The devil is in the detail

On 8 June 2007 the method by which the price of Brent is assessed will change. Despite the fact that Brent is the most influential oil benchmark price in the world, the far-reaching implications of this are not clearly understood outside the oil trading community. The new assessment methodology, while disruptive, will still fail to address the main issue facing the Brent market, and the international markets priced by reference to it.

Liz Bossley of *CEAG explains.*

Since the beginning of 2007 the price of Brent has been determined by lower quality Forties Blend. This is because Forties Blend, one of the three grades currently used to assess the key Brent Blend, suffered a significant reduction in quality following the start-up of Buzzard field production in January. The price of Forties Blend dropped below that of Brent and Forties is now the grade that determines the price of Brent Blend and all the other grades worldwide that are priced by reference to Brent.

Brent is used as the price base for an estimated two-thirds of the international trade in physical oil. It provides a tax reference, cost recovery and profit oil price in many production sharing contracts (PSCs). Oil companies around the world have secured oil field development loans from banks based on Brent-based derivative hedges as far forward as 2015.

Brent Blend production is currently about 350,000 b/d, which represents about 18 cargoes per month. This provides insufficient deal evidence to support a benchmark price and leaves the influential Brent price quotation susceptible to trader manipulation.

So, in assessing the price of Brent, the Platts price reporting service actually considers three market prices – Brent, Forties and Oseberg – and reports the lowest of those as the dated Brent price.

Before January, Brent Blend was the grade that set the price of dated Brent because, in normal circumstances, it trades at a discount to Forties and Oseberg. However, since January, when the circa 200,000 b/d capacity Buzzard field commenced production through the Forties system, Forties Blend has been determining the price of dated Brent. Forties Blend quality has fallen from about 44° API and 0.2% sulphur to ~40° API and about 0.5% sulphur.

When, and if, Buzzard reaches full capacity, it is estimated that Forties Blend quality could be about 39° API and 0.9% sulphur. This will further depress the price of Forties Blend and therefore the price of dated Brent and all the international contracts that rely on the dated Brent price.

It is impossible to assess exactly when this will occur because the Buzzard field has encountered unexpectedly high levels of hydrogen sulphide (H_2S) that will have to be removed offshore before the crude enters the Forties pipeline. Early Buzzard production is coming from sweet wells that do not have the same high levels of H_2S. Future wells are expected to fail Forties pipeline entry specifications. The Buzzard field operator, Nexen, is unable to comment on how long it will take to address this issue and what the implications will be for the Buzzard production profile, and therefore for Forties Blend quality.

Hence, the industry can only take the cautious view in forward deals that the Brent price in future will be set by the lower Forties Blend price and that the size of the discount will increase over time. Authorities assessing the market price under PSCs are likely to be similarly cautious and are expected to revisit production sharing contract market price differentials in the light of the new, lower valued Brent.

The Forties discount to Brent may also be increasingly volatile as production from fields in the Forties system fluctuates during periods of maintenance. This is because the quality and value of Forties Blend is extremely sensitive to the proportion of Buzzard in the blend.

Platts Brent – change in methodology

On 19 April the Platts oil price reporting service announced that, from 8 June 2007 it will add Ekofisk to the range of grades of crude oil it tracks in arriving at its dated Brent price assessment. About 30 cargoes of Ekofisk are produced each month.

Platts' reason for making this change is to bolster the pool of deal evidence available to support the dated Brent quotation (see **Figure 1**). Such an adjustment to the Brent price assessment is, arguably, necessary in view of falling production levels, despite the complications it will cause for existing contracts. The short notice given of the change is likely to lead to contractual problems as discussed below.

