S&P Global
Platts

ICE

July 2021

Brent Benchmark Complex: Evolving necessity

The Brent Benchmark Complex consists of the world's most important physical and financial crude oil benchmarks.

Instruments in the Brent complex are used around the world in a variety of ways. Dated Brent is not just a bellwether for the oil markets but a price reference in physical term and spot deals daily. National oil companies refer to Brent in their official selling prices every month, governments manage taxes and royalties with it, while the benchmark sits at the heart of floating spot pricing, tender contracts around the world, long-term strategic planning and shorter-term product cracks. Beyond the world of oil, Brent is also an essential component of managing price exposure in other commodity markets, like LNG and pipeline gas, while movements in Brent futures inform the broader understanding of the health of the world economy itself.

The Brent futures market allows fast, easy access for hedging or investment, while physical forwards and weekly contract-for-difference (CFD) swaps help market participants manage their price risk and physical exposure on light, sweet crude in the global markets.

Contracts linking the physical to the financial, such as the exchange of futures for physical (EFP) and the Dated to frontline Brent swap (DFL) give more physical and financial options for market participants in an ecosystem that has evolved to run smoothly despite its complexity.

As custodians of the Dated Brent physical benchmark assessment and the Brent crude futures contract respectively, S&P Global Platts and ICE Futures Europe recognize the importance of regular and open communication with each other, and with the wider trading community on the complex as a whole. Platts and ICE have shared a long and constructive dialogue over many years, with both parties independently interested in a thriving and well-supplied physical benchmark that can underpin physical and financial trading and hedging. Platts and ICE recognize that it is important for the Brent complex – Dated Brent, Cash BFOE and futures – to evolve consistently.

This paper aims to lay out the reasons why the Brent complex needs to continue to evolve in order to retain its role as the world's leading crude oil benchmark ecosystem. Through the history of Brent, there have been additions of new crude grades, assessment mechanisms and hedging instruments to ensure it remains reflective of the broader light sweet crude oil market. That path must continue, and this paper will lay out a common set of identified issues.

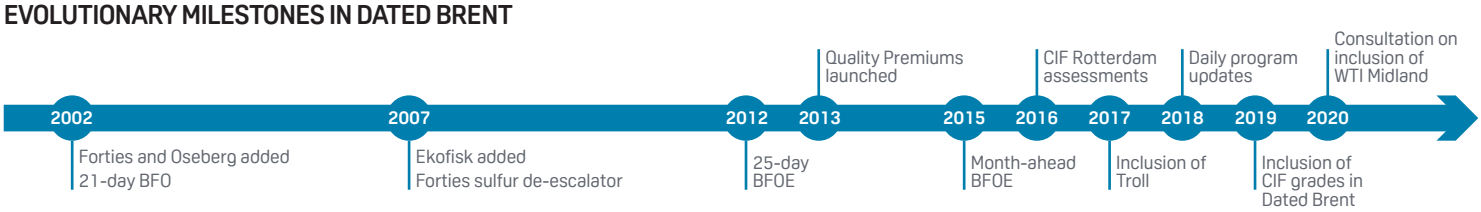
Platts and ICE each understand the importance of changes to the Brent Benchmark Complex. This paper outlines a common set of questions on the evolution of the complex. Platts and ICE will publish consultation notices through their respective Subscriber Notes (https://www.spglobal.com/platts/en/our-methodology/subscriber-notes) and Circulars (https://www.theice.com/futures-europe/circulars) channels to solicit feedback.

ESTABLISHED THROUGH TRUST

A benchmark is a product of trust. Any reference price achieving benchmark status must fulfill certain criteria, including a well-defined methodology, liquidity, transparency, and the ability to stand up to scrutiny. However, without market acceptance, this status is impossible. For many years, the Brent complex has shown its resilience in the face of changes in supply patterns and changing market flows, all the while continuing to do the job it was designed to do: represent the value of low-sulfur, low-density crude oil in the North Sea.

