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OIL MARKET BASICS & HIGHLIGHTS

CONTENTS

- Introduction: Today’s session, fundamentals & trading
- Crude Benchmark - Brent
  - ICE Brent Futures - Crude benchmark and evolution
  - Other regional benchmarks around Brent – Dubai & ESPO
- Market Fundamentals – Price driver of crude
  - Supply, Demand, Economic Fundamentals, USD/Oil correlation
  - Market Fundamental: North Sea physical programme; US DOE stats
- Global Crude Benchmarks Performance – Spreads (WTI/Brent)
- Risk Management and Hedging Strategies
- Refined Products Benchmark – ICE Gasoil
  - ICE Gasoil and Global Trend to Low Sulphur
  - ICE Low Sulphur Futures Contract
  - Market Fundamentals and Trend in Middle Distillate
- ICE Brent and Gasoil – as Asset Class
- Summary: Crude Price Trends - Brent & WTI outrights, Gasoil
- Q&A

ICE OVERVIEW

IntercontinentalExchange (ICE) is a leading operator of integrated futures exchanges and over-the-counter (OTC) markets, clearing houses, trade processing and data services for the global derivatives markets.

Global distribution

- Screens distributed in more than 70 countries
- 4 regulated futures exchanges / 2 OTC marketplaces
- 5 clearing houses in the U.S., Europe and Canada

Diversified markets

- Energy, emissions, agricultural, equity index, currency and credit products
- Futures, OTC and Options

Acting ahead of financial reform

- Clearing, market transparency and regulation

Innovation and execution

- Delivering on industry needs ahead of the curve
ICE COMMODITY & DERIVATIVES MARKETS

TRADING AND CLEARING THE OIL DERIVATIVES FAMILY

ICE Brent and Gasoil Futures are core price benchmarks
• Other grades, futures or OTC swaps may trade at a differential to this 'core' price
• Durable and strong benchmarks evolve with underlying physical markets
  • Futures do most of the work in covering flat price exposure
    • Some OTC swaps are based on futures
    • Remaining exposure covered by basis or diff'l swaps
  • Can be:
    • Quality spreads e.g. ICE Brent/Dubai (Also a geographical spread)
    • Timing spreads e.g. March/April ICE Brent inter-month spread
    • Or product /crude - Gasoil/Brent crack
    • Or products/product e.g. Low Sulphur Gasoil/Gasoil

• ICE Brent & Gasoil are traded by a diverse and numerous group of global parties including:
  • Oil majors/refiners, producers, banks supplying hedges to their customers, oil trading companies, distribution companies, end users such as airlines, proprietary traders or managed money including hedge funds, index funds and CTAs
  • ICE Brent ultimately settles against the ICE Brent Index – which supplies a volumetric average of physical trades in the underlying North Sea market every day
BENCHMARKS: NORTH SEA EXAMPLE

Market develops around a single physical grade
Other grades trade as a diff to the main contract
Benchmark sets the underlying market price
Differentials are agreed due to quality, location, availability
Liquidity & transparency of core benchmark means pricing discussion can move to differentials

Risk management tools develop around the benchmark
Used for hedging and risk mgmt, volume and transparency grows
Benchmark is a pool of core liquidity for trading of a wide range of physical grades
Conditions: benchmark must be liquid, transparent, fair, represent the true value of the commodity methodology clearly understood

CRUDE BENCHMARKS: HOW DOES THE MARKET USE THEM
WHY DO THEY MATTER?

- Their power comes from the degree that their price is leveraged for other prices, be that for other physical grades’ or derivatives’ prices
- Benchmarks are visible and identifiable because they are traded or quoted openly, and generally on an outright or ‘flat’ price basis
- They represent the core price of crude oil regionally or globally
- They possess the deepest liquidity pools, most advanced forward maturities in tenors, and geographical dispersion of usage in pricing terms away from their core benchmark location
- Tradable crude quality basis, geographical basis, and product ‘cracks’ can then be ‘sliced and diced’ by tenor and towards less-liquid differentials
- Benchmarks are critical in providing transparency and price discovery
- For Russian grades like Urals, Siberian Light/Heavy, Brent is the core, proxy for most of the outright price
- For ESPO, Dubai so far done similar job, although Brent also has a related forward price discovery role
- ICE Gasoil a comparable role for Russian distillate products
ICE FUTURES EUROPE:
THE BRENT CRUDE FUTURES CONTRACT: CRUDES THAT PRICE BRENT-RELATED WORLDWIDE

