be expected after a hurricane. On the supply side, narrow margins mean some refiners plan to cut runs this quarter.

Refinery maintenance remains threat to US

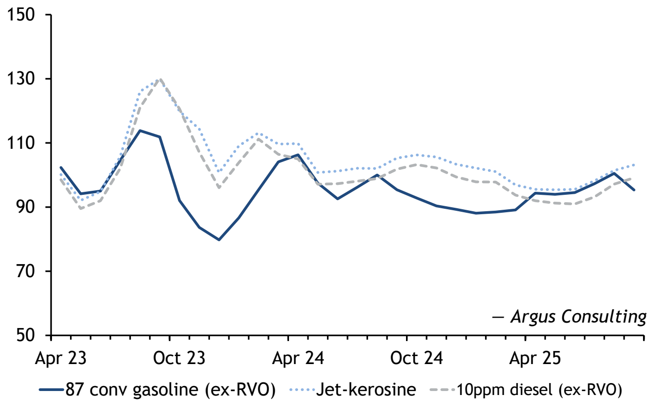
Diesel cracks weakened in the US in July, with the impact of supply disruption proving less severe than we expected and demand continuing to struggle in the face of macroeconomic headwinds. US diesel inventories have been stable in recent months, reflecting robust production, reduced exports to Latin America and a growing market share at home for renewable diesel and biodiesel. Demand is also likely to have fallen in July as the manufacturing sector continues to bear the brunt of high inflation. With stable domestic output and struggling demand, the US is set to be well supplied and cracks are likely to remain capped in the coming months.

On the US Gulf coast, the jet fuel crack fell by $0.55/bl to $20.49/bl, reflecting robust production and higher imports. Recent data shows jet fuel stocks surpassing 47mn bl, up by 6mn bl on the year. Air traffic is likely to start tapering down over August, with jet fuel consumption being met from stocks instead of imports from Asia-Pacific.

North America fuel demand *mn b/d*



North America (USGC) fuel prices *$/bl*



SOUTH AMERICA

Regulation

Argentina increases biofuel prices

Argentina's government on 7 August increased the price of biofuels used for blending. The price of sugarcane-based ethanol rose 1.5pc to 645 pesos/litre ($0.69/l) and the price of corn-based ethanol rose 1.37pc to Ps590/l. The price for soybean oil-based biodiesel was raised by 1.5pc to Ps965,555/t.

Brazil clears B24 bunker fuel blend

Brazil's oil regulator ANP has authorised the sale of bunker fuel oil with a biodiesel content of up to 24pc, following a testing period using blends between 10pc and 24pc from September 2022 until January 2024. Bunker association Abrabunker estimates the new blending mandate could call on an additional 980mn l of biodiesel.

Cbios compliance to influence domestic ethanol prices

The repeated failure of small-scale distributors to meet the Cbios credit acquisition targets established under Brazil's national biofuel policy Renovabio could hinder the domestic fuel distribution market's competitiveness and skew retail fuel and biofuel prices. A Cbio generated from biofuel sales represents 1t of CO_2 avoided, and the goals are achieved through the obligatory purchase of Cbios from biofuel producers.

It has been reported that some regional non-compliant fuel distributors have increased their fuel market share in the first half of the year, unlike larger competitors that complied with government-set targets and saw their portions shrink.

Regional distributors have challenged the policy in recent years and obtained injunctions relieving them of Renovabio obligations, and the legal cover for non-compliance has increased the number of defaulting companies. On the other hand, large distributors and other compliant fuel sellers claim that retail prices that reflect Cbio acquisition costs put them at a competitive disadvantage.

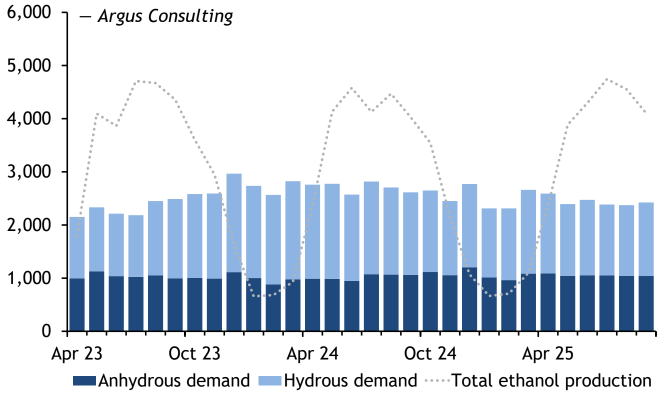
Demand

Ethanol

Parity to average 65pc over August in Brazil

Brazilian domestic ethanol sales rose 16pc on the year in June, totalling 2.6bn l. A strong performance of hydrous ethanol at the pump led sales to climb 38pc on the year in June as prices remained favourable in relation to gasoline. Total E100 sales totalled 1.6bn l over the month, up from 1.2bn l recorded in the same period last year. But the biggest year-on-year increases to E100 came in the south and north regions, where sales rose by 86pc to 134mn l and 83pc to 37mn l, respectively. Sales in the northeast region were also up by 59pc and sales in the central-west region rose 37pc.

