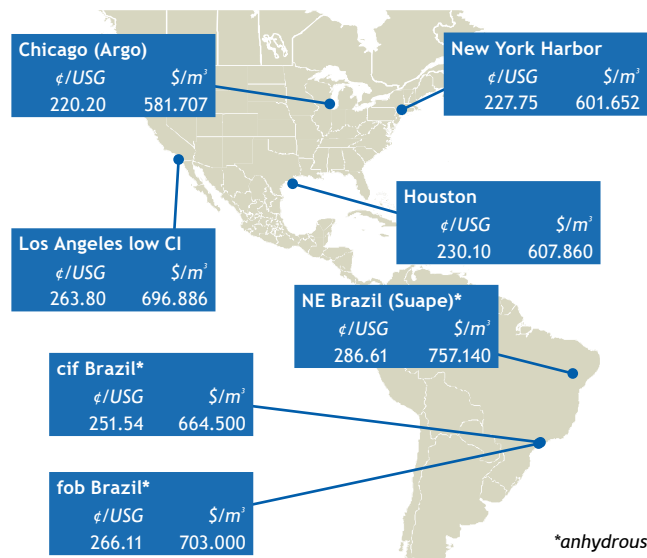


OVERVIEW

- Physical ethanol prices in Chicago and New York Harbor strengthened in tandem with higher corn futures and support from bullish supply figures.
- RIN credit prices rose early before softening after midday, nudging up the Argus Renewable Volume Obligation.
- Differentials for FAME biodiesel in California strengthened with higher offers on Wednesday, as California Low-Carbon Fuel Standard (LCFS) credits extended their declines.

Americas ethanol prices



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PRICE SUMMARY

Ethanol				
	€/USG	±	\$/m³	±
Chicago (Argo)	220.200	+1.925	581.707	+5.090
New York Harbor	227.750	+3.000	601.652	+7.930
fob Brazil anhydrous	266.114	+2.840	703.000	+7.500
Los Angeles low CI	263.800	nc	696.886	nc
Cbot ethanol	232.00	nc	612.879	nc

RINs				
	Timing	Price	±	Less 2020
Renewable fuel (ethanol D6)	2021	149.000	nc	-1.000
Biomass-based diesel (D4)	2021	163.500	nc	-3.500
Advanced biofuel (D5)	2021	162.500	+2.000	-2.500
RVO €/USG	2021	18.15	+0.010	-0.190

Biodiesel		
	Price	±
SME New York Harbor B100 €/USG	548.100	-4.090
SME Houston fob B100 €/USG	565.850	-4.090
SME Chicago fob B100 €/USG	569.600	-4.090
SME fob Argentina upriver \$/t	1377.650	+1.775
Cbot soybean oil €/lb	66.63	nc

Biofuel spreads		
	Spread	±
Ethanol crush spread \$/bushel	-0.33	-0.06
Heating oil/soybean oil spread €/USG	-2.85	-0.04
Houston less Chicago ethanol €/USG	+9.900	-0.000
New York Harbor less Chicago ethanol €/USG	+7.550	+1.075
Los Angeles less Chicago ethanol €/USG	+43.600	-1.925
Los Angeles less Nebraska ethanol €/USG	+65.700	-0.000
Rule 11 less Nebraska ethanol €/USG	+17.400	+1.000

Key California carbon prices			
	Vintage	Price	±
Credits \$/t			
California carbon allowances (CCA)	2021	23.460	-0.090
Low-carbon fuel standard (LCFS)		177.000	-0.50
Price per gallon €/USG			
CCA price for regular Carbob	2021	18.600	-0.100
LCFS price for regular Carbob		19.190	-0.060

*Tables include hyperlinks to those values maintained in the Argus database.

Ethanol deals done			
Market	Timing	Price ¢/USG	Volume '000 bl
Chicago Argo	19-29 Jul	219.90	5
	19-29 Jul	219.90	5
	19-29 Jul	219.90	5
	19-29 Jul	219.90	5
	19-29 Jul	219.90	5
	19-29 Jul	219.95	5

US ETHANOL

Physical ethanol prices in Chicago and New York Harbor strengthened in tandem with higher corn futures and support from bullish supply figures.

Front month CBOT corn futures rose by 6¢/bushel to settle at 683¢/bushel, while the September contract rose by 17¢/bushel to 568.25¢/bushel.

Ethanol inventories for the week ended 9 July were at 21.1mn bl, down week on week by 0.1pc, according to the Energy Information Administration. Domestic ethanol production fell from the week prior by 2.4pc to 1.04mn b/d.

Chicago Rule 11 railcars with timing for the current week traded at 215.5¢/USG, firming by 1¢/USG.

Prompt in-tank transfers at Kinder Morgan's Argo terminal exchanged hands narrowly between 219.9¢/USG and 220.5¢/USG, increasing by 1.92¢/USG to 220.2¢/USG.

Front-month barges at New York Harbor rose by 3¢/USG to 227.75¢/USG, while the barge/paper spread was valued at +5¢/USG.

Washington railcars shipping this week were offered at 236.5¢/USG, but bids failed to surface.

Ethanol			
	Low	High	±
Chicago			
Argo same-day ¢/USG	219.90	220.50	+1.93
Argo prompt ¢/USG	219.90	220.50	+1.93
Weighted average		219.91	
Argo any Jul ¢/USG	218.90	219.50	+4.43
Rule 11 prompt ¢/USG	215.25	215.75	+1.00
New York			
Any Jul ¢/USG	226.50	229.00	+3.00
US Gulf coast/south			
Houston ¢/USG	229.30	230.90	+1.92
Tampa ¢/USG	237.15	238.25	+1.93
Atlanta ¢/USG	228.15	230.25	+1.93
Dallas ¢/USG	224.30	226.90	+1.92
Nebraska			
Union Pacific ¢/USG	197.85	198.35	nc
Burlington Northern ¢/USG	196.85	197.35	nc
US west coast			
Los Angeles low CI ¢/USG	263.30	264.30	nc
Washington			
Burlington Northern ¢/USG	232.75	233.25	nc
Brazil			
fob anhydrous \$/m ³	689.00	717.00	+7.50
fob anhydrous BRL/m ³	3504.12	3646.52	-13.60
cif anhydrous \$/m ³	658.00	671.00	+11.50
cif anhydrous BRL/m ³	3346.46	3412.57	+9.91
Asia			
cfr Asia South Korea B grade \$/m ³	740.00	760.00	nc

Ethanol forward curves			¢/USG
	Chicago, low-high	New York, low-high	
Month 1	218.90-219.50 Jul	226.50-229.00 Jul	
Month 2	214.40-215.00 Aug	223.50-226.00 Aug	
Month 3	207.90-208.50 Sep	218.50-221.00 Sep	
Month 4	201.40-202.00 Oct	209.50-212.00 Oct	

Related markets				¢/USG
	Low	High	±	
Nymex Rbob settlement, Aug		229.35	-2.48	
Nymex Rbob crack spread, Aug \$/bl		+23.20	+1.08	

Current month-to-date averages, Jul		Averages
Chicago (Argo) prompt ¢/USG		225.53
New York Harbor prompt ¢/USG		229.74
Los Angeles low CI ¢/USG		269.31
fob Brazil anhydrous \$/m ³		698.12
cif Brazil anhydrous \$/m ³		669.19

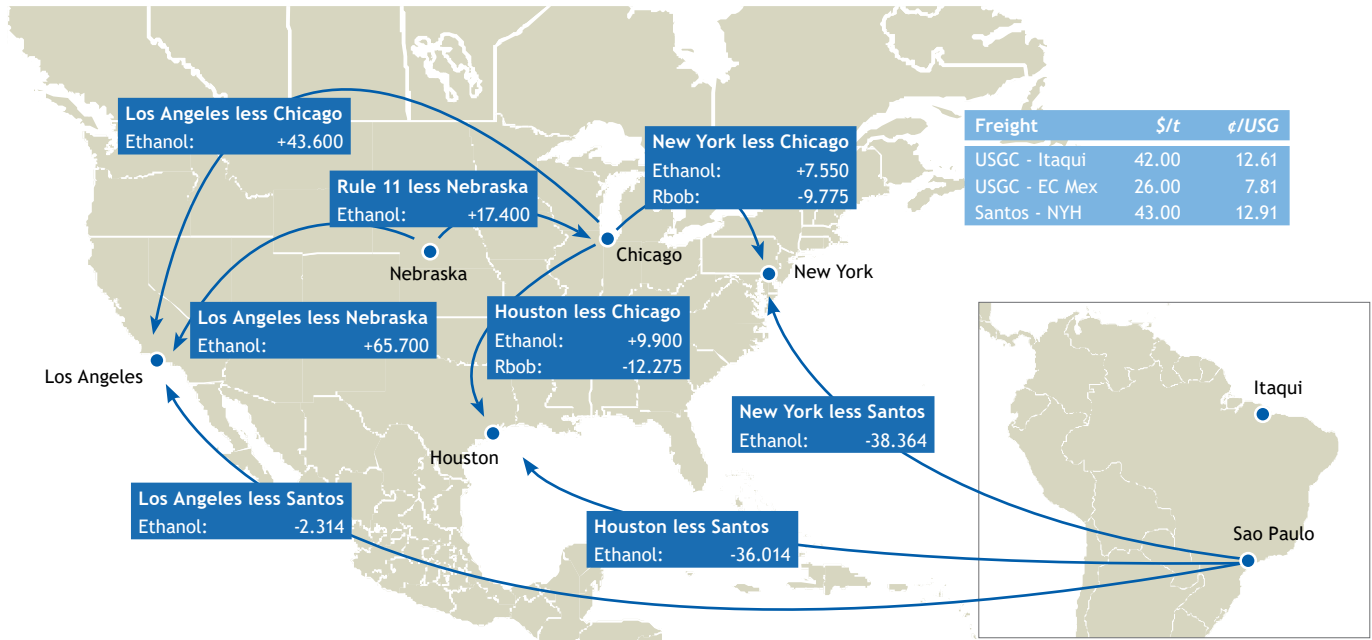
ANNOUNCEMENT

Argus successfully completes annual losco assurance review

Argus has completed the ninth external assurance review of its price benchmarks covering crude oil, products, LPG, petrochemicals, biofuels, thermal coal, coking coal, iron ore, steel, natural gas and biomass benchmarks. The review was carried out by professional services firm PwC. Annual independent, external reviews of oil benchmarks are required by international regulatory group losco's Principles for Oil Price Reporting Agencies, and losco encourages extension of the reviews to non-oil benchmarks. For more information and to download the review visit our website <https://www.argusmedia.com/en/about-us/governance-compliance>