The ICE Brent contract is a global benchmark for oil, with benchmarks for:

- UK and Norway Brent
- Russia and FSU: Urals, Siberian Light, Azert Light
- Med crudes: Suez Blend, Algerian Light, Es-Sider, Brega
- Arab Gulf (West-Bound sales): Arab Light, Burgan (Kuwait), Iranian Heavy, Iranian Light
- Nigeria, Angola: Bonny Light, Brass River, Escravos, Forcados, Qua Iboe, Cabinda, Hango, Nenba, N’Kossa
- Sudan: Dar Blend, Nile Blend
- Vietnam and Australia: Gossack Bach Ho, Minas

- Global crude benchmarks: Dubai and ICE Brent
- Global crude benchmarks: WTI and ICE Brent
- Global crude benchmarks: WTI

- As much as 70% of the world’s internationally traded oil prices directly or indirectly off the Brent complex
- Our contract is the key component of that complex
- Financially-settled against Brent Index, ultimately deliverable via EFP mechanism
- US product cracks to Brent and Malaysia, Brazil and Colombia join the Brent pricing community in 2010-2012

GLOBAL CONTRACTS, GLOBAL OIL FLOWS
MAJOR OIL TRADE MOVEMENTS

Brent-referenced price flows

Gasoil flows

Some Criteria for Global benchmarks:

- Globally representative grade with substantial production/consumption volume
- Reflective of underlying global oil economics
- Relative stability to other less economically valuable crudes
- Wide acceptance by the oil industry as representative

Source: BP Statistical Review of World Energy June 2011
SWEET CRUDES
NORTH SEA SUPPLY LONGEVITY

2003 North Sea Survey

- 7 years of enhanced recovery has pared decline rate
- 2011 saw one-off outages in Buzzard- extended maintenance, collision & WW2 mine
- 2003 Survey suggested production might be below 1-mil bpd by 2010
- Actual UK only production was 1.2-mil bpd in 2011 (IEA)
- 2011 UKCS survey forecasted decline rate halved in 2010-2016 to 3% from previous decade
- BFOE is 3-4 times the production of WTI, 1.5 times that of Dubai complex incl. Upper Zakum
- Brent the largest international marker by physical production, c. 60 cargoes in total, close to decade high
- Brent system has evolved by adding compatible flows to original UK fields

BRENT BENCHMARK INNOVATION ENHANCES LIQUIDITY
BRENT MOST LIQUID GLOBAL PHYSICAL MARKER - NORTH SEA TOTAL LOADINGS 2008-2012

North Sea Crude Loaded

Data Source: Bloomberg
**BRENT BENCHMARK INNOVATION ENHANCES LIQUIDITY**

**BRENT MOST LIQUID GLOBAL PHYSICAL MARKER**

**BFOE Historical Production kb/d**

- **DUC**
- **Troll**
- **Statfjord**
- **Ekofisk**
- **Oseberg**
- **Forties**
- **Brent**

Possible Addition of Further Grades?
- Troll
- DUC
- Statfjord

**THE ICE BRENT COMPLEX**

**Brent Swaps:**
- Futures 'roll'
- Calendar April First line
- Calendar May First line
- Cal. June
- Intermonth spreads

**ICE Brent:**
- May futures
- June futures
- July futures
- Daily Settlements

**Cash Brent:**
- May cash
- June cash
- July cash
- Dated-frontline (DFL)
- Weekly Brent CFDs

**Spot Brent:**
- Dated Brent (Spot cargoes)
- Dated Brent: Constant maturity 10-27 days
- To 1H April
- To 1H May
- To 1H June

Source: IEA (Monthly Oil report), Reuters
PHYSICAL CHANGES TO NORTH SEA CRUDE MARKETS

- Major programme operators, equity buyers, price assessors:
  - Amend the date range reflected in Dated Brent assessment to 10-25 days forward, instead of the current 10-21 days forward.
  - Platts examining additional grades and potential escalators for lighter crudes
  - Considering adding DUC and Troll—up to additional 600k b/day (or Statfjord) - take complex over 80 cargoes/month (max .75 in 2007, c. 56-59 in 2011)

- Implementation of a change to a month-end nomination process in March 2015

- ICE Brent NX Futures and Options
  - expiry calendar on 25-day basis
  - available for trading 5 December 2011
  - trades in parallel with existing Brent Crude Futures Contracts
  - first contract month December 2012

- Move to end of ‘M-2’ from March 2015

- Review transition progress during Q2 2012
ICE BRENT INDEX: DAILY, FLEXIBLE SETTLEMENT MECHANISM

The ICE Brent Index Calculation

The index is calculated as an average of the following elements:

1. A weighted average of first month cargo trades in the 21- (25-) day BFOE market.
2. A weighted average of second month cargo trades in the 21 (25) -day BFOE market plus or minus a straight average of the spread trades between the first and second months.
3. A straight average of designated assessments published in media reports.