Brazilian ethanol demand *mn litres*



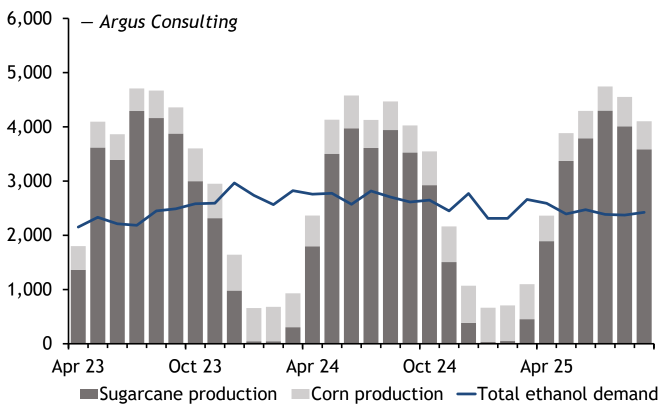
Increasing price pressure is expected to contribute to falling gasoline sales across August, following the news that state-run Petrobras would raise wholesale gasoline prices effective 9 July. The ethanol-gasoline price ratio is expected to average 65pc over August, which will drive a 1pc drop in gasoline sales over the month. Hydrous ethanol sales are forecast to stand at 1.6bn l in August and September, but beyond this, we expect E100 to decline in market share as ethanol supply tightens from a smaller harvest and slowdown in crushing activity.

Slowdown in production to throttle demand

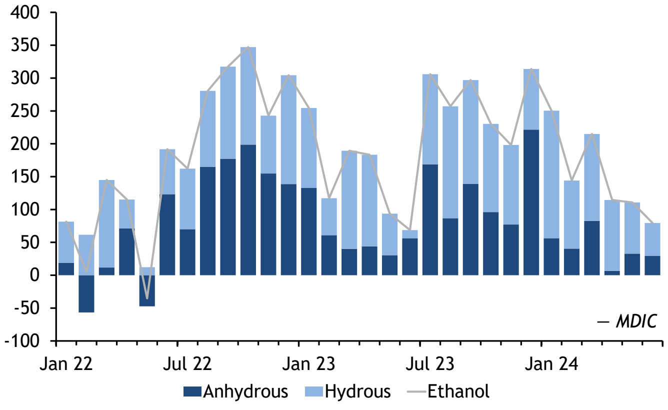
Heated demand for hydrous ethanol at the pumps has also helped boost Brazil's ethanol output. In the second half of June, ethanol output in the centre-south rose by 18pc from the same period last year owing to an earlier start to crop activities and higher sugarcane crushing that was driven by a strong demand for E100. The region produced 2.3bn l of ethanol over 16-30 June, but more recently, rains have reduced crushing activity, leading output to fall to 2.1bn l over 1-15 July.

The earlier start to crop activity this marketing year also drove an increase in the sugar mix, with the share of sugar in the

Brazilian ethanol production *mn litres*



Brazilian net ethanol exports *mn litres*



centre-south region reaching 50pc across April-June. Mills produced 16pc more sugar in the second quarter of this year compared with the same period in 2023, and sugar production rose by 20pc on the year in late June.

A slowdown in crushing activities, stronger sugar mix as well as a smaller projected harvest will pressure supply towards the end of the year. Although we forecast ethanol production to reach 4.5bn l in August, output is then expected to fall month on month across the remainder of the marketing year (MY). Brazil's centre-south output for the 24-25 MY is projected at 32.95bn l, a 3pc fall from the previous harvest. A much greater volume of sales over the beginning of this crop, compared with the last one, makes it unlikely that production will be able to keep up with the aggressive demand for hydrous ethanol at the pumps, and we therefore expect demand will need to reduce later this year.

Reduced rainfall may hurt 25-26 MY crop

Reduced rainfall forecasts into October across Brazil's centre-south are expected to hamper the 2025-26 MY sugarcane crop yields. Temperatures are expected to remain high, while rains are forecast to be sparse until the second half of October. Only after that period, when the La Nina weather phenomenon begins, is rainfall expected to pick up. The drier pattern could hinder recovery of harvested acreage for the next cycle, and based on the weather forecast, next year's crop is expected to be poorer than the current one.

Tightening supply may reduce net exports

Brazilian net ethanol exports increased 16pc on the year in June. Exports rose to 79.6mn l from 68.8mn l, whereas imports tripled on the year. The US was the largest receiver of shipments, at 35.7pc, followed by South Korea with 31.2pc. Brazil imported 152,000 l of ethanol in June, with almost all imports coming from the US. A tight balance of ethanol in Brazil, following strong demand and limited production, may reduce Brazil's net trade position across the remainder of the year and into the sugarcane interharvest period.