The *addition* of Ekofisk to the dated Brent assessment does little to address the Forties price-setting issue. It may even compound the problem. Ekofisk tends to trade at a premium to Brent but it is a good gasoline-producing grade and can trade at a discount in the winter months,

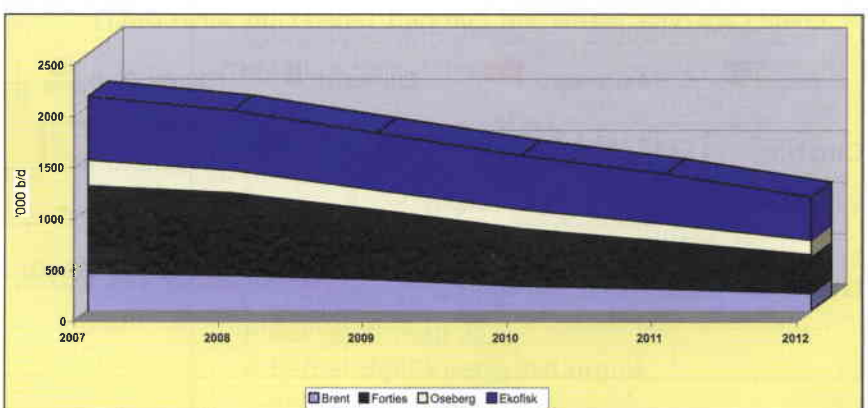

Figure 1: Forecast blend production – Brent, Forties, Oseberg and Ekosfisk

	Wet Brent or Dated Brent or Physical Brent	21-Day Forward BFO	Brent CFDs or Dated to Paper Swaps	Brent ICE Futures	Brent OTC Swaps and Options
Physical Delivery (P) Cash Settlement (C)	P	P or C, the latter by book out	C	C or P, the latter by exchange for physical ('EFP')	C
Normal Trading Time Horizon	7–21 day forward	From 21 days to about 6 months forward	From 1 week to about 8 weeks forward	From 21 days to 12 months forward and 4 quarters thereafter	From 3 months to about 5 years forward, although can be further forward
Trading Unit Size	600,000 barrels +/- 5%	600,000 barrels +/- 1%	> or = 50,000 barrels. Upper limit subject to credit	> or = 1,000 barrels Upper limit subject to capital adequacy and ability to meet margin calls	> or = 100,000 barrels Upper limit subject to credit
Common Usage	Disposal of physical production and purchase of refinery supply. Some limited speculative trading.	Hedging and speculation on the value of the absolute oil price, or spreads between months. Some disposal of physical production and procurement of refinery supply.	Short-term hedging and some speculation on the slope of the forward oil curve in the near future, ie. up to about 8 weeks forward.	Short-term operational hedging, medium term strategic hedging and speculation.	Mainly long-term strategic hedging and project financing. Also speculation.

Table 1: The Brent price supports a suite of contracts that are used for price risk management worldwide

when the market prefers heating oil. The Ekofisk price may fall below both Brent and Forties in the winter, thereby setting the price of dated Brent and the grades that use Brent as a benchmark.

The idea of *replacing* Forties with Ekofisk has been mooted, but traders are unwilling to remove Forties from the Brent assessment process just yet, because Forties Blend will provide a significant proportion of future cargo production and deal evidence.

Contractual issues

One of the reasons that the Brent price is so influential is because it supports a suite of contracts that are used for price risk management worldwide (see **Table 1**). These include:

The physical, wet or dated Brent market – This is a contract in physical cargoes of 600,000 barrels of Brent loading up to 21 days time. Only Brent can be delivered into a dated Brent contract, but the prices of Forties and Oseberg dated cargoes are also used to assess the dated Brent price.

The 21-Day BFO, forward or paper market – This is a forward market in physical cargoes of 600,000 barrels of Brent, Forties or Oseberg (BFO) loading in a specified future month. The term '21-Day' refers to the fact that the seller must inform the buyer of the grade and loading date range of the cargo to be delivered at least 21 days before the loading date.

The CFD, dated-to-paper market – This is a cash-settled swap market that represents the price differential between dated Brent and 21-Day BFO in weekly tranches up to eight weeks ahead.

The Brent futures market – This is a regulated exchange traded monthly contract based on the price of 21-Day BFO, but trading in lots of 1,000 barrels and with credit security.

Derivatives – This is the unregulated market in swaps and options that trades up to 10 years forward. These instruments are based on the price of either dated Brent, 21-Day BFO or Brent futures.

The inclusion of Ekofisk into the assessment of dated Brent has consequences for the rest of the Brent-based contracts. Platts has said that from 8 June it will start assessing the price of the 21-Day forward market taking into consideration only those deals that include Brent, Forties, Oseberg *and Ekofisk* (BFOE) as deliverable grades. Platts cannot force market players to trade 21-Day BFOE, including an Ekofisk delivery option. However, it is entitled to exclude deals from its assessment process that allow only the delivery of Brent, Forties and Oseberg.