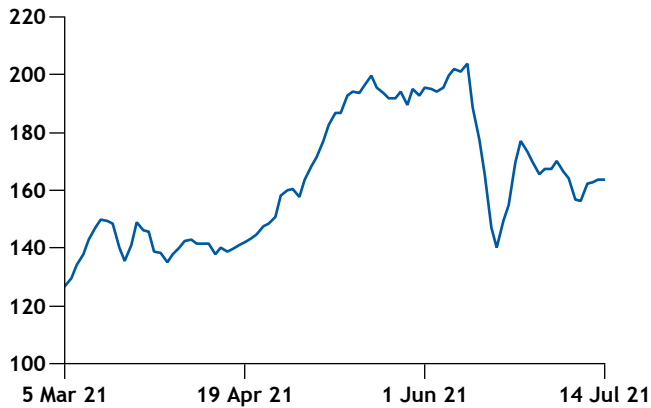
ARGUS MARKET MAP: ETHANOL

¢/USG



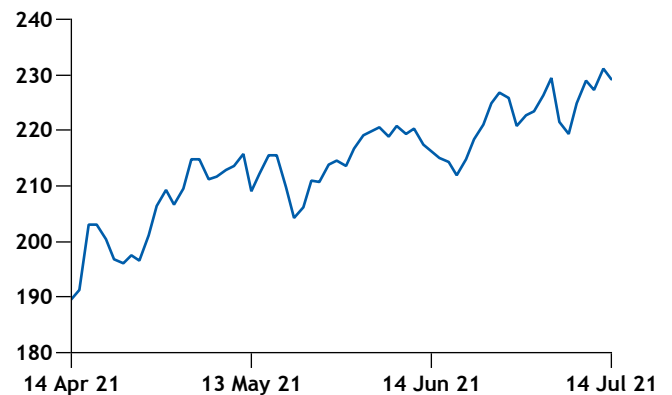
Biodiesel RINs current year

¢/RIN



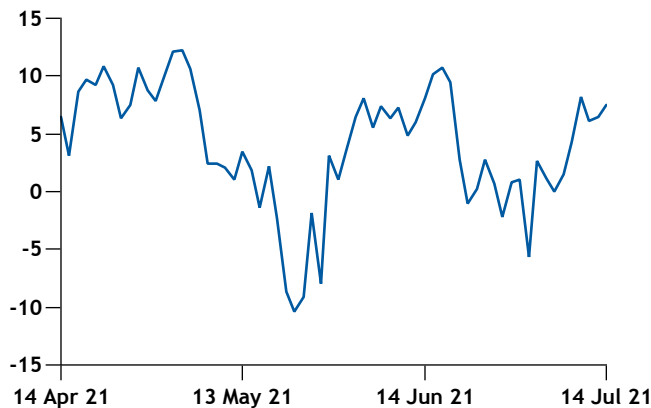
Gasoline regular RBOB NYH barge

¢/USG



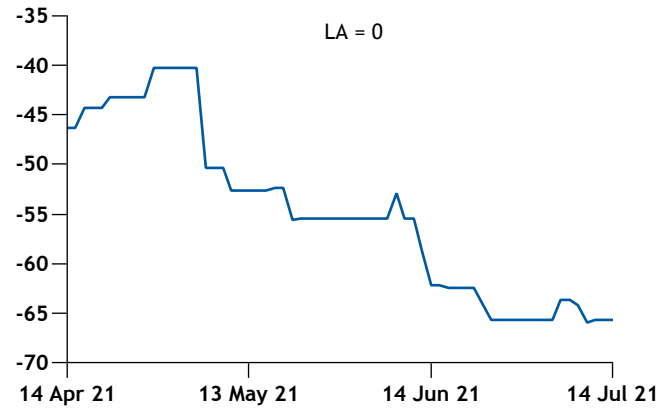
NYH ethanol vs Chicago ethanol

¢/USG



Nebraska UPRR vs LA low CI ethanol

¢/USG



Tier 3 (CCO)		\$/mn USG credits	
	Low	High	±
Standard	700.00	800.00	nc
Benzene credits		¢/USG	
	Low	High	±
CCO	135.00	140.00	nc
Sustainable aviation fuel (SAF)		¢/USG	
	Bid	Ask	±
SAF del US west coast	734.44	736.31	-15.81
RINs deals done			
Market	Timing	Price ¢/RIN	Volume '000 RINs
Biodiesel	2021	164.00	500
	2021	164.00	1500
	2021	164.00	2000
	2021	148.00	250
	2021	148.00	300
Ethanol	2021	148.00	500
	2021	148.00	500
	2021	148.00	500
	2021	148.00	500
	2021	148.00	500
	2021	148.00	500
	2021	148.00	1000
	2021	148.00	1000
	2021	149.00	200
	2021	149.00	700
	2021	149.00	1000
	2021	149.00	2000
	2021	150.00	500
	2021	150.00	500
	2021	150.00	500

RINs		¢/RIN	
	Low	High	±
Renewable fuel (ethanol D6)			
Weighted average, 2021		148.66	
2020	149.00	151.00	nc
2021	148.00	150.00	nc
2022	142.00	144.00	nc
Biomass-based diesel (D4)			
2020	166.50	167.50	nc
2021	163.00	164.00	nc
2022	156.00	157.00	nc
Cellulosic biofuel (D3)			
2020	316.25	316.75	nc
2021	311.75	312.25	nc
Advanced biofuel (D5)			
2020	164.50	165.50	nc
2021	162.00	163.00	+2.00
Renewable Volume Obligation (RVO) ¢/USG			
2020		18.34	nc
2021		18.15	+0.01

RIN spreads		¢/RIN		
	Today	±	Prior day	5-day avg
Category spreads, 2020				
Biodiesel D4-ethanol D6	17.000	nc	17.000	17.050
Biodiesel D4-advanced biofuel D5	2.000	nc	2.000	2.000
Advanced biofuel D5-ethanol D6	15.000	nc	15.000	15.050
Category spreads, 2021				
Biodiesel D4-ethanol D6	14.500	nc	14.500	14.550
Biodiesel D4-advanced biofuel D5	1.000	-2.000	3.000	1.400
Advanced biofuel D5-ethanol D6	13.500	+2.000	11.500	13.150
Vintage spreads, 2020-2021				
Biodiesel D4	3.500	nc	3.500	3.500
Advanced biofuel D5	2.500	-2.000	4.500	2.900
Ethanol D6	1.000	nc	1.000	1.000

RINS

RIN credit prices rose early before softening after midday, nudging up the Argus Renewable Volume Obligation.

The Argus RVO ticked up by 0.01¢/USG to 18.15¢/USG.

Current year ethanol D6 credits traded as high as 150¢/RIN before midday, but gradually fell to trading as low as 148¢/RIN later in the session. The 2021 vintage D6 credits held steady at 149¢/RIN on the day, while the 2022 vintage credits maintained a 6¢ discount to 2021 vintage credits.

Biomass-based diesel D4 credits traded as high as 164¢/RIN before bids and offers crossed at 163¢/RIN later in the session. The 2021 vintage D4 credits were unchanged at 163.5¢/RIN, while the 2022 vintage credits followed suit, maintaining a 7¢ discount.

The 2021 vintage advanced biofuel D5 RIN credits rose by 2¢/RIN to 162.5¢/RIN, as the D4/D5 spread was valued at 1¢, which was 2¢ narrower than the prior day.

CALIFORNIA CARBON

California Low Carbon Fuel Standard (LCFS) credits extended their declines today amid continued thin activity for the first half of July.

Prompt and third quarter credits fell by 50¢ to \$177/metric tonne. Fourth quarter 2021 and first quarter 2022 credits were unchanged at \$177/t, where fourth quarter credits traded today.

Second quarter 2022 credits fell by \$2.50 to \$174/t. December 2023 futures traded on the Intercontinental Exchange at \$159/t.

California Carbon Allowances (CCAs) fell today, reversing some of the week's gains.

CCAs for July 2021 closed today at \$23.08/metric tonne, 3¢ lower on the day, and traded once for 25,000t.

December 2021 CCAs fell by 9¢ to \$23.46/t, trading 25 times for about 190,000t.

December 2022 CCAs shed 13¢ to end the day at \$24.52/t on lower bids and offers.

CCAs had been rising this week until today's drop.

US consumer prices in June posted the biggest annual gain since 2008, which could mean a significantly higher auction reserve price next year.

Consumer prices rose by 0.9pc in June, putting 12-month rate at 5.4pc, the US Labor Department said yesterday.