- A 15, 21, 25 or 30 day calendar has the same number of potential cash cargoes (Until extra grades are added); it is just the alignment with futures expiry that varies.
- Irrespective of a PRA’s chosen BFOE assessment window timing there is a similar level of total liquidity for Cash (Not Dated) instruments, however they are calendarised.
- So a 21 day BFOE cash contract is no different to a 25 day cash cargo, just that they span a different series of calendar dates in relation to the delivery month of Dated cargoes.
- Cash cargoes continue to trade and PRAs continue to quote for the relevant BFOE cash contract for a minimum of 15 days after the current ICE Brent expiry.

Dubai / Oman: An Evolving Market?

Dubai/Oman pricing:

- OSPs use a number of factors to establish differentials to key pricing elements.
- Underlying Dubai benchmark has been modified to include Oman and Upper Zakum as alternative delivery crudes in the forward market.
- Preference towards swaps - Dubai flat price and I/M swaps crucial to establish forward curve, and part of assessment system that prices prompt physical Dubai also via partials trading.
- Price Assessors use Dubai swaps +/- Dubai/Oman spread and Oman spot diff depending on whether going for partials only (Dubai) or Oman – (If want full physical cargo can supply Oman/UZ into Dubai buyer, or UZ into Oman, not Dubai into Oman buyer.
- Linked to sweets via Brent/Dubai (Derivative) spread markets.
- Pragmatism and inertia are powerful factors here also.
- Dubai flat price and spreads showing generally predictable relative pricing behaviours on economic yields and fundamentals. Little sign of wholesale changes beyond possible further assessor innovation as deemed necessary.
DUBAI: PRICE ROBUSTNESS, BENCHMARK SUSTAINABILITY
DUBAI LIQUIDITY GROWING

Dubai/Oman pricing:
- Dubai/Oman complex representative of global sour crude generally
- Mid-East produced Dubai, Oman, Upper Zakum
- Some issues over diversification of equity ownership, sometimes physical liquidity, and destination limited cargoes has driven assessment innovation
- Echoes of a managed price environment that existed more widely before spot, non-OPEC supply grew in late 70’s and early 80’s

PLATTS DUBAI: PRICE ROBUSTNESS, BENCHMARK SUSTAINABILITY
PLATTS DUBAI LIQUIDITY GROWING

Dubai/Oman pricing:
- NOC and OSP system a hybrid in era of market-based pricing, showing little sign of short-term change - NOCs in Venezuela, and events in Brazil and Russia not suggesting rapid positive evolution
- Fewer physical trading intermediaries for spot liquidity and relatively narrow trading community comfortable with this level of development
- Asia less open to futures - based trading and pricing
ESPO: PROMISING NEWCOMER

ESPO Highlights:
• ESPO quality and consistency well-received by Asia-Pacific refiners
• Trading in North and SE Asia, but grades finding way to USWC also
• Flow potential to grow to 1.2-1.6m b/day
• Pipeline ensures no grade dilution
• Good fit with underdeveloped Chinese upgrading capacity and demand for low-sulfur distillates especially
• Tax treatment critical versus other Russian grades
• Urals not making way to Asia-Pacific
• Still unexploited licenses?
• Can a Russian benchmark achieve international prominence?
• Challenge to/from AG long-haul crude
• New Myanmar pipelines to shorten AG logistic chain

