Platts
S&P Global
Commodity Insights

Specifications Guide
Europe and Africa Crude Oil

Latest update: November 2023

Definitions of the trading locations for which Platts publishes daily indexes or assessments

The following specifications guide contains the primary specifications for Platts crude oil assessments in Europe and Africa. All the assessments listed here employ Platts Assessments Methodology, as published at https://www.spglobal.com/platts/plattscontent/_assets/_files/en/our-methodology/methodology-specifications/platts-assessments-methodology-guide.pdf.

These guides are designed to give Platts subscribers as much information as possible about a wide range of methodology and specification questions.

This guide is current at the time of publication. Platts may issue further updates and enhancements to this guide and will announce these to subscribers through its usual publications of record. Such updates will be included in the next version of this guide. Platts editorial staff and managers are available to provide guidance when assessment issues require clarification.

North Sea

Assessment	Code	Mavg	Pavg	Wavg	Contract basis	Location	Delivery period	Min size	Max size	Currency	UOM
Dated Brent FOB											
Dated Brent (FOB)	PCAAS00	PCAAS03			FOB	North Sea	10-M+1	700,000	700,000	US $	Barrels
Dated North Sea Light (FOB)	AAOFD00	AAOFD03			FOB	North Sea	10-M+1	700,000	700,000	US $	Barrels
Dated Brent Differential (FOB)	AAXEZ00	AAXEZ03			FOB	North Sea	10-M+1	700,000	700,000	US $	Barrels
Dated Brent Euro (FOB)	AAPYR00	AAPYR03			FOB	North Sea	10-M+1	700,000	700,000	Euro	Barrels
Dated Brent 5 Day Rolling Average (FOB)	AAIVI00				FOB	North Sea	10-M+1	700,000	700,000	US $	Barrels
Brent/Ninian Blend (FOB)	AAVJA00	AAVJA03			FOB	Sullom Voe	10-M+1	700,000	700,000	US $	Barrels
BNB vs North Sea Dated Brent Strip (FOB)	AAVJB00	AAVJB03		AAVJA04	FOB	Sullom Voe	10-M+1	700,000	700,000	US $	Barrels
Forties Blend (FOB)	PCADJ00	PCADJ03			FOB	Hound Point	10-M+1	700,000	700,000	US $	Barrels
Forties Blend vs North Sea Dated Brent Strip (FOB)	AAGWZ00	AAGXA00			FOB	Hound Point	10-M+1	700,000	700,000	US $	Barrels
Oseberg (FOB)	PCAEU00	PCAEU03			FOB	Sture	10-M+1	700,000	700,000	US $	Barrels
Oseberg vs North Sea Dated Brent Strip (FOB)	AAGXF00	AAGXG00			FOB	Sture	10-M+1	700,000	700,000	US $	Barrels
Ekofisk (FOB)	PCADI00	PCADI03			FOB	Teesside	10-M+1	700,000	700,000	US $	Barrels
Ekofisk vs North Sea Dated Brent Strip (FOB)	AAGXB00	AAGXC00			FOB	Teesside	10-M+1	700,000	700,000	US $	Barrels
Troll (FOB)	AAWEX00	AAWEX03			FOB	Mongstad	10-M+1	700,000	700,000	US $	Barrels
Troll vs North Sea Dated Brent Strip (FOB)	AAWEY00	AAWEY03			FOB	Mongstad	10-M+1	700,000	700,000	US $	Barrels
Freight Adjustment Factors											
Freight Adjustment Factor (FAF) Weighting UKC-UKC	FAFWA00					UKC					Percentage
FAF Sullom Voe-Rotterdam $/bbl	FSVRM00	FSVRM03				North Sea				US $	Barrels
FAF Hound Point-Rotterdam $/bbl	FHPRM00	FHPRM03				North Sea				US $	Barrels
FAF Sture-Rotterdam $/bbl	FSTRM00	FSTRM03				North Sea				US $	Barrels
FAF Teesside-Rotterdam $/bbl	FTSRM00	FTSRM03				North Sea				US $	Barrels
FAF Mongstad-Rotterdam $/bbl	FMGRM00	FMGRM03				North Sea				US $	Barrels
FAF North Sea-Rotterdam $/bbl	FSFRM00	FSFRM03				North Sea				US $	Barrels
Cash BFOE And Related Instruments											
Brent M1 (London close)	PCAAQ00	PCAAQ03			FOB	North Sea	M+2	100,000	700,000	US $	Barrels
Brent M1 (Singapore close)	PCAJG00	PCAJH03			FOB	North Sea	M+2	100,000	700,000	US $	Barrels

North Sea

Assessment	Code	Mavg	Pavg	Wavg	Contract basis	Location	Delivery period	Min size	Max size	Currency	UOM
Brent M2 (London close)	PCAAR00	PCAAR03			FOB	North Sea	M+3	100,000	700,000	US $	Barrels
Brent M2 (Singapore close)	PCAJI00	PCAJJ03			FOB	North Sea	M+3	100,000	700,000	US $	Barrels
Brent M3 (London close)	PCARR00	PCARR03			FOB	North Sea	M+4	100,000	700,000	US $	Barrels
Brent M3 (Singapore close)	PCAJ000	PCAJ003			FOB	North Sea	M+4	100,000	700,000	US $	Barrels
Brent EFP M1	AAGVX00	AAGVX03			FOB	North Sea	M+2	100,000	700,000	US $	Barrels
Brent EFP M2	AAGVY00	AAGVY03			FOB	North Sea	M+3	100,000	700,000	US $	Barrels
Brent EFP M3	AAMVY00	AAMVY03			FOB	North Sea	M+4	100,000	700,000	US $	Barrels
Brent M1 vs WTI M2	AALAU00	AALAU03								US $	Barrels
Brent M2 vs WTI M3	AALAV00	AALAV03								US $	Barrels
Brent M3 vs WTI M4	AALAY00	AALAY03								US $	Barrels
De-Escalator And Quality Premiums											
Forties Sulfur De-Escalator	AAUXL00									US $	Barrels
Quality Premium Oseberg Current Month	AAXDW00									US $	Barrels
Quality Premium Oseberg Mo01	AAXDX00									US $	Barrels
Quality Premium Ekofisk Current Month	AAXDY00									US $	Barrels
Quality Premium Ekofisk Mo01	AAXDZ00									US $	Barrels
Quality Premium Troll Current Month	ATFNB00									US $	Barrels
Quality Premium Troll Mo01	ATFNA00									US $	Barrels
Dated Brent CIF Rotterdam											
Dated Brent (CIF)	PCAKM00	PCAKM03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Dated North Sea Light (CIF)	AAVJG00	AAVJG03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Dated Brent vs North Sea CIF Dated Brent Strip	AAVJF00	AAVJF03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Dated Brent Euro (CIF)	PCAKN00	PCAKN03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Brent/Ninian Blend (CIF)	PCAKP00	PCAKP03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
BNB vs North Sea CIF Dated Brent Strip	AAVJC00	AAVJC03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Forties Blend (CIF)	PCAKR00	PCAKR03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Forties Blend vs North Sea CIF Dated Brent Strip	AAHXC00	AAHXC03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Oseberg (CIF)	PCAKT00	PCAKT03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Oseberg vs North Sea CIF Dated Brent Strip	AAHXD00	AAHXD03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Ekofisk (CIF)	PCAKV00	PCAKV03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Ekofisk vs North Sea CIF Dated Brent Strip	AAHXB00	AAHXB03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Troll (CIF)	AAXJO00	AAXJO03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Troll vs North Sea CIF Dated Brent Strip	AAXJN00	AAXJN03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
WTI Midland (CIF)	WMCRD00	WMCRD03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
WTI Midland vs North Sea CIF Dated Brent Strip	WMCRB00	WMCRB03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
North Sea Regional Crudes											
North Sea Basket	AAGIZ00	AAGIY00			FOB	North Sea	10-M+1	700,000	700,000	US $	Barrels
Statfjord (FOB)	PCAEE00	PCAEE03			FOB	Statfjord FPSO	10-M+1	800,000	855,000	US $	Barrels

North Sea

Assessment	Code	Mavg	Pavg	Wavg	Contract basis	Location	Delivery period	Min size	Max size	Currency	UOM
Statfjord vs North Sea Dated Brent Strip (FOB)	AAGXD00	AAGXE00			FOB	Statfjord FPSO	10-M+1	800,000	855,000	US $	Barrels
Flotta Gold	PCACZ00	PCACZ03			FOB	Flotta	10-M+1	600,000	600,000	US $	Barrels
Flotta Gold vs North Sea Dated Brent Strip	AAGXH00	AAGXI00			FOB	Flotta	10-M+1	600,000	600,000	US $	Barrels
Duc	AAWEZ00	AAWEZ03			FOB	Fredericia	10-M+1	600,000	600,000	US $	Barrels
Duc vs North Sea Dated Brent Strip	AAWFL00	AAWFL03			FOB	Fredericia	10-M+1	600,000	600,000	US $	Barrels
Grane	PCALA00	PCALA03			FOB	Sture	10-M+1	600,000	600,000	US $	Barrels
Grane vs North Sea Dated Brent Strip	PCALB00	PCALB03			FOB	Sture	10-M+1	600,000	600,000	US $	Barrels
Johan Sverdrup	AJSVA00	AJSVA03			FOB	Mongstad	10-M+1	600,000	600,000	US $	Barrels
Johan Sverdrup vs North Sea Dated Brent Strip	AJSVB00	AJSVB03			FOB	Mongstad	10-M+1	600,000	600,000	US $	Barrels
Johan Sverdrup CIF Rotterdam	AJSWA00	AJSWA03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Johan Sverdrup vs North Sea CIF Dated Brent Strip	AJSWB00	AJSWB03			CIF	Rotterdam	12-M+1	665,000	700,000	US $	Barrels
Statfjord (CIF)	AASAS00	AASAS03			CIF	Rotterdam	12-M+1	800,000	855,000	US $	Barrels
Statfjord vs North Sea CIF Dated Brent Strip	AASAT00	AASAT03			CIF	Rotterdam	12-M+1	800,000	855,000	US $	Barrels
Gullfaks	AASAU00	AASAU03			CIF	Rotterdam	12-M+1	800,000	855,000	US $	Barrels
Gullfaks vs North Sea CIF Dated Brent Strip	AASAV00	AASAV03			CIF	Rotterdam	12-M+1	800,000	855,000	US $	Barrels
Alvheim	ALVHA00	ALVHA03			CIF	Rotterdam	12-M+1	520,000	780,000	US $	Barrels
Alvheim vs North Sea CIF Dated Brent Strip	ALVHB00	ALVHB03			CIF	Rotterdam	12-M+1	520,000	780,000	US $	Barrels
Asgard	ASGCA00	ASGCA03			CIF	Rotterdam	12-M+1	650,000	855,000	US $	Barrels
Asgard vs North Sea CIF Dated Brent Strip	ASGCB00	ASGCB03			CIF	Rotterdam	12-M+1	650,000	855,000	US $	Barrels
US Delivered Crude Europe											
WTI Midland DAP basis Rotterdam	AWTIC00	AWTIC03			DAP	Rotterdam	20-60 days	700,000	700,000	US $	Barrels
WTI Midland DAP basis Rotterdam vs Fwd Dated Brent	AWTID00	AWTID03			DAP	Rotterdam	20-60 days	700,000	700,000	US $	Barrels
WTI Midland DAP basis Augusta	AWTIA00	AWTIA03			DAP	Augusta	20-60 days	700,000	700,000	US $	Barrels
WTI Midland DAP basis Augusta vs Fwd Dated Brent	AWTIB00	AWTIB03			DAP	Augusta	20-60 days	700,000	700,000	US $	Barrels
Eagle Ford 45 DAP basis Rotterdam	AEFAC00	AEFAC03			DAP	Rotterdam	20-60 days	700,000	700,000	US $	Barrels
Eagle Ford 45 DAP basis Rotterdam vs Fwd Dated Brent	AEFAD00	AEFAD03			DAP	Rotterdam	20-60 days	700,000	700,000	US $	Barrels
Eagle Ford 45 DAP basis Augusta	AEFAA00	AEFAA03			DAP	Augusta	20-60 days	700,000	700,000	US $	Barrels
Eagle Ford 45 DAP basis Augusta vs Fwd Dated Brent	AEFAB00	AEFAB03			DAP	Augusta	20-60 days	700,000	700,000	US $	Barrels
Brent CFDS											
Brent CFD (Week 1)	PCAKA00							100,000	100,000	US $	Barrels
Brent CFD (Week 2)	PCAKC00							100,000	100,000	US $	Barrels
Brent CFD (Week 3)	PCAKE00							100,000	100,000	US $	Barrels
Brent CFD (Week 4)	PCAKG00							100,000	100,000	US $	Barrels
Brent CFD (Week 5)	AAGLU00							100,000	100,000	US $	Barrels
Brent CFD (Week 6)	AAGLV00							100,000	100,000	US $	Barrels
Brent CFD (Week 7)	AALCZ00							100,000	100,000	US $	Barrels
Brent CFD (Week 8)	AALDA00							100,000	100,000	US $	Barrels

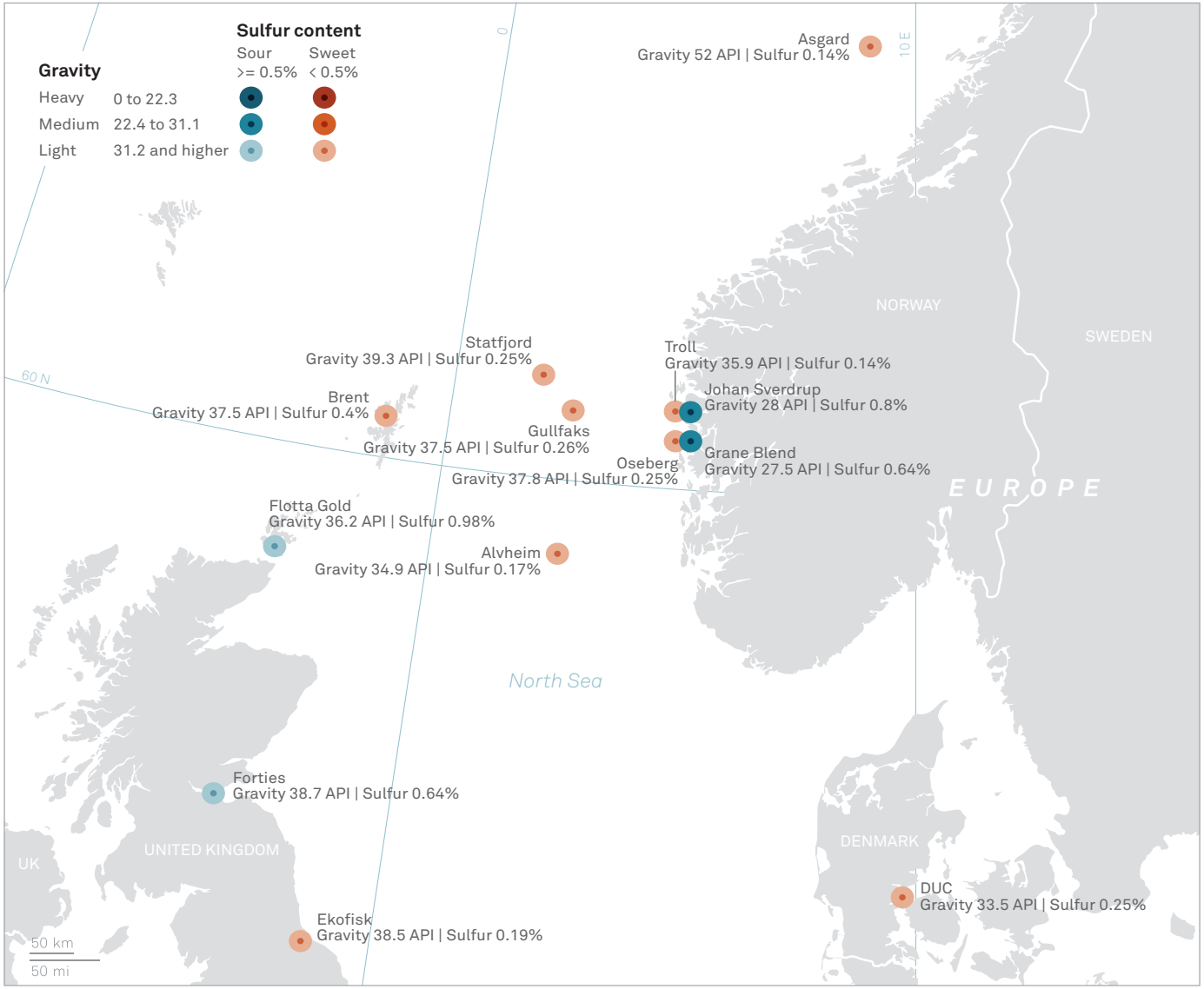
North Sea

Assessment	Code	Mavg	Pavg	Wavg	Contract basis	Location	Delivery period	Min size	Max size	Currency	UOM
Forward Dated Brent Curves											
North Sea Dated Brent Strip	AAKWH00	AAKWI00					10-M+1			US $	Barrels
North Sea CIF Dated Brent Strip	AAHXE00	AAHXE03					12-M+1			US $	Barrels
Mediterranean Dated Brent Strip	AALDF00	AALDG00					13-28			US $	Barrels
BTC Dated Brent Strip	AAUFI00	AAUFI03					13-33			US $	Barrels
15-45 Day Dated Strip	AALGM00	AALGN00					15-45			US $	Barrels
30-60 Day Dated Brent Strip	AAXRK00	AAXRK03					30-60			US $	Barrels
33-63 Day Dated Brent Strip	AALEJ00	AALEJ03					33-63			US $	Barrels
23-63 Day Dated Brent Strip	ADBRA00	ADBRA03					20-60			US $	Barrels

