

Today's Outright Close Spot Jet Fuel Prices (4:30 PM Singapore)

Market (\$/bbl)	Low	High	Mean	Change
FOB SINGAPORE	130.92	131.02	130.97	0.87
FOB ARAB GULF LR1	127.74	127.84	127.79	0.88
FOB ARAB GULF LR2	127.77	127.87	127.82	0.87
FOB TAIWAN	131.22	131.32	131.27	0.86
FOB KOREA	131.12	131.22	131.17	0.86

Today's Outright Close Spot Gas Oil Prices (4:30 PM Singapore)

Market (\$/bbl)	Low	High	Mean	Change
FOB SINGAPORE	145.80	145.90	145.85	-0.48
FOB ARAB GULF LR1	142.41	142.51	142.46	-0.49
FOB ARAB GULF LR2	142.45	142.55	142.50	-0.48
FOB TAIWAN	142.96	143.06	143.01	1.07
FOB KOREA	142.81	142.91	142.86	1.07

Today's Physical Spot Differential for Jet Fuel and Gas Oil

Market (\$/bbl)	Jet Fuel	Change	Gas Oil	Change
FOB SINGAPORE	0.85	0.01	5.49	0.01
FOB ARAB GULF LR1	3.19	0.00	3.38	0.00
FOB ARAB GULF LR2	3.15	0.00	3.34	0.00
FOB TAIWAN	1.15	0.00	2.65	1.55
FOB KOREA	-36.13	-3.52	2.50	1.55

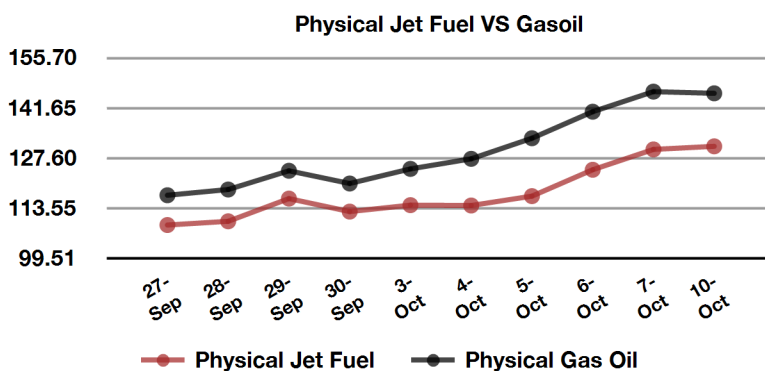


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Jet Fuel Swaps Mid-Day (\$/bbl)

Laycan	Low	High	Mean	Change
OCT	132.44	132.54	132.49	3.90
NOV	131.56	131.66	131.61	3.74
DEC	128.91	129.01	128.96	3.39

Gas Oil Swaps Mid-Day (\$/bbl)

Laycan	Low	High	Mean	Change
OCT	146.11	146.21	146.16	3.89
NOV	139.41	139.51	139.46	3.79
DEC	134.41	134.51	134.46	3.39

Jet Fuel Swaps Close (\$/bbl)

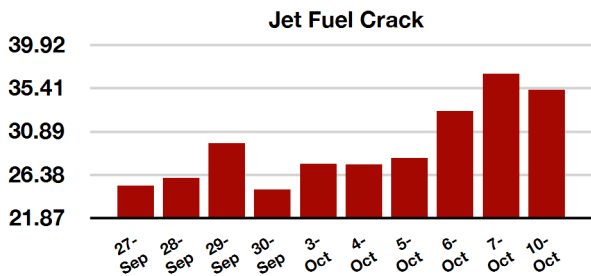
Laycan	Low	High	Mean	Change
OCT	130.75	130.85	130.80	0.99
NOV	129.25	129.35	129.30	0.98
DEC	126.29	126.39	126.34	0.56

Gas Oil Swaps Close (\$/bbl)

Laycan	Low	High	Mean	Change
OCT	142.98	143.08	143.03	-0.37
NOV	137.05	137.15	137.10	0.60
DEC	132.59	132.69	132.64	0.90