The international oil markets have come to depend on this area of oil-rich production between the United Kingdom and Norway as the global source of benchmark pricing for several reasons. In the 1980s, the Brent field alone produced around 1 million b/d and majors soon established the 15-day Brent forward contract, the forerunner to today's month-ahead cash BFOE. This liquid trading instrument secured delivery of Brent cargoes on a 15-day nomination basis from its terminal at Sullom Voe in the Shetland Islands in the North Sea. The governance of the market fell under the UK, which was at the time focused on creating liberal markets, with clear taxation rules, further benefiting the growth of trade. Before the 1980s were through, the International Petroleum Exchange (later ICE) established a futures contract based on this production, and open to both physical and financial players. The success of the futures contract helped establish Brent as a benchmark of major significance.

EVOLUTIONARY MILESTONES IN DATED BRENT



While traded volumes in both forwards and futures rose sharply in the following years, oil production in the UK Continental Shelf began to fall, and the mature Brent field was itself gradually depleted. This resulted in Platts adding, in 2002, the neighboring Forties and Oseberg grades as delivery options for sellers into the Brent forward contract, boosting the volume of crude oil in Dated Brent from under 400,000 b/d to around 1.2 million b/d. The concurrent move to a 21-day contract from its original 15-day nomination deadline also increased volume and broadened the optionality and appeal of Dated Brent. The further additions of Ekofisk in 2007, and Troll in 2017, kept Brent volumes robust, ensuring that at least a cargo a day of the benchmark grade is available for delivery.

The addition of these grades, always made after consultation with the market at large, have worked well to maintain Dated Brent's robustness. On every occasion the ICE Brent futures contract and Shell UK's SUKO90 trading terms – the industry-accepted terms governing the physical forward market – have accommodated these new grades, with the understanding that having a consistent Brent ecosystem is to the benefit of all.

THE CASE FOR NEW OIL STREAMS

Dated Brent is a basket of light, sweet crudes loading in the North Sea. The range of grades within the basket has required the addition of adjustment mechanisms to ensure a consistent price.

Forties Blend has been the largest single grade within the basket for many years. But the addition of the large, heavy, and sulfurous Buzzard field turned Forties Blend into a sourer grade in 2007. To compensate for this, Platts worked with the industry to develop the Sulfur De-escalator mechanism, which compensates buyers for higher sulfur levels. In this way, Forties is still priced as a light, sweet grade.

Similarly, in the 2010s, the gap between the crudes in the basket grew. As a result, Platts introduced the Quality Premium adjustment mechanism into Dated Brent in 2013. This closed the gap between the higher-valued components of Dated Brent and the most competitive grade that defines the assessment. This mechanism, applicable to Oseberg, Ekofisk, and Troll, rewards sellers for delivering higher value crudes into the forward BFOE contract, removing some of the "roaming room" between grades and boosting deliverable volumes at any given price level.

For the benchmark to maintain the high levels of trust physical and financial participants have put in it, more deliverable oil is required.

The addition of new crude and adjustment mechanisms into the benchmark has a proven track record of maintaining the reliability of Dated Brent and the complex as a whole. Consequently, as production of the five Dated Brent grades looks set to fall below one 600,000-barrel cargo per day in the next few years, there is overwhelming acceptance in the industry that more oil needs to come into the Brent complex, including Dated Brent, Cash BFOE, and Brent futures.

The benchmark has already grown to include the North Sea's most suitable crude streams. What remains is either of a different quality, a different location, or insufficient volume. For additional crude to come into the benchmark, crudes with markedly different characteristics must now be considered. In the majority of discussions that Platts and ICE have conducted separately, industry opinion has largely centered on two possible streams of crude coming into Dated Brent: Johan Sverdrup and WTI Midland. Each could provide a large influx of oil, but each comes with its own challenges.