California and Quebec raise the auction price each year by 5pc plus the rate of inflation. A 5.4pc rate would translate into a reserve price of \$19.55/t next year, up from \$17.71/t this year.

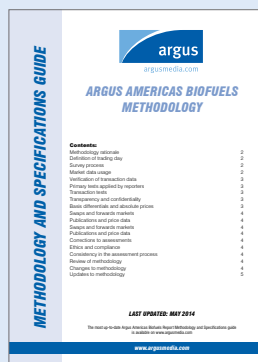
Argus Americas Biofuels Methodology

Argus uses a precise and transparent methodology to assess prices in all the markets it covers. The latest version of the Argus Americas Biofuels Methodology can be found at:

www.argusmedia.com/methodology.

For a hard copy, please email info@argusmedia.com,

but please note that methodologies are updated frequently and for the latest version, you should visit the internet site.



California carbon allowances (CCA)					\$/t
Vintage	Delivery	Bid	Ask	Price	±
2021	Jul 21	23.05	23.11	23.080	-0.130
2021	Dec 21	23.44	23.48	23.460	-0.090
2022	Dec 22	24.47	24.57	24.520	-0.130

CCA volume-weighted averages					\$/t
Vintage	Delivery	Low	High	VWA	MTD
2018-20	Dec 20	23.44	23.66	23.550	23.270
Vintage	Delivery	Trades	MTD	Volume	MTD
2018-20	Dec 20	25	435	179,000	10,352,000

CCA price for gasoline, diesel					¢/USG
	Winter 14 Jul	±	Summer 14 Jul	±	Jun index
Regular Carbob	18.55	-0.10	18.60	-0.10	16.79
Midgrade Carbob	18.55	-0.10	18.55	-0.11	16.75
Premium Carbob	18.56	-0.11	18.52	-0.10	16.71
Distillate ULSD			23.63	-0.13	21.32

CO2 California carbon offsets, 9 Jul					\$/t
	Bid	Ask	Price	±	
Seller-guaranteed	13.80	14.20	14.00	nc	
3-year invalidation	13.20	13.50	13.35	nc	

California low-carbon fuel standard (LCFS) credits					\$/t
Delivery	Bid	Ask	Price	±	
Spot	175.00	179.00	177.00	-0.50	
3Q21	175.00	179.00	177.00	-0.50	
4Q21	176.00	178.00	177.00	nc	
1Q22	176.00	178.00	177.00	nc	
2Q22	171.00	177.00	174.00	-2.50	
Delivery	Trades	Volume	MTD VWA		
Spot			na		
4Q21	1	10,000	177.00		

Oregon low-carbon fuel standard (LCFS) credits					\$/t
	Bid	Ask	Price	±	
LCFS	122.00	128.00	125.000	nc	

California LCFS cost for gasoline, diesel					¢/USG
Fuel	Price	±			
Carbob	19.19	-0.06			
Ultra low-sulfur diesel	20.92	-0.06			
Crude CI deficit Carbob	0.87	nc			
Crude CI deficit diesel	0.98	nc			

LCFS premium per carbon intensity point					¢/USG
	Price	±			
Ethanol	1.44	-0.01			
Biodiesel	2.23	-0.01			

California LCFS market biogas value			\$/mmBtu
	Natural gas	Biogas	
SoCal Citygates	6.972	45.010	
PG&E Citygates	5.547	43.585	

BRAZIL ETHANOL

Daily price indicators — hydrous ethanol				
14 Jul	Low	High	VWA	±
Ribeirao Preto ex-mill				
R/m ³	3570	3623	3600	27
\$/m ³	701.89	712.31	707.78	14
Paulinia del				
R/m ³	3617	3689	3656	17
\$/m ³	711.13	725.28	718.79	13
State of Sao Paulo ex-mill				
R/m ³	3551	3623	3590	17
\$/m ³	698.15	712.31	705.82	12
Total volume reported m ³			7,000	
VWA = Volume Weighted Average				

Lower ethanol production in the US supported anhydrous import and export values Wednesday, while hydrous fuel ethanol negotiated in the state of Sao Paulo ticked up as demand increased throughout the session.

The Brazilian specification to be shipped from the port of Santos rose \$7.5/m³ to \$689-717/m³ fob. Imported corn anhy-

Biweekly hydrous ex-mill price indicators				
	Low	High	VWA	±
Paraiba out-of-state, 13-26 Apr				
R/m ³	3,053	3,073	3,063	+113
Total volume reported m ³			1	
Pernambuco instate, 13-26 Apr				
R/m ³	3,000	3,127	3,075	+122
Total volume reported m ³			3,800	
Alagoas, 13-26 Apr				
R\$/m ³	2,850	3,070	2,996	+200
Total volume reported m ³			2,020	

Biweekly anhydrous ex-mill price indicators				
	Low	High	VWA	±
Paraiba, 13-26 Apr				
R/m ³	3,093	3,113	3,103	+238
Total volume reported m ³			1	
Pernambuco, 13-26 Apr				
R/m ³	3,050	3,160	3,124	+124
Total volume reported m ³			1,800	
Alagoas, 13-26 Apr				
R/m ³	3,000	3,050	3,029	+134
Total volume reported m ³			2,800	

Weekly price differentials with Ribeirao Preto				R/m ³
5-8 Jul	Low	High		±
Piracicaba ex-mill hydrous		+17	+19	nc
Pirassununga ex-mill hydrous		+27	+29	nc
Piracicaba ex-mill anhydrous		+17	+19	nc
Pirassununga ex-mill anhydrous		+27	+29	nc

Weekly and biweekly price indicators				
	Low	High	VWA	±
Center-South ex-mill hydrous, 5-8 Jul				
R/m ³	3427	3601	3554	137
\$/m ³	655.66	688.95	679.96	3
Total volume reported m ³			17710	
R/m ³ without tax			2950	118
Center-South ex-mill anhydrous, 5-8 Jul				
R/m ³	3420	3571	3524	116
\$/m ³	654.32	683.21	674.22	-1
Total volume reported m ³			14300	
Term contract R/m ³	3464	3523		134
Term contract \$/m ³	662.74	674.03		3
Differential contract-spot %	13	15		0
Anhydrous-hydrous ethanol spread				
%		15		-1
Betim del hydrous, 5-8 Jul				
R/m ³	3638	3658	3648	127
\$/m ³	696.03	699.85	697.94	0
Total volume reported m ³			1000	
Uberaba del hydrous, 5-8 Jul				
R/m ³	3507	3597	3554	107
\$/m ³	670.97	688.18	679.96	-3
Total volume reported m ³			4045	
Suape del hydrous, 6-12 Jul				
R/m ³	3387	3407	3397	-50
\$/m ³	652.2	656.05	654.12	-24
Total volume reported m ³			600	
Suape del anhydrous, 6-12 Jul				
R/m ³	3855	3970	3932	27
\$/m ³	742.32	764.46	757.14	-12
Total volume reported m ³			8000	
Sao Francisco do Conde del hydrous, 29 Jun-12 Jul				
R/m ³	3080	3285	3206	156
\$/m ³	593.08	632.56	617.35	1
Total volume reported m ³			1300	
Sao Francisco do Conde del anhydrous, 29 Jun-12 Jul				
R/m ³	2943	3785	3676	-84
\$/m ³	566.7	728.84	707.85	-52
Total volume reported m ³			1240	
Fortaleza del hydrous, 29 Jun-12 Jul				
R/m ³	3299	3319	3309	-141
\$/m ³	635.25	639.1	637.18	-60
Total volume reported m ³			1000	
Fortaleza del anhydrous, 29 Jun-12 Jul				
R/m ³	4096	4116	4106	182
\$/m ³	788.72	792.57	707.85	-52
Total volume reported m ³			1	
VWA = Volume Weighted Average				