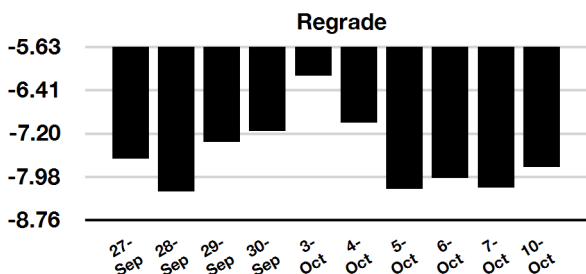
Today's Jet Fuel Crack Assessments (\$/bbl)

Laycan	Low	High	Mean	Change
NOV	35.21	35.31	35.26	-1.65
DEC	35.09	35.19	35.14	-1.97
JAN	34.68	34.78	34.73	-2.19



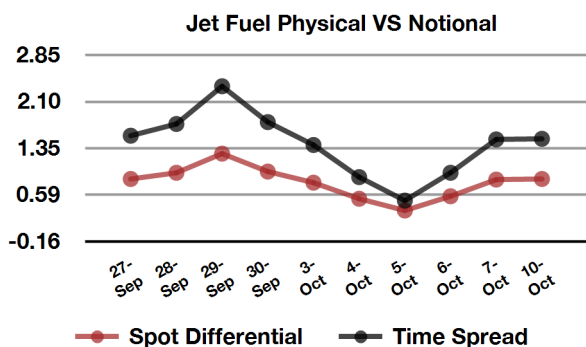
Regrade Close (\$/bbl)

Laycan	Low	High	Mean	Change
NOV	-7.85	-7.75	-7.80	0.38
DEC	-6.35	-6.25	-6.30	-0.34
JAN	-5.25	-5.15	-5.20	-0.34



Spot Differential & Time Spread (\$/bbl)

Jet Fuel	Physical	Change	Spread	Change
	0.85	0.01	1.50	0.01



FOB Singapore Spot Differential Calculation

Date	Bid	Offer	Deal	Diff
25-Oct				0.85
26-Oct				0.85
27-Oct				0.85
28-Oct				0.85
29-Oct				0.85
30-Oct				0.85
31-Oct				0.85
1-Nov				0.85
2-Nov				0.85
3-Nov				0.85
4-Nov				0.85
5-Nov				0.85
6-Nov				0.85
7-Nov				0.85
8-Nov				0.85
9-Nov				0.85
Notional Diff	0.85	Avg	0.85	

OPIS Asia Methodology

OPIS Singapore uses an average of daily forward paper/swaps value as a basis of our Asian daily assessments.

Jet Fuel and Gas Oil assessments generally reflect pricing of products loading 15 to 30 days from the date of publication. In other words, a report for March 1 will reflect reflection of forward prices from March 16-31.

In our assessments, we use a variety of inputs which include outright, floating as well as a combination of both in terms of daily bids, offers and strike prices in the respective oil product market on both the physical and swaps trading.

We calculate the mid-value of the trading window by using the weighted average calculation that use the curve of 1st and 2nd cycle of swaps value. Then we add a discount or premium to calculate FOB Singapore quotes.

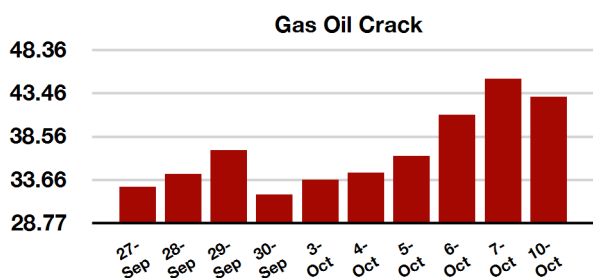
For discount/premium assessments for FOB Singapore quotes, we take transactions with a size of 100,000 barrels for jet fuel, 150,000 barrels of gas oil (10 ppm sulfur).

FOB AG jet fuel and gas oil assessments are a simple freight netback from FOB Singapore quotes.