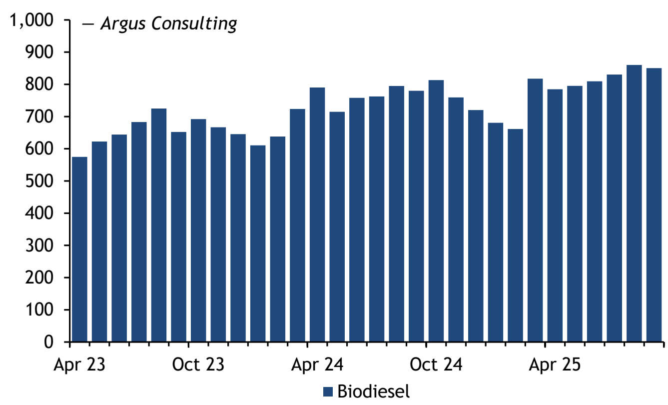
Biodiesel

Brazilian blending recovers to 13.7pc

Biodiesel blending in Brazil climbed to 13.7pc in June following three months of blending 1-2 percentage points below the 14pc mandate that entered into force in March. Sales of biodiesel stood at 758mn l, a 6pc increase on the month and 18pc increase on the year. Growing biodiesel demand in Brazil has been the result of the government's increase to the biodiesel blend mandate in March from 12pc to 14pc.

Biodiesel sales are expected to continue rising, reaching 795mn l in August and 813mn l in October. Diesel demand typically peaks in August-October, but we are also expecting additional support from supply resulting from a temporary shift in distributor logistics. Particularly in the north region, lower water levels in the Amazon basin have prompted higher usage of diesel trucks, despite increasing logistics costs.

Brazilian biodiesel demand *mn litres*

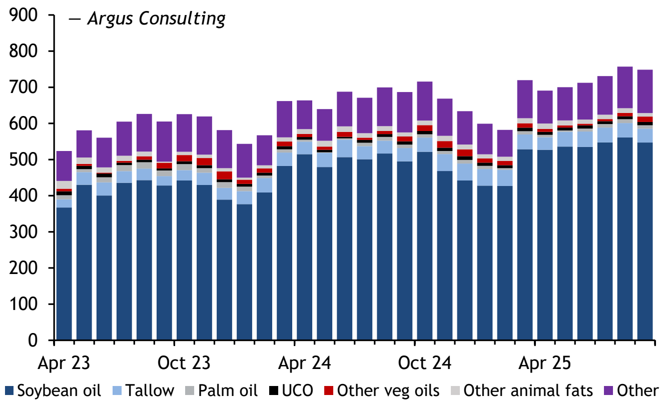


Tallow demand hits three-year high

Soybean oil demand in Brazil rose to 507,000t in June, 6pc up from May. But shares of the feedstock dropped below 73.7pc, from 75pc in May, on the back off a shortage of soybean oil in the Brazilian market. Stronger biodiesel demand from the March increase in the blend mandate has catapulted demand for the vegetable oil, but also pressured prices and limited export availability. Limited supply of soybean oil across June prompted biodiesel producers in the south to prioritise volumes under bimonthly contracts with fuel retailers as well as to shift their feedstock mix to use a greater share of tallow.

Tallow demand rose to 48,000t in June, a 23pc increase on the month, and the highest value since January 2021. Preliminary trade data for June also indicates a decrease in exports of the feedstock across the month, amid a record three-year uptick in domestic demand. We expect soybean oil to remain above a 70pc share of feedstocks, but we forecast a slight shift by biodiesel producers to using a greater share of tallow, palm and used cooking oil.

Brazilian biodiesel feedstock demand *'000t*



Brazilian biofuel demand outlook											
Product	**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**	**3Q24**	**4Q24**	**1Q25**	**2Q25**	**3Q25**
Ethanol demand											*mn litres*
Anhydrous ethanol	989	984	949	1,074	1,067	1,062	3,203	3,376	3,060	3,185	3,138
Hydrous demand	1,770	1,790	1,624	1,744	1,640	1,552	4,936	4,495	4,225	4,271	4,044
Ethanol demand	2,758	2,775	2,573	2,818	2,707	2,614	8,139	7,871	7,285	7,456	7,182
Ethanol production											*mn litres*
Sugarcane ethanol	1,795	3,502	3,972	3,613	3,942	3,525	11,079	4,817	535	9,048	11,887
Corn ethanol	569	631	606	515	526	502	1,543	1,968	1,937	1,496	1,515
Ethanol production	2,364	4,133	4,578	4,127	4,468	4,027	12,622	6,785	2,471	10,544	13,402
Biodiesel demand											*mn litres*
Biodiesel demand	790	715	758	762	795	780	2,337	2,293	2,160	2,389	2,541
Feedstock demand											*'000t*
Soybean oil	515	479	507	501	517	495	1,512	1,432	1,383	1,598	1,656
Tallow	35	39	48	36	36	37	109	133	131	118	119
Palm oil	5	1	3	9	10	10	29	28	23	19	30
UCO	7	7	4	8	8	9	25	29	27	25	25
Other vegetable oils	9	9	14	6	9	14	28	53	36	18	30
Other animal fats	13	16	15	12	13	11	37	41	37	41	35
Other	79	88	96	98	107	112	317	303	265	284	342
Total	**664**	**640**	**688**	**671**	**700**	**687**	**2,057**	**2,018**	**1,901**	**2,103**	**2,237**

Anhydrous ethanol: free of water and at least 99pc pure, and used in gasoline blends, currently set at 27pc. Anhydrous fuel meets all the requirements of the ASTM D4806. Hydrous ethanol: contains water and has a purity of 96pc. Can be used in Brazil as a 100pc gasoline substitute in flex-fuel vehicles.