ESPO: PROMISING NEWCOMER

ESPO loading program from Kozmino*(Example)
Dec 27-29 100k Rosneft IPP - Dec Dubai + $0.5
Jan 1-2 100k TNK-BP Trafiq Jan Dubai - $0.35
Jan 4-5 100k Surgutneftegaz Gunvor Ashahda
Jan 10-11 100k Surgutneftegaz Gunvor Pacific Energy
Jan 15-16 100k Rosneft IPP QY Moscow University Jan Dubai - $2
Jan 18-19 100k Rosneft IPP QY Ashahda Jan Dubai - $2.14
Jan 21-22 100k Rosneft IPP QY Atlantic Explorer Jan Dubai - $1.14
Jan 27-28 100k Rosneft IPP QY Bunga Kelana 7 Jan Dubai - $0.95
Jan 30-31 100k Gazprom Neft Mitsubishi Jan Dubai - $0.75 (CIF N.Asia basis)
Feb 2-3 100k Surgutneftegaz Gunvor
Feb 5-6 100k TNK-BP BP British TBN Feb Dubai - $2
Feb 8-9 100k Rosneft Mitsubishi Torm Gudrun Feb Dubai - $1.3
Feb 12-13 100k Rosneft Crudex Atlas Explorer Feb Dubai - $1.25
Feb 15-16 100k Rosneft Vital Bunga Kelana 4 Feb Dubai + $0.02
Feb 18-19 100k Rosneft Petronas Oasis River Feb Dubai + $0.2
Feb 21-22 100k Rosneft Crudex Feb Dubai + $0.25
Feb 24-25 100k TNK-BP BP Casaur Voyager Feb Dubai + $0.60
Feb 27-28 100k Gazprom Neft Mitsubishi Phoenix Feb Dubai + $1.10 (CIF N.Asia) Mar 1-2
100k Rosneft Crudex Ruby Mar Dubai + $0.29

ESPO Highlights:
• ESPO similar to AG Oman/Qatar Marine crude though sweeter
• Main sellers so far have been Rosneft, Surgutneftegaz, TNK-BP and Gazprom (all ex Kozmino) to a variety of Asian refiners
• Platts and Argus list ESPO as a diff to Dubai, flat price and diff to Dated Brent

Benefits for a refiner when trading ESPO
• Freight – 3 to 7 days to ship crude from Kozmino to NE Asia – c.f. 2 weeks from AG.

ESPO Crude Exports by Destination

<table>
<thead>
<tr>
<th>Crude</th>
<th>API</th>
<th>Sulphur(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dated Brent</td>
<td>40.3</td>
<td>0.56</td>
</tr>
<tr>
<td>ESPO Blend</td>
<td>34.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Murban</td>
<td>40.2</td>
<td>0.79</td>
</tr>
<tr>
<td>Oman</td>
<td>32.95</td>
<td>1.14</td>
</tr>
<tr>
<td>Qatar Marine</td>
<td>33.8</td>
<td>1.84</td>
</tr>
<tr>
<td>Arab Light</td>
<td>33.0</td>
<td>1.83</td>
</tr>
<tr>
<td>Mars</td>
<td>29.2</td>
<td>1.94</td>
</tr>
<tr>
<td>Dubai</td>
<td>30.4</td>
<td>2.13</td>
</tr>
</tbody>
</table>
ESPO: PRICING & TRADING, RISK

ESPO Pricing:
• So far taken lead from Dubai
• Producers happy to set timings and price that far ahead so far
• Natural logistics suggest short-haul advantages
• Published assessments embedded yet in spot trade, derivatives urge?
• Urals Rebco failed to establish Russian benchmark – physical convergence and logistical issues
• New benchmarks very difficult to embed
• Market prefers existing liquidity pools and solutions
• Possibly has helped underpin Dubai liquidity within Asia-Pacific
• Correlation with Dated Brent strong – will this reduce need for discrete pricing, given Brent’s growing reach in Asia?

FUNDAMENTAL PRICE DRIVERS

- Designed for oil but applicable to many commodities

- Production, consumer levels
- Storage & costs
- Insurance
- Interest rates
- Transport
- Currency
- Other markets

- Pipeline, shipping availability
- Weather
- Seasonality
- Location

- Cartels, trade agreements
- Global events, war, embargoes
- Taxation, tariffs
- Regulation, legislation
- Environmental pressures
- Preference shift
- Transaction costs
- Alternative commodities
- Product yields
- Relative quality
MARKET FUNDAMENTAL TRENDS RELATING TO PRICE CHANGES
RANDAM EVENT AND TAIL RISK TEST CONVENTIONAL OIL SUPPLY

- World operating with fewer cushions of inventory or spare capacity
  - OPEC Supply
    - Iranian oil embargo (effective from July 2012) – 17m bpd (35%) of all seaborne crude off the market
    - OPEC production reached almost 31 mbpd, highest since 2006 – eroding spare capacity
    - Saudi Arabia shrinking spare capacity, delays in capacity expansion, and increasing domestic crude burn reduce availability to export
  - Non-OPEC supply disruptions
    - Escalation of conflict in Syria: production/exports down 180 kbpd
    - Loss in Yemen 80kbpd
    - Sudan and South Sudan 350kbpd shut down for the foreseeable future

Totalled 600 kbpd, Offset OPEC’s 900 kbpd overproduction and Libya’s returned oil 975 kbpd in Jan.