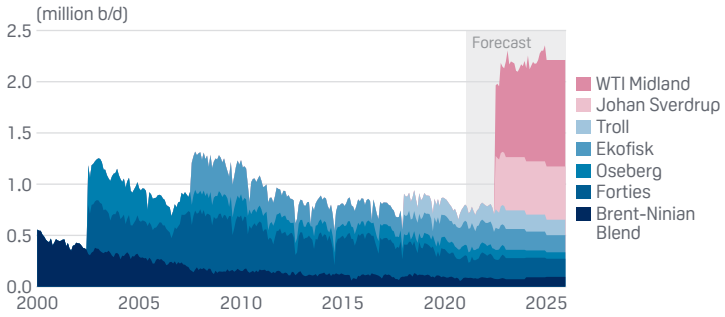
Johan Sverdrup is the largest single stream of crude oil in the North Sea, expected to produce 520,000 b/d in June 2021, after starting production in late 2019. Its location is well suited to its potential inclusion in the benchmark, loading out of Mongstad alongside Troll. Furthermore, it currently trades in the same parcel size (600,000 barrels), and on the same timescales, as the existing basket.

A significant challenge for the inclusion of Johan Sverdrup into the basket is its gravity and sulfur, which stand at 28 API and 0.8% respectively. The sulfur level, while not sweet, is only a little higher than a typical Forties cargo and could therefore be adjusted via the established sulfur de-escalator in Platts assessments. However, the gravity of the current grades is generally 10 API degrees higher than Johan Sverdrup, and so users of the Brent benchmark expect it to reflect the value of lower density crude. Escalating for both sulfur and gravity would add to the complexity of the benchmark and associated instruments and runs the risk of Brent becoming in effect a heavy, sour benchmark, for which there are already notable alternatives.

The largest share of Johan Sverdrup is owned by Norwegian major Equinor, which is also a significant equity-holder of the other grades in the basket. This raises further consideration of market concentration.

DATED BRENT PRODUCTION VOLUMES

with possible Johan Sverdrup and WTI Midland inclusion



Source: S&P Global Platts

Quality and fundamental issues aside, there is no doubt that Johan Sverdrup 'looks' most similar to the existing basket in terms of location and trade structure, and as a result it holds strong appeal as a possible addition to the Brent complex to several market participants.

Meanwhile, WTI Midland crude has, since the rise of US exports in 2015, gone global. Platts assesses the grade for delivery in the US, Northwest Europe, the Mediterranean, and South and North Asia. As many as 24 European countries have taken delivery of US crude and it has become something of a baseload grade in the region. It is even more accepted as a baseload grade of crude oil for refining in Europe than Johan Sverdrup, which has been delivered to around 15 European countries over the same time period. Platts assesses WTI Midland to a globally-applied specification with an API gravity between 40-44 degrees and a maximum sulfur content of 0.2%. Traditionally, such a light, sweet grade would make it a premium barrel but, through modern trade flows, refining, and plentiful volume, WTI Midland typically finds itself pricing equivalent to the Dated Brent grades on arrival in Europe. As a result, Platts announced in March 2021 that WTI Midland will be included in the CIF Dated Brent assessment from July 2022, alongside Brent, Forties, Oseberg, Ekofisk and Troll. By evolving Platts' existing CIF Dated Brent assessment to reflect deliveries of WTI Midland, the market will see more data to understand how its inclusion might work on an FOB basis.

This still leaves the challenge of how a grade that typically trades on a delivered basis into Europe could play a role in a complex that reflects crude loading in the North Sea.

FOB AND CIF INTERPLAY

In conversations with market participants in recent years, both ICE and Platts have heard that more volume should be added for delivery into the Brent complex. Platts consulted with the market in 2018 on the inclusion into Dated Brent of several named grades from Norway, the US, Kazakhstan, and Nigeria on a CIF basis. While the inclusion of grades from outside of the North Sea received support as a future path, the resulting methodology change concentrated on the existing complex and allowed the inclusion of the established five BFOET grades into Dated Brent, with competitive offers for these grades taking precedence over FOB bids. The presence of previously-loaded oil is a common dimension in oil markets, and incorporating it into Dated Brent has not only added volume in the Market on Close assessment process but further highlight the benchmark's ability to reflect trading norms.