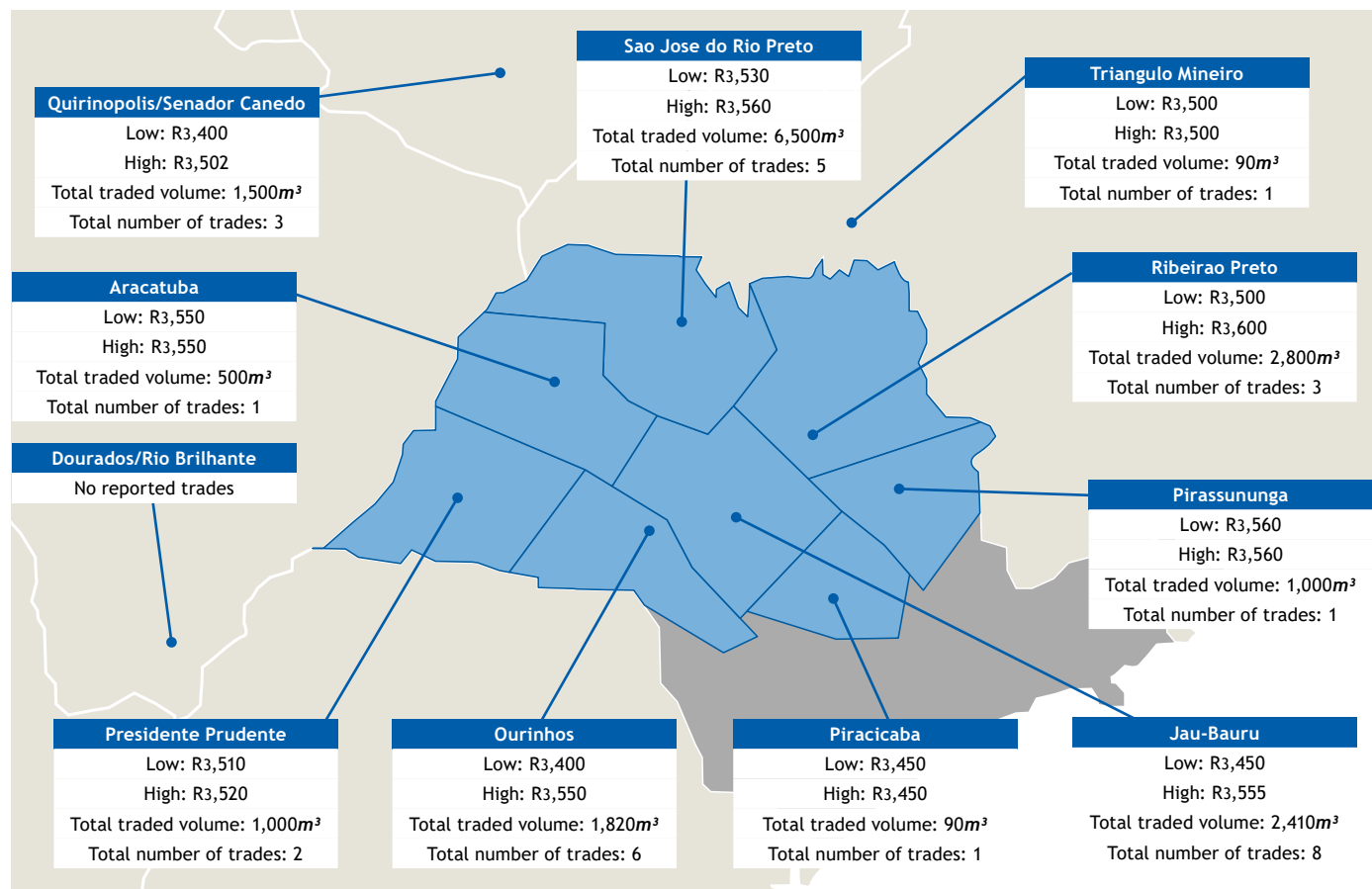
Truck freight prices to Bahia and Ceara R/m³						
5-8 Jul	with taxes			without taxes		
	Low	High	±	Low	High	±
Fortaleza						
Pernambuco	180.00	194.00	nc	158.38	170.70	nc
Paraiba	120.80	157.80	nc	106.29	138.85	nc
Bahia (north)	185.00	215.00	nc	162.78	189.18	nc
Bahia (south)	325.00	362.00	nc	285.97	318.52	nc
Goiias	440.00	450.00	nc	387.15	395.95	nc
Rio Grande do Norte	120.00	140.00	nc	105.59	123.19	nc
Sao Francisco do Conde						
Bahia (north)	80.00	90.00	nc	70.39	79.19	nc
Bahia (south)	130.00	150.00	nc	114.39	131.98	nc
Alagoas	101.00	164.00	nc	88.87	144.30	nc
Pernambuco	140.00	167.00	nc	123.19	146.94	nc
Minas Gerais	255.00	370.00	nc	224.37	325.56	nc
Goiias	368.00	382.00	nc	323.80	336.12	nc
Sao Paulo	310.00	350.00	nc	272.77	307.96	nc

Weekly truck freight prices to Paulinia R/m³						
5-8 Jul	with taxes			without taxes		
	Low	High	±	Low	High	±
Sao Paulo						
Ribeirao Preto	63.00	69.00	nc	55.43	60.71	nc
Aracatuba	93.00	105.00	nc	81.83	92.39	nc
Presidente Prudente	105.00	109.00	nc	92.39	95.91	nc
Ourinhos	96.00	100.00	nc	84.47	87.99	nc
Jau-Bauru	63.57	65.16	nc	55.93	57.33	nc
Sao Jose do Rio Preto	82.00	84.00	nc	72.15	73.91	nc
Goiias						
Quirinopolis/ Senador Canedo	150.00	180.00	nc	131.98	158.38	nc
Mato Grosso do Sul						
Dourados/ Rio Brilhante	130.00	170.00	nc	114.39	149.58	nc
Minas Gerais						
Triangulo Mineiro	106.69	115.58	nc	93.88	101.70	nc

Truck freight prices Minas Gerais R/m³						
5-8 Jul	with taxes			without taxes		
	Low	High	±	Low	High	±
Betim						
Divinopolis	46.00	61.00	nc	40.48	53.67	nc
Frutal-Araxa	120.00	140.00	nc	105.59	123.19	nc
Ituiutaba	170.00	180.00	nc	149.58	158.38	nc
Minas Oeste	199.00	210.00	nc	175.10	184.78	nc
Passos	94.00	102.00	nc	82.71	89.75	nc
Patos-Unai	119.09	133.13	nc	104.79	117.14	nc
Ponte Nova	50.00	60.00	nc	43.99	52.79	nc
Ribeirao Preto	110.00	130.00	nc	96.79	114.39	nc
Senador Canedo/ Quirinopolis	150.00	158.00	nc	131.98	139.02	nc
Teofilo Otoni	100.00	140.00	nc	87.99	123.19	nc
Uberaba						
Divinopolis	85.00	105.00	nc	74.79	92.39	nc
Frutal-Araxa	46.00	47.00	nc	40.48	41.36	nc
Ituiutaba	53.25	69.14	nc	46.85	60.84	nc
Minas Oeste	57.38	79.46	nc	50.49	69.92	nc
Passos	52.00	68.00	nc	45.75	59.83	nc
Patos-Unai	80.00	100.00	nc	70.39	87.99	nc
Ponte Nova	140.00	170.00	nc	123.19	149.58	nc
Ribeirao Preto	70.00	95.00	nc	61.59	83.59	nc
Senador Canedo/ Quirinopolis	70.00	95.00	nc	61.59	83.59	nc
Teofilo Otoni	170.00	230.00	nc	149.58	202.38	nc

Truck freight prices to Suape R/m³						
5-8 Jul	with taxes			without taxes		
	Low	High	±	Low	High	±
Pernambuco	40.00	49.00	nc	35.20	43.11	nc
Alagoas	63.00	67.00	nc	55.43	58.95	nc
Paraiba	50.00	55.00	nc	43.99	48.39	nc
Goiias	370.00	400.00	nc	325.56	351.96	nc
Minas Gerais	317.00	393.00	nc	278.93	345.80	nc
Sao Paulo	336.00	397.00	nc	295.64	349.32	nc
Bahia (north)	140.00	160.00	nc	123.19	140.78	nc
Bahia (south)	297.00	318.00	nc	261.33	279.81	nc

Weekly Center-South hydrous ethanol prices

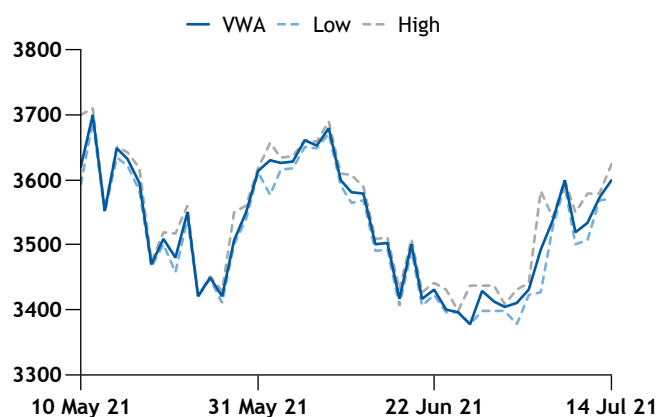


drous settled at \$658-671/m³, up \$11.50/m³ from the previous session. Data from the Energy Information Administration (EIA) shows a 2.4pc drop in US production for the week ended 9

July.

In the domestic market, hydrous rose R17/m³ to R3,590/m³ inc-tax in Ribeirao Preto.

Hydrous ethanol ex-mill Ribeirao Preto inc tax R/m³



Hydrous Sao Paulo inc tax R/m³



Brazil ex-mill biodiesel prices per region

	May-Jun BRL/m ³	± Mar-Apr BRL/m ³	May-Jun \$/m ³	± Mar-Apr \$/m ³
North	5,602	710	979	68
Northeast	5,944	1,030	1,039	124
Centre-West	5,641	923	986	108
Southeast	5,722	967	1,000	115
South	5,367	718	938	72

\$/m³ values are calculated considering Thursday's exchange rate

Data last updated on 21 May

— ANP data

BIODIESEL

US

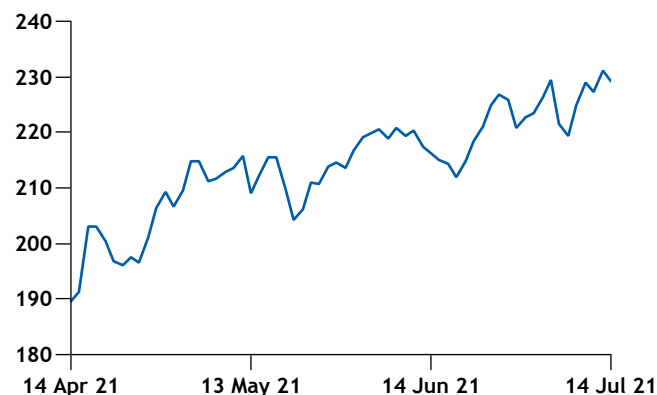
Differentials for FAME biodiesel in California strengthened with higher offers on Wednesday, as California Low-Carbon Fuel Standard (LCFS) credits extended their declines.

RIN-less and LCFS credit-less FAME B99 material near San Francisco strengthened by 7.5¢/USG to Nymex -112.5¢/USG after material with prompt timing was offered at Nymex -110¢/USG. Prices near Los Angeles rose by 12.5¢/USG to Nymex -107.5¢/USG after being offered at Nymex -105¢/USG. Prompt LCFS credits closed at \$177/metric tonne, 50¢ lower on the day.