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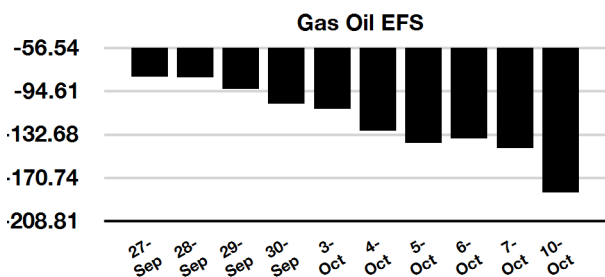
Today's Gas Oil Crack Assessments (\$/bbl)

Laycan	Low	High	Mean	Change
NOV	43.01	43.11	43.06	-2.03
DEC	41.39	41.49	41.44	-1.63
JAN	39.88	39.98	39.93	-1.85



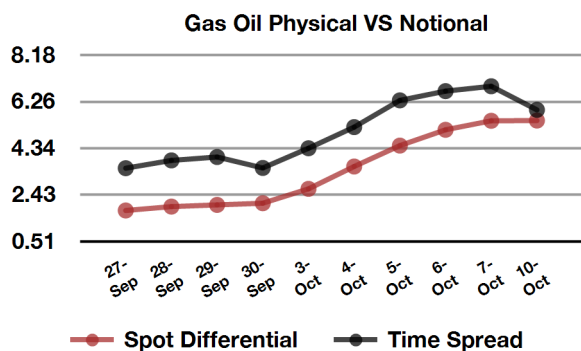
West-East Spread Close (\$/mt)

Laycan	ICE	Change	EFS	Change
OCT	1249.00	35.75	-183.43	-38.51
NOV	1136.50	19.00	-115.11	-14.53
DEC	1073.75	15.25	-85.58	-8.54



Spot Differential & Time Spread (\$/bbl)

	Physical	Change	Spread	Change
Gas Oil	5.49	0.01	5.93	-0.97



FOB Singapore Spot Differential Calculation

Date	Bid	Offer	Deal	Diff
25-Oct			6.57	6.57
26-Oct			6.57	6.57
27-Oct			6.57	6.57
28-Oct			6.57	6.57
29-Oct			6.57	6.57
30-Oct				5.00
31-Oct				5.00
1-Nov				5.00
2-Nov				5.00
3-Nov				5.00
4-Nov				5.00
5-Nov				5.00
6-Nov				5.00
7-Nov				5.00
8-Nov				5.00
9-Nov				5.00
Notional Diff		5.00	Avg	5.49

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The calculations for FOB Taiwan and FOB Korea gas oil is following: (FOB Singapore quotes minus FOB Singapore discount/premium) + discount/premium for each market.

FOB Korea jet fuel calculation uses OPIS US West Coast benchmark as a basis. We use netback from LAX Jet Fuel prices by using TC 11. (South Korea-USWC) We also reflect the changes for US Heating Oil futures between US Close time and Singapore 4:30 pm then add spot differential.

Editors confirm and record deals done with a size of 30,000-60,000 mt for FOB Taiwan and FOB Korea discount/premium assessments.

For more information, visit www.opisnet.com/about/methodology.aspx.

JET FUEL

- Cash differentials rise to more-than one-week high
- Market stays quiet as North Asian traders are away for holidays
- Taiwan demand looks to strengthen as it reopens borders for tourists

Asia jet fuel crack fell \$1.65/bbl to \$35.26/bbl and the spot prices rose \$0.87/bbl to \$130.97/bbl, the highest since September 13.

Cash differentials edged up by \$0.01/bbl to \$0.85/bbl, the highest since September 30, and the prompt month time spread widened by \$0.01/bbl to \$1.50/bbl in backwardation.

The regrade was up by \$0.38/bbl from the previous session to minus \$7.80/bbl in favor of gasoil.

During the afternoon trade session, there was no valid bid, offer or trade done.

Market activities remain quiet even as Chinese trading firms resume operations from the week-long holidays, sources said.

This comes as traders from Taiwan, South Korea and Japan were away for respective holidays on Monday, according to traders.

Trade activities are expected to resume later in the week when traders from the North Asian regions return from holidays.

Over in Taiwan, it was heard that Formosa Petrochemical Corp. (FPCC) will be sitting out of jet fuel spot sale as Taiwan moves to reopen its borders to foreign visitors from October 13, a trader said.