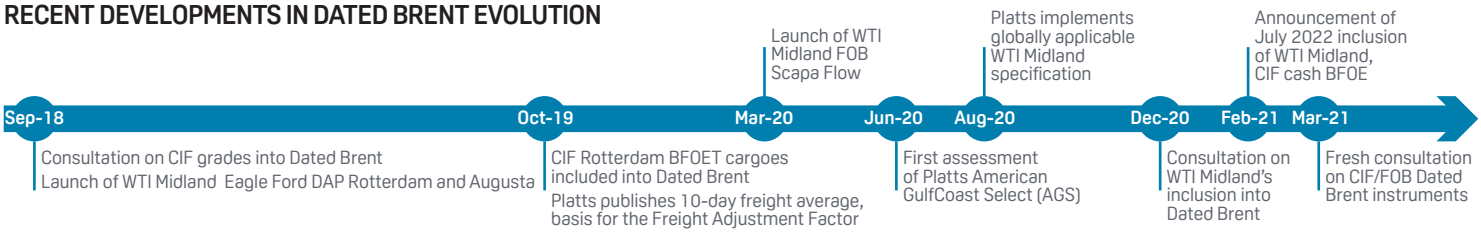
Since the inclusion of CIF-delivered grades in the Platts MOC process, CIF-delivered cargoes have helped define the value of Dated Brent in around a sixth of all assessments, showing the role that delivered barrels already play in the market. This evolutionary step has ensured that while Dated Brent retained its FOB core, delivered barrels are playing their rightful part in defining values of light, sweet crude oil in the North Sea.

Despite the success of CIF-delivered grades in Dated Brent, a significant number of market participants have stated that they would prefer the complex to remain on an FOB basis. The cash BFOE contract, with its 1% tolerance in the buyer's option, is firmly established and affords fungibility of the five local Dated Brent grades in one locale. Buyers of BFOE forwards can expect to receive a month-ahead nomination in a relatively small area of the North Sea, where ship chartering and terminal operations are well known to them.

The addition of Johan Sverdrup into the Brent complex from an FOB basis perspective would be relatively straightforward. For the addition of a crude stream from outside of the North Sea that is typically traded on a delivered basis, such as WTI Midland, the addition into the FOB Brent complex, including Dated Brent and Cash BFOE, is more complex.

It was partly from this idea that Platts proposed, in December 2020, an FOB WTI Midland loading zone at Scapa Flow, the sheltered body of water in the Orkney Islands

RECENT DEVELOPMENTS IN DATED BRENT EVOLUTION



where transshipments of oil have taken place for decades. Giving WTI Midland a North Sea base, with a virtual loading program, might give better equivalence to the five current grades and comfort to those trading them. However, feedback on this idea raised questions around how a loading program would be administered and how freight might be calculated, as well as possible environmental concerns.

Platts decided not to go ahead with this proposal but, since then, industry participants have created and shared new ideas around an FOB-loading WTI Midland element for the cash BFOE forward market. Such ideas and discussion are very welcome in an environment where the lack of a loading program in the US Gulf Coast no longer appears to be insurmountable. Through their consultation notices, Platts and ICE will seek further feedback and ideas on how an FOB Gulf Coast WTI Midland forward contract would work, given that, with time adjustment for sailing time to the North Sea, equivalence can come from US waters, rather than European ones.

An FOB forward contract based in Houston and the surrounding area could offer cash BFOE sellers an extra option for deliveries into Europe or beyond, in a well-known and ever-growing fleet of Aframax vessels, much like those already picking up North Sea crude. These ships, more typically carrying 750,000-barrel cargoes from the US, could take their place in the North Sea markets and compete with the local grades in a way that is already the norm. CIF deliveries could be reflected in the MOC process, adjusted to an FOB value alongside the other Dated grades, to maintain the FOB Dated Brent assessment that is so established. In this way, the Brent complex of physical and financial instruments could remain on the same basis they currently occupy, only with the addition of FOB Gulf Coast WTI Midland as a major component.

FURTHER CONSULTATION

Brent has long shown its adaptability and resilience in the face of changing market and physical conditions. Further enhancements across the Brent complex will ensure a strong future, and as key custodians Platts and ICE remain committed to industry discussion and consultation. As announced in early 2021, Platts will continue to consult with the industry on core changes that are broadly acceptable to the market, and how these are best reflected in Platts Brent benchmarks. Similarly, ICE will continue to consult on how any changes to the Brent complex are best reflected in its own processes.