Prices

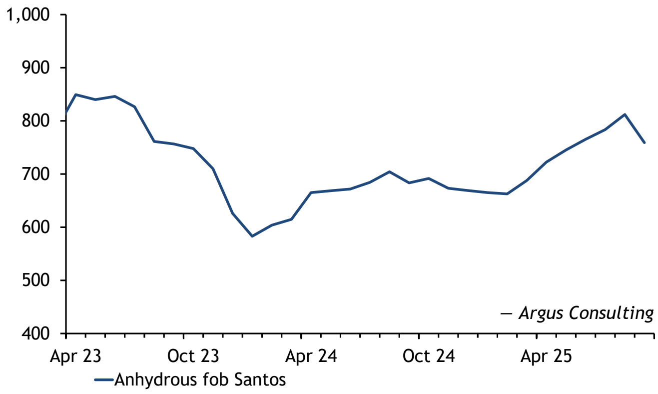
Ethanol

Exchange rate weighs on July prices in Brazil

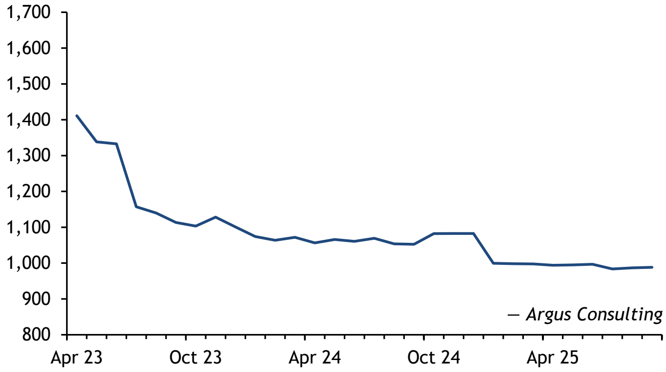
A stronger US dollar relative to the Brazilian real weighed on prices for anhydrous ethanol fob Santos in the first half of July. Values fell to $656/t on 3 July but went on to average $684/t in the month, amid a recovery of the real relative to the US dollar and stronger bids from California. We expect prices will head in a bullish direction over the remainder of August as gasoline prices trend upwards and as the strength of the Brazilian real against the dollar improves. Prices in September are forecast to come back down from August, at $704/t, mirroring a fall in gasoline and US ethanol Carson prices.

Beyond this and heading into 2025, a narrowing of a negative D5-D6 spread should help to support prices and increase bids from California. The spread has been negative since April, suppressing the attractiveness of Brazilian sugarcane ethanol, but we forecast the spread will return to positive territory by the middle of next year.

Brazilian ethanol prices *$/t*



Argentina biodiesel prices *$/t*



Biodiesel

Argentinian export flows to Europe resume

Following no reported trade across the first quarter of this year, flows of Argentinian soybean oil methyl ester (SME) to Europe have resumed, with 61,000t, 75,000t and 30,000t of product exported to in April, May and June, respectively. The influx of Argentinian biodiesel to Europe also helped to drive down European biodiesel prices, oversupplying an already weak demand market.

SME fob Upriver prices rose to an average of $1,069/t in July. Indications across the first week of August showed Argentinian SME prices returning to a premium above fob Amsterdam-Rotterdam-Antwerp prices for the first time since the beginning of the year. But the premium was short-lived and had gone by 6 August. We expect prices will fall to an average of $1,054/t across August. We maintain our view that any news surrounding the status of the EU's five-year minimum import price deal with Argentina will be released around October, which could offer price support.

South American biofuel price outlook

Product	Apr 24	May 24	Jun 24	Jul 24	Aug 24	Sep 24	3Q24	4Q24	1Q25	2Q25	3Q25
Brazilian ethanol											$/t
Anhydrous fob Santos	665	669	672	684	704	683	691	678	672	744	785
Argentinian biodiesel											$/t
SME Argentina fob Upriver	1,056	1,066	1,061	1,069	1,054	1,053	1,058	1,082	999	995	986

ASIA-PACIFIC

Regulation

China concerned over EU's biofuels ADD

The Chinese government said on 25 July it is concerned about provisional EU anti-dumping duties (ADD) on its biofuels imports and urges the bloc to avoid protectionist measures.

Many Chinese market participants said the provisional ADD were higher than expected, and have been weighing options in the week since the announcement. Most producers hope to negotiate with buyers to share the ADD cost between both parties in future contracts, although some biodiesel producers said they hope to pass the whole additional cost onto buyers as they are already offering close to cost price.