Approved USGC WTI Midland Crude Oil Terminals

Terminal	Location	No. of Berths	Maximum Draft (ft)	Maximum LOA(ft) / Vessel Type	No. of Tanks	Storage Capacity for Crude Oil (bbls)	Ownership
Buckeye South Texas Gateway Terminal	Corpus Christi, TX	2	46	1,093/VLCC		8,000,000	Buckeye Partners L.P (50%), Phillips 66 Company (25%), Marathon Petroleum Company LP (25%)
Buckeye Texas Hub Terminal	Corpus Christi, TX	1	46	900/Suezmax		1,600,000	Buckeye Partners L.P. (100%)
Eagle Ford Terminals Corpus Christi	Corpus Christi, TX	2	45	922/Suezmax	4	1,260,000	Plains Marketing L.P. (50%), Enterprise Products Operating LLC (50%)
Enbridge Ingleside Energy Center	Corpus Christi, TX	3	52	VLCC	32	15,000,000	Enbridge (100%)
EPIC Crude Terminals	Corpus Christi, TX	1		835/Aframax		3,440,000	EPIC Crude Holdings (100%)
Flint Hills Resources Ingleside Terminal	Corpus Christi, TX	1		Suezmax	17	3,000,000	Koch Industries, Inc. (100%)
NuStar Texas North Beach Terminal	Corpus Christi, TX	2		Suezmax	10	3,700,000	NuStar Logistics LP (100%)
Pin Oak Terminals Corpus Christi	Corpus Christi, TX	1	47	965/Suezmax	24	2,900,000	Pin Oak Group LLC (100%)
Energy Transfer Houston Terminal	Houston, TX	2	45	950/Suezmax	143	7,000,000	Energy Transfer LP (100%)
Enterprise Houston Ship Channel Terminal	Houston, TX	7	45	950/Suezmax	82	23,600,000	Enterprise Products Operating LLC (100%)
Seabrook Logistics Terminal	Houston, TX	2	45	910/Suezmax	24	3,996,000	Magellan OLP, L.P (50%), LBC Bayport Terminal, LLC (50%)
Seaway Texas City Terminal	Houston, TX	2	45	VLCC	7	4,000,000	Seaway Crude Holdings LLC (100%)

Note: Terminal information provided for reference only and reflects most recent available data



Source: S&P Global Commodity Insights

North Sea

Dated Brent

Platts North Sea crude oil assessments reflect the value of physical crude oil loading 10 days forward from the date of publication to one full month ahead. The assessed date range will typically stretch to the equivalent date of the following month. In practice this means, for example, that on May 1, 2020, the assessment range for North Sea crude assessments will be May 11 to June 1. As a result, the precise number of days in the Dated Brent assessment will vary depending on the length of the pricing month. North Sea crude grades are generally traded either as a differential to Dated Brent or as a differential to the Cash Brent-Forties-Oseberg-Ekofisk-Troll-WTI Midland (Cash BFOE) derivatives contract.

Platts publishes both an outright Dated Brent assessment and a differential assessment to forward Dated Brent. Platts Dated Brent assessments reflect the most competitive value of physical Brent, Forties, Oseberg, Ekofisk, Troll, and WTI Midland (physical BFOE) on every single date of the assessment range, with the absolute values of Oseberg, Ekofisk, and Troll adjusted by the Quality Premium. In this way, Dated Brent can reflect any one, or more, of the six grades in the total BFOE basket across the assessment period.

Example: For an assessment range of April 14 to May 4, Forties is the lowest assessed crude grade of the five BFOE grades from April 14 to April 23, but Brent/Ninian Blend (BNB) is lower than Forties from April 23 to May 4. Dated Brent would thus reflect the value of Forties April 14-23, but the value of BNB for the balance of the assessed period.

The Dated Brent assessment reflects volume loaded FOB at each respective loading terminal for Brent/Ninian Blend, Forties, Oseberg, Ekofisk, and Troll, and FOB-equivalent North Sea volume for WTI Midland. Platts considers bids and offers that specify a minimum three-day loading laycan for FOB Brent/

Ninian Blend, Forties, Oseberg, Ekofisk, and Troll cargoes. If a buyer bids for a loading date range of more than three days, the seller must specify a three-day laycan at the time of trade. Conversely, if a seller offers a loading date range of more than three days, the buyer must also specify the three-day laycan at the time of trade.

Platts also considers offers for, and any resulting transactions of, recently loaded Brent/Ninian Blend, Forties, Oseberg, Ekofisk, and Troll crude oil via ship-to-ship (STS) transfers at Scapa Flow in Scotland, provided the seller agrees to cover all additional costs incurred by the buyer lifting oil on an STS basis. Offers on an STS basis at Scapa Flow must be submitted before 15:45:00 London time for inclusion in the Platts MOC assessment process and must include a named vessel. In all STS deliveries, the quality of the supplied crude oil must be congruent with the quality recorded at the time of its original FOB loading.

Platts also reflects competitive offers for Brent, Forties, Oseberg, Ekofisk, and Troll cargoes on a CIF Rotterdam basis in its Dated Brent crude oil benchmark through the use of the Freight Adjustment Factor (FAF). Offers should be of a maximum laycan of five days, to be narrowed to three days at time of nomination, which should be seven full calendar days ahead of the first day of the original delivery laycan. Requests to convert a CIF trade to an FOB basis should be mutually agreed between the two counterparties. From June-2023 arriving cargoes onwards Platts also reflects competitive bids and offers of WTI Midland crude on a CIF Rotterdam basis.

From June 2023 cargoes, Platts reflects full 700,000 barrel Aframax cargoes with an operational tolerance of plus or minus 1% in its FOB STS Scapa Flow and Dated Brent CIF Rotterdam assessments, but includes Aframax cargoes with a minimum stated volume of 665,000 barrels and an operational tolerance of plus/minus 1%. Offers with a volume less than 700,000 barrels must meet the minimum volume requirement of 665,000 barrels plus/minus 1% and continue to reflect the standard cargo quality for that grade. Offers and trades with a volume less than 700,000 barrels may be subject to normalization for assessment purposes. These volume guidelines replace the mother/daughter ship restrictions on FOB STS Scapa Flow and CIF Rotterdam cargo offers in the Dated Brent Market on Close assessment process.

Should a firm CIF Rotterdam offer for any of Brent, Forties, Oseberg, Ekofisk, or Troll – after adjusting for freight, port fees and sailing time – be more competitive than a comparable bid for those grades on an FOB basis, the CIF Rotterdam offer would take precedence in the final assessment of Dated Brent on the loading dates in question. From June-2023 cargoes, CIF Rotterdam WTI Midland bids and offers are reflected in FOB Dated Brent on a FOB-equivalent basis.

The FAF is calculated from the 10-day rolling freight average of the Dirty Cross-UK/Continent 80,000 mt freight assessment as published in Platts Dirty Tankerwire and in the Platts Pricing Database under code TDUUW00. The FAF is published ahead of the assessment for which they will be used at 11 am London time. A factor of 80% will be applied for all BFOE cargoes for the following six freight routes:

Sullom-Voe to Rotterdam

Hound Point to Rotterdam

Sture to Rotterdam

Teesside to Rotterdam

Mongstad to Rotterdam

North Sea to Rotterdam

Dated Brent CIF Rotterdam

Platts publishes assessments for Dated Brent and the six physical BFOE grades on a CIF Rotterdam basis, reflecting the value of North Sea crude oil delivered at Rotterdam between 12 days and one month ahead. Platts currently publishes Dated Brent CIF Rotterdam as both an outright price and a differential based on the lowest-priced grade of Brent, Forties, Oseberg, Ekofisk, Troll, and WTI Midland delivered to Rotterdam for each day in the assessment period. The CIF Rotterdam assessments for Dated Brent and each individual BFOE grade reflect delivery dates rather than loading dates and include any relevant freight costs and quality premiums. Platts publishes outright and differential assessments for each of the six crude grades reflected in Dated Brent CIF Rotterdam.

Incoterms: Platts reflects delivered cargo bids and offers using CIF, or other relevant incoterms such as DES, DAP and CFR where this is a recognized part of a company's regular trading activity. Platts does not reflect delivered cargo bids and offers using Notice Of Readiness (NOR).

Assessment Range: The Dated Brent CIF Rotterdam assessment reflects delivery dates between 12 days and one month from the date of publication. Platts will accept bids and offers for publication where the first date of the indication falls on any date within this period. Platts publishes bids and offers for a five-day delivery range, and for a longer range in which the counterpart narrows the five-day delivery range at the time of trade.

Pricing: Platts publishes bids, offers and trades pricing on a 2-1-2 around deemed Bill of Lading (B/L) basis as standard. Platts continues to publish market information pricing five days from Completion of Discharge (COD) but no longer includes that information in its MOC assessment process. Platts understands that North Sea trading typically uses Dated Brent as a pricing basis, but also reflects outright price indications and those based on Cash BFOE and ICE Brent Futures. Platts will publish bids, offers and trades using these and other reasonable pricing terms.

For the purposes of the FOB Dated Brent assessment, Platts will calculate Brent, Forties, Oseberg, Ekofisk, Troll and WTI Midland CIF Rotterdam indications back to a deemed B/L. Platts views standard journey time between point of loading and Rotterdam as one day for Forties (Hound Point), Ekofisk (Teesside) and WTI Midland (North Sea) and two days each for Brent (Sullom Voe), Oseberg (Sture) and Troll (Mongstad). In practice this means that a CIF Rotterdam Forties offer will be moved back one day from the first day of the original laycan. Platts will view all Dated Brent CIF Rotterdam indications, once priced back to deemed B/L, as pricing 2-1-2 around the deemed B/L. For example, an offer of Oseberg CIF Rotterdam delivering February 3-7 would be viewed for the purposes of assessment of having a B/L date of February 1. Consequently, pricing would be viewed as the average of the Dated Brent assessments for January 30, January 31, February 1, February 2 and February 3.

Platts understands that market practice for pricing a traded CIF Rotterdam cargo is to use the deemed B/L relative to the narrowed three-day laycan.

Previously-loaded oil: Platts reflects the delivery of pre-loaded oil that has not gone back into land-based storage, provided it meets all other Platts guidelines and the seller covers any reasonable additional costs incurred by the buyer. However, oil sourced from land-based storage other than the original loading terminal will not be included.

Title and risk on cargoes of Brent, Forties, Oseberg, Ekofisk, Troll and WTI Midland pass from a seller to a buyer at 00:01 London time on a deemed B/L ahead of the first day of the narrowed, three-day delivery window. In the case of Forties, Ekofisk and WTI Midland this is one day from the first day of the narrowed delivery laycan. In the case of Oseberg, Brent and Troll, this is two days from the first day of the narrowed delivery laycan.

Nomination: The seller must nominate the three-day delivery window and performing vessel name at least seven clear calendar days ahead of the first day of the originally-traded five-day delivery range. For example, where the original traded range is March 11-15, the seller must nominate the three-day delivery laycan and vessel by close of business on March 3. If March 3 is not a working day, then nomination should take place by close of business on the previous working day. FOB cargoes nominated against CIF MOC trades may still be considered available for FOB bids, offers and trades within the Dated Brent MOC assessment process, provided there are no pertinent supply limitations.

Operational Tolerance: Platts reflects bids, offers and trades for 700,000-barrel CIF basis Rotterdam BFOE cargoes with an operational tolerance of 1% in the seller's option, minimum stated volumes of 665,000 with an operational tolerance of 1% in the seller's option as well as fixed-volume cargoes of between 693,000 and 707,000 barrels. Operational tolerance will be determined by volume at the loading port, rather than at the delivery port. Platts expects that any disputes arising from volume loss, such as evaporation or clingage, in the transfer of crude from the loading terminal to discharge port, would be settled according to accepted market practice.

Charterparty: The Dated Brent CIF Rotterdam assessment reflects deliveries in the UK Continent (UKC) range from Gibraltar up to but not including the Baltic Sea. Platts typically views the Oresund Bridge, joining Denmark and Sweden, as the eastern extent of this range. All vessels nominated to perform on trades reported in the Dated Brent CIF Rotterdam MOC assessment process should carry the appropriate charterparty options to deliver within this stated range. Platts expects vessels nominated to perform on WTI Midland CIF Rotterdam trades to be carrying UK Continent and Mediterranean charterparty options. A buyer may request additional options from a seller at any time, and these requests must be passed on to the shipowner. A seller cannot unreasonably withhold a request for additional options beyond those required in the Platts MOC process.

Freight and Deviation: Platts has determined that the natural fixing window for Aframax vessels in the North Sea market is between 7 and 21 days prior to the first date of delivery. Buyers should not be harmed by demurrage costs incurred by the vessel charterer outside of typical market rates and practices prevailing at the time of this window. Demurrage should be relevant to the first day of the narrowed delivery laycan range. Where no mutual agreement is reached for demurrage costs for CIF Rotterdam Brent, Forties, Oseberg, Ekofisk or Troll MOC trades, Platts will expect counterparties to use the average of the cross-UK Continent 80,000 mt Aframax demurrage assessment [AMEDA00] as published in Platts Dirty Tankerwire 10 to 12 publishing days prior to the first day of the original delivery window to calculate the demurrage owed. These guidelines will be applicable to operational delays or any other instances requiring demurrage calculations.

Buyers requesting deviation should not be harmed by higher freight rates stemming from vessels chartered earlier than this window for a given delivery range. If no mutual agreement is reached for freight deviation costs for CIF Rotterdam Brent, Forties, Oseberg, Ekofisk or Troll MOC trades, Platts expects counterparties to use the average of the cross-UK-Continent 80,000 mt Aframax assessment as published in Platts Dirty Tankerwire 10 to 12 publishing days prior to the first day of the original delivery window. The lower of either the charterparty or the natural fixing window should be used to determine any reasonable cost of deviation.

Effective January 3, 2023, Platts will use the corresponding Worldscale flat rates per metric ton for the following routes in the calculation of Dated Brent CIF Rotterdam. Rates to Rotterdam from Sullom Voe (Brent), Hound Point (Forties), Sture (Oseberg), Teesside (Ekofisk), and Mongstad (Troll). The Rotterdam port charge used will be 14 cents/b.

Vessel acceptance: Offers may be made with a named or unnamed ship. If a seller offers with a named vessel, then a buyer can buy subject to vetting approval and if rejected, the deal will not be finalized. For assessment purposes, Platts will

review the quality of the vessel to determine if it should be considered in the assessment process. For an unnamed ship, the seller has the responsibility to meet the reasonable vetting requirements of a typical market participant in that region. The seller is entitled to substitute the vessel with another meeting or exceeding the same approvals at any reasonable time before delivery of the cargo. The buyer should not be financially harmed by the seller's choice to substitute a vessel.