The market is open to 21-Day BFOE in principle, but there are a vast number of 21-Day deals already in existence that only provide for the delivery of Brent, Forties and Oseberg. Traders who have sold forward under a 21-Day BFO

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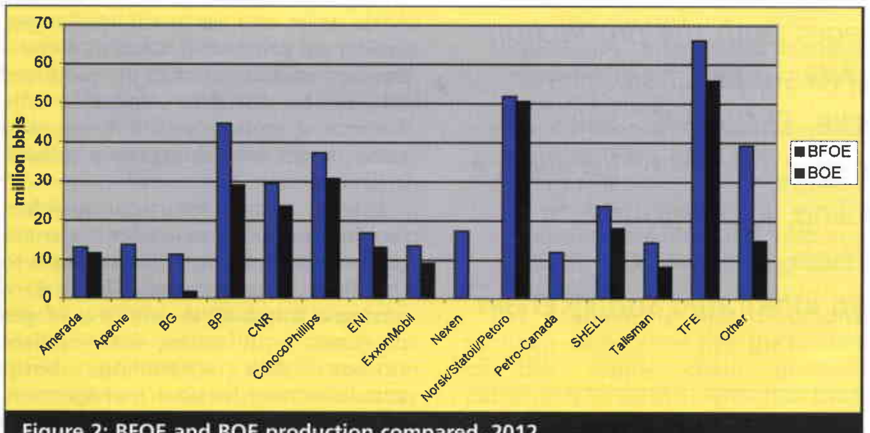

Figure 2: BFOE and BOE production compared, 2012

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contract and need to cover these positions would, if Platts has its way, be forced to buy a 21-Day BFOE contract. If the seller delivers an Ekofisk cargo under the 21-Day BFOE contract, the trader will not be able to pass it on to its buyer. The trader will have to sell the Ekofisk cargo and buy a Forties, Brent or Oseberg cargo to fulfil its 21-Day BFO delivery commitment. This is potentially costly, particularly while the market is in contango, ie when the price of a dated cargo for delivery in the next 21-Days is at a discount to cargoes for delivery further forward, which qualify for delivery under a 21-Day contract. (See **Figure 2**.)

The impact on the CFD contract is similarly complicated. Unless the industry agrees to change the forward market to include Ekofisk the dated-to-paper market will become a contract in the price differential between a dated Brent contract that includes Ekofisk and a 21-Day forward contract that does not. Such a hybrid instrument would be difficult to value.

The futures contract has less of a problem. The cash-settlement price at expiry of the futures contract is the price in the 21-Day BFO market. If the 21-Day BFO market becomes a 21-Day BFOE market the exchange is likely to simply amend its cash settlement price to reflect the new circumstances. It is only if the market splits between 21-Day BFO and 21-Day BFOE that the exchange would find difficulty in deciding which to use as its cash-settlement price.

Market disruption event?

The derivatives market has, arguably, most at stake. There is a vast number of large-scale long-term oil field financing deals and strategic hedge positions already open in this market based on dated Brent or 21-Day BFO prices that do not include Ekofisk. But of more concern to the derivative players is the impact that the new Forties quality has had on these outstanding positions, effectively writing down their value to the extent of the new discount of Forties Blend to Brent. As Buzzard production builds up over time the size of this derivative value write-down may increase.

These derivative contracts are governed by International Swaps and Derivative Association agreements that provide for the price to be re-opened if there is a 'market disruption event'. Two of the many such events specified are:

- A material change in formula – the price is calculated differently from the method employed on the date the transaction was agreed; or,
- A material change in content – the commodity or the contract is different from that on the date the transaction was agreed.

The derivative players are consulting their contracts to assess if the inclusion of Ekofisk in the Brent price quotations or the reduction in the value of the Brent as a consequence of the new lower quality Forties represents a market disruption event that will allow them to renegotiate their prices.

For a copy of CEAG's study Brent: A User's Guide to the Future of the World Oil Price Marker *contact Sarena Steeds on t: +44 (0)207 928 1222 or e:* **sarenasteeds@ceag.org** *or visit* **www.ceag.org/whatsnew.html**