These consultations will consider the need to bring additional deliverable crude oil into the Brent complex, and the required changes needed to ensure continued connectivity between Dated Brent, cash BFOE and Brent futures. As part of the consultation process, there are key questions that should be addressed concerning the suitability of any changes.

This paper discusses a common set of identified issues and questions. Platts and ICE encourage all interested parties to put forward any further relevant items through the respective consultation feedback channels.

IDENTIFIED ISSUES AND QUESTIONS

Johan Sverdrup

This option would involve adding Johan Sverdrup, and only this grade, as a deliverable option under the Forward Brent contract, which would remain on an FOB basis, and for bids and offers of this grade to be factored into Dated Brent assessments.

1. Johan Sverdrup is a materially heavier and higher sulfur grade than those in the existing Brent basket. As the market is accustomed to quality adjustments, is adding a heavier, sourer grade an issue and what are the challenges for the complex that this represents? Similarly, how much of an issue is it that a large proportion of Johan Sverdrup production is exported to the East?

2. It would appear that the volatility between the value of Johan Sverdrup and the existing Brent basket grades is higher than the volatility between the relative values in the existing Brent basket grades. How could this volatility be managed?

3. For how long would additional volume from Johan Sverdrup maintain sufficient underlying physical oil for the Brent complex? Current Johan Sverdrup production capacity is 535 kb/d; the completion of Phase 2 development of the field, targeted for the fourth quarter of 2022, is planned to increase production capacity to 720 kb/d.

4. Is there any further volume in the North Sea that could be incorporated in the future, were the Brent quality band widened through the introduction of Johan Sverdrup?

5. What other specific issues with this option need to be addressed?

WTI Midland

This option could involve the Forward Brent contract remaining an FOB contract but adding WTI Midland as a deliverable grade on an FOB USGC (to be more closely defined) basis.

1. Were WTI Midland a deliverable grade within the Brent complex as an FOB US Gulf Coast loading, should this be on the basis of loading dates that match the current forward Cash BFOE month or should it be on the basis of dates that are lagged to allow for the difference in journey time to Rotterdam? For example, for a July contract, would FOB USGC loadings from July 1 to July 31 be declarable, or loadings from June 20 to July 19?

2. If such a time slippage is to be adopted, how long should it be? It could be by a time equal to the additional voyage time from the USGC to Rotterdam, as compared to the voyage time from the North Sea to Rotterdam. This is assuming 17 days sailing time from USGC to Rotterdam and one day sailing time from Sullom Voe to Rotterdam.

3. If such a time slippage was to be adopted, should the notice required for nominating a WTI Midland delivery similarly be adjusted so that cargoes of different grades would be nominated with the same effective period in advance of their expected arrival in Rotterdam? For instance, a notice period of 30 days could be retained for the 3-day loading ranges of all North Sea grades. A shorter notice period of 15-20 days could be required for nominating FOB WTI Midland deliveries; this would be in order to accommodate USGC pipeline schedules and their impact on subsequent FOB loading schedules, which would allow WTI Midland cargoes to then be deliverable into a Brent forward contract.

4. The addition of WTI Midland on an FOB USGC basis would require the addition of a freight adjustment to address the incremental freight costs to bring WTI Midland to Rotterdam versus bringing a North Sea barrel to Rotterdam. How should this incremental freight cost be calculated? Over what time period, and based on what baseline freight rates?

    a. When calculating the incremental freight, should it be based on the specific USGC load port nominated (e.g. Houston or Corpus Christi) or an average of the USGC ports that load Aframax-size vessels?

    b. When calculating the incremental freight, what North Sea freight leg should be used? Given the majority of Dated Brent terminals are two days' voyage from Rotterdam, would a proxy port of Hound Point be appropriate?

    c. Over what period should the incremental freight be calculated? Should it be:

        i. The average of M-2, meaning the seller will know the economics of supplying WTI Midland into the Forward Brent contract at the time to associated Futures contract expiries?

        ii. A period linked to actual loading dates nominated FOB USGC and reflecting the typical vessel fixing window, e.g. three or four days falling around ten days before the first day of the loading window. This would leave the seller exposed but give the buyer greater comfort regarding the relative landed cost versus the other grades in the basket.