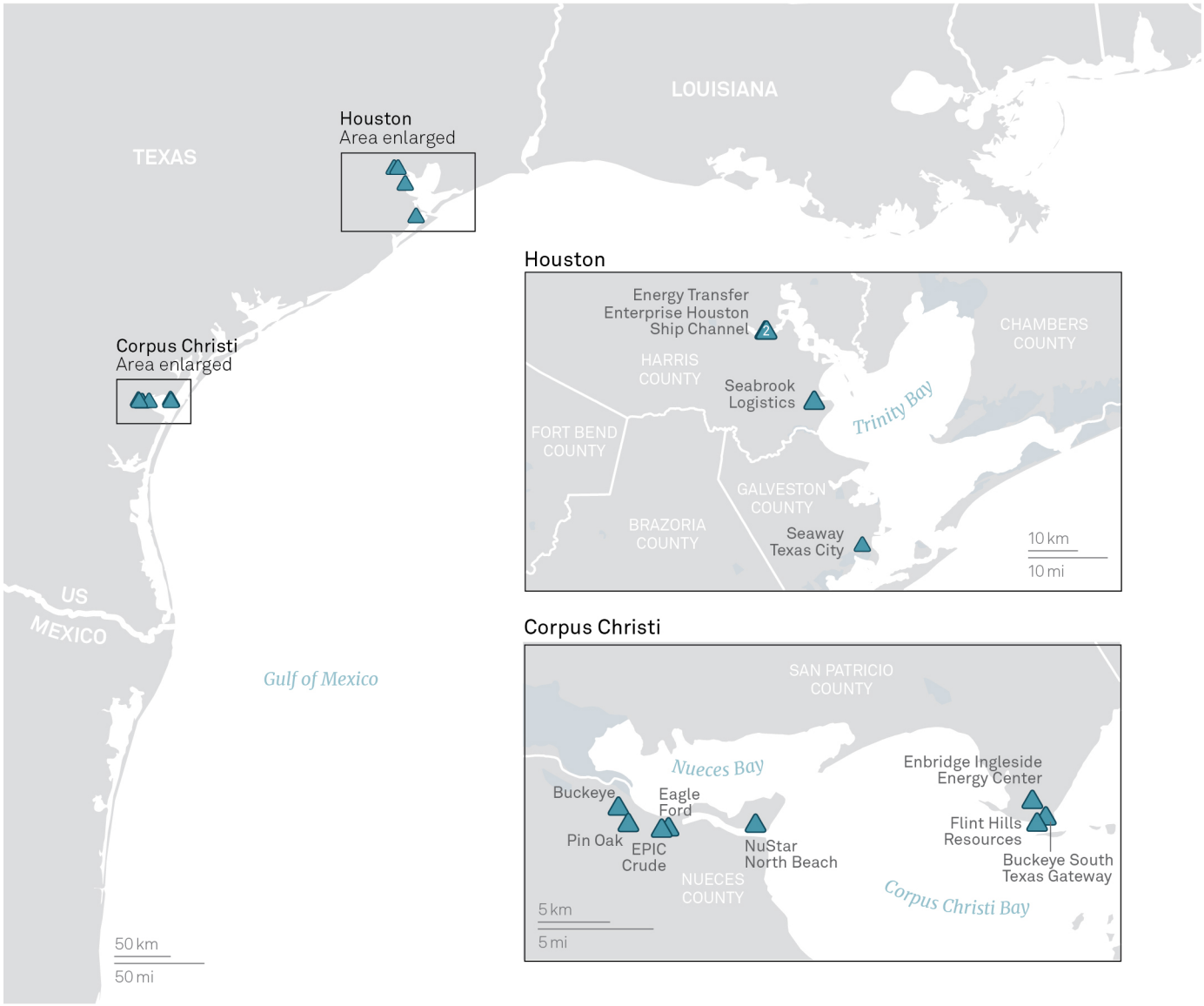
De-escalator and quality premiums: The De-Escalator and Quality Premiums apply on a deemed B/L basis. For example, if a cargo of Forties is due to be delivered December 1-3, the deemed B/L will be November 30 and the de-escalator applied will be from November. Similarly, if an Oseberg cargo is due for delivery January 2-4, then the deemed B/L will be December 31 and the Quality Premium to apply will be from December. Delivery into ports other than Rotterdam: Other reasonable delivery ports within NWE may be nominated, with the buyer covering all reasonable incremental delivery costs. Platts may normalize bids and offers for ports other than Rotterdam.

Vessel Options: Platts will not publish CIF Rotterdam bids containing STS options. All available charterparty options, including STS options, should be passed on to the buyer. All requests beyond these should be passed on by the seller to the shipowner. The performing vessel must meet the vetting conditions of a reasonable buyer and the physical limitations of port, e.g. draft, beam, etc.

WTI Midland in Dated Brent

Platts assesses cargoes of WTI Midland CIF basis Rotterdam on a 12 days to month-ahead basis on both an outright pricing basis and as a differential to Dated Brent. These cargoes are netted back to a FOB North Sea equivalent value and compared to the other Dated Brent grades on a FOB basis for the Dated Brent assessment range of 10 days forward to month-ahead.

Approved USGC WTI terminals in Dated Brent



Source: S&P Global Commodity Insights

Pricing: For the purposes of assessment, Platts views all delivered WTI Midland indications, once moved back to a deemed Bill of Lading (B/L), as pricing 2-1-2 around deemed B/L. In line with the existing BFOET grades, Platts publishes bids and offers versus Dated Brent pricing 2-1-2 around deemed B/L, and versus Cash BFOE, ICE Brent futures or on an outright price basis. These are the only forms of pricing which Platts publishes bids and offers for in the MOC. Platts deems the B/L on WTI Midland bids and offers to be one day ahead of the first day of the laycan. For assessment purposes, Platts deems the B/L to be one day ahead of the first day of the original laycan.

Platts understands that market practice for pricing a traded CIF Rotterdam cargo is to use the deemed B/L relative to the narrowed three-day laycan.

Deviation: If no agreement can be reached between buyer and seller on deviation costs, Platts expects counterparties to use the difference between the freight cost from the US Gulf Coast loading terminal of the original cargo-Rotterdam versus the US Gulf Coast-actual discharge port. In the case of deviations to the Mediterranean, counterparties should use an average of the Platts Worldscale assessments for US Gulf Coast-UK Continent (TDUCG00) and US Gulf Coast-Mediterranean (TDUWS00) within the period 22-27 days prior to the delivery laycan to calculate the deviation costs unless mutually agreed otherwise. The time period is equivalent to what Platts understands the typical USGC Aframax fixing period to be of 5-10 days prior to USGC loading, assuming a 17-day sailing time to Rotterdam.

Demurrage: If no agreement can be reached between buyer and seller on demurrage costs, counterparties should use an average of the Platts Aframax USGC demurrage assessments (ADERD00) within the period 22-27 days prior to the delivery laycan, unless mutually agreed otherwise. The time period is equivalent to what Platts understands the typical USGC Aframax fixing period to be of 5-10 days prior to USGC loading, assuming a 17-day sailing time to Rotterdam.

Vessel Size: All WTI Midland delivered indications in the Platts MOC should be from Aframax vessels, carrying UK Continent and Mediterranean charterparty options. A seller may deliver from an Aframax that has performed a ship-to-ship transfer from another vessel, provided all of the oil on board that vessel has demonstrably loaded at one of the US Gulf Coast terminals approved by Platts. A buyer should not be harmed by a seller's decision to STS onto an Aframax from a vessel which may already be in the North Sea. Any deviation costs from the final vessel should still be calculated by reference to shipping costs from the US Gulf Coast to the UK Continent or Mediterranean.

Payment: Platts views the standard payment for WTI Midland in the Platts Market on Close assessment process to be 30 days after the deemed B/L of the cargo for equivalent loading dates in the North Sea.

Incoterm: Platts publishes bids and offers for WTI Midland on CIF (Cost, Insurance and Freight) and CFR (Cost and Freight) incoterms. CFR indications may be normalized for insurance costs.

Freight Adjustment Factor: WTI Midland indications are adjusted to a FOB North Sea basis by being moved back one day to the deemed B/L and by deducting a North Sea-Rotterdam Freight Adjustment Factor (FAF). The FAF is calculated using a volume-weighted average of freight values for the five North Sea ports of Sullom Voe, Hound Point, Sture, Teesside, and Mongstad.

Quality: Platts will review patterns of performance, since adjustments due to quality issues should be extraordinary and not recurring events. Participants intending to sell should not offer when there is a known and distinct possibility of cargoes not meeting Platts' globally applied WTI Midland specifications

Cash BFOE

Platts assesses and publishes three forward Cash BFOE contracts. In its assessments, Platts considers Cash BFOE bids, offers and trades where the buyer is willing to accept the nomination of Brent, Forties, Oseberg, Ekofisk or Troll crude loading in the North Sea, or WTI Midland on a CIF Rotterdam basis, by the seller upon physical performance of the trade.

Each BFOE assessment reflects the outright price of a cargo with physical delivery during the specified contract month. The daily assessment reflects the tradeable value for both full (700,000 barrel) and partial (100,000 barrel) cargoes in the month-ahead Cash BFOE market. The minimum volume Platts considers in its daily Cash BFOE assessments is 100,000 barrels per transaction, reflecting standard market practice. All aspects of the BFOE assessment methodology were developed by Platts and are proprietary to Platts.

Bids, offers and transactions for Cash BFOE may be used for assessment purposes provided they meet the following conditions:

- Cargo date nominations are declared at least one month in advance.
- Cargoes load under normal terms and conditions. Typically, Forties cargoes are loaded under BP's terms and conditions, Brent cargoes are loaded under Shell's terms and conditions, Oseberg cargoes are loaded under Equinor's terms and conditions, Ekofisk under ConocoPhillips' terms and conditions and Troll under Equinor's terms and conditions. In the event a cargo is loaded STS, the terms and conditions from the original loading should apply.
- Bids and offers for Cash BFOE published during the Platts MOC reflect transactions of 100,000 barrel partials. If the same two counterparties transact seven partials of 100,000 barrels in one direction, the transactions may converge into one physical Cash BFOE cargo of 700,000 barrels. If any position between two counterparties amounts to less than 700,000 barrels after all convergences have been settled, the position is understood to be financially settled, unless both counterparties mutually agree to deliver/take delivery of a smaller cargo. Platts reflects partial contracts that settle on fallback day. Fallback day typically refers to the day before the

expiry of the relevant contract month – the M1 assessment. Effective from the settlement period for the July 2020 Cash BFOE contract, Platts only publishes bids and offers for full 700,000 barrel Cash BFOE cargoes or spreads for M1 on fallback day and expiry day.

- **Example:** If the same two counterparties trade seven partial contracts in one direction for the same delivery month in the Platts MOC process, the partials may converge into a full physical cargo of 700,000 barrels for loading any day in that month. However, if the two counterparties trade only six partials, then the financial settlement of the 600,000 barrels is based on the Platts Cash BFOE assessment published on the relevant contract month's fallback day, unless otherwise mutually agreed.

Operational tolerance: Platts assessments reflect cargoes with operational tolerance of plus or minus 1% in line with market standards. In the event a cargo trades as a result of a Cash BFOE obligation through the chaining process, Platts understands that the final buyer in this market has the obligation to declare tolerance. In the event the final holder of a chained Cash cargo declares tolerance, Platts would then expect this cargo to be sold fixed volume.

Cash BFOE and derivatives

Platts assesses three forward months of Brent/BFOE EFPs (exchange for physical). The relevant assessment deltas refer to the corresponding month of Platts Brent/BFOE spot price assessments.

Platts assesses three forward months of Brent/WTI cash spreads. The assessments reflect market value at 16:30 London time.

In addition to the North Sea assessments produced at 16:30 London time, Platts also assesses Cash BFOE for other timestamps in assessments known as intradays. Platts will publish bids, offers and intentions to trade for cash BFOE partials or cargoes for each intraday assessment timestamp. The assessments reflect the prevailing value for Cash BFOE at 10:30, 12:30 and 14:30 London time every publishing day. On settlement day for the ICE Brent futures contract, Platts additionally publishes an assessment at 19:30 London time.

Platts publishes these assessments for outright values of Cash BFOE Month 1, Month 2, and Month 3. Platts also publishes differential values for Cash BFOE Month 1/Month 2 and Month 2/Month 3 spreads.

Since all partial cargoes will have converged and settled by 16:30 London time on expiry day, the 19:30 assessment reflects the value of full, 700,000 barrel cash BFOE cargoes trading in the period after the market close in London.

Brent CFDs

Brent CFDs (Contract For Difference) derivatives are short–term swaps, assessed by Platts for each of eight weeks ahead of the current date. They represent the market differential between the Dated Brent assessment and a forward month Cash BFOE assessment, over the stated period of the swap.

Between Monday and Wednesday each week, Platts assesses the balance of the same week as the first CFD contract. On Thursday, the balance-week CFD is no longer deemed sufficiently liquid for the assessment, and the curve rolls forward to the following week. For example, on Monday March 2, 2020, the first CFD week assessed by Platts would be the balance week, or March 2-6. On Thursday, March 5 this rolls and the first week assessed would be March 9-13. Assessments are expressed as a differential to the second Cash BFOE contract month (ie M2). For example: Brent CFD assessments on July 3 would be assessed relative to the M2 contract or October Cash BFOE. The referenced cash contract rolls forward on the first pricing day of each month. Prior to July 1, 2017 S&P Global Platts assessments were expressed as a differential to the first Cash BFOE contract month (ie M1).

Platts reflects CFD bids, offers and trades of 100 lots (100,000 barrel clips), in line with standard market practice.

The assessment reflects the observed contango or backwardation in both the differential and the forward CFD markets.

Forward Dated Brent Strips

Physical cargoes of crude oil typically trade as a differential to a benchmark, with pricing calculated at or near the time of loading.

In the physical North Sea, Urals, Mediterranean and West African crude oil markets, Platts calculates outright values by applying an assessed differential versus the forward Dated Brent market. Platts uses a variety of different forward Dated Brent strips to determine the outright value of different crudes pricing relative to the forward Dated Brent market. These strips vary in length and pricing period depending on the crude market being assessed. Platts determines forward Dated Brent values by looking at forward swaps contracts such as BFOE CFDs and BFOE DFLs in order to derive the forward Dated Brent curve.

For example, the Platts Northwest European Urals assessment reflects cargoes loading 10-25 days forward, with cargoes typically pricing on an average of Platts Dated Brent assessments over five publication days after loading. In order to assess the outright value of a cargo of Urals loading in the future, Platts uses an average of the forward Dated Brent curve 13-28 days forward. The outright price assessment for Urals in Northwest Europe is therefore that day's assessed differential to Dated Brent plus the value of the forward Dated Brent curve 13-28 days after the date of publication.

Forties and the de-escalator

The assessment for Forties Blend is FOB Hound Point, UK. Since the start-up of the heavier and more sulfurous Buzzard field in January 2007, the quality of Forties can vary substantially depending on the percentage of Buzzard crude in the blend at

any given time. Platts' Forties assessments reflect a crude blend with a minimum API of 37 degrees and a maximum of 0.6% sulfur content. Because of the variability of the Forties Blend, Platts also utilizes a quality de-escalator, published monthly, to be applied to any cargo deliveries exceeding the base standard of 0.6% sulfur.

The de-escalator value applies to all Forties crude oil delivered after its introduction July 2, 2007. Prevailing rates are as published in the Platts Crude Oil Marketwire. When reviewing the value of the de-escalator, Platts studies evidence of significant and sustained changes in the oil markets including, but not limited to, shifts in the refined product markets, the relative value of sweet/sour and light/heavy crude grades, outright price changes, geopolitical and macroeconomic events, and other relevant factors that may influence the refinery economics of processing Forties.

Platts updates the de-escalator at 15:00 London time on the 25th of the month prior to the month of implementation. In cases where the 25th of the month is a non-working day in the UK, the de-escalator is announced on the closest business day prior to the 25th. For example, the de-escalator for June 2020 will be announced on the 25th of May, at 15:00 London time.

Platts publishes the value of the de-escalator for the month ahead whether or not the value of the de-escalator has changed. Platts publishes the editorial basis for the determination of the de-escalator level on its website. (**https://www.spglobal.com/platts/en/our-methodology/subscriber-notes**)

The sulfur level in any sulfur-related payment should be established to three significant figures, and the test used to determine this should be the ASTM-D2622. Forties cargoes and all related instruments, including Cash BFOE - bid or offered through the Platts system must adhere to this standard.

Platts will consider in its assessments bids, offers and deals where a de-escalator for every 0.1% of sulfur is specified. For example: under a de-escalator of 20 cents/barrel the seller would pay the buyer this compensatory amount for every 0.1% of sulfur over 0.6% on a pro-rata basis, as follows:

- 0.600% No payment to buyer
- 0.625% Seller pays 5 cents/barrel to buyer (*0.25)
- 0.650% Seller pays 10 cents/ barrel to buyer (*0.5)
- 0.700% Seller pays 20 cents/ barrel to buyer (1)
- 0.800% Seller pays 40 cents/ barrel to buyer (*2.0)
- 0.900% Seller pays 60 cents/ barrel to buyer (*3.0)

Quality Premiums

Quality Premiums (QPs) are to be paid by a buyer to a seller for the nomination and delivery of Oseberg, Ekofisk or Troll into a Cash BFOE transaction concluded during the Platts MOC assessment process. These escalators are also considered in the Platts assessment process for Dated Brent, and related instruments.