China's biodiesel blending pilot progresses

Chinese state-owned Sinopec's subsidiary Qingdao New Energy has signed strategic agreements with 10 Chinese biodiesel firms to jointly develop low-carbon marine fuels, as part of Sinopec's efforts to support the National Energy Administration's biodiesel pilot programme launched last year.

The companies are located in regions that align closely with the coastal domestic trade and bonded ship refuelling service areas managed by Qingdao New Energy, with a combined 2.75 mn t/yr of biodiesel production capacity, accounting for 69pc of the country's biodiesel capacity. The agreements involve the 10 biodiesel producers supplying biodiesel for marine fuel blending, which Sinopec will purchase to meet domestic and international demand.

Export taxes rise on higher palm oil costs

Malaysia's crude palm oil (CPO) reference price used to set export duty rose to 3,880.86 ringgit/t ($823/t) in August, down from July's 3,839.63 ringgit/t, keeping export duties flat at 8pc.

Indonesia's August CPO reference price was set at $820.11/t, up from $800.75/t in July, but this increase was insufficient to trigger a higher band of palm oil export duties and levies.

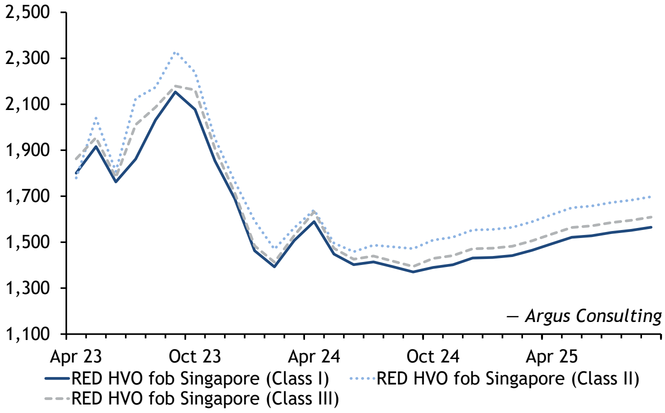
Prices

HVO and SAF

HVO prices benefit from falling gasoil

Hydrotreated vegetable oil (HVO) fob Singapore prices rose in July across all grades, tracking a slight rise in European prices, but also benefitting from a fall in freight rates to Europe, which were at their lowest level this year. HVO Class II rose 2.0pc on the month to $1,487/t, and average prices for Class I and Class III were up 0.8pc and 1.0pc, respectively. HVO prices are forecast to weaken further the rest of the quarter but should hold some support as European prices rise in the fourth quarter.

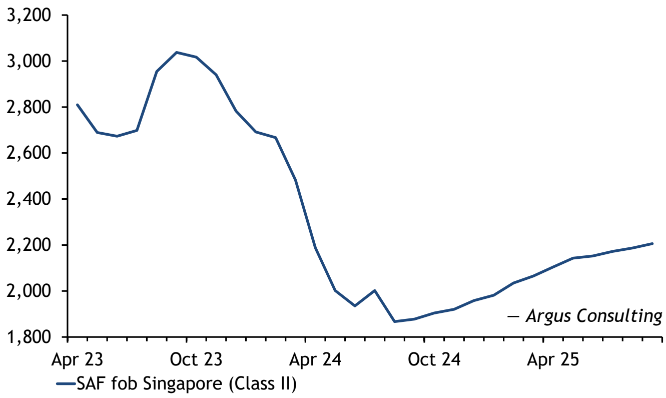
Asia-Pacific HVO prices $/t



SAF prices briefly recover

Sustainable aviation fuel (SAF) fob Singapore prices averaged $2,002/t in July, up 3.4pc on the month and flat on May. But this was mostly on the back of SAF prices rising through June after a sharp drop towards the end of May. Prices had returned to $2,135/t by 5 July, but the recovery was short-lived and prices weakened over the rest of the month, and were around $300/t lower by early August. We expect SAF fob Singapore prices will average $1,896/t in August, down 6.7pc on the month as demand remains weak against high supply availability in the European market.

Asia-Pacific SAF prices $/t



Biodiesel

Anti-dumping duties pressure Ucome price forecast

Used cooking oil methyl ester (Ucome) fob China averaged $1,000/t in July, unchanged for a third consecutive month, amid thin liquidity as traders focused on the pre-disclosure of anti-dumping duties from the European Commission's investigation into China-origin biodiesel and HVO. The duties, ranging from 12.8pc to 36.4pc on individual companies, with 23.7pc being the lowest applied to a biodiesel producer, would make importing China-origin biodiesel uncompetitive against domestic European product in the short term, given current prices.

Our analysis suggests European biodiesel and HVO demand will be met in the short term, and so a sharp fall in biodiesel imports from China is unlikely to support higher prices.