Biodiesel production margins as measured by the heating oil/soybean oil (HOB0) spread weakened by 4¢/USG to -285¢/USG on Wednesday.

Natural gasoline Mt Belvieu

¢/USG



Biodiesel

	Timing	Low/high diff	Low-high price	±
US B100				
SME NYH ¢/USG	Aug	+333.25/+334.25	547.60-548.60	-4.09
SME Houston fob ¢/USG	Aug	+350.25/+352.75	564.60-567.10	-4.09
SME Chicago rail ¢/USG	Aug	+353.00/+357.50	567.35-571.85	-4.09
US B99				
SME NYH ¢/USG	Aug	-12.00/-11.00	202.35-203.35	-4.09
SME Houston fob ¢/USG	Aug	+5.00/+7.50	219.35-221.85	-4.09
SME Chicago rail ¢/USG	Aug	+7.75/+12.25	222.10-226.60	-4.09
FAME San Francisco fob ¢/USG	Aug	-115.00/-110.00	99.35-104.35	+3.41
FAME Los Angeles fob ¢/USG	Aug	-110.00/-105.00	104.35-109.35	+8.41
Latin America				
fob upriver SME Argentina \$/t			1355.61-1399.69	+1.78

Renewable diesel

¢/USG

	Low-high price	±
Los Angeles R99	248.65-250.65	-2.53
San Francisco R99	249.90-251.90	-4.28

50:50 split of retroactive blenders tax credit (BTC)

¢/USG

	Credit
BTC	0.00

Related markets

	Price	±
US		
Cbot soybean settlement, Jul ¢/bushel	1467.75	+29.75
Cbot soybean meal settlement, Jul \$/t	366.60	+11.50
Nymex heating oil settlement, Aug ¢/USG	214.35	-4.09
Latin America		
Soybean oil Argentina diff to Cbot ¢/lb	-9.50/-7.50	-0.40
Soybean oil Argentina fob upriver prompt \$/t	1250.46/1294.55	+6.17
Soybean oil fob Paranagua* \$/t	1147.00/1236.00	+53.50
Soybean oil cif Sao Paulo with 12% ICMS* BRL/t	6,750.00/6,950.00	+650.00
Methanol cif Brazil* \$/t	574.00/584.00	nc
Glycerine cif China* \$/t	580.00/620.00	+12.50
Beef tallow cif Sao Paulo with 12% ICMS* BRL/t	5,900.00/6,000.00	-50.00

*assessment is as of 8 Jul

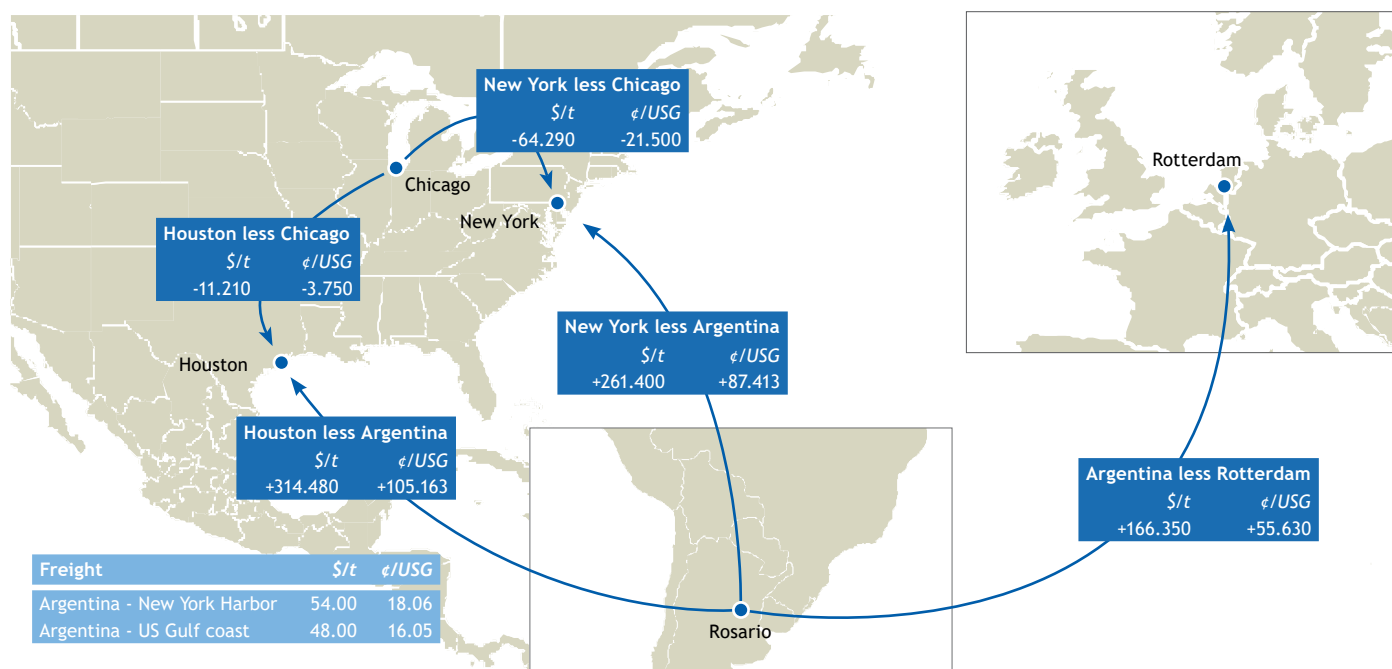
Current month-to-date averages, Jul

	Averages
SME Houston fob B100 ¢/USG	554.56
SME Chicago fob B100 ¢/USG	558.83
SME fob Argentina upriver \$/t	1,379.63

Argentina soybean oil forward curve

Loading	Basis month	Diff to CBOT ¢/lb	Price \$/t	± \$/t
Aug	Aug	-10.00/-7.50	1239.44/1294.55	+6.17
Sep	Sep	-10.00/-7.50	1207.47/1262.59	-0.88
Oct	Oct	-11.00/-7.50	1171.32/1248.48	+1.99

ARGUS MARKET MAP: BIODIESEL



Argentina

Export differentials for Argentinian soybean oil cargoes decreased amid higher discounts from producers.

For July timing, discounts widened by 0.4¢/lb to CBOT -8.5¢/lb. On the August front, bids were seen at CBOT -10¢/lb, against offers at CBOT -7.5¢/lb, leaving differentials 0.4¢/lb lower from the prior session.

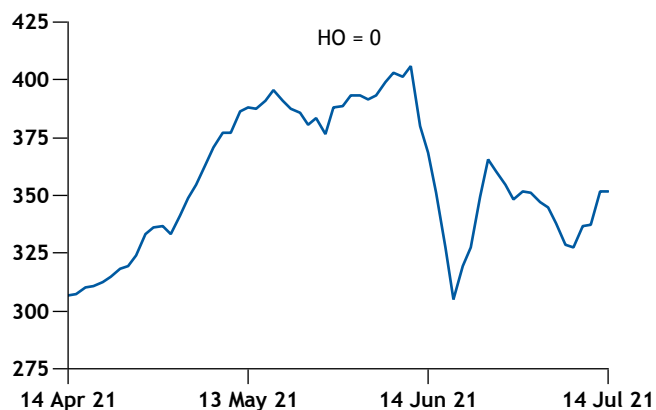
September discounts down by 0.5¢/lb to settle at CBOT -8.75¢/lb. On the October, November, and December strip, discounts closed at CBOT -9.25¢/lb, moving down by 0.25¢/lb.

August CBOT futures rose by 0.68¢/lb to 66.22¢/lb.

Biodiesel markets firmed as RED product ticked up by 1.8¢/t to \$1,377.60/t fob.

Houston B100 SME vs Nymex heating oil

€/USG



The Effects of Coronavirus on Markets

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RENEWABLE FEEDSTOCKS

Used cooking oil				¢/lb
	Basis	Price		±
Iowa	fob truck	55.00-56.00		nc
Chicago	fob truck	56.00-57.00		nc
Chicago	del truck	58.00-59.00		nc
New York/New Jersey	del rail or truck	59.00-60.00		+1.00
Carolinas	fob truck	55.50-56.50		nc
Georgia	del truck	58.00-60.00		nc
US Gulf coast	del rail or truck	64.00-65.00		+1.00
Northern California	del truck	53.50-55.00		+1.75
Southern California	del truck	53.50-55.00		+1.75
Tallow, bleached fancy				¢/lb
	Basis	Price		±
Chicago	del rail	62.00-63.00		+1.00
US Gulf coast	del rail	61.00-65.00		+1.00
Northern California	del rail	63.50-64.50		+1.00
Southern California	del rail	63.50-64.50		+1.00
Tallow, edible				¢/lb
	Basis	Price		±
Chicago	del rail	64.75-65.25		+1.00
Tallow, technical				¢/lb
	Basis	Price		±
Chicago	del rail	64.75-65.25		+1.00
US Gulf coast	del rail	66.75-67.25		+1.00
Choice white grease				¢/lb
	Basis	Price		±
Iowa	fob truck	55.00-55.50		nc
Carolinas	fob truck	46.50-49.50		nc

Poultry fat				¢/lb
	Basis	Price		±
Georgia	fob truck	45.00-48.00		nc
Carolinas	fob truck	46.00-47.00		nc
Soybean oil, crude degummed				¢/lb
	Basis	Price		±
Iowa	fob rail or truck	71.22-72.22		+0.68
Diff to CBOT soybean oil	Aug	+5.00/+6.00		nc
Carolinas	del truck	72.72-73.72		+0.68
Diff to CBOT soybean oil	Aug	+6.50/+7.50		nc
US Gulf coast	del rail	69.22-71.22		+0.68
Diff to CBOT soybean oil	Aug	+3.00/+5.00		nc
Northern California	del rail	74.22-80.22		+0.68
Diff to CBOT soybean oil	Aug	+8.00/+14.00		nc
Southern California	del rail	74.22-80.22		+0.68
Diff to CBOT soybean oil	Aug	+8.00/+14.00		nc
Yellow grease				¢/lb
	Basis	Price		±
Iowa	fob truck	43.50-44.50		nc
Illinois	fob truck	44.00-45.00		nc
Carolinas	fob truck	48.00-49.00		nc
US Gulf coast	del rail	60.00-61.00		nc
Houston	fob truck	53.50-54.50		nc
Distiller's corn oil				¢/lb
	Basis	Price		±
Iowa/Nebraska	fob truck	59.00-60.00		nc
Ohio/Indiana	fob truck	60.50-61.50		nc
Chicago	fob truck	61.50-62.00		nc
US Gulf coast	del rail	63.25-63.75		nc
California	del rail	57.75-58.25		nc

COMMENTARY

Used cooking oil (UCO) prices tracked higher along major consumption centers, while tallow markets firmed in active trade.