Platts publishes QPs for Oseberg, Ekofisk, and Troll crude oil. QPs are currently published for two months ahead: the month of publication and the following month. Physical Oseberg, Ekofisk, and Troll cargoes use the relevant QP to the month in which the cargo loads. For example, July QPs apply to cargoes which load in July.

Platts does not reflect any QP for Brent, Forties, or WTI Midland crude oil in its assessment process. QPs are intended to increase the relevance of higher valued crudes to Brent, the basis crude, while instruments like de-escalators are intended to heighten the relevance of lower quality (i.e. sourer) crudes to Brent.

Platts announces QPs on the first publishing day of each month, one full month in advance of the escalators coming into effect. For example: Platts would announce Oseberg, Ekofisk and Troll escalators for June-loading cargoes on the first business day of May. This calendar is closely aligned with existing trading practices. For example: the QP announced on May 1 will reflect assessments conducted between April 1 and April 30. The ability to adjust QPs around each trading cycle makes them more reflective of current price trends in the broader physical oil markets.

QPs are published at 60% of the net price differences between Oseberg, Ekofisk and Troll, and the most competitive grade of crude among Brent, Forties, Oseberg, Ekofisk and Troll for the full month prior to announcement.

Other North Sea grades

Statfjord: Platts assesses Statfjord crude oil on an FOB-platform and a CIF Rotterdam basis. The assessment reflects 800,000-barrel cargoes. Platts will accept bids and offers of cargoes sizes between 800,000 and 855,000 barrels.

Gullfaks: Platts assesses Gullfaks on a CIF Rotterdam basis. The assessment reflects 800,000-barrel cargoes. Platts will accept bids and offers of cargoes sizes between 800,000 and 855,000 barrels.

Asgard: Platts assesses Asgard on a CIF Rotterdam basis. The assessment reflects 650,000-barrel cargoes. Platts will accept bids and offers of cargoes sizes between 650,000 and 855,000 barrels.

Alvheim: Platts assesses Alvheim on a CIF Rotterdam basis. The assessment reflects 520,000-barrel cargoes. Platts will accept bids and offers of cargoes sizes between 520,000 and 780,000 barrels.

Flotta Gold: Platts assesses Flotta Gold, formerly known as Flotta, loading FOB Flotta terminal. The assessment reflects 600,000-barrel cargoes.

Grane Blend: Platts assesses Grane Blend, loading FOB Sture. The assessment reflects 600,000-barrel cargoes.

Johan Sverdrup: Platts assesses Johan Sverdrup on an FOB Mongstad and CIF Rotterdam basis. The assessments reflect 700,000-barrel cargoes. For FOB Mongstad, Platts will accept bids and offers of cargoes sizes between 600,000 and 700,000 barrels. For CIF Rotterdam, Platts reflects bids, offers and trades for 700,000-barrel CIF basis Rotterdam BFOE cargoes with an operational tolerance of 1% in the seller's option, minimum stated volumes of 665,000 with an operational tolerance of 1% in the seller's option as well as fixed-volume cargoes of between 693,000 and 707,000 barrels. The CIF Rotterdam Johan Sverdrup assessments reflect deliveries in the range from Gibraltar up to and including the Baltic Sea. Vessels are required to have the appropriate charterparty options to deliver in the Baltic Sea in addition to the UKC range of Gibraltar up to the Baltic Sea. Platts will publish bids, offers and trades pricing on a five day after deemed B/L basis as standard. Bids, offers and trades may also be published as a differential to Cash BFOE or as a Flat Price. In the absence of CIF Rotterdam Johan Sverdrup indications, the CIF Rotterdam assessment will be linked to the existing FOB Mongstad assessment using the spot freight rate between Mongstad and Rotterdam on the date of the assessment. CIF Rotterdam Johan Sverdrup offers will be netted back to FOB-equivalent values using the Mongstad-Rotterdam Freight Adjustment Factor [FMGRM00]. Platts views the journey from Mongstad to Rotterdam, for both Troll and Johan Sverdrup, to be two days.

DUC: Platts assesses DUC (Dansk Underground Consortium) loading FOB Fredericia. The assessment reflects 600,000-barrel cargoes.

North Sea Basket: This is a straight average of the assessed value of Brent/Ninian Blend, Forties, Oseberg, and Ekofisk.

Platts European Sour Crude Index: This assessment is a weighted average of three long-established Platts assessments of the North Sea's higher-sulfur crude streams: Johan Sverdrup, Grane, and Flotta Gold. The weighting of the grades in the Platts European Sour Crude Index is as follows: Johan Sverdrup 65%, Grane 30% and Flotta Gold 5%.

US crude in Europe

Platts assesses WTI Midland crude supplied directly from the Permian Basin on one or more of the following designated pipelines along the US Gulf Coast: BridgeTex, Cactus I, Cactus II, EPIC, Gray Oak, Longhorn, Midland-to-ECHO 1, Midland-to-ECHO 2, Midland-to-ECHO 3, Permian Express, and Wink-to-Webster.

Approved USGC Terminals: For cargoes of WTI Midland crude to be reflected in the Dated Brent and Cash BFOE assessment process, sellers are required to nominate loading from one of the USGC terminals that are approved for the Platts MOC process. The list of approved terminals is provided in a table on page 5 of this guide.

Platts routinely reviews the infrastructure reflected in its price assessment processes and may take into consideration an array of issues including, but not limited to, operations and logistics. These reviews ensure the suitability of data that is used to formulate Platts' end-of-day price assessments.

All WTI Midland sold in the Platts MOC should meet the following specifications and not contain any previously cracked or refined material.

Platts WTI Midland specifications: Platts global suite of WTI assessments, including both pipeline and cargo, reflect the following Platts WTI Midland specifications.

Sulfur: 0.2% or less by weight as determined by ASTM Standard D-4294;

Gravity: Not less than 40 degrees American Petroleum Institute (API), nor more than 44 degrees API as determined by ASTM Standard D5002;

Mercaptans: 75 parts per million (ppm) or less as determined by ASTM Standard UOP-163;

Iron: 10 ppm or less as determined by ASTM Standard D5708 Method B;

Vanadium: 2 ppm or less as determined by ASTM Standard D5708 Method B;

Nickel: 2 ppm or less as determined by ASTM Standard D5708 Method B;

Vapor pressure: Less than 9.5 pounds per square inch at 100F and 4:1 V/L ratio as determined by ASTM Standard D6377;

Basic Sediment, water and other impurities: Less than 1% as determined by ASTM Standard D4007.

DAP

Platts assesses cargoes of WTI Midland and Eagle Ford 45 Delivered At Place (DAP) basis Rotterdam and Augusta 20-60 days after date of publication on both an outright pricing basis and as a differential to Dated Brent. Other reasonable delivery ports within Northwest Europe and the Mediterranean may be nominated, with the buyer covering all reasonable incremental delivery costs. Platts reflects a standard Aframax cargo size of 700,000 barrels with an operational tolerance +/- 5%.These assessments are priced 5 days after date of delivery. The assessments reflect market standard payment terms, understood to be 30 days from bill of lading, which is equivalent to around 10 days from completion of discharge. Platts expects that WTI Midland cargoes reflected in the DAP Rotterdam and DAP Augusta assessments have loaded at a US Gulf Coast terminal approved by Platts for inclusion in the Market on Close assessment process for WTI Midland.

Platts assesses a standard Eagle Ford 45 quality. While Platts understands that quality of US crude exports may be variable, Platts also understands that the market has evolved to manage this variability.

West Africa

Assessment	Code	Mavg	Pavg	Wavg	Contract Basis	Location	Delivery Period	Min Size	Max Size	Currency	UOM
Nigeria											
Bonny Light	PCAIC00	PCAIF03			FOB	Bonny Terminal	25-55 days	950,000	950,000	US $	Barrels
Bonny Light vs 30-60 day Dated Brent Strip	AAGXL00	AAGXM00			FOB	Bonny Terminal	25-55 days	950,000	950,000	US $	Barrels
Qua Iboe	PCAID00	PCAIG03			FOB	Qua Iboe Terminal	25-55 days	950,000	950,000	US $	Barrels
Qua Iboe vs 30-60 day Dated Brent Strip	AAGXN00	AAGXO00			FOB	Qua Iboe Terminal	25-55 days	950,000	950,000	US $	Barrels
Brass River	AAEJB00	AAEJC00			FOB	Brass River Terminal	25-55 days	950,000	950,000	US $	Barrels
Brass River vs 30-60 day Dated Brent Strip	AAGXV00	AAGXW00			FOB	Brass River Terminal	25-55 days	950,000	950,000	US $	Barrels
Escravos	AAEIZ00	AAEJA00			FOB	Escravos Terminal	25-55 days	950,000	950,000	US $	Barrels
Escravos vs 30-60 day Dated Brent Strip	AAGXR00	AAGXS00			FOB	Escravos Terminal	25-55 days	950,000	950,000	US $	Barrels
Forcados	PCABC00	PCABC03			FOB	Forcados Terminal	25-55 days	950,000	950,000	US $	Barrels
Forcados vs 30-60 day Dated Brent Strip	AAGXP00	AAGXQ00			FOB	Forcados Terminal	25-55 days	950,000	950,000	US $	Barrels
Agbami	AAQZB00	AAQZB03			FOB	Agbami FPSO	25-55 days	975,000	975,000	US $	Barrels
Agbami vs 30-60 day Dated Brent Strip	AAQZC00	AAQZC03			FOB	Agbami FPSO	25-55 days	975,000	975,000	US $	Barrels
Akpo	PCNGA00	PCNGA03			FOB	Akpo FPSO	25-55 days	1,000,000	1,000,000	US $	Barrels
Akpo vs 30-60 day Dated Brent Strip	PCNGB00	PCNGB03			FOB	Akpo FPSO	25-55 days	1,000,000	1,000,000	US $	Barrels
Bonga	PCNGC00	PCNGC03			FOB	Bonga FPSO	25-55 days	975,000	975,000	US $	Barrels
Bonga vs 30-60 day Dated Brent Strip	PCNGD00	PCNGD03			FOB	Bonga FPSO	25-55 days	975,000	975,000	US $	Barrels
Usan	AAXUQ00	AAXUQ03			FOB	Usan FPSO	25-55 days	950,000	950,000	US $	Barrels
Usan vs 30-60 day Dated Brent Strip	AAXUR00	AAXUR03			FOB	Usan FPSO	25-55 days	950,000	950,000	US $	Barrels
Erha	AAXUO00	AAXUO03			FOB	Erha FPSO	25-55 days	950,000	950,000	US $	Barrels
Erha vs 30-60 day Dated Brent Strip	AAXUP00	AAXUP03			FOB	Erha FPSO	25-55 days	950,000	950,000	US $	Barrels
Egina	AFONA00	AFONB03			FOB	Egina FPSO	25-55 days	1,000,000	1,000,000	US $	Barrels
Egina vs 30-60 day Dated Brent Strip	AFONB00	AFONA03			FOB	Egina FPSO	25-55 days	1,000,000	1,000,000	US $	Barrels
Angola											
Cabinda	PCAFD00	PCAFD03			FOB	Malongo Terminal	25-55 days	950,000	950,000	US $	Barrels
Cabinda vs 30-60 day Dated Brent Strip	AAGXT00	AAGXU00			FOB	Malongo Terminal	25-55 days	950,000	950,000	US $	Barrels
Nemba	AAQYZ00	AAQYZ03			FOB	Malongo Terminal	25-55 days	950,000	950,000	US $	Barrels
Nemba vs 30-60 day Dated Brent Strip	AAQZA00	AAQZA03			FOB	Malongo Terminal	25-55 days	950,000	950,000	US $	Barrels
Girassol	AASNL00	AASNL03			FOB	Girassol FPSO	25-55 days	1,000,000	1,000,000	US $	Barrels
Girassol vs 30-60 day Dated Brent Strip	AASJD00	AASJD03			FOB	Girassol FPSO	25-55 days	1,000,000	1,000,000	US $	Barrels
Hungo	AASLJ00	AASLJ03			FOB	Kizomba A FPSO	25-55 days	950,000	950,000	US $	Barrels
Hungo vs 30-60 day Dated Brent Strip	AASJF00	AASJF03			FOB	Kizomba A FPSO	25-55 days	950,000	950,000	US $	Barrels
Kissanje	AASLK00	AASLK03			FOB	Kizomba B FPSO	25-55 days	950,000	950,000	US $	Barrels
Kissanje vs 30-60 day Dated Brent Strip	AASJE00	AASJE03			FOB	Kizomba B FPSO	25-55 days	950,000	950,000	US $	Barrels
Dalia	AAQYX00	AAQYX03			FOB	Dalia FPSO	25-55 days	950,000	950,000	US $	Barrels
Dalia vs 30-60 day Dated Brent Strip	AAQYY00	AAQYY03			FOB	Dalia FPSO	25-55 days	950,000	950,000	US $	Barrels
Pazflor	PCNGG00	PCNGG03			FOB	Pazflor FPSO	25-55 days	950,000	950,000	US $	Barrels
Pazflor vs 30-60 day Dated Brent Strip	PCNGH00	PCNGH03			FOB	Pazflor FPSO	25-55 days	950,000	950,000	US $	Barrels
Plutonio	PCNGI00	PCNGI03			FOB	Greater Plutonio FPSO	25-55 days	950,000	950,000	US $	Barrels
Plutonio vs 30-60 day Dated Brent Strip	PCNGJ00	PCNGJ03			FOB	Greater Plutonio FPSO	25-55 days	950,000	950,000	US $	Barrels
Regional West Africa											
Djeno	PCNGE00	PCNGE03			FOB	Djeno Terminal	25-55 days	920,000	920,000	US $	Barrels
Djeno vs 30-60 day Dated Brent Strip	PCNGF00	PCNGF03			FOB	Djeno Terminal	25-55 days	920,000	920,000	US $	Barrels
Jubilee	AAXUS00	AAXUS03			FOB	FPSO Kwame Nkrumah	25-55 days	950,000	950,000	US $	Barrels
Jubilee vs 30-60 day Dated Brent Strip	AAXUT00	AAXUT03			FOB	FPSO Kwame Nkrumah	25-55 days	950,000	950,000	US $	Barrels
Doba	AAXUU00	AAXUU03			FOB	Kome Kribi FSO	25-55 days	950,000	950,000	US $	Barrels
Doba vs 30-60 day Dated Brent Strip	AAXUV00	AAXUV03			FOB	Kome Kribi FSO	25-55 days	950,000	950,000	US $	Barrels
WAF Index Outright	AWAFA00	AWAFA03			FOB		25-55 days			US $	Barrels
WAF Index Differential	AWAFB00	AWAFB03			FOB		25-55 days			US $	Barrels

West Africa

Platts assesses West African crude grades loading 25-55 days after date of publication. Platts assessments reflect standard Suezmax cargoes of each individual grade. Both part cargoes and combined cargoes may also be taken into account in the assessment process, but will be normalized back to a standard Suezmax size.

Nigerian Assessments

Qua Iboe: Platts assesses Qua Iboe cargoes loading FOB the Qua Iboe Terminal. The standard cargo size is 950,000 barrels.

Bonny Light: Platts assesses Bonny Light cargoes loading FOB the Bonny Terminal. The standard cargo size is 950,000 barrels.

Brass River: Platts assesses Brass River loading FOB from the Brass River Terminal. Cargo sizes vary, but Platts assessments reflect a standard Suezmax cargo size of 950,000 barrels.

Escravos: Platts assesses Escravos loading FOB from the Escravos Terminal. The standard cargo size is 950,000 barrels.