We expect Ucome fob China prices will average $1,000/t for a fourth month in August as discussions continue around the outcome of the investigation. With the duties in place, imports into Europe would only be a viable option if Amsterdam-Rotterdam-Antwerp (ARA) prices were above $1,450/t. As Europe will likely remain the primary market for China's biodiesel exports, we have revised our Ucome fob China price forecast to the maximum viable prices at which importing the product would match Ucome fob ARA prices, considering expected shipping costs and an anti-dumping duty of 23.7pc. This leads to a drop in prices to $904/t in September, and prices are expected to remain weak through the fourth quarter, before rising through the first half of 2025 when European demand will support higher price levels.

Chinese producers have reported that $1,000/t is already the lowest they can offer, considering feedstock and production costs. It is therefore possible that prices may hold close to the $1,000/t mark, if either European prices rise beyond the $1,450/t mark and trade resumes at this level, or market dynamics shift in favour of supplying new markets with different price drivers.

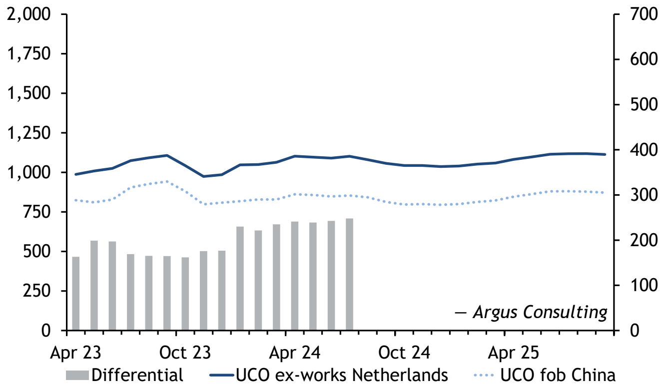
Feedstocks

UCO prices to decline on weaker biodiesel demand

UCO fob China prices averaged $853/t in July, up 0.7pc on the previous month, supported by a slight rally in European biodiesel and US feedstock markets. But weak product demand in Europe is pressuring Ucome prices, lowering what biofuel producers are willing to pay for the feedstock. Despite the US purchasing a higher volume of Chinese UCO this year, European market dynamics continue to be the significant driver in the UCO fob China price.

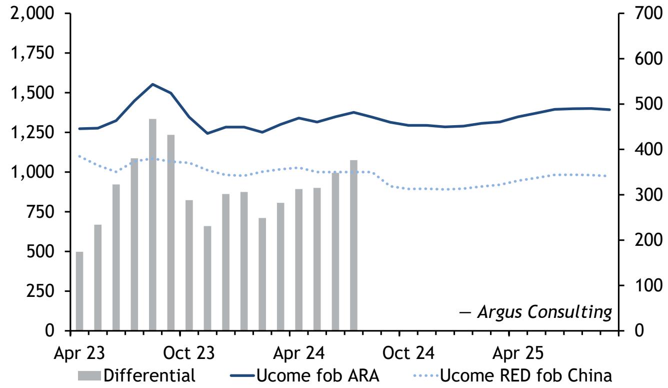
Despite the inclusion of UCO CN codes in the list of products subject to anti-dumping duties, many participants believe this will not affect prices as there was no indication from the Commission that UCO was originally part of the investigation, and the product could potentially still be traded on alternative codes.

UCO prices $/t



Asia-Pacific biofuel price outlook											$/t
Product	**Apr 24**	**May 24**	**Jun 24**	**Jul 24**	**Aug 24**	**Sep 24**	**3Q24**	**4Q24**	**1Q25**	**2Q25**	**3Q25**
Biodiesel											
RED Ucome fob China	1,028	1,000	1,000	1,000	1,000	910	970	893	908	964	979
HVO											
HVO Class I fob Singapore	1,589	1,448	1,402	1,414	1,392	1,370	1,392	1,407	1,446	1,514	1,553
HVO Class II fob Singapore	1,640	1,496	1,458	1,487	1,480	1,472	1,479	1,528	1,570	1,642	1,684
HVO Class III fob Singapore	1,632	1,473	1,426	1,440	1,417	1,394	1,417	1,447	1,487	1,557	1,596
SAF											
SAF Class II fob Singapore	2,189	2,002	1,935	2,002	1,867	1,878	1,916	1,928	2,027	2,133	2,188
Feedstock											
UCO fob China	861	857	848	853	842	813	836	797	812	863	877

Ucome prices $/t



We expect UCO fob China prices will fall over the coming months, reaching $797/t in October, where prices will hold for the rest of the year. Higher blending targets next year will prompt higher European demand for feedstocks, especially as the duties will drive up the cost of importing Ucome and HVO in favour of domestic production, supporting a rise in UCO fob China prices to $880/t by the summer 2025.

Trade

Biodiesel and UCO

Chinese biodiesel exports lowest since November 2020

China's biodiesel exports fell to 57,000t in June, down 40pc on the month and the lowest monthly total since November 2020, driven by a sharp decline in exports to Europe. Trade discussions were muted by the expected release of the European Commission's provisional antidumping duties, originally set to be announced on 28 June but later delayed to 19 July. The Netherlands was the largest buyer at 36,000t, followed by 6,500t to Singapore and 5,500t to Malaysia.