OIL SUPPLY FUNDAMENTALS RELATING TO PRICE CHANGES

NON-OPEC
- Non-OPEC Supply has increased strongly in the past few years yet growth rates are forecast to slow beyond 2013
- Increases in output are expected from the US, Canada, Brazil and OPEC NGLs
- This lessens not only OPECs power but also global need for OPEC crude
- Russia’s rising domestic demand and increasing crude flows to Asia would have less crude availability to Europe

Source: IEA
OIL DEMAND FUNDAMENTALS RELATING TO PRICE CHANGES
OECD ECONOMIC BACKDROP LEAVES OIL INCREASINGLY ESPONSES TO NON-OECD GROWTH OUTLOOK

- Shift in economic activity and oil demand to non-OECD countries – namely China as well as India, Thailand, Brazil and Saudi Arabia
- Further proof of market moving away from traditional strong economies with OECD demand remaining flat

Source: OPEC, IEA

OIL DEMAND FUNDAMENTALS RELATING TO PRICE CHANGES

- Trade flows point East, China set to become largest waterborne crude oil importers in a few years
  - Support for Brent and other Atlantic Basin light sweet crude
  - Bunker fuel demand drove the strength of sour grade, narrowing sweet-sour spread (Brent Dubai EFS)
  - Brent’s narrowing premium to Middle East grades sent North Sea Forties, the usual price-setter of Dated Brent, to Asia – Brent seen as truly arbitrage crude
  - Higher North America shale oil and oil sand production leaving more Atlantic basin crude available to East
  - 2nd phase of SPR in China would have material impact on China’s crude demand
**OIL STOCKS – CRUDE AND PRODUCTS**

- Moves price on a long term basis and short term
  - Long Term – stock change trends are thermometer for demand trends
  - Short Term – subject to weather conditions, refiners’ seasonal maintenance, pipeline or water level transport issues, etc (the US DoE weekly stock data)

- OECD Europe crude inventories remain tight (5-year low)
- Seasonal monthly draw, a backwardated price structure encouraged European refiners to run down crude oil inventories

**OIL MARKET FUNDAMENTALS**

**ECONOMIC FUNDAMENTAL BACKGROUND TO CONTINUED RANGEBOUND FLAT PRICES**

- The probability of Fed’s decision on QE3? – recent improving economic data will continue to delay QE3?
- Global economic activity, PMI strength, dollar strength and rising expectations on inflation
- Euro zone debt crisis and more austerity measures: Greece’s bond swap offer – would it be enough?
- The relationship between expected inflation and Crude oil prices – strong
- China’s swing between slowing monetary supply, fighting inflation, letting CNY appreciated

**Crude Performance during Phases of QE1 and QE2**

**Crude Performance in Comparison with Inflation**

Source: Bloomberg and SG Cross Asset Research

Source: IEA

Source: Bloomberg, BoA Merrill Lynch Global Commodities Research
Short Dollar/Long Oil
positive correlation restored in March 2012 after negative correlation during summer/autumn in 2011, QE2 raised inflation expectation

- Strong Dollar in Q4’11 vs. weak Euro
- Chief concern this time – a demand picture? US’s recovery is on the way, but how about Europe?
- Injection of fresh stimulus?
- Supply issues
MARKET FUNDAMENTAL TRENDS RELATING TO PRICE CHANGES
DATED BRENT PHYSICAL PROGRAMME

- Operator releases physical programme, e.g. BP for Forties (c. 50% of BFOE)
- May 5th for June cargoes
- Maintenance programme – Forties/Buzzard – May/June, watch for overlaps
- Forties maintenance, quality lower (sulphur/density), Buzzard opposite if not same time
- Physical players have matrix pricing options via Brent 25-day forwards, CFD & DFL swaps