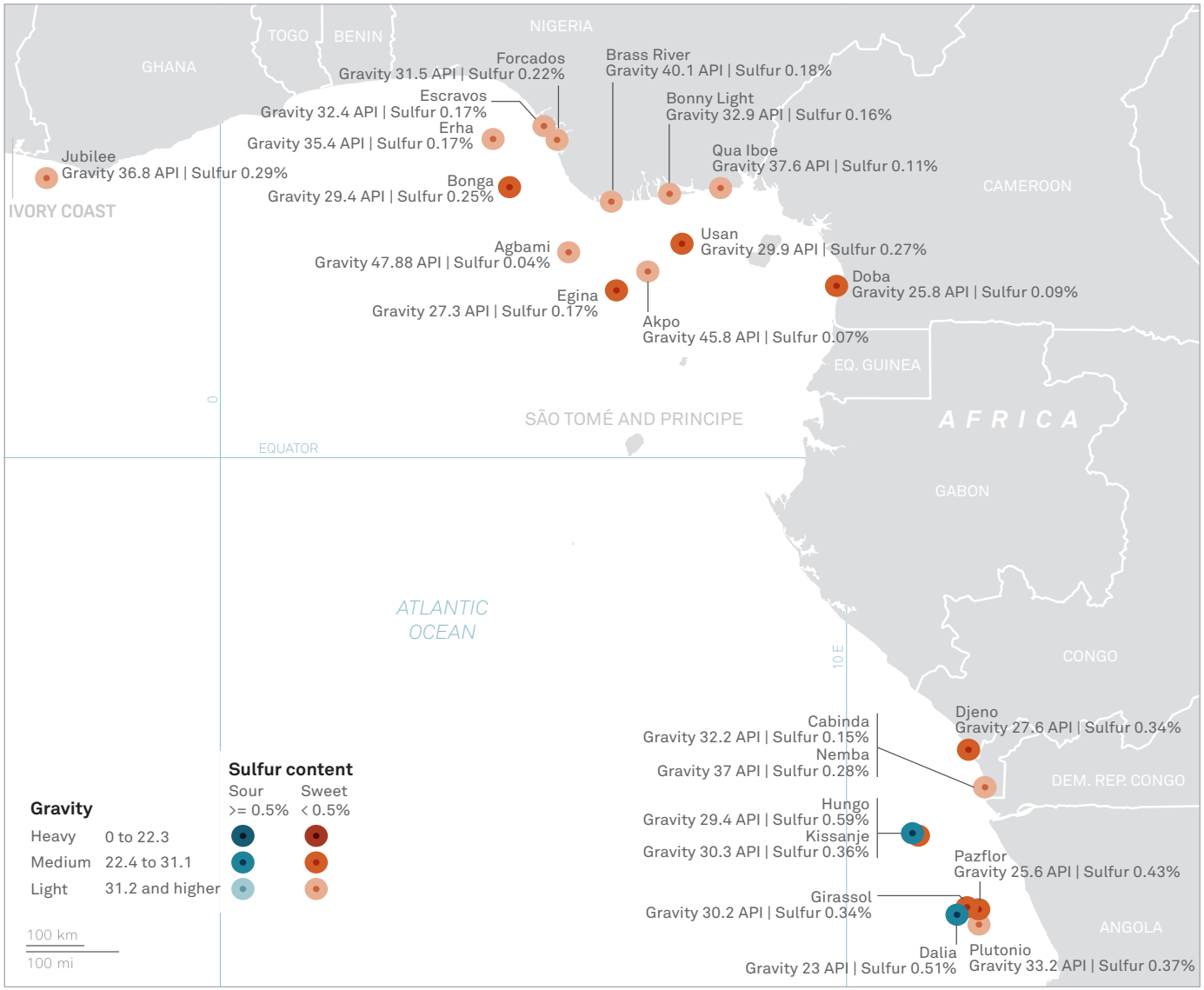
Forcados: Platts assesses Forcados loading FOB from the Forcados Terminal. Cargo sizes vary, but Platts assessments reflect a standard Suezmax cargo size of 950,000 barrels.

Agbami: Platts assesses Agbami loading FOB from the Agbami FPSO. The standard cargo size is 975,000 barrels.

Akpo: Platts assesses Akpo loading FOB from the Akpo FPSO. The standard cargo size is 1 million barrels.

Bonga: Platts assesses Bonga loading FOB from the Bonga Terminal. The standard cargo size is 950,000 barrels.

Usan: Platts assesses Usan loading FOB from the Usan FPSO. The standard cargo size is 1 million barrels.



Source: S&P Global Commodity Insights

Erha: Platts assesses Erha loading FOB from the Erha FPSO. The standard cargo size is 950,000 barrels.

Egina: Platts assesses Egina loading FOB from the Egina FPSO. The standard cargo size is 1,000,000 barrels.

Angolan Assessments

Cabinda: Platts assesses Cabinda loading FOB from the Malongo Terminal. The standard cargo size is 950,000 barrels.

Nemba: Platts assesses Nemba loading FOB from the Malongo Terminal. Cargo sizes vary, but Platts assessments reflect a standard Suezmax cargo size of 950,000 barrels.

Girassol: Platts assesses Girassol loading FOB from the Girassol FPSO. The standard cargo size is 1 million barrels.

Hungo: Platts assesses Hungo loading FOB from the Kizomba A FPSO. The standard cargo size is 950,000 barrels.

Kissanje: Platts assesses Kissanje loading FOB from the Kizomba B FPSO. The standard cargo size is 950,000 barrels.

Dalia: Platts assesses Dalia loading FOB from the Dalia FPSO. The standard cargo size is 950,000 barrels.

Pazflor: Platts assesses Pazflor loading FOB from the Pazflor FPSO. The standard cargo size is 950,000 barrels.

Plutonio: Platts assesses Plutonio loading FOB from the Greater Plutonio FPSO. The standard cargo size is 1 million barrels.

WAF Regional Assessments

Djeno: Platts assesses Djeno loading FOB from the Djeno Terminal in the Republic of the Congo. The standard cargo size is 920,000 barrels.

Doba: Platts assesses Doba loading FOB from the Kome-Kribi FSO in Cameroon, though the crude is produced in Chad. The standard cargo size is 950,000 barrels.

Jubilee: Platts assesses Jubilee loading FOB from the Kwame Nkrumah FPSO in Ghana. The standard cargo size is 950,000 barrels.

WAF Index

Platts publishes a West Africa Index as both an outright price and a differential to the 30-60 day forward Dated Brent strip. The index is calculated as an average of Bonny Light, Qua Iboe, Forcados and Bonga.

Urals and Mediterranean

Assessment	Code	Mavg	Pavg	Wavg	Contract Basis	Location	Delivery Period	Min Size	Max Size	Currency	UOM
Urals											
Urals Rotterdam (CIF)	PCAFW00	PCAFW03			CIF	Rotterdam	10-25 days	100 kt	100 kt	US $	Barrels
Urals Rotterdam vs Med Dated Brent Strip (CIF)	AAGXJ00	AAGXK00			CIF	Rotterdam	10-25 days	100 kt	100 kt	US $	Barrels
Urals ex-Primorsk	AAWVH00	AAWVH03			FOB	Primorsk	10-25 days	100 kt	100 kt	US $	Barrels
Urals ex-Primorsk vs Med Dated Brent Strip	AAWVI00	AAWVI03			FOB	Primorsk	10-25 days	100 kt	100 kt	US $	Barrels
Urals ex-Baltic	AAGZT00	AAJHX00			FOB	Baltic Ports	10-25 days	100 kt	100 kt	US $	Barrels
Urals ex-Baltic vs Med Dated Brent Strip	AAHPI00	AAJID00			FOB	Baltic Ports	10-25 days	100 kt	100 kt	US $	Barrels
Urals Augusta (CIF)	PCACE00	PCACE03			CIF	Augusta	10-25 days	80 kt	100 kt	US $	Barrels
Urals Augusta vs Med Dated Brent Strip (CIF)	AAGXX00				CIF	Augusta	10-25 days	80 kt	100 kt	US $	Barrels
Urals FOB Novorossiysk Suezmax	AAGZS00	AAJHV00			FOB	Novorossiisk	10-25 days	140 kt	140 kt	US $	Barrels
Urals FOB Novorossiysk Suezmax vs Med Dated Brent Strip	AAHPH00	AAJIC00			FOB	Novorossiisk	10-25 days	140 kt	140 kt	US $	Barrels
Urals FOB Novorossiysk Aframax	AAOTH00	AAOTH03			FOB	Novorossiisk	10-25 days	80 kt	80 kt	US $	Barrels
Urals FOB Novorossiysk Aframax vs Med Dated Brent Strip	AAOTI00	AAOTI03			FOB	Novorossiisk	10-25 days	80 kt	80 kt	US $	Barrels
Urals RCMB (Recombined)	AALIN00	AALIO00			CIF	Augusta	10-25 days	80 kt	100 kt	US $	Barrels
KEBCO (CIF Augusta)	KBCOA00	KBCOA03			CIF	Augusta	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (CIF Augusta) vs Med Dated Brent Strip	KBCOB00	KBCOB03			CIF	Augusta	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (CIF Rotterdam)	KBCOC00	KBCOC03			CIF	Rotterdam	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (CIF Rotterdam) vs Med Dated Brent Strip	KBCOD00	KBCOD03			CIF	Rotterdam	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (FOB Ust Luga)	KBCOG00	KBCOG03			FOB	Ust-Luga	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (FOB Ust Luga) vs Med Dated Brent Strip	KBCOH00	KBCOH03			FOB	Ust-Luga	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (FOB Novorossiisk)	KBCOE00	KBCOE03			FOB	Novorossiisk	10-25 days	80 kt	80 kt	US $	Barrels
KEBCO (FOB Novorossiisk) vs Med Dated Brent Strip	KBCOF00	KBCOF03			FOB	Novorossiisk	10-25 days	80 kt	80 kt	US $	Barrels
Urals (DAP India)	DWCUA00	DWCUA03			DAP	West Coast India	M+1	80 kt	100 kt	US $	Barrels
Urals (DAP India) vs Forward Dated Brent	DWCUB00	DWCUB03			DAP	West Coast India	M+1	80 kt	100 kt	US $	Barrels
Urals (DAP India) vs Dubai	AURLA00	AURLA03			DAP	West Coast India	M+1	80 kt	100 kt	US $	Barrels
Urals CIF Augusta Euro	AAPYS00	AAPYS03			CIF	Augusta	10-25 days	80 kt	100 kt	Euro	Barrels
Observed Delivery Factor (ODF)	AODFA00										Days
Additional War Risk Premium (AWRP)	AWARA00	AWARA03								US $	Barrels
CPC Blend											
CPC Blend CIF	AAGZU00	AAJHY00			CIF	Augusta	10-30 days	90 kt	140 kt	US $	Barrels
CPC Blend CIF vs BTC Dated Brent Strip	AAHPL00	AAJIF00			CIF	Augusta	10-30 days	90 kt	140 kt	US $	Barrels
CPC Blend FOB Suezmax	AALVX00	AALVY00			FOB	CPC Terminal	10-30 days	140 kt	140 kt	US $	Barrels
CPC Blend FOB Suezmax vs BTC Dated Brent Strip	AALVZ00	AALWC00			FOB	CPC Terminal	10-30 days	140 kt	140 kt	US $	Barrels
CPC FOB Aframax	AAOFV00	AAOFV03			FOB	CPC Terminal	10-30 days	90 kt	90 kt	US $	Barrels
CPC FOB Aframax vs BTC Dated Brent Strip	AAOFW00	AAOFW03			FOB	CPC Terminal	10-30 days	90 kt	90 kt	US $	Barrels
Azeri Light											
Azeri Light CIF	AAGZX00	AAJIA00			CIF	Augusta	10-30 days	650,000	650,000	US $	Barrels
Azeri Light CIF vs BTC Dated Brent Strip	AAHPM00	AAJIG00			CIF	Augusta	10-30 days	650,000	650,000	US $	Barrels

Urals and Mediterranean

Assessment	Code	Mavg	Pavg	Wavg	Contract Basis	Location	Delivery Period	Min Size	Max Size	Currency	UOM
Azeri Light FOB Supsa	AATHM00	AATHM03			FOB	Supsa	10-30 days	650,000	650,000	US $	Barrels
Azeri Light FOB Supsa vs BTC Dated Brent Strip	AATHN00	AATHN03			FOB	Supsa	10-30 days	650,000	650,000	US $	Barrels
Azeri Light FOB Ceyhan Suezmax	AAUFM00	AAUFM03			FOB	Ceyhan	10-30 days	1,000,000	1,000,000	US $	Barrels
Azeri Light FOB Ceyhan Suezmax vs BTC Dated Brent Strip	AAUFN00	AAUFN03			FOB	Ceyhan	10-30 days	1,000,000	1,000,000	US $	Barrels
Azeri Light FOB Ceyhan Aframax	AAUFK00	AAUFK03			FOB	Ceyhan	10-30 days	650,000	650,000	US $	Barrels
Azeri Light FOB Ceyhan Aframax vs BTC Dated Brent Strip	AAUFL00	AAUFL03			FOB	Ceyhan	10-30 days	650,000	650,000	US $	Barrels
BTC FOB Ceyhan	AAUFH00	AAUFH03			FOB	Ceyhan	10-30 days	650,000	1,000,000	US $	Barrels
BTC FOB Ceyhan vs BTC Dated Brent Strip	AAUFJ00	AAUFJ03			FOB	Ceyhan	10-30 days	650,000	1,000,000	US $	Barrels
Regional Black Sea And Mediterranean Crudes											
Siberian Light CIF	AAGZW00	AAJHZ00			CIF	Augusta	10-25 days	80 kt	80 kt	US $	Barrels
Siberian Light CIF vs Med Dated Brent Strip	AAHPK00	AAJIE00			CIF	Augusta	10-25 days	80 kt	80 kt	US $	Barrels
ESPO FOB Kozmino (London Close)	AARWD00	AARWD03			FOB	Kozmino	M+2	80 kt	140 kt	US $	Barrels
ESPO FOB Kozmino vs forward Dated Brent (London Close)	AARWE00	AARWE03			FOB	Kozmino	M+2	80 kt	140 kt	US $	Barrels
Saharan Blend	AAGZY00	AAJIB00			FOB	Algeria	10-30 days	600,000	600,000	US $	Barrels
Saharan Blend vs BTC Dated Brent Strip	AAHPN00	AAJIH00			FOB	Algeria	10-30 days	600,000	600,000	US $	Barrels
Es Sider	PCACO00	PCACO03			FOB	Es Sider	10-30 days	600,000	600,000	US $	Barrels
Es Sider vs BTC Dated Brent Strip	AAGYH00	AAGYI00			FOB	Es Sider	10-30 days	600,000	600,000	US $	Barrels
Kirkuk	AAEJD00	AAEJG00			FOB	Ceyhan	10-25 days	600,000	1,000,000	US $	Barrels
Kirkuk vs Med Dated Brent Strip	AAGYF00	AAGYG00			FOB	Ceyhan	10-25 days	600,000	1,000,000	US $	Barrels
Iranian Light FOB Kharg Island (Med)	AILKA00	AILKA03			FOB	Sidi Kerir	10-25 days	600,000	600,000	US $	Barrels
Iranian Light FOB Kharg Island (Med) vs Med Dated Brent Strip	AILKB00	AILKB03			FOB	Sidi Kerir	10-25 days	600,000	600,000	US $	Barrels
Iranian Heavy FOB Kharg Island (Med)	AIHKA00	AIHKA03			FOB	Sidi Kerir	10-25 days	600,000	600,000	US $	Barrels
Iranian Heavy FOB Kharg Island (Med) vs Med Dated Brent Strip	AIHKB00	AIHKB03			FOB	Sidi Kerir	10-25 days	600,000	600,000	US $	Barrels
Suez Blend	PCACA00	PCACA03			FOB	Ras Sukheir	10-25 days	600,000	1,000,000	US $	Barrels
Suez Blend vs Med Dated Brent Strip	AAGYD00	AAGYE00			FOB	Ras Sukheir	10-25 days	600,000	1,000,000	US $	Barrels
Sweet/Sour Diff Med	AAGZZ00				FOB	Med Basket	10-25 days			US $	Barrels
Sweet/Sour Diff NWE	AAGZV00				CIF	Rotterdam	10-25 days			US $	Barrels
KEBCO/Russian Urals	AKEBA00	AKEBA03			CIF	Augusta	10-25 days			US $	Barrels
Urals and Mediterranean CFDS											
Urals Med CFD Mo1	AAMDU00							100,000	100,000	US $	Barrels
Urals Med CFD Mo2	AAMEA00							100,000	100,000	US $	Barrels
Urals Med CFD Mo3	UMCM003							100,000	100,000	US $	Barrels
Urals NWE CFD Mo1	UNCM001							100,000	100,000	US $	Barrels
Urals NWE CFD Mo2	UNCM002							100,000	100,000	US $	Barrels
Urals NWE CFD Mo3	UNCM003							100,000	100,000	US $	Barrels
CPC Blend CFD Mo1	AAOFX00							100,000	100,000	US $	Barrels
CPC Blend CFD Mo2	AAOFY00							100,000	100,000	US $	Barrels
CPC Blend CFD Mo3	AAOFZ00							100,000	100,000	US $	Barrels