UCO exports to US hit record high

China's June UCO exports fell 1.8pc to 320,000t, but still the second-highest monthly export volume to date after exports surpassed 300,000t for the first time in May. The US was the largest destination, up 20pc on the previous month to 144,800t, an all-time high, up just 500t from December 2023.

This sharp rise in monthly exports to the US and the new record high were not surprising as a workable arbitrage for UCO exporters returned in late May. The spread between UCO del USGC and UCO fob China averaged $50/t over December-April, with UCO del USGC holding both a premium and discount to the UCO fob China price. But UCO del USGC prices firmed up in mid-May, and by the start of June, prices held a $120/t premium to fob China, which widened to $148/t by the start of July. Exports are likely to have risen further in July as the spread between the two prices rose to a peak of $187/t, the highest since October 2023.

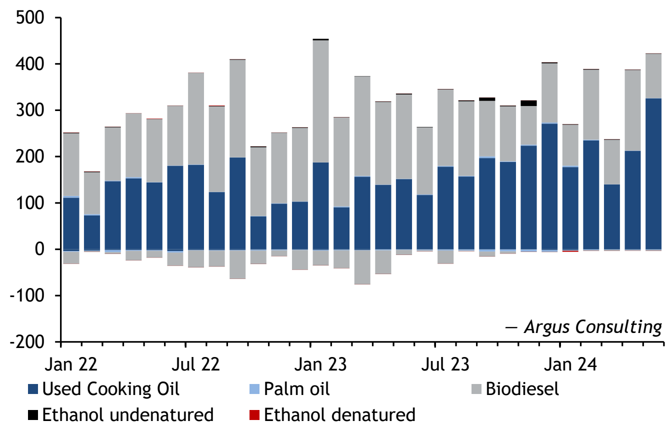
Palm oil

Palm oil stocks rise on falling exports

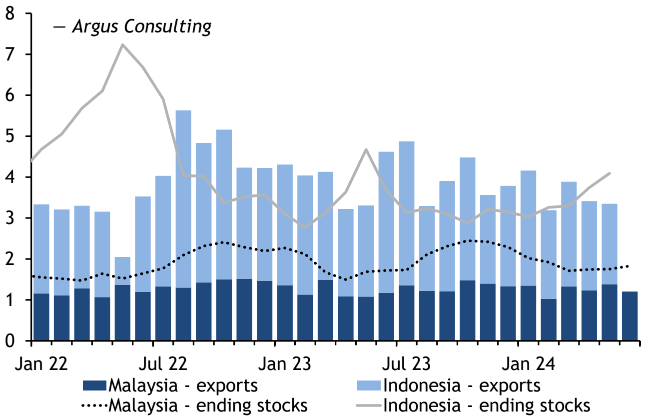
Malaysian palm oil inventories at the end of June were up 4.3pc on the month to 1.83mn t as a fall in CPO stocks was offset by a rise in stocks of processed palm products. CPO production was down 5.2pc and palm oil exports fell 13pc to 1.20mn t, likely in response to a sharp rise in prices in May that would have limited bookings until prices retreated in June.

High palm oil prices in May also weighed on Indonesia's exports, which fell 9.7pc to 1.97mn t, the lowest monthly export volume since May 2022, when Indonesia temporarily banned the export of palm oil to control domestic food prices. On the back of the sharp decline in exports and the start of the peak harvest season, Indonesia's ending stocks rose 9.4pc to 4.09mn t in May, the highest since May 2023.

China biofuels and feedstock trade '000t



Asia-Pacific palm oil trade mn t



GLOBAL SUPPLY

Europe

Shell has announced it has temporarily halted construction of its 820,000 t/yr waste-based HVO and SAF facility in Rotterdam, Netherlands, to "address project delivery and ensure future competitiveness given current market conditions". Shell later stated it expects the value of the facility has fallen by up to $1bn.

Swiss refiner Varo and trading firm Gunvor have entered a 50:50 partnership to develop a 245,000 t/yr SAF plant at Gunvor's unused 80,000 b/d Rotterdam oil refinery. The facility is expected to have full flexibility to switch between SAF or HVO production, a total feedstock capacity of 350,000 t/yr, and an expected cost of $600mn.

Dutch LPG distributor SHV Energy and fellow European LPG distributor UGI International intend to dissolve their Netherlands-based joint venture, Dimeta. The company had been aiming to produce 300,000 t/yr of renewable dimethyl ether (rDME) by 2027 from six new plants in Europe and the US using agricultural residues, municipal solid waste or sewage sludge as feedstocks. The first 50,000 t/yr plant was scheduled to come on line this year at the Teesworks freeport in northeast England.