<table>
<thead>
<tr>
<th>Dated Brent lifting dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>01-03/06 F0601 600.000 SHELL</td>
</tr>
<tr>
<td>01-03/06 F0602 600.000 BP</td>
</tr>
<tr>
<td>02-04/06 F0604 600.000 CHEVRON</td>
</tr>
<tr>
<td>03-05/06 F0605 600.000 PETRO-CANADA</td>
</tr>
<tr>
<td>04-06/06 F0606 600.000 BP</td>
</tr>
<tr>
<td>05-07/06 F0607 600.000 TOTAL</td>
</tr>
<tr>
<td>07-09/06 F0608 600.000 SHELL</td>
</tr>
<tr>
<td>08-10/06 F0609 600.000 NEXEN</td>
</tr>
<tr>
<td>09-11/06 F0610 600.000 SHELL</td>
</tr>
<tr>
<td>10-12/06 F0611 600.000 CONOCOPHILLIPS</td>
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<tr>
<td>11-13/06 F0612 600.000 STATOIL</td>
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<td>12-14/06 F0613 600.000 NEXEN</td>
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<td>20-22/06 F0620 600.000 VITOL S A</td>
</tr>
<tr>
<td>21-23/06 F0621 600.000 SHELL</td>
</tr>
<tr>
<td>22-24/06 F0622 600.000 TOTAL</td>
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<td>23-25/06 F0623 600.000 NEXEN</td>
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<tr>
<td>24-26/06 F0624 600.000 PETRO-CANADA</td>
</tr>
<tr>
<td>25-27/06 F0625 600.000 SHELL</td>
</tr>
<tr>
<td>26-28/06 F0626 600.000 CONOCOPHILLIPS</td>
</tr>
<tr>
<td>27-29/06 F0627 600.000 BP</td>
</tr>
</tbody>
</table>

MARKET FUNDAMENTAL TRENDS RELATING TO PRICE CHANGES
BRENT OTC CRUDE SPREADS

- Brent CFD* curve showing prompt tightening
- Iran produces 3.5mbpd and export 2.5mbpd of medium sulphur, API (30-33) crude oil – 35% of global water borne crude through Strait of Hormuz
- The potential cushion for Iranian supply disruption – Would Saudi Arabia fill any oil supply gap – “perceived or real” in time; or IEA release the 4.1billion bbls of strategic reserve?
- MED consumers to source the replacement of Iranian crude, Asia follow EU embargo?
- Diesel very much a big deal in Europe now, very important product, not easy to make up for such shortages quickly

**Spreads/term structure:**
- Brent spreads have tightened – what’s driving that? – looks like a tightening physical North Sea? especially given state of cracks (Next)
- WTI/Brent arb widening
- Background to longer-term WTI/Brent issue follows - watch Cushing versus US stocks
- Arbs and boxes are also strong due to Brent strength and WTI weakness
  - Arb (Jan 9th) Jun12 -9.40; Dec12 -7.66
  - Arb (Feb 7th) Jun12-15.23; Dec12-11.03
  - box trading -246

* Spread between Dated (Spot) Brent and 25-day forward or ‘cash’ Brent. Latter is direct underlier for ICE Brent futures
THE BASICS: US OIL DATA RELEASES

Fundamentals and price direction/spread price change
Inventory growth/contraction is key
- Not the total necessarily, but trends and assumptions within those trends
- Inventories do grow, but markets still spike if that growth is away from key areas
- esp. PADD 2 (WTI delivery, Mid-West) or PADD 1 (US North-East esp. winter)

Regional influence of statistical trends seen for fundamentals
- Region reporting a large build (Increase)/draw (Fall) in weekly stocks stats matters
- There maybe an overall build but price impact depends where these stocks are...

- WTI/Brent arb narrowing?
- Background to longer-term WTI/Brent issue- watch Cushing versus US stocks

GLOBAL SWEET & SOUR CRUDE BENCHMARKS IN 2008-2012
BENCHMARK BEHAVIOURS

Some 2009/11 Touch Points In Sweet & Sour Pricing

International Benchmarks
- WTI record $27.88/bbl below Brent on October 14 (Nov/Dec), $26.46/bbl below on September 7 (Oct/Nov), $23.34/bbl below on June 13 (July/August), $16/bbl below on Feb 11, $5.71 below in May 10, previous norm $1.50/bbl above

Sweet/Sour differentials
- MARS sour $21.89 over WTI in August ‘11, $17.02 in July ‘11, $5 May 2010, $3 over in ‘09, instead of the usual -$4-5