Urals and Mediterranean

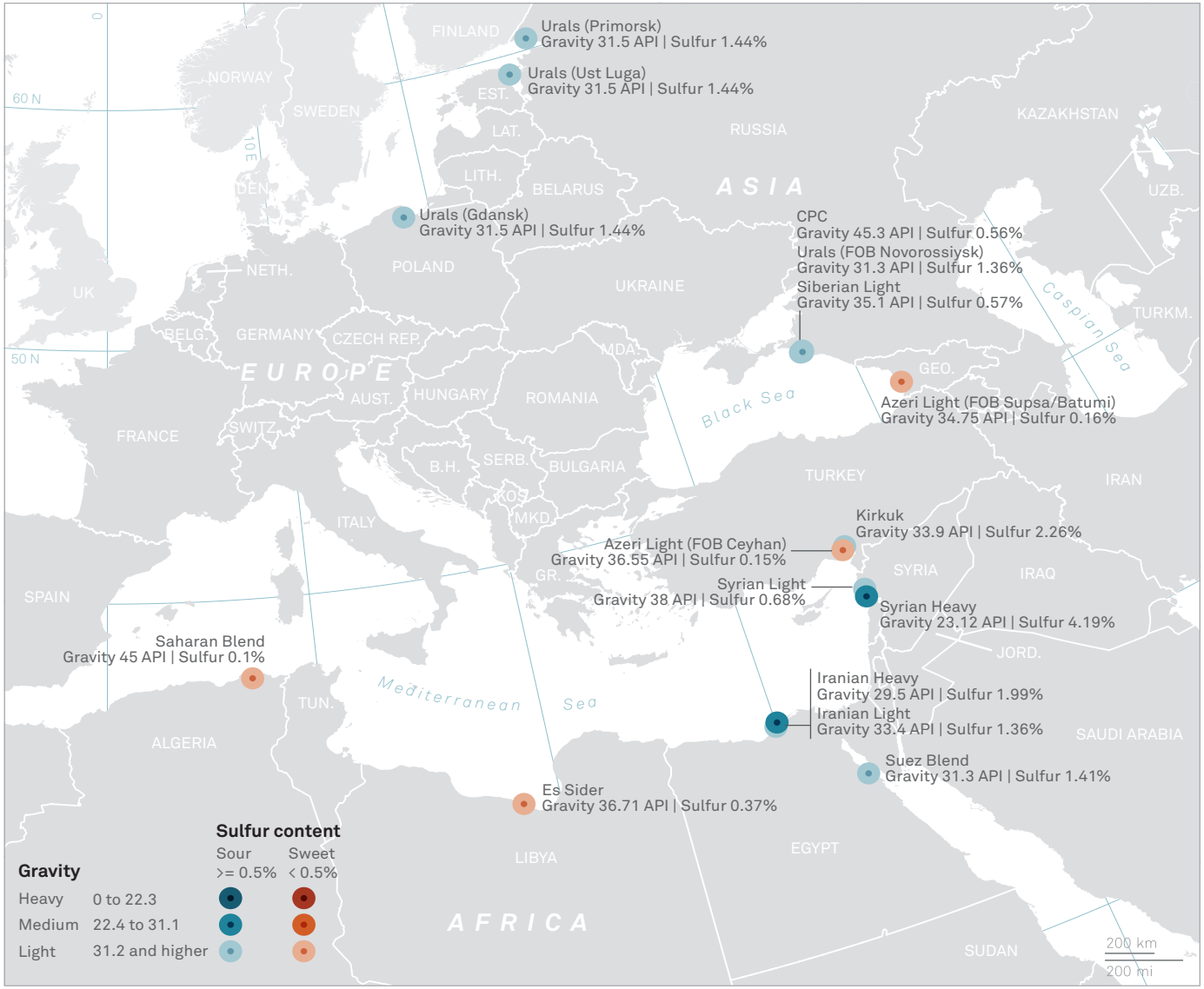
Platts assesses Urals cargoes loading 10-25 days forward from the date of publication. While some Mediterranean cargoes trade on a CIF-delivered basis, market participants generally reference loading dates rather than delivery dates. Platts considers any bids or offers for a minimum five-day laycan. For longer laycans, the counterpart must narrow the laycan to five days at the time of trade. Seven clear calendar days prior to the first day of the five-day range, the seller must nominate the two-day loading laycan and specify both a load port and vessel.

In the CPC Blend, Azeri Light, Saharan, Kirkuk and Es Sider markets, Platts reflects bids, offers and trades that can be supplied with cargoes where all days of the loading laycan, or all but one of these days, fit fully into the five-day loading window.

Should a seller opt to offer or sell any cargo not loading fully within the five-day laycan, they must cover any additional costs incurred by the buyer resulting from the earlier or later loading. These earlier or later loading days are known as slippage days.

Platts publishes firm bids for Azeri Light CIF Augusta and CPC Blend CIF Augusta cargoes ahead of the release of the full corresponding month-ahead loading program. These instances typically occur when the 10-30 day forward assessment range for Azeri Light and CPC Blend stretch beyond the published loading schedule dates.

In the Azeri Light and CPC Blend markets, Platts also reflects bids where buyers are willing to receive pre-loaded oil, meaning a cargo which has loaded before the dates being bid. Platts does not reflect offers of pre-loaded oil. Sellers may supply a cargo that has loaded prior to the specific dates being bid, provided it meets all other Platts guidelines and the seller covers any additional costs incurred by the buyer. However, this



Source: S&P Global Commodity Insights

specifically excludes oil sourced via STS or from any land-based storage other than the original loading terminal. All deals done on this basis price as if the Bill of Lading were the first day of the originally bid five-day loading range. Slippage days do not apply to pre-loaded oil sales.

If a seller is delivering a pre-loaded cargo, title and risk pass to the buyer at 00.01 Moscow time on the first day of the originally bid five-day laycan.

Platts guidelines maintain that buyers should not be harmed by higher freight and demurrage rates stemming from vessels chartered earlier than the natural fixing window for a given laycan. Using feedback gathered from the industry, Platts has determined that the natural fixing window is between 14 and 16 days prior to the first day of the originally bid five-day loading range.

If no mutual agreement is reached between counterparties for freight deviation costs, Platts expects them to use the three-day average of the Black Sea-Mediterranean 80,000 mt Aframax assessment published in Platts Dirty Tankerwire 14 to 16 days prior to the first day of the original five-day loading range for all CIF Augusta markets.

As such, the lower of either the charterparty or the natural fixing window for each crude should be used to determine the cost of deviation. Similarly, buyers should not be harmed by demurrage incurred by the vessel charterer due to the earlier shipment date in pre-loaded oil transactions. Demurrage should be relevant to the first day of the originally bid five-day loading range.

If a seller is delivering a pre-loaded cargo, then seven days prior to the first day of the laycan, the seller must declare this and the laycan will be deemed the first two days of the original five-day bid. The seller must also specify at least seven days in advance the name of the ship, the loading port and when the cargo loaded. Slippage days do not apply in the event a seller is electing to deliver a previously-loaded cargo.

Nomination: In the CPC Blend CIF Augusta and Azeri Light CIF Augusta markets, the seller must nominate the two-day loading laycan at least seven clear calendar days ahead of the first day of the originally-traded five-day loading range. The seller must also nominate the performing vessel name and load port at least seven clear calendar days ahead of the first day of the originally-traded five-day loading range. If that date is not a working day, then nomination should take place by close of business on the previous working day.

In the event that the seller intends to use the slippage day ahead of the originally-traded five-day loading range, then the seller must nominate seven clear calendar days ahead of the slippage day.

Observed Delivery Factor: Until Nov. 1, 2022, the ODF was added to the published laycans of bids or offers to normalize them to base port dates. During the summer, the observed delivery factor represented how many days longer it would take a cargo from Primorsk or Ust-Luga to reach Augusta versus a cargo from Novorossiisk. During the winter the ODF represented how many days longer it will take a cargo from Novorossiisk to reach Augusta versus a cargo from Primorsk or Ust-Luga. For example, during the summer period, an ODF of four days would indicate delays of four days at the Turkish Straits (based on a normal delivery difference of eight days). Therefore, an offer for a cargo loading from Primorsk or Ust-Luga July 5-10 would have been considered for assessment purposes as representing value based on Novorossiisk dates of July 9-14. During the winter period, an ODF of six days would indicate delays of 14 days at the Turkish Straits. Therefore, an offer for a cargo loading from Novorossiisk December 5-10 would have been considered for assessment purposes as representing value based on Primorsk and Ust-Luga dates of December 11-16.

Since April 1, 2021, Platts has been assessing Turkish Straits delays to the nearest half-day. The ODF continues to be calculated to the nearest whole transit day for the purposes of the Urals CIF Augusta assessment, with any southbound delays rounded up to the nearest full day. In applying the ODF to indications, Platts will account for the impact of market structure on published differentials.

Platts does not reflect part-cargo bids, offers or trades for any of its Mediterranean crude assessments.

Platts considers offers that include a named vessel, which may be lifted by buyers subject to vessel approval. In the event a named vessel is rejected by ship vetting, then the deal will not be finalized. For assessment purposes, in the event a vessel is rejected by a buyer, Platts may reconsider whether the indication should be subsequently included in the Platts assessment process.

Platts reflects typical loading sizes in its Mediterranean crude oil assessments, which may vary from one grade and one loading port to another. Typical loading sizes may also be subject to change over time, and Platts will review and, if necessary, revise the cargo sizes reflected in its assessments. In the event of any change of this nature, Platts will consult with and advise the industry accordingly.

The implied set of conditions for a CIF bid include:

Up front conditions	**Conditions to be met**
Name of the buyer	Ship must meet vetting conditions of a reasonable buyer.
Volume	Volume delivered must match volume requested plus/minus normal tolerances.
Port	Ship must meet physical limitations of port, eg. Draft, beam etc. Ship must also meet conditions set by country of destination.

Offers may be made into a specific location or to meet a broad area. CIF offers may be made with a named or unnamed ship.

The implied set conditions for a CIF offer include:

Up front conditions	Conditions to be met
Name of Ship	Buyer to determine if ship is acceptable to its vetting department. For assessment purposes, editors will review quality of vessel to determine if it should be considered in the assessment process.
Unnamed ship	Seller has the responsibility to meet the reasonable vetting requirements of a typical market participant in that region. The seller is entitled to substitute the vessel with another meeting the same vetting requirement at any reasonable time before delivery of the cargo.

Urals Rotterdam (CIF Rotterdam): The Platts CIF Rotterdam Urals assessment reflects cargoes of typical Primorsk quality loading from the Baltic Sea ports of Primorsk and Ust-Luga for delivery into Rotterdam/Netherlands. This assessment is a freight calculation derived from the FOB Primorsk Urals assessment using Platts spot freight assessments published daily in the Dirty Tankerwire and is inclusive of a Rotterdam port fee. Effective January 3, 2023, the Rotterdam port charge used will be 14 cents/b.

Urals Mediterranean (CIF Augusta): The Platts CIF Augusta Urals assessment reflects cargoes of typical Novorossiisk quality. This assessment is a freight calculation derived from the FOB Novorossiisk Urals assessment using Platts spot freight assessments published daily in the Dirty Tankerwire, in addition to calculated delay and demurrage costs through the Turkish Straits. These demurrage costs are also available in the Platts Dirty Tankerwire. Platts also includes AWRP costs in its Urals CIF Augusta freight net forward.

AWRP: Platts publishes a daily assessment for the Additional War Risk Premium for cargoes of CPC Blend and Russian Urals loading in the Black Sea.

Urals FOB Novorossiisk Suezmax: The Urals FOB Novorossiisk Suezmax assessment represents 140,000 mt cargoes trading FOB at the Black Sea port of Novorossiisk.

Urals FOB Novorossiisk Aframax: The Urals FOB Novorossiisk Aframax assessment represents 80,000 mt cargoes trading FOB at the Black Sea port of Novorossiisk.

Urals ex-Baltic Sea FOB: The Urals ex-Baltic Sea FOB assessment reflects 100,000 mt cargoes of Urals loading out of the Baltic Sea ports of Primorsk, Ust-Luga and Gdansk.

Urals ex-Primorsk (FOB): The Urals ex-Primorsk FOB assessment reflects Urals cargoes of 100,000 mt loading exclusively out of the Baltic Sea port of Primorsk.

Urals Recombined (RCMB) CIF Augusta: This daily assessment is an outright price for Urals CIF Augusta which does not take into account backwardation or contango. This price is produced by adding or subtracting the prevailing market differential for CIF Augusta Urals relative to the daily Dated Brent assessment. No further adjustments are made. This assessment is published as an outright price only. The differential is assessed according to the methodology highlighted in the Urals CIF Augusta assessment above.

KEBCO (CIF Augusta): The assessment reflects Aframax cargoes of Kazakh-origin Urals loading from the Black Sea port of Novorossiisk for delivery into the Mediterranean. The assessment basis is CIF Augusta/ Sicily/Italy, though cargoes delivered to other ports in the Mediterranean may also be considered with freight costs taken into account.

KEBCO (CIF Rotterdam): The assessment reflects Aframax cargoes of Kazakh-origin Urals loading from the Baltic Sea port of Ust-Luga for delivery into Rotterdam.

KEBCO (FOB Novorossiisk): The assessment reflects Aframax cargoes of Kazakh-origin Urals loading from the Black Sea port of Novorossiisk. The assessment is a freight calculation derived from the CIF Augusta KEBCO assessment using Platts spot freight assessments published daily in the Dirty Tankerwire, in addition to calculated delay and demurrage costs through the Turkish Straits and the AWRP.

KEBCO (FOB Ust-Luga): The assessment reflects Aframax cargoes of Kazakh-origin Urals loading from the Baltic Sea port of Ust-Luga. The assessment is a freight calculation derived from the CIF Rotterdam KEBCO assessment using Platts spot freight assessments published daily in the Dirty Tankerwire and is inclusive of a Rotterdam port fee. Effective January 3, 2023, the Rotterdam port charge used will be 14 cents/b.

KEBCO/Russian Urals: The KEBCO/Russian Urals spread assessment reflects a calculated value based on the difference between the Platts KEBCO assessment versus the Mediterranean Dated Strip (KBCOB00) and the Platts Urals CIF Mediterranean assessment versus the Mediterranean Dated Strip (AAGXX00).

Urals (DAP India): The Urals DAP India assessment reflects an Aframax cargo size, typically 80,000-100,000 mt, and is assessed for an M+1 delivery period into West Coast India. For example, in February 2023 the assessment would reflect March deliveries of Urals crude to West Coast India. The assessment is published on a Delivered at Place (DAP) West Coast India basis as an outright price, as a differential to M1 forward Dated Brent (BDLM001) and as a differential to M1 Dubai Swaps (DFLL001).

ESPO (FOB Kozmino): The assessment of Eastern Siberian Pacific Oil (ESPO) crude oil reflects cargoes loaded from Russia's Far East port of Kozmino. Prices are assessed on an FOB basis and reflect cargoes from 80,000 mt to 140,000 mt, normalized to a standard 100,000 mt. The Platts assessment reflects cargoes loading M+2 from date of publication and is adjusted to the 16:30 London close using the assessment published at the 16:30 Singapore close, normalized for changes in outright prices over time.

Siberian Light (CIF Augusta): The assessment reflects 80,000 mt cargoes of Siberian Light loading from the Black Sea port of Novorossiisk for delivery into the Mediterranean. The assessment basis is CIF Augusta/Sicily/Italy.

Azeri Light (BTC CIF Augusta): The assessment reflects 650,000 barrel cargoes of Azeri Light loading at the Turkish port of Ceyhan for delivery into the Mediterranean. Azeri Light cargoes loading from both Ceyhan and the Black Sea port of Supsa may be included in this assessment, with Supsa volume adjusted back to Ceyhan quality. While the basis is CIF Augusta/Sicily/Italy, cargoes delivered to other ports in the Mediterranean will also be considered with freight costs taken into account. Cargoes for exclusive delivery within the Black Sea are not taken into account. The typical pricing period for cargoes is either three or five days after bill of lading, though cargoes pricing on a different basis may be included with an adjustment back to market standard pricing.

Azeri Light FOB Supsa: The assessment reflects 650,000 barrel cargoes loading from the Black Sea port of Supsa. This assessment is a freight calculation derived from the CIF Augusta Azeri Light assessment using Platts spot freight assessments published daily in the Dirty Tankerwire. It also takes into account any delay and demurrage costs through the Turkish Straits, which are also published daily in the Dirty Tankerwire.