In the US Gulf coast, delivered UCO was valued between the 64-65¢/lb, up by 1¢/lb from the prior session as traders anticipate firmer prices to transact in coming sessions.

California UCO markets rose by 1.75¢/lb to either side of 54.25¢/lb, while the New York/New Jersey delivered market strengthened by 1¢/lb on the day.

Trade for prompt UCO trucks in Georgia at 58¢/lb were heard to have taken place during Tuesday's session. Market participants placed fair value for the Georgia marketplace in the 59¢/lb to 60¢/lb range on Wednesday.

In Chicago, prompt packer tallow traded at 62¢/lb, with renderer transacting at 63¢/lb to set the high. Tallow markets firmed a penny on the day across delivery locations and specifications in response to fresh Chicago BFT activity.

Forecasts of hot weather continued to move the soybean oil prices higher. The August CBOT soybean oil futures contract settled at 66.22¢/lb, up by 0.68¢/lb from the previous session.

Distiller's corn oil, choice white grease and poultry fat markets were stable on Wednesday, yet traders expect DCO prices to rebound as corn futures continued to see double-digit gains throughout the week.

LATEST NEWS

US ethanol stocks, production trend lower

US ethanol stocks and production trended lower last week, according to data from the Energy Information Administration (EIA).

Ethanol inventories for the week ended 9 July were at 21.1mn bl, down week on week by 0.1pc. Stocks ticked down everywhere except for the midcontinent, where they rose by 2pc to 7.7mn bl.

Year on year, stocks were lower by 15.3pc as the industry faced lower gasoline demand at the outset of the Covid-19

EIA ethanol production and stocks

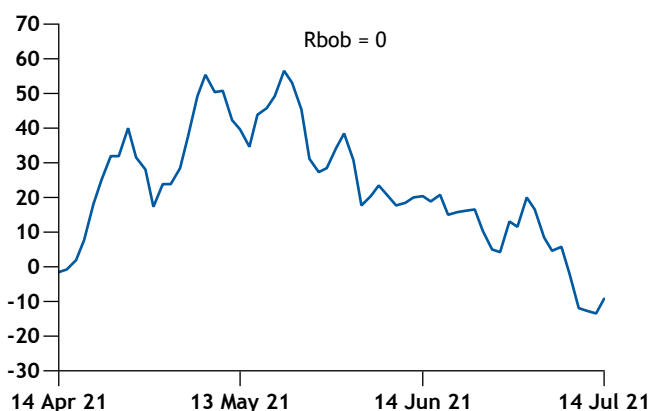
	9 July	Week ago	Change	Year ago	Change
Average weekly US ethanol production, '000 b/d	1,041	1,067	-26	931	110
East coast (PADD 1)	12	12	0	13	-1
Midcontinent (PADD 2)	993	1,018	-25	883	110
Gulf coast (PADD 3)	17	18	-1	17	0
Rocky Mountains (PADD 4)	10	10	0	10	0
West coast (PADD 5)	9	9	0	9	0
Ending US ethanol stocks, '000 bl	21,134	21,149	-15	24,964	-3,830
East coast (PADD 1)	6,593	6,607	-14	8,551	-1,958
Midcontinent (PADD 2)	7,740	7,585	155	8,645	-905
Gulf coast (PADD 3)	3,841	3,872	-31	4,637	-796
Rocky Mountains (PADD 4)	314	329	-15	401	-87
West coast (PADD 5)	2,646	2,756	-110	2,731	-85

- EIA

Futures			
	Timing	Settlement	±
CBOT ethanol ¢/USG			
	Aug	232.00	nc
	Sep	232.00	nc
	Oct	230.70	nc
	Nov	230.70	nc
CBOT corn ¢/bushel			
	Jul	683.00	+6.00
	Sep	568.25	+17.00
	Dec	558.75	+18.00
	Mar	566.50	+17.75
CBOT soybean oil ¢/lb			
	Jul	66.63	nc
	Aug	66.22	+0.68
	Sep	64.77	+0.46
	Oct	64.13	+0.34

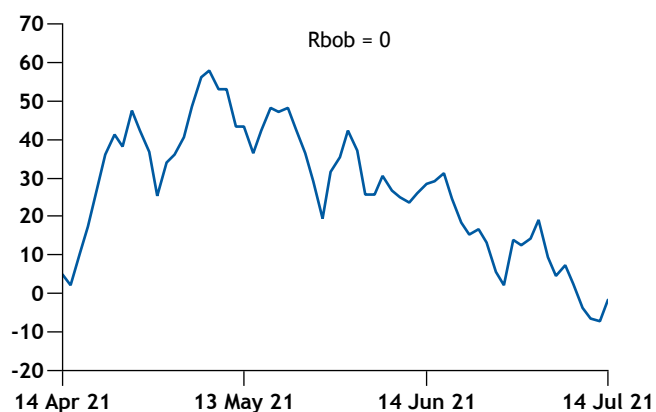
Chicago ethanol vs Nymex Rbob

¢/USG



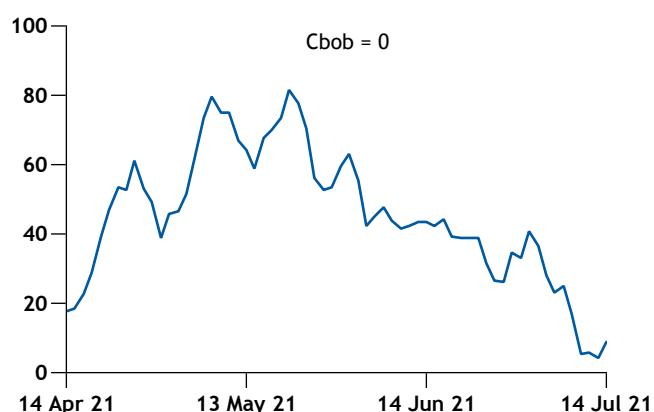
NYH ethanol vs Nymex RBOB

¢/USG



Gulf coast ethanol vs Colonial Cbob

¢/USG



pandemic. Compared with two years prior, stocks were lower by 9.5pc.

Domestic ethanol production fell from the week prior by 2.4pc to 1.04mn b/d. The midcontinent led losses, falling by 2.5pc to 993,000 b/d. Production was 11.8pc higher than the same week a year prior and 2.3pc lower than two years prior.

Implied gasoline demand was at 9.28mn b/d in the latest reported week. For the previous week ending 2 July, implied demand was at 10mn b/d. Compared with two years prior, implied gasoline demand was higher by 0.7pc.

Ethanol blending fell week on week by 3.5pc to 916,000 b/d, while blending levels were 1pc higher compared with the same week of 2019.

By Jacqueline Reigle

US bill seeks to retain year-round E15 sales

Biofuel supporters in the US Congress are backing new legislation to protect year-round sales of 15pc ethanol gasoline (E15) blends that were blocked recently by a federal court.

The bipartisan measure, introduced today, would provide a legislative fix to a [recent federal court ruling](#) that determined the US Environmental Protection Agency (EPA) in 2019 exceeded its authority when it determined that E15 qualified for an emissions-related exemption that would allow it to be sold during the summer driving season.

The court ruling has yet to take effect, meaning E15 sales are unlikely to be affected this summer. But ethanol industry groups are pushing to give EPA explicit authority to keep the exemption for E15, which the court decision found was only intended to apply to 10pc ethanol gasoline blends. The legislation would say gasoline blends containing 10pc ethanol "or more" could qualify for the exemption.

Since June 2019, E15 was [allowed to be sold year-round](#). During this time, the former president Donald Trump's EPA revised its interpretation of a provision of the Clean Air Act that grants a 1.0 psi summertime waiver of Reid vapor pressure (RVP) requirements, which allowed drivers to access E15 year-round.

"[E15] is currently approved for use in cars model year 2001 and newer and is available at over 2,460 retail sites in 30 states," according to biofuels association Growth Energy. "To date, Americans have logged over 22 billion miles with E15."

Growth Energy, the Renewable Fuels Association and American Coalition for Ethanol support the proposed legislation.

By Jacqueline Reigle

Argus Assessment Rationale Database

For prices used in financial benchmarks, Argus publishes daily explanations of the assessment rationale with supporting data. This information is available to permissioned subscribers and other stakeholders.