5. In their respective discussions, Platts and ICE have heard that several market participants are reluctant to take risk and title to crude in US territorial waters for taxation or environmental risk reasons. Would it be possible, and desirable, to address this by one of the following options?

    a. Amending for WTI Midland deliveries into the Forward contract the standard FOB terms such that risk and title pass not at loading but as the performing vessel leaves US territorial waters;

    b. Allowing in the event of a WTI Midland nomination into a Forward Brent contract both the seller and the buyer to substitute an alternative, related, legal entity as the performing company. For example, a trade between X(UK) Ltd and Y B.V. could allow, should X nominate a WTI cargo for X to substitute X(US) Ltd as the performing entity and Y to substitute Y(US) Ltd.;

    c. Are there other potential solutions to this issue?

6. If the Forward Brent contract is amended to include WTI Midland as deliverable grade on an FOB USGC basis, how would this best be reflected in the Dated Brent benchmark? Is it practical from a timing perspective to have 'Dated' FOB USGC WTI Midland offers or would it be better to only allow WTI Midland offers to be considered when assessing Dated if they are offered delivered Rotterdam? If so, should it remain on an FOB North Sea basis with delivered Rotterdam WTI Midland offers only being considered after netting them back to a notional FOB North Sea value, as is Platts current practice?

7. If FOB USGC WTI Midland is made a deliverable grade within Cash BFOE should all WTI Midland load locations be included or just a subset? What criteria should be applied for any subset?

    a. Characteristics of the loading terminal, such as draft, air draft or other dimensional restrictions. What min/max characteristics, or other requirements, would you suggest?

    b. The typical export quality from the terminal, as this varies from terminal to terminal;

    c. Crude from any terminal that is:

        i. Of Midland origin only

        ii. That meets the strict quality specifications of Midland-origin WTI

    d. The willingness of the terminal to issue a loading program, assign parcel numbers and deal with

program amendments in a similar manner to the relevant North Sea terminals (e.g. the relevant North Sea terminals try and avoid slipping parcels out of a month during the period from the end of M-2 and the end of M-1 – i.e. after the date when liquidity in the month M contract dries up and before the last date a month M cargo can be nominated against a Forward month M sale);

e. Some combination of a, b, c, and d above.

f. Is it a relevant consideration if the loading dock is a public or private dock?

8. What other specific issues with this option need to be addressed?

Parcel size

In addition, in their respective discussions, Platts and ICE have heard feedback that a further beneficial change, in conjunction with the above, could be to increase the parcel size in the Brent complex from 600,000 barrels to 700,000 b. This would align with the typical minimum parcel size for WTI Midland exports. It would also align with the larger Aframax-sized vessels that have become more prevalent in the wider crude oil market in recent years.

1. Should the complex move to a larger size parcel, and if so to what volume?

2. Are there particular markets, or buyers, which could be adversely affected by such an increase and how significant are they?

3. Would such a larger parcel size make it easier or harder to combine parcels into VLCC loadings?

4. Are there any physical or contractual restrictions at any of the loading terminals for Brent, Forties, Oseberg or Troll that would preclude such a change or require a notice period for such a change to be introduced and if so for how long?

5. Are there any other issues not covered in the questions above which would need consideration before such a change was adopted?

FEEDBACK

Platts and ICE will publish consultation notices through their respective Subscriber Notes (https://www.spglobal.com/platts/en/our-methodology/subscriber-notes) and Circulars (https://www.theice.com/futures-europe/circulars) channels to solicit feedback.

Written comments received by either Platts or ICE in response to this paper will be shared between both parties, unless marked clearly as solely for the view of one of them.

Additionally, written comments may be published by Platts or ICE or made available to third parties upon their request, unless clearly marked as not intended for publication.

S&P Global
Platts

Contact Platts support:
E-mail: support@platts.com; Americas: +1-800-752-8878; Europe & Middle East: +44-20-7176-6111; Asia Pacific: +65-6530-6430