Azeri Light FOB Ceyhan Suezmax: The assessment reflects 1 million barrel cargoes of Azeri Light loading from the Turkish port of Ceyhan. This assessment is a freight calculation derived from the CIF Augusta Azeri Light assessment Platts' spot freight assessments published daily in the Dirty Tankerwire.

Azeri Light FOB Ceyhan Aframax: The assessment reflects 650,000 barrel cargoes loading from the Turkish port of Ceyhan. This assessment is a freight calculation derived from the CIF Augusta Azeri Light assessment using Platts spot freight assessments published daily in the Dirty Tankerwire.

BTC (Azeri) crude FOB Ceyhan: The assessment reflects typical export grade crude from the BTC pipeline at Ceyhan - which is currently classified as Azeri Light – independent of cargo size. This assessment is a freight calculation derived from the CIF Augusta Azeri Light assessment. Platts uses the average of freight rates of a 650,000 barrel cargo (standard Aframax) and a 1 million barrel cargo (standard Suezmax) to provide a guide for the FOB level, using Platts spot freight assessments in the Dirty Tankerwire report.

CPC Blend (CIF Augusta): The assessment reflects 90,000 mt cargoes loading from the Black Sea CPC Terminal north of Novorossiisk for delivery into the Mediterranean. The Platts CPC Blend CIF Augusta assessment reflects cargoes between 90,000 mt and 140,000 mt, normalized back to the 90,000 mt standard. The assessment basis is CIF Augusta/ Sicily/Italy, though cargoes delivered to other ports in the Mediterranean may also be considered with freight costs taken into account. Cargoes for exclusive delivery within the Black Sea are not taken into account. The typical pricing period for cargoes is either three or five days after bill of lading. Cargoes pricing on a different basis can be included with the pricing period adjusted back to market standard.

Platts understands that the AWRP is for the seller's account for CIF Augusta CPC Blend trades. As such, for CPC delivered Augusta bids, offers and trades in the Platts Market on Close assessment process, Platts will reflect value with the AWRP cost being paid by the seller. Platts excludes cargoes that carry a Russian certificate of origin (COO). Bids, offers and trades reported in the Market on Close (MOC) assessment process will need to be performed upon with cargoes carrying a Kazakh origin COO.

Platts will publish bids and offers requiring delayed transfer of title and risk in the MOC, but these may be subject to normalization for assessment purposes. Platts understands that the title and risk could pass at the point the vessel has passed through the Dardenelles, rather than at loadport.

CPC Blend FOB Suezmax: The assessment reflects 140,000 mt cargoes of CPC Blend crude oil loading from the CPC Blend export terminal north of Novorossiisk in the Black Sea. This assessment is a freight calculation derived from the CIF Augusta CPC Blend assessment using Platts spot freight assessments published daily in the Dirty Tankerwire. It also takes into account any delay and demurrage costs through the Turkish Straits, also available daily in the Dirty Tankerwire. The calculation also includes the AWRP.

CPC Blend FOB Aframax: The assessment reflects 90,000 mt cargoes of CPC Blend crude oil loading from the CPC Blend export terminal north of Novorossiisk in the Black Sea. This assessment is a freight calculation derived from the CIF Augusta CPC Blend assessment using Platts spot freight assessments published daily in the Dirty Tankerwire. It also takes into account any delay and demurrage costs through the Turkish Straits, which are also available daily in the Dirty Tankerwire.

Suez Blend (FOB Ras Sukheir): The assessment reflects 600,000 barrel to 1 million barrel cargoes of Egypt's Suez Blend crude sold Brent-related FOB from Ras Sukheir.

Es Sider (FOB Es Sider): The assessment reflects 600,000 barrel cargoes of Es Sider crude oil loading FOB from the Libyan port of the same name for delivery into the Mediterranean. In periods of spot market illiquidity, Es Sider is assessed relative to CIF Augusta Azeri Light, with relevant freight costs taken into account.

Kirkuk (FOB Ceyhan): This assessment reflects Iraqi Kirkuk crude loading at Ceyhan in Turkey. Prices are assessed on an FOB basis. The typical cargo size is 600,000 barrels but cargoes of up to 1million barrels may be used in the assessment. The typical pricing period for cargoes is either three or five days after bill of lading. Cargoes pricing on a different basis can be included with the pricing period taken into account. This assessment only includes cargoes of Iraqi Kirkuk crude, and does not factor in cargoes of KBT also loading from the Botas terminal at Ceyhan.

Iran Light FOB Kharg Island (Med): The assessment reflects 600,000 barrel cargoes loading FOB from the Iranian port of Kharg Island for delivery into the Mediterranean. In the absence of any spot market information, Platts may assess Iranian

crudes in relation to their monthly Official Selling Prices (OSPs), as released by the National Iranian Oil Company (NIOC). Because these OSPs are published relative the ICE's Brent weighted average (BWAVE), Platts uses Dated to Frontline (DFL) swaps to bring the assessment back in line with Dated Brent.

Iran Heavy FOB Kharg Island (Med): The assessment reflects 600,000 barrel cargoes of Iranian Heavy loading FOB from the Iranian port of Kharg Island for delivery into the Mediterranean. In the absence of spot market information, Platts may assess Iranian crudes in relation to the monthly OSP released by NIOC. Because these OSPs are published relative to ICE's BWAVE, Platts uses Dated to Frontline (DFL) swaps to bring the assessment back in line with Dated Brent.

Saharan Blend (FOB): The assessment reflects 600,000 barrel cargoes of Saharan Blend loading FOB from the Algerian ports Skikda and Arzew. Larger cargoes may be considered in the assessment, but will be normalized back to 600,000 barrels. The typical pricing period for cargoes is either three of five days after bill of lading, though cargoes pricing on a different basis may be included with the pricing period taken into account.

Urals and Mediterranean Crude Netback Calculations

Effective January 3, 2023, Platts will use the corresponding Worldscale flat rates per metric ton for the following routes in the calculation of its netback FOB Northwest Europe and Mediterranean spot assessments. Rates to Rotterdam from: Primorsk and Baltic ports (basket of Gdansk, Primorsk, and Ust-Luga). Rates to Augusta from: Banias, Batumi, Ceyhan, Es Sider, Novorossiisk, Novorossiisk CPC terminal, Sidi Kerir, Skikda, Supsa, and Tartous. The Rotterdam port charge used will be 12 cents/b.

Urals and CPC Blend CFDs

Urals CFDs (Contract for Difference) are a derivatives contract that trades both via exchange and the brokered market. These contracts trade primarily on a monthly basis, but also on a bespoke or quarterly basis. Platts assesses three full calendar months ahead of the current date of publication for both the Urals Northwest Europe and Urals Mediterranean CFD markets. In Northwest Europe, the CFD measures the differential in price between the Mediterranean Dated Strip assessment and the Urals CIF Rotterdam outright assessment across the contractual duration of the swap. In the Mediterranean, the CFD represents the market differential in price between the Dated Brent assessment and Urals Recombined (RCMB) assessment over the contractual duration of the swap.

Platts assesses three full calendar months ahead of the date of publication for the CPC Blend CFD market. The CFD measures the differential in price between the Forward Dated Strip assessment and the CPC Blend CIF Augusta outright assessment across the contractual duration of the swap.

Assessments are expressed as a differential.

Med Sweet/Sour Index

As an addition to Platts daily crude oil assessments in the Mediterranean, Platts calculates and publishes a Mediterranean crude sweet/sour index. In the calculation, Platts uses the following formula: the mean of CPC Blend FOB CPC Terminal vs BTC Dtd strip, BTC FOB Ceyhan vs BTC Dtd strip, Saharan Blend FOB Algeria vs BTC Dtd strip and Es Sider FOB Es Sider vs BTC Dtd strip minus Urals FOB Novorossiisk vs Med Dtd strip.

Europe

	Sulfur (%)	API	Production (b/d)	Conversion Factor (barrels to mt)	Country	Location	Operator
North Sea Crude							
Brent	0.40	37.5	91,000	7.52	UK	Sullom Voe	Enquest
Forties	0.64	38.7	330,000	7.57	UK	Hound Point	INEOS
Oseberg	0.25	37.8	100,000	7.53	Norway	Sture	Equinor
Ekofisk	0.19	38.5	230,000	7.56	UK/Norway	Teesside	ConocoPhillips
Statfjord	0.25	39.3	90,000	7.60	Norway	Statfjord FPSO	Equinor
Gullfaks	0.26	37.5	140,000	7.52	Norway	Gullfaks FPSO	Equinor
Flotta	0.98	36.2	60,000	7.46	Norway	Flotta	Repsol Sinopec
Troll	0.14	35.9	190,000	7.44	Norway	Mongstad	Equinor
DUC	0.25	33.5	40,000	7.34	Denmark	Fredericia	Postlane Partners
Grane Blend	0.64	27.5	230,000	7.07	Norway	Sture	Equinor
Johan Sverdrup	0.8	28	380,000	7.09	Norway	Mongstad	Equinor
Alvheim	0.17	34.9	78,000	7.40	Norway	Alvheim FPSO	Aker BP
Asgard	0.14	52	200,000	8.16	Norway	Asgard FPSO	Equinor
West African Crude							
Bonny Light	0.16	32.9	280,000	7.31	Nigeria	Bonny Terminal	Shell
Qua Iboe	0.11	37.6	245,000	7.52	Nigeria	Qua Iboe Terminal	ExxonMobil
Forcados	0.22	31.5	240,000	7.25	Nigeria	Forcados Terminal	Shell
Escravos	0.17	32.4	155,000	7.29	Nigeria	Escravos Terminal	Chevron
Brass River	0.18	40.1	105,000	7.63	Nigeria	Brass River Terminal	ENI
Agbami	0.04	47.88	150,000	7.98	Nigeria	Agbami FPSO	Chevron
Akpo	0.07	45.8	97,000	7.89	Nigeria	Akpo FPSO	Total
Bonga	0.25	29.4	150,000	7.16	Nigeria	Bonga FPSO	Shell
Erha	0.17	35.4	92,000	7.42	Nigeria	Erha FPSO	ExxonMobil
Usan	0.27	29.9	65,000	7.18	Nigeria	Usan FPSO	ExxonMobil
Egina	0.17	27.3	215,000	7.06	Nigeria	Egina FPSO	Total
Cabinda	0.15	32.2	155,000	7.28	Angola	Malongo Terminal	Chevron
Girassol	0.34	30.2	97,000	7.19	Angola	Girassol FPSO	Total
Kissanje	0.36	30.3	92,000	7.20	Angola	Kizomba B FPSO	ExxonMobil
Hungo	0.59	29.4	35,000	7.16	Angola	Kizomba A FPSO	ExxonMobil
Nemba	0.28	37	120,000	7.49	Angola	Malongo Terminal	Chevron
Dalia	0.51	23	150,000	6.87	Angola	Dalia FPSO	Total
Pazflor	0.43	25.6	90,000	6.99	Angola	Pazflor FPSO	Total
Plutonio	0.37	33.2	65,000	7.32	Angola	Greater Plutonio FPSO	BP
Djeno	0.34	27.6	260,000	7.08	Republic of Congo	Djeno Terminal	Total
Jubilee	0.29	36.8	120,000	7.48	Ghana	Kwame Nkrumah FPSO	Tullow
Doba	0.09	25.8	150,000	6.99	Chad	Kome-Kribi Terminal	COTCO

Europe

	Sulfur (%)	API	Production (b/d)	Conversion Factor (barrels to mt)	Country	Location	Operator
Urals/Mediterranean Crude							
Urals (ex-Novo)	1.36	31.3	490,000	7.23	Russia	Russia (Novorssiisk terminal)	Transneft
Urals (ex-Baltics)	1.44	31.5	1,500,000	7.23	Russia	Russia (Primorsk, Ust-Luga)	Transneft
Kirkuk	2.26	33.9	400,000	7.36	Iraq	Turkey	Botas
CPC	0.56	45.3	1,500,000	7.80	Kazakhstan	Russia (CPC terminal)	TCO/KPO/KMG
Azeri Light (FOB Supsa/Batumi)	0.16	34.75	85,000	7.40	Azerbaijan	Georgia	SOCAR (Downstream)
Azeri Light (FOB Ceyhan)	0.15	36.55	650,000	7.45	Azerbaijan	Turkey	SOCAR (Downstream)
Saharan Blend	0.1	45	400,000	7.85	Algeria	Algeria	Sonatrach
Siberian Light	0.57	35.1	150,000	7.45	Russia	Russia (Novorssiisk terminal)	Transneft
Es Sider	0.37	36.71	280,000	7.48	Libya	Libya	NOC Libya
Suez Blend	1.41	31.3	N/A	7.24	Egypt	Egypt	BP/EGPC
Iranian Heavy	1.99	29.5	N/A	7.16	Iran	Egypt	NIOC
Iranian Light	1.36	33.4	N/A	7.33	Iran	Egypt	NIOC
ESPO	0.5	34.7	800,000	7.39	Russia	Russia (Kozmino terminal)	Transneft

Revision history

November 2023: Updated to include methodology for CIF Rotterdam Johan Sverdrup assessments.

August 2023: Updated throughout to reflect recent clarifications for WTI Midland's inclusion to Dated Brent, including details around the following aspects of the Dated Brent methodology: deemed B/L pricing, minimum volume, freight fallback mechanisms and quality performance. Further clarity provided for North Sea regional grades assessment volume. KEBCO and Urals DAP India assessments updated to reflect recent launches. CPC Blend assessment methodology was updated to include recently clarified language.

June 2023: Updated to include all changes relating to addition of WTI Midland to Dated Brent.

March 2023: Platts completed an annual review of this guide, reviewing all content, correcting typos and making minor edits to language. Updates were made to Urals and CPC Blend assessments. Additions were made to include KEBCO, PESCI, AWRP and Urals DAP India. Adds information on approved terminals for Dated Brent, Cash BFOE.

July 2022: Updates Dated Brent CIF Rotterdam methodology to reflect inclusion of WTI Midland CIF Rotterdam cargoes. Updates North Sea terminal operators. Removes references to Syrian crude assessments throughout. Updates CPC Blend CFD basis.

February 2022: Platts completed an annual review of this guide, reviewing all content, correcting typos and making minor edits to language.

January 2022: Annual Worldscale freight update. Adds the Midland-to-ECHO 3 and Wink-to-Webster crude pipelines to the list of pipelines reflected in European WTI Midland assessments.

December 2021: Adds Ust-Luga loading cargoes to Urals CIF Augusta assessment and clarifies volume guidelines for MOC indications.

August 2021: Updates US Crude in Europe section to reflect amended pipeline provenance standard. Adds Urals and Mediterranean pre-program bid guidelines.

July 2021: Adds new WTI Midland CIF basis Rotterdam 12 days-to-month ahead assessments to assessment table and US Crude in Europe section. Corrected monthly average codes for WTI Midland FOB basis Scapa Flow and Eagle Ford 45 DAP basis Rotterdam in assessment table. Updated min/max volumes for US crude assessments in assessment table. Updated title and risk language for Dated Brent CIF Rotterdam.

May 2021: Updates accepted pricing terms for Dated Brent CIF Rotterdam. Adds minimum volume guidelines for FOB STS Scapa Flow and Dated Brent CIF Rotterdam, replacing mother/daughter ship restrictions. Updates Urals ODF to reflect full day southbound Turkish Straits delays.

April 2021: Updates Dated Brent CIF Rotterdam Charterparty section to clarify geographical range. Updated CPC methodology to reflect assessment date range change to 10-30 days forward and 90,000 mt standard cargo size. Updated Es Sider, Saharan Blend to reflect assessment date range change to 10-30 days forward.

February 2021: Platts completed an annual review of this guide and made minor amendments to language throughout. Platts added vessel nomination language to the Urals/Med section, and updated references to North Sea demurrage.

January 2021: Annual Worldscale freight update.

December 2020: Updated Dated Brent FOB STS basis Scapa Flow MOC pricing state timing. Updated delivery period for CIF North Sea regional grades in assessment table. Updated Cash BFOE example wording. Adds Dated Brent CIF cargo nomination clarification. Corrected Statfjord location in North Sea map. Corrected order of Egina assessment codes.

August 2020: Updated to reflect 2-1-2 around deemed B/L pricing as standard in CIF Rotterdam North Sea assessments. Adds global WTI Midland specification.

June 2020: Updated to include the EPIC, Gray Oak and Permian Express crude pipelines to the list of pipelines reflected in European WTI Midland assessments. Updated Skikda-Augusta freight rate to reflect change in Worldscale flat rates. Added FAF Scapa Flow to code table.