Several regular HVO and SAF procurement agreements were announced in July:

- Eni has started supplying waste-based HVO100 to Italian transport company Itabus in over 85 Italian cities.
- Spain's Cepsa has started suppling HVO100 to cleaning and personal care product developer Persan for its supply chain deliveries.
- TotalEnergies has signed an agreement with Vinci Airports to provide UCO-based SAF at Mont-Blanc airport in Annecy, France.
- Neste has agreed it will supply SAF to refiner Helleniq Energy's facilities in Thessaloniki, Greece, for distribution across airports throughout Greece.
- Neste have also agreed it supply SAF to Swiss travel group Hotelplan Group. The companies stated that the SAF will cost 300,000 Swiss francs ($333,000).
- Repsol has agreed to supply International Airlines Group (IAG) with 28,000t of SAF, which will be supplied to IAG's carriers refuelling at Spanish airports.
- Repsol has agreed it will supply 6.1mn l of UCO-based SAF to Spanish airline Volotea between 2025 and 2029.

North America

US refiner Countrymark has announced it will start producing co-processed RD at its 35,000 b/d refinery in Mount Vernon, Indiana, by summer 2025. The company aims to produce 1,000-2,000 b/d of co-processed RD from soybean oil.

Cargill has announced its 1mn t/yr canola processing plant in Regina, Saskatchewan, in Canada is halfway completed and will now open in the second half of 2025, a year later than originally planned.

The municipal fleet of North Brunswick, New Jersey, has started to run entirely on RD produced by Neste and supplied by KW Rastall Oil. Neste estimates the city's municipal fleet's diesel demand at about 48,000 USG/yr.

Neste has agreed to supply United Airlines with 1mn USG of SAF at Chicago's O'Hare International Airport by the end of 2024. The SAF will be supplied via pipeline from Oneok's newly commissioned terminal, in an agreement that gives Neste the ability to store up to 100,000t (33.5mn USG) of SAF and to use Oneok's pipeline network to supply the fuel to airports east of the Rocky Mountains, the Midwest and Gulf coast.

JetBlue and World Fuel have entered an agreement to supply 3.3mn USG of a 30pc SAF blend to JFK International Airport in New York City. The SAF will be produced by Diamond Green Diesel and the agreement carries an option to supply an additional 4mn USG of blended SAF across a 12-month contract.

Central America

Panama's government has approved SGP Bioenergy's project to construct a $10bn biofuels facility. The project is now waiting a final investment decision, expected to be reached by year end. The plant will be developed in three phases of 60,000 b/d each, with the first phase expected to be completed in the first quarter of 2027, and the following phases within 15-18 months later, reaching a final capacity of 180,000 b/d by 2030.

South America

Brazilian mining company Vale and industrial equipment manufacturers Komatsu and Cummins announced the development of heavy-duty trucks that will run on an ethanol-diesel blend of up to 70pc ethanol.

Brazilian sugar and ethanol trader Copersucar and GEO Biogas have created a 50:50 joint venture to build a 200,000 litres/yr pilot SAF plant using biogas and Fischer-Tropsch technology. The plant is expected to be operational from 2025.

Asia-Pacific

Oceania Biofuels has withdrawn its proposal for a 350mn litres/yr HVO and SAF plant in Yarwun on the eastern coast of Queensland, Australia. The company announced plans for the biorefinery in 2022 and construction should have begun in January 2023, with commercial operations to start in 2025.

Eni, Petronas and Euglena have reached a final investment decision (FID) to build a 12,000 b/d biorefinery within state-owned Petronas' Pengerang complex in Johor, Malaysia. Construction will begin in the fourth quarter of this year and is targeted to start operations in the second half of 2028. The plant will have capacity to process about 650,000 t/yr of feedstocks to produce SAF, HVO and bionaphtha from used cooking oil, animal fats, waste from the processing of vegetable oils and other types of biomass including microalgae oils.

Australia's Ampol and the UK's IFM have signed a partnership to assess the feasibility of producing HVO and SAF at the site of Ampol's 109,000 b/d Lytton refinery at the port of Brisbane. The firms have also agreed to work with Australian grain aggregator GrainCorp on the supply of feedstocks, including additional crushing capacity to supply canola oil to the potential plant.

Japan Airlines (JAL) and Japanese refiner Eneos have signed an agreement for Eneos to import SAF and supply it to JAL in order to promote a domestic SAF supply chain in Japan.

Middle East

The Fujairah Oil Industry Zone (FOIZ) has allocated 54,000m² of land for the construction of a biofuel processing plant as part of the expansion of its terminal in Fujairah, UAE.

Argus *Biofuels Outlook* is published by Argus Media group

Registered office
Lacon House, 84 Theobald's Road,
London, WC1X 8NL
Tel: +44 20 7780 4200

ISSN: 2752-6976

Publisher
Adrian Binks

Global compliance officer
Vladas Stankevicius

Chief commercial officer
Jo Loudiadis

President, Oil
Euan Craik

SVP Consulting services
Lloyd Thomas

Head of forecasting
Francis Osborne

Editor
Fabricio Cardoso
Tel: +44 20 7780 4200
biofuels@argusmedia.com

Customer support and sales:

support@argusmedia.com
sales@argusmedia.com

London, Tel: +44 20 7780 4200
Houston, Tel: +1 713 968 0000
Singapore, Tel: +65 6496 9966