Fellow refiner, CPC Corp. was said to have bought 300,000 bbls of jet fuel cargo for Oct. 15-30 delivery at a premium of around \$4.80/bbl to Singapore jet fuel assessments, as reported previously.

CPC Corp. has skipped jet fuel offers since August as it focused on supplying to the domestic market, a market source said previously.

It last sold 150,000 bbls of jet fuel for July 4-11 loading from Kaohsiung at a premium of \$3.30-\$3.50/bbl to Singapore jet fuel assessments, as reported previously.

GASOIL

- Limited discussion with Japan, South Korea on holidays
- East-West EFS value closed at lowest since March 9
- GS Caltex sells 300kb gasoil for Nov. 8-10 loading at plus \$2.60-2.70/bbl

Asia spot gasoil prices were slightly softer by \$0.48/bbl to \$145.85/bbl, while the crack value fell \$2.03/bbl to plus \$43.06/bbl.

The cash differentials were slightly higher by \$0.01/bbl to plus \$5.49/bbl, while the prompt month time spread narrowed by \$0.97/bbl to \$5.93/bbl in backwardation.

During the afternoon trade session, BP bought two Oct. 25-29 loading parcels at plus \$6.80/bbl from Shell.

Market discussion was thin at the start of the week as both Japanese and South Korean players were side-lined from public holidays. With the Chinese market already reopened today, market activities should pick up over the course of the week.

Both buying and selling interest in gasoil should remain high this week from the large price difference with Europe, and high crack value and refining margins compared to other refined oil products.

The East-West EFS value closed today at minus \$183.43/mt, lowest since March 9.

However, Asian players are cautious of how much exports will be available from Chinese refiners as a new batch of export quotas had been released, with more clarity expected in the coming days.

GS Caltex was heard to have sold 300,000 bbl of 10 ppm sulfur gasoil for Nov. 8-10 loading at plus \$2.60-2.70/bbl to Singapore quotations, according to market sources. The price could not be confirmed with the company.

GS Caltex also offered six more cargoes of various grades and loading throughout November but there was no news on any further sales.

MARKET NEWS

Australia's ARENA to Help Fund FEED For Ammonia Plant to Use Green Hydrogen

The Australian Renewable Energy Agency (ARENA) said Friday it will help fund the front-end engineering design (FEED) study for the proposed conversion of an existing ammonia plant in Gibson Island, Queensland to run on green hydrogen instead of natural gas.

ARENA will provide \$8.7 million (reported as 13.7 million Australian dollars) in funding to green hydrogen developer Fortescue Future Industries (FFI) to support the FEED phase of building a hydrogen electrolysis facility at Incitec Pivot Ltd. (IPL)'s Gibson Island ammonia plant and retrofitting the plant to use 100% renewable hydrogen, according to a news release Friday.

The cost of the FEED phase is estimated at \$24 million (A\$38 million), FFI said in a news release Friday.

FFI and IPL aim to repurpose and decarbonize the plant which is slated to close in early 2023. The project aims to deploy a 500-megawatt electrolyzer capable of producing up to 70,000 metric tons (mt)/year of green hydrogen which will be used to produce up to 400,000 mt/year green ammonia, according to the news releases.

If successful, the project would generate important learnings for the industry and help accelerate the development of a renewable ammonia industry in Australia, ARENA said.

The ammonia plant and Brisbane port conversion will also be the first in the world, according to FFI.

FFI said a final investment decision is targeted for 2023 with first production expected around 2025.

Ammonia production is a highly energy intensive process that produces about 500 million mt/year of carbon dioxide, or around 1.8% of global carbon emissions, ARENA said. Around 80% of the world's ammonia output is used for making fertilizers with the remaining 20% used in industrial applications including explosives and plastics.

FFI and IPL in December 2021 announced the commencement of the FEED study, a month after IPL said it will close the Gibson Island plant after failing to secure an economically viable long-term supply of

natural gas from domestic producers, as reported.

--Reporting by Trisha Huang, thuang@opisnet.com; Carrie Ho, cho@opisnet.com