May 2020: Updated Cash BFOE methodology to reflect partial contracts that settle on fallback day.

April 2020: Updated Worldcsale flat rates for Sullom Voe and Ceyhan. Added section for WTI Midland FOB Scapa Flow assessment.

February 2020: Annual Review Completed. Updated North Sea Basket language and amended some typos and spelling of Novorossiisk to new standard. Added STS Options to Urals Rotterdam language. Updated max volume size for Urals CIF Augusta in Charts. Amended guidelines regarding CIF to FOB conversions for North Sea cargo trades. Edited ESPO to reflect the M+2 trading in Singapore.

January 2020: Updated Urals language around ODF, and Baltic delivery in Urals CIF Augusta, updated freight rates in both Urals/Med and North Sea. Updated FAF language to reflect M1 only.

December 2019: Added Johan Sverdrup and definition of Cash BFOE. Updated CIF Rotterdam language to reflect new clarifications. Updated pipeline provenance naming/spelling to reflect global standard in DAP WTI.

November 2019: Platts clarifies Cash BFOE settlement language on partials to reflect that non-converging positions can be settled both financially and with a smaller physical cargo.

October 2019: Platts updated Dated Brent methodology to reflect CIF Rotterdam change and added Egina assessment.

July 2019: Platts updated US Delivered assessments to reflect change in pricing basis and WTI Midland pipeline provenance.

June 2019: Platts updated CIF Dated Brent freight basket to reflect change in WS Sullom Voe rate.

April 2019: Platts completed an annual update to sections 1 to 6 of Platts Methodology and Specifications Guides in April 2019, and moved these sections into a standalone Methodology Guide. The Global Crude Oil Specifications Guide was separated from the overall Methodology Guide, and split into three regional guides for Asia Pacific and Middle East, Europe and Africa and Americas. Platts completed an annual review of the Europe and Africa Crude Oil methodology and specifications guide. Platts reviewed all content, corrected typos and made minor edits to language. Platts updated the guide to reflect the addition of a Troll Quality Premium for April 2019-loading cargoes onwards; and the introduction of STS options into the Urals CIF Rotterdam assessment. Platts also updated the guide to reflect the addition of the West Africa Index.

January 2019: Platts updated the North Sea and Urals & Mediterranean sections to include annual freight rates effective January 2, 2019. Platts also updated assessment names in the Urals & Mediterranean section to reflect changes to assessment names effective January 2, 2019. Platts removed assessments for Iran Light and Iran Heavy FOB Sidi Kerir, which were discontinued effective January 2, 2019 and added assessments for Iran Light and Iran Heavy FOB Kharg Island (Med) which were introduced also effective January 2, 2019. The ESPO assessment in the Urals & Mediterranean section was updated to reflect that effective January 2, 2019, ESPO will now be reflecting cargoes loading two months ahead in line with methodology changes to the Asia assessment and announced in Singapore. All changes conducted during this review were designed to get the guide in shape for publication early 2019 in order to reflect methodology changes due to take effect at the start of the upcoming year. Additionally, the accompanying EMEA Crude assessment table was updated to reflect all changes. In the Asia-Pacific and Persian Gulf sections: Platts removed references to Enfield crude after the assessment was discontinued in November, 2018. Updated loading period reflected in Platts ESPO M1 and ESPO M2 assessments effective January 2019. Added references to Murban M2 and M3 assessments, launched on January 2, 2019. Removed reference to Vietnam's Su Tu Den crude differential to OSP which was discontinued in 2017.

October 2018: Platts completed an annual review of the global Crude Oil methodology and specifications guide. Platts reviewed all content, corrected typos and made minor edits to language. Platts also added new sections I to VI. In the Persian Gulf section Platts added reference to an assessment of Murban's spread versus front-month Dubai that was launched in July, 2018. In the Asia Pacific section Platts corrected the explanation of how the Dated Brent Strip is calculated. Platts also added description of several Asia-Pacific crude oil grades that Platts currently assesses in the region. In the Americas, Platts updated the guide to reflect the addition of LOOP Sour differential assessments; new US crude assessments at the Asia close; the change in the Canadian cargo laycans assessed and the underlying Canada Dated Brent strip; the clarification of its USGC Basrah Light assessment methodology; the change in the ANS differential basis; the addition of two new USGC Bakken assessments, and the renaming and redefinition of its existing North Dakota assessment; the renaming and broader scope of its WTI crude and Eagle Ford crude and condensate cargo assessments on the US Gulf Coast; the discontinuation of its FOB Houston Eagle Ford crude and condensate assessments; and the change in specification reflected in its Eagle Ford condensate assessments. In addition the text on WTI CMA methodology was edited for further clarity and the assessment was added to the table. The Canada Dated Brent strip and Latin America strips were also added to the assessment tables. In the Americas section, the text and tables were also reorganized In Europe, Platts updated the symbol tables, re-ordering the groupings and changing headings. Doba crude had its conversion factor changed; netback calculations were adjusted; and a US CIF delivered crude section was added.

July 2018: Platts updated its guide to reflect 2018 Worldscale rates, the addition of several maps, the revision and clarification of text and the revision of cargo sizes in West Africa. Platts updated the Asia and Persian Gulf sections to reflect the addition of crude assessments at Singapore close for the following: Indonesia's Banyu Urip crude, Iraq's Basrah Light and Basrah Heavy crudes, US crude assessments and CFR North Asia crude assessments. The guide was also updated to reflect the discontinuation of Su Tu Den crude differential to OSP effective December 1, 2017. Platts edited and updated the text for Asia Pacific sections as well as quality chart for Asia-Pacific crudes as per latest available assays. Platts updated the guide to reflect the addition of Troll to BFOE and the inclusion of previously-loaded oil in the delivered Urals and Mediterranean MOC markets. Additionally, Platts edited and updated the text and tables for the EMEA crude sections.

September 2017: Platts updated its guide to reflect additional methodology on its Dated Brent CIF Rotterdam assessment. Platts also completed an annual review of the Crude Oil methodology and specifications guide. Platts reviewed all content and made minor edits to language. Guidance on outright, differential and spread price was clarified in reference to increments. In the Americas, Platts clarified calculation and loading details of Mexican crude prices and added in the OSP formula for Maya crude heading to the US West Coast. In addition, Platts has removed most Americas crude quality specifications from the text and compiled them into an Americas crude quality table, updated with details from latest assays. In the assessment tables, Platts added in a column for typical volume sizes, and deleted extraneous columns. Platts also clarified the rollover

dates for ANS cargoes and the Latin America Brent Futures Strip calculations, and removed redundant language for the Eagle Ford Marker. In the EMEA region, Platts updated the guide to include the Asgard and Alvheim condensate grades in the North Sea. Also, text on the delivery and loading dates on Dated Brent was clarified, alongside text on the Forward Dated Brent strips. Platts edited and updated the text for Persian Gulf and Asia Pacific sections, and in table corrected the loading period for ESPO and Sakhalin Blend and loading point for Senipah crude. Maps relevant to key crude oil assessments were also added.

April 2017: Platts updated the Crude Oil Methodology Guide to reflect the addition of the LOOP Sour crude assessments traded in cavern at the Louisiana Offshore Oil Port terminal on the US Gulf Coast.

January 2017: Platts completed an annual update to the Crude Oil Methodology Guide, published in January 2017. This update moved the location of certain passages in Sections I to VI for enhanced clarity, and removed redundant references to STS and barge practices. Platts also updated Worldscale rates to reflect changes from 2016 to 2017. Platts updated the Crude Oil Methodology Guide to clarify around nomination procedure for Middle Eastern sour crude cargo deliveries, and remove reference to the use of the Aframax Abu Dhabi-III as an alternative delivery point in the assessment process for loading of Upper Zakum cargoes. Platts updated the Crude Oil Methodology Guide to include the Kimanis crude assessment and Murban Quality Premium. Removed references to discontinued Canadian crude postings, updated the new MOC timestamps and general review and update of Americas methodology. Platts also updated the European section throughout, including procedures around pre-loaded oil for Urals Mediterranean, changes to Cash BFOE contract months and the discontinuation of Azeri FOB Supsa. Platts made a variety of edits to its North Sea methodology section for further clarity around descriptions for BFOE, convergence practices, a note that Platts now published assessments for the value of three forward months of BFOE (instead of as four, previously). Platts also added information relating to its updated intraday BFOE assessments.

May 2016: Platts updated the Crude Oil Methodology Guide to include new assessments for WTI 2nd month and at the London close including: WTI MEH M2, WTI Midland M2, Light Houston Sweet M2, WTI MEH M1 (London), and WTI MEH M2 (London).

April 2016: Platts updated the Crude Oil Methodology Guide to reflect typical volumes for Latin American crude oil cargoes to: Escalante (1 million barrels), Roncador (750,000 barrels), Loreto (400,000 barrels), Oriente (360,000 barrels), Napo (720,000 barrels), Marlim (750,000 barrels), Castilla Blend (1 million barrels), and Vasconia (500,000 barrels). Prior to April 2016, Platts reflected typical volume sizes of 350,000 barrels with the exception of Santa Barbara (350,000 barrels), Mesa 30 (350,000 barrels), Castilla Blend (500,000 barrels) and Magdalena (300,000 barrels). Additionally, Platts has updated the assessment period for Alaska North Slope (ANS) crude delivered into the US West Coast. Under the updated ANS methodology, Platts will roll its assessments forward to reflect deliveries in the second calendar month forward from the first publishing day on or after the 10th of each month. Platts also updated the Crude Oil Methodology Guide to reflect updated specifications of Basrah Light delivered into the US Gulf Coast. The updated specifications reflect a typical API gravity 29.5 and a maximum sulfur content of 3%. Prior to March 2016, Platts Basrah Light reflected an API gravity of 31-35.5 and sulfur content of 2%. Platts also corrected minor typographical errors.

February 2016: Platts updated the Crude Oil Methodology Guide to reflect the addition of US crude export cargo assessments for Eagle Ford crude and condensate from Houston and Corpus Christi, Texas terminals as well as WTI Houston. Platts also added a new crude oil pipeline assessment for Western Canadian Select (WCS) ex-Nederland. Platts also removed references to Canadian crude oil postings that were discontinued effective July 31, 2015.

January 2016: Platts updated the Crude Oil Methodology Guide to reflect the inclusion of Al Shaheen and Murban in its Dubai and Oman crude oil benchmarks. Platts removed references to Stybarrow crude, which is no longer assessed. Platts started to assess Dubai and Oman derivatives independently of physical assessments with effect from December 1, 2015.

November 2015: Platts updated the Crude Oil Methodology Guide to reflect Brazilian Roncador crude oil with a typical gravity of 19.8 API, sulfur content of 0.935%. Platts assessments for Roncador have reflected crude of this general quality since 2013, when Roncador exports began to reflect a heavier, more sulfurous specification than had previously been typical for the crude. Prior to 2013, Roncador exports and Platts Roncador assessments had reflected crude with a lighter gravity of approximately 28.3 API, and a lower sulfur of generally 0.58%. Platts removed references to Kumkol crude, which is no longer assessed.

August 2015: Platts completed an annual update to the Crude Oil Methodology Guide in July 2015. In this update, Platts reviewed all content. Platts updated guidance around how to report information and expectations for contactability. Platts also consolidated guidance regarding review of reported trades and incorporated information regarding how Platts accounts for market structure in its crude oil assessments. In the specifications section of the guide, Platts reflected the renaming of Flotta Gold assessment, in line with the change in name by the terminal operator, Talisman Sinopec Energy UK Ltd (TSEUK). Platts added the planned discontinuation dates of its existing Kumkol and Zarzaitine assessments. Platts incorporated netback calculations for Urals and Mediterranean assessments. Platts added its Baltic Urals crude short option methodology. Language has been clarified in the US pipeline crude assessments, US shale crude oils and Americas dated Brent and US crude assessments at London close. Latin America crude has added clarification around the monthly cash WTI assessments along with language to the Mexican crude contract pricing formulas. Language around Latin America assessments FOB has also been clarified. Platts updated this guide to include guidance regarding the inclusion of STS as a delivery option for Upper Zakum.

May 2015: Platts removed a number of European, Russian and West African crude oil specifications from the guide and replaced them with a table format. Previously, the crude oil specifications had appeared next to the crude oil's description. Now, the specifications appear separately in one table and are designed as a reference. Platts updated the description of its Dated Brent and North Sea crude assessment methodology to reflect North Sea cargoes loading a full month-ahead. This change to Platts Dated Brent and North Sea crude methodology also incorporated changes to Platts Cash BFOE; under Platts new methodology, full cargo date nominations are declared one month in advance. This change also impacted Platts Asian and American Dated Brent assessments, which also reflect loadings 10 days to a month-ahead. Platts further clarified the convergence and settlement expectations for BFOE partials published for assessment under its methodology. Platts updated the description of its West African assessment range to reflect the value of all West African crude assessments loading 25-55 days forward. Platts noted the addition of the Deodorized Field Condensate assessment and the Sakhalin Blend assessment. DFC will run alongside the existing Ras Gas assessment and will carry the historical data for Ras Gas when the Ras Gas assessment is discontinued on January 2, 2016. The Sakhalin Blend assessment will run alongside the existing Vityaz Blend assessment and will carry the historical data for Vityaz when the Vityaz assessment is discontinued on January 2, 2016. Platts removed references to discontinued assessments for Lower Zakum and Umm Shaif following the launch of the Das Blend assessment and the removal of the codes associated with those assessments. Platts added information about its new WTI MEH assessment reflecting Midland grade WTI crude oil trading at the Magellean East Houston terminal. Platts also amended the guide to reflect the renaming of its Canadian Syncrude Sweet assessment to Syncrude Sweet Premium. This methodology guide was also updated to include further description of Platts' processes and practices in survey assessment environments. Platts made other minor edits throughout.

December 2014: Platts updated this guide making some minor edits. Platts also updated the methodology to reflect the use of full cargoes to assess Tapis and Minas crude oil markets from December 2014. As part of the change, Platts discontinued the use of the partials mechanism to assess Minas and Tapis. Platts updated the tables for Asia-Pacific crude to amend the cargo size of Minas to 100,000 barrels and Tapis to 300,000 barrels. Platts also updated the description of Angolan Dated Brent Strip codes AALGM00 and AALGN00 to their new description, the "15-45 Day Dated Strip". In North Sea crude, Platts added assessment codes for M4 cash BFOE at the London and Asia closes, M4 BFOE EFPs, and spreads with WTI.

July 2014: Platts completed an annual update to the Crude Oil Methodology Guide in July 2014. In this update, Platts reviewed all content. Platts consolidated guidelines around publishing information during the MOC assessment process into the MOC Data Publishing Principles section, and incorporated clarification guidance about how to express interest in bids and offers that were published in January 2014 and May 2014. Platts also incorporated clarifications around book-outs, circle-outs, and editorial review of reported trades. The guide was updated to add details regarding new assessments for Das Blend crude; correct the implementation date for valuing Asian crudes versus the ADB Strip to September 2013; remove a reference to Oman quality specifications; add details regarding Minas and Tapis partials; update Platts QP calculations formula; remove references to Palanca/Soyo, Kole, and Rabi Light, which are no longer assessed; update descriptions of Urals CIF Rotterdam and CIF Augusta; incorporate additional Azeri Light descriptions; revise Urals CFD descriptions; clarify language describing the US and Canadian pipeline rolls; update latest available API and sulfur specifications for SGC and Poseidon; create separate sections for US and Canada cargo assessments for more clarity; include descriptions of its new Bakken basin assessment; remove certain background commentary around US shale markets that was not strictly relevant to methodology itself; remove references to Canadian crude postings that are no longer published; add explanations of Latin strips; add definitions for Isthmus to USWC and Olmeca to Europe; and incorporate descriptions of Platts' 3:15 futures assessments. Platts also made minor typographical edits throughout the text for clarity.

November 2013: Platts updated this guide, making minor edits through the text. Platts also updated its methodology for Middle Eastern crude oil, noting a change where full cargos converge on the 20th partial between a buyer and seller, forming cargos of 500,000 barrels each. Platts added information regarding its new Light Houston Sweet (LHS) assessment, which had previously been published in a separate document. Platts also added details regarding assessments for Akpo, Bonga, Pazflor, Plutonio and Djeno crude oils.

August 2013: Platts revamped all Oil Methodology and Specifications Guides, including its Crude Oil guide, in August 2013. This revamp was completed to enhance the clarity and usefulness of all guides, and to introduce greater consistency of layout and structure across all published methodology guides. Methodologies for market coverage were not changed through this revamp, unless specifically noted in the methodology guide itself.