American Benchmarks
- LLS, a gulf sweet crude $31.03 over WTI in September ‘11, $20.41 over WTI in Feb ‘11, $8.40 over May ’10, when transport only 1.30/bbl
- Mexican Maya, Heavy Sour was $20 below WTI mid ‘08, over WTI in Feb ’09
- Dubai, global sour record $15 below Feb 2011
- Put simply, recently more frequent, more extreme, lasting longer, extended down forward curves
- Extreme front-spread volatility
- Likely contribution to Saudi, Kuwaiti, Iraqi migration to ASCI
- ‘Good benchmark for Cushing, not even for whole US’
CRUDE BENCHMARK PRICING IN 2008-2012
BENCHMARK BEHAVIORS

WTI issues raised by commentators:
  • Cushing delivery location primarily a pipeline nexus, no proximity to US Gulf refiners, added Keystone pipeline capacity Feb 2011 @180k b/day
  • Self-feeding ‘reinforcing feedback’ of local inventory, growing to record 41.9-mil/bbl to capture contango arbitrage
  • One-way ‘lock-in’ effect of pipelines inward flow N. - Cash & carry arbitrage supply loop
  • Extreme volatility of front spreads, pulling front flat prices down
  • Depth of contango overall and instability of term structure problematic for all but nimblest traders or those with ample storage
  • All this led to WTI decoupling from US & Intl’ grades, MARS $21.89 above WTI, LLS $31.03/bbl above (2nd Sep 2011), WTI up to $27.88 (Nov/Dec) below Brent – where does that leave differentials and cracks?
    • Dislocation narrowed post the Seaway reversal announcement, but remains volatile

Source: ICE, Argus Media Limited, Platts

CRUDE BENCHMARK PRICING IN 2008-2012
BENCHMARK BEHAVIORS

The WTI inversion to Brent and the rest of the global crude complex
  • Increasing light sweet output from Canada, North Dakota, and Eagle Ford
  • The growing importance of the US Gulf coast – 1st time became a refined product net exporter in 2H’11, processing non-WTI priced crude

US domestic crude prices are subject to considerable uncertainty:
  • US legislative constrains prevent crude exports, will it be allowed in the future?
  • Pace of pipeline development
    - Reverse of Seaway
    - Keystone XL product (500 kbpd crude to USGCC), deferred startup to early 2015
    - Enterprise/Enbridge 800 kbpd Wrangler project
    - Northern Gateway, aiming heavy bitumen to Pacific and Asia, estimated start-up 2017
    - Spearhead Pipeline
  • PADD II refinery runs – as this will determine domestic crude intake
  • Political environmental factors
  • Macro economic trends

Source: Wood Mackenzie
GLOBAL SWEET & SOUR CRUDE BENCHMARKS IN 2008-2012
BENCHMARK BEHAVIOURS

WTI disconnected from Brent and the rest of the global crude complex
- WTI’s discount to Brent widened once again, from -9 $/bbl in Dec 2011 to -19.02 $/bbl in Feb 06, 2012
- Growing inflows: light sweet output from Canada, North Dakota, and Eagle Ford
- Cushing stocks 33 mbbls (late Feb). Capacity increasing to 60 mbbls by the end of March
Takeaway capacity struggles to keep up with rising production
- Seaway pipeline which would take 150 kbpd (4.5m bbls per month) crude from Cushing to Gulf Coast from June 2012, and 400 kbpd by early 2013
- Railway capacity is expected to grow from 400 kbpd to 700 kbpd this year, while partly will feed into pipeline system - not totally additive to Seaway
- Weak US mid-continental demand
- Remaining Question – increasing production outpaced transport infrastructure build out well into 2013?

PRICE IMPACTS: INTERMONT SPREADS SOFTEN, OUTRIGHTS

BOX: ICE Brent Jun12/Dec12 spread versus ICE WTI* Jun12/Dec12 spread
Long: ICE Brent Jun12/Dec12: 235cts (Jan 9th) vs. 265cts (Feb 7th)
Short: ICE WTI Jun12/Dec12: 61cts (Jan 9th) vs. -155cts (Feb 7th)
* Figures @ the close of business January 9th, 2012 vs. February 7th, 2012

ICE Brent 1mo/2mo(Mar12/Apr12) spread versus ICE WTI * into Mar12 Brent expiry
Long: ICE Brent 16cts (Jan 23rd) vs. 56cts (Feb 10th)
Short: ICE WTI -28cts (Jan 23rd) vs. -36cts(Feb 10th)
* Figures @ the close of business on January 23rd, 2012 vs. February 10th, 2012