Subscribers to this report via Argus Direct or MyArgus may access the database [here](#).

Other subscribers may request access [here](#) or contact us by email at sales@argusmedia.com.

Delta delaying RIN payments tied to Trainer

Delta Air Lines does not plan to spend "good cash" paying for RIN credits associated with biofuel blending obligations for its Trainer refinery in Pennsylvania, amid rising prices for the credits.

"The pricing on RINs is not a market-based price at the present time and we're not gonna spend good cash chasing a marketplace that isn't transparent," said chief executive Ed Bastian today during the company's second quarter earnings call. "We've accrued the costs, but we have time to decide as we settle those obligations over the next couple years." The airline's 185,000 b/d Trainer refinery accrued \$252mn in RIN compliance costs in the second quarter of 2021 and \$410mn in the first half, compared to \$25mn and \$52mn in the first three months and six months of 2020, respectively. At the time of first quarter 2021 results in April, co-chief financial officer Gary Chase said the group would not respond to an unsustainable "dislocation" in the RIN market at a time when prices for the credits were rising over \$1.

The Argus RVO, an Argus-compiled assessment of prices observed for several RINs, closed March around 16¢/USG, before hitting an all-time high of 23.49¢/USG on 10 June. That high followed a steady pattern of RIN credit price increases seen since mid-March of 2020, when the pandemic led to lower demand for products.

RIN prices slid from mid-June as a long-awaited Supreme Court ruling on 25 June provided small refiners with clearer pathways toward receiving exemptions from participation in the RIN market. D4 RINs associated with sustainable aviation fuels hit an all-time high of 204¢/USG on 10 June before

decreasing to a three-month low of 140¢/USG on 17 June and closing at 163.50¢/USG today.

Delek, owner of four refineries in Texas, Arkansas and Louisiana, earlier this week called the current RIN pricing system a "real overhang" on the refining industry as it promise

d to continue to seek small refinery exemptions that would free two of its refineries from complying with US Renewable Fuel Standard (RFS) mandates, which require it to blend a certain volume of biofuels with refined products.

Delta said Trainer only operated between 60-90pc of its normal throughout in the first six months of 2021 and now forecasts production in the upper end of that range for the third quarter, but even its reduced production levels are still fall far beyond the 75,000 b/d limit for RFS small refinery exemptions awarded by the Environmental Protection Agency.

The airline remains open to finding a strategic partner for its Trainer refinery 10 miles southwest of Philadelphia, which continues to operate as normal, Bastian said. Losses at the refinery amounted to \$157mn in the second quarter, its sixth consecutive quarter posting a loss, after losing \$125mn in the first quarter of 2021 and \$114mn in the second quarter of 2020.

By Dylan Chase

US motorists' May driving still lagged 2019

US on-road vehicle miles traveled (VMTs) experienced fourth straight year-over-year double digit increases in May, a continued sign of waning effects from the Covid-19 pandemic, but total mileage remained lower than pre-pandemic levels during May 2019.

Seasonally adjusted miles in May totaled 259.7bn miles, a 31.1pc increase from the previous May's tally of 199.8bn miles, according to the Federal Highway Administration (FHA). VMTs in May 2019 reached 270.5bn miles.

For the fourth consecutive month, each of the five US regions surveyed posted year-over-year double-digit gains, with the most significant percentage increase coming from the northeast region.

Drivers in Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island and Vermont drove 38.7pc more miles in May than in May 2020, totaling 36.2bn miles.

VMTs in the south-Atlantic region – Delaware, Georgia, Florida, Maryland, North Carolina, South Carolina, Virginia and West Virginia – recorded the most vehicle miles traveled at 60.5bn miles, a 29.4pc increase from May 2020.

VMTs serve as a proxy for gasoline demand. Total miles driven for June should once again indicate a rise from the same month a year prior, but may rank below pre-pandemic levels from June 2019.

By Jason Metko

US gasoline demand falls from record high

Implied US gasoline demand fell from the historic high reached the week prior alongside consistent [regional price gains](#) and losses in domestic diesel consumption.

Estimated gasoline demand for the week ending on 8 July declined by 8pc to 9.3mn b/d after posting the highest consumption rate in Energy Information Administration (EIA) history the prior week at 10mn b/d. The dip in consumption surfaced alongside marginal gains in US gasoline stockpiles, hinting at a minor slowdown since loosening domestic Covid-19 restrictions bolstered higher road travel. Gasoline consumption as of 8 July marked a 7pc climb over the same week in 2020.

Implied diesel demand dropped by 18pc to 3.2mn b/d the week ending on 8 July, a 14pc decline from year-prior levels. Diesel stockpiles rose in weekly comparison.

Overall US diesel inventories were assessed higher by 3pc to 142.3mn bl, a 20pc loss compared to a year earlier and 4pc higher than the same week in 2019.

Diesel stockpiles posted gains in every US region with the exception of the west coast, which remained unchanged at 13.1mn bl. Gulf coast diesel inventories rose by 2pc on the week to 50.7mn bl, a 13pc decrease from the same period last year and 29pc higher compared with two years ago. Atlantic coast diesel stocks were higher by 2pc from the week prior to 41.3mn bl, down by 37pc from this time in 2020 and 8pc lower from 2019 comparison. Midcontinent diesel stockpiles additionally increased by 6pc to 33.7mn bl, a 1pc loss from a year ago and 2pc lower than the same period in 2019.

Total gasoline exports fell by 12pc to 747,000 b/d, indicating a 24pc rise from year-ago levels and 21pc up from this time two years ago. Meanwhile, diesel exports out of the US gained by 28pc in weekly comparison to 1.3mn b/d, a 1pc loss from 2020 and 18pc higher than 2019 levels.

Overall domestic gasoline inventories marginally rose by 1mn bl to 236.5mn bl as of 8 July, indicating a 5pc loss from a year ago and a 2pc gain over this time in 2019.

Gasoline stockpiles gained in every region except for the Atlantic coast, which fell by 200,000bl to 68.8mn bl, and the Rocky Mountains posting the same decrease to 5.8mn bl in weekly comparison. US Gulf coast gasoline stockpiles rose by

1pc to 81.1mn bl as of 8 July, down by 8pc from the previous year and a 3pc loss from the same week in 2019. Midcontinent stockpiles were assessed marginally higher by 2pc to 51.8mn bl, up by 1pc from 2020 levels and 3pc higher compared with two years prior.

US refinery crude oil inputs were down by a narrow 22,000 b/d to 16.09mn bl, or 12pc higher compared with a year earlier and a 7pc loss from the same time in 2019. Gulf coast refinery throughputs rose narrowly by 1pc to 8.6mn b/d, a 12pc gain over 2020 levels and 6pc lower than 2019 comparison. Mid-continent refineries fell by 2pc to 4.1mn b/d, marking a 14pc increase from the same week in 2020 and a 10,000 b/d gain from 2019 levels. Atlantic coast crude inputs decreased by 8pc to 649,000 b/d, or 9pc higher than year-ago throughputs and 22pc lower than the same week in 2019.

By Kayla Meyertons

US freight volumes rose again in May

US freight volumes in May posted a third straight month-over-month gain, remaining above levels recorded prior to the Covid-19 pandemic, according to Bureau of Transportation Statistics (BTS) data.

The Transportation Services Index (TSI) for May increased by 0.1pc to 137.87, the highest since November 2019, amid growth in the rail carload, air freight, truck and waterway sectors, the BTS said today. The index has risen in five of the most recent six months, gaining 3.6pc since November.

The index remains 3pc below its record high of 141.9 set in August 2019, according to BTS data.

By Jason Metko

EPA on track to issue new CO₂ tailpipe limits

The US Environmental Protection Agency is on target to propose new tailpipe CO₂ emissions limits for light duty vehicles this month, EPA administrator Michael Regan said today.

"We are on track to issue a proposal to revise the previous administration's standards for light duty vehicles soon," Regan said during an Environmental Council of the States virtual meeting on climate change. "We are not taking our eye off the ball and looking at heavy duty vehicles as well."

This month, the EPA is expected to issue a new notice of proposed rulemaking on light-duty vehicle standards for emissions and fuel economy. Transportation comprises 28pc of US greenhouse gas emissions.

Advocates of transportation electrification [have pressured](#) the Biden administration to return to standards for cars

and trucks that were issued during the presidency of Barack Obama.

Those regulations called for a 5pc/yr increase in the fuel efficiency and emissions targets for new light-duty vehicles. The standards were replaced with new targets that increased by 1pc/yr under the administration of former president Donald Trump.

Regan also said that the nation needs to have stringent emissions standards that help establish a framework to encourage more innovation in the sector, such as [Ford's plan to produce](#) an all-electric F-150 truck starting next year.

"We want to reward automakers who are pushing the envelope to fight climate change by putting regulations in place that capture the innovation and the courage that they've demonstrated," Regan said.

By Julia Martinez

Democrats reach deal on \$3.5 trillion plan

Democrats in the US Senate have struck an early deal on a \$3.5 trillion budget plan they hope will offer a mechanism to expand clean energy tax credits, support electric vehicle sales and increase taxes on corporations and high-income individuals.

The budget plan offers a path for Democrats to make sweeping changes on taxation, energy policy and social welfare without bipartisan support. The narrow majorities that Democrats have in Congress will require party leaders to have nearly unanimous support within the caucus, despite divergent views from lawmakers on key issues related to taxation and spending.

"We know the road ahead is going to be long--there are bumps along the way," Senate majority leader Chuck Schumer (D-New York) said today. "But we are going to get this done because we so fervently believe we must make average American lives a whole lot better."

Democrats on the Senate Budget Committee, led by senator Bernie Sanders (I-Vermont), reached the deal on the \$3.5 trillion draft budget last night. It still needs buy-in from the rest of the Democratic caucus, including moderates such as Joe Manchin (D-West Virginia). But the deal is one of the needed components of a Democratic plan to enact the budget package at the same time they advance a \$1 trillion bipartisan infrastructure plan.

"The wealthy and large corporations are going to start paying their fair share of taxes, so that we can protect the working families of this country," Sanders said.

The size of the budget deal appears to leave sufficient room for Democrats to provide about \$300bn in clean energy tax credits, while also enacting vast government programs focused on healthcare, education and paid leave. The budget could also [provide a path](#) for a "clean electricity standard," electric vehicle subsidies and the removal of tax benefits for oil and gas companies. Despite the topline \$3.5 trillion figure, Democrats could offset some of the new spending through changes such as increasing tax rates on corporations.

President Joe Biden today is headed to the US Capitol to meet with Senate Democrats, where he is expected to urge the caucus to unite behind the budget deal to kick-start negotiations on what will go into the final bill. The White House is pushing to retain legislative momentum before Congress adjourns for its summer break in August, since lawmakers will return to a packed agenda before the fiscal year ends on 30 September.

Republicans say they will fight to block the budget package, potentially by trying to pick off support from a few Democrats. Critics say another infusion of government spending would add too much to the deficit, accelerate inflation, increase gasoline prices and effectively support a government takeover of parts of the economy like the electric grid.

"Republicans are united in doing everything we can to really knock this train off of the tracks," senator John Barrasso (R-Wyoming said) in a televised interview. "They are going to need absolutely every Democrat because there is not going to be a single Republican who is going to vote for this."

By Chris Knight

US tax credit could help climate: study

A federal tax credit that supports carbon capture and storage could help the US reach its climate goals and bring economic benefits, particularly to the Gulf coast, according to a new study.

Companies could save as much as \$60mn a year from the so-called 45Q credit which compensates them for capturing and storing greenhouse gas emissions, researchers at the University of Texas-Austin found.

The analysis of President Joe Biden's climate plan suggest the US will need to drastically ramp up carbon capture, utilization and storage (CCUS) to meet its end-of-decade climate goals, given deployment has been slow so far.

"CCUS could provide a bipartisan solution to early gains in carbon reduction as it potentially slows climate change and provides an opportunity to keep and even grow jobs from an

important economic sector," said Andrew Waxman, one of the study's authors and an environmental economist at the LBJ School of Public Affairs.

Tax credits from 45Q are set to ramp up between now and 2030, at the same time the Texas and Louisiana Gulf coast is poised to see an expansion in industrial emissions with several new facilities likely to start up. There's been a renewed interest in such projects of late, with ExxonMobil unveiling [plans](#) in April to build a \$100bn carbon capture and storage hub that would depend on government funding.

The Texas study [estimated the costs of using CCUS](#) to reduce emissions from current and planned industrial facilities in the region.

At the upper end, CCUS could yield economic benefits of as much as \$4.6bn a year in terms of avoided climate damage. Current benefits surpass government outlays for the credit, which are estimated to be \$3.9bn at the high end.

Biden has committed to cutting US greenhouse gas emissions in half from 2005 levels by the end of the decade.

By Stephen Cunningham

British Columbia expands LCFS credit supply

British Columbia has amended its Low-Carbon Fuel Standard (LCFS) program to add credits from renewable naphtha and to determine credit generation from residential and other electric transportation charging.

The amendments also clarify that the province will publish the names and penalties of suppliers who fail to comply with the province's low carbon fuel regulation.

Naphtha is a common component of blended, finished gasoline, and renewable naphtha is a common byproduct of renewable diesel production.

The amendments also define the final seller or supplier of electricity used to charge vehicles at residences with fewer than five units as the regulated LCFS credit generator for that fuel.

Both changes will begin on 1 January 2022.

British Columbia's LCFS targets a 20pc reduction in the carbon intensity of its transportation fuels by 2030. Requirements were eased slightly in 2020, from a 10pc annual reduction to 9.1pc, to account for oil and gas sector losses associated with the response to the Covid-19 pandemic.

By Elliott Blackburn

Shell-Cosan JV Raizen seeks \$1.5bn in IPO

Raizen, Brazil's leading sugar and ethanol milling group, is

seeking to raise as much as R7.78bn (\$1.53bn) in its upcoming initial public offering (IPO), a securities filing showed.

The company, a joint venture between Shell and Brazilian conglomerate Cosan, plans to sell 811mn shares at R7.40 to R9.60 apiece in the offering. Raizen also may increase the offering by 20-35pc depending on demand, potentially making it one of the biggest in Brazilian history.

A final price will be set on August 3 and shares are expected to start trading on the Sao Paulo stock exchange B3 on August 5, according to the schedule.

In June, the firm disclosed its initial estimate of raising up to R13bn (\$2.6bn) to [expand its second-generation \(2G\) ethanol production](#) without providing further details, including pricing and the exact volume of shares to be sold. Earlier talks suggested proceeds from the IPO would allow the expansion of its 2G ethanol output from a single prototype into 20 new advanced biofuel plants in 10 years.

Raizen also has a fuel division, which is one of the top three distributors in the country. The company of late has [agreed to acquire Biosev](#), the rival cane milling firm of French trader Louis Dreyfus, in a cash-and-stock deal.

The offering occurs amid [a surge in IPOs and green bonds offerings from Brazilian biofuel producers](#) to meet rising demand for climate-linked instruments and shares in renewable energy companies among investors.

By Vinicius Damazio

EU plans tougher CO2 targets for road fuels

Road transport fuels face tougher EU standards under a raft of new legislation proposed today, including a 13pc greenhouse gas (GHG) intensity reduction target and inclusion in a more stringent carbon emissions trading system (ETS).

The European Commission has [outlined a range of legal proposals](#) aligning climate and energy legislation with the bloc's 55pc emissions-reduction target by 2030. For road transport fuels, the proposals will entail increased carbon costs through the sector's inclusion in a tougher ETS from 2025.

At the same time, EU member states themselves will be under pressure to decrease emissions from road transport. The sector will remain under the bloc's effort sharing regulation (ESR) despite its inclusion in the ETS. Furthermore, the commission has proposed that the ESR's GHG reduction target should be increased to at least 40pc by 2030, from 29pc today.

The legislation package published today also covers proposals to revise the EU's recast Renewable Energy Directive (RED II). Under the revised directive, the overall renewables target

share of EU gross final consumption of energy rises to 40pc in 2030 from 32pc. And there is a 13pc GHG intensity reduction target for transport fuels by 2030. Officials note that this equates to a 26pc renewables share in transport, up from 14pc in the current RED II legislation. The recast RED II sets a sub-target for sustainable advanced biofuels of at least 0.2pc in 2022, 0.5pc in 2025 and 2.2pc in 2030. There will also be a 2.6pc sub-target for renewable fuels of non-biological origins (RFNBOs), including hydrogen, with a GHG emissions savings threshold of at least 70pc.

The commission has confirmed the removal of provisions that allow advanced biofuels to benefit from being counted at twice their energy content, and renewable electricity for road transport four times or 1.5 times if supplied for rail transport. But the share of advanced biofuels and biogas and RFNBOs used in aviation and maritime are to be counted at 1.2 times their energy content.

Renewable hydrogen and ammonia, advanced sustainable biofuels and bio-LNG may benefit from a 10-year tax break under the proposed legislation. The commission suggests increased tax rates based on energy content should target fossil fuels. And sustainable aviation fuels (SAFs) also receive a boost under the proposals, with aircraft landing at EU airports set a 2pc blended SAF target by 2025, 5pc by 2030, 20pc by 2035, 32pc by 2040 and 63pc by 2050. The share of synthetic aviation fuels, including hydrogen, rises from 0.7pc by 2030 to 11pc by 2045 and 28pc by 2050.

Biofuels challenge

While higher renewables targets will promote biofuels in transport, tougher CO2 standards for passenger cars could prove a challenge to traditional biofuels. The commission has proposed reducing the CO2 standard by 55pc by 2030 compared with the 2020-21 target of 95g CO2/km. And from 2035, it has proposed that all new cars and vans need to reach zero emissions, signalling the gradual phase-out of the internal combustion engine.

CO2 standards for cars should include more than just one technology and recognise the benefits of renewable fuels like ethanol to reduce emissions, according to Emmanuel Desplechin, secretary general of European renewable ethanol association ePURE. Similarly, the European Biodiesel Board (EBB) says the package of measures "severely" limits biodiesel's role in transport and fails to provide support and incentives, notably for sustainable biodiesel in hard-to-decarbonise transport sectors such as freight, aviation and maritime.

The European Automobile Manufacturers' Association (ACEA) said the proposed 55pc CO2 cut for cars will be "very challenging" and requires a binding target for EU states to build up charging and refuelling infrastructure. Banning a single technology is not a rational way forward at this stage, ACEA said.

Meanwhile, the European Waste-based & Advanced Biofuels Association (EWABA) called for further measures to ensure the promotion of waste-based and advanced biodiesel, which can attain upwards of 90pc GHG savings compared to fossil diesel. Including waste lipids in the SAF blending mandate will lead to the "immediate" collapse of the EU's waste and advanced biodiesel industry due to the lack of feedstock to process, according to EWABA. But it welcomed a proposed change to the EU's Fuel Quality Directive to push market uptake of B10 – diesel containing up to 10pc fatty acid methyl esters (Fame) – via an EU-wide B7 protection grade.

By Dafydd ab Iago

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