ICE WTI/Brent Jun12/Dec12 box fell from -174cts to -420cts in 1 months!
(61/235cts to -155/265cts)
- ICE WTI/ICE Brent intermonth boxes have shown strong movement as Cushing storage has increased again
- Best way to play the Brent/WTI arb is via ICE – only venue offering liquid screen in both, ensuring no legging risk
- ICE offers a cash-settled Brent/WTI spread as one contract – on execution fee and receive margin offset
- Crude medium-term outlook more bullish than near-term
- When Contango steepens, enhances WTI returns to storage
CRUDE BENCHMARK PRICING IN 2008-12
BENCHMARK CRUDE BEHAVIOURS, IMPACT MATRIX OF OTHER PRICES

- Did US refining margins/demand suddenly improve relative to Europe in Dec 2010/Jan 2011?
- Generally, no - reliance on WTI for relative price signals like product cracks can also be impacted by its relative price dislocation; price mechanism signals important for investment & refining decisions, putting oil on the water etc, storage
- Transatlantic sweet arb. may be structurally defunct for now
- Look at the relative volatility in the US distillate crack relationship – contributing to more interest in forward trading of sweet LLS and sour Mars grades in the US Gulf
- Seaway reversal or other pipeline changes may not eliminate US ‘glutting’ tendency, ‘magnetic’ pull of storage still there...

SPREAD TRADING & INDEX REPLICATION: ICE BRENT FUTURES
GROWTH IN FORWARD CURVE LIQUIDITY

- Brent: The global crude benchmark
  - Arbitrages east and west
  - Positive roll returns,
  - Drawdowns smaller
  - Shows longer term spread consistency- returns consistently higher/less volatile than WTI
  - ICE Brent Overall OI growth 66% vs. 13%
  - ICE Brent Volume growth 50% vs. 6.7%
  - ICE Brent/WTI: structural premium for Brent in place all the way to 2019
RISK MANAGEMENT OF?

a) **Price or market risk**
   - Flat price risk
   - Basis risk (Settlement/index risk)
     - Product/specification
     - Geographical
     - Time
   - Currency risk etc.

b) **Credit risk**
   - Counterparty risk (Performance risk)

c) **Operational**
   - Logistical - weather, freight etc
   - Legal/contractual risk

a) and b) most commonly understood & addressed risks, scope for today
FUTURES CONTRIBUTION TO TRANSPARENCY, PRICE DISCOVERY

Increasing role of futures in benchmark price discovery

- Are acting as spot proxies, some decline in spot liquidity, futures/physical linkage critical
  - Operational and logistical bar to market is less onerous
  - Futures near 24/7 trading, liquidity means rapid response in price discovery
  - Futures markets forward tenors discount the likely duration of fundamental trends and changes beyond the short-term reach of near-term spot markets 4/6 weeks out
  - Convergence via delivery mechanism or EFP relationship ensures primacy of fundamental factors in price determination, whether global or localized fundamental factors
  - Spot assessments have used futures +/- differentials or seen the creation of synthetic futures-like instruments to enable assessments, e.g., in Platts’ case, via partial cargoes

Examples:
- **Crude:** Futures +/- EFP = Forward +/- Diff’l (CFD) = Spot
  - Dubai partials a synthetic convertible forward, Platts also uses swaps as part of physical price discovery process, and to test expressed values in relational pricing
- **Products:** Futures +/- EFP Diff’l = Spot Outright
  - Gasoil futures + EFPs provide price matrix for all EU distillates and many globally

FUTURES CONTRIBUTION TO TRANSPARENCY, PRICE DISCOVERY

- Convergence via delivery mechanism or via EFP relationship ensures primacy of fundamental factors in price determination, whether those dominating are global or localized fundamental factors
- Regulated exchanges have rigorous standards of compliance, transparent rule-based frameworks and real-time electronic market scrutiny/supervision
- Features of futures trade conducted over a regulated exchange:
  - Central Counterparty (CCP) – Clearing house reconciliation and confirmation
  - Backed by security of initial and variation margin (Intraday)
  - Electronic matching and supervision, 1 millisecond execution
  - Numerous CPs /market depth
  - Contract standardization means only remaining variable is price
  - Performance issues nullified by clearing
BENCHMARK PRICING AND OIL FUTURES
WHAT DO TRADERS, HEDGERS, INVESTORS WANT?

• Importance of oil contracts, central to price discovery, core global economic marker
• Traders and investors want exposure to ‘the’ (global?) oil price
• Global macro supply and demand, hopefully non-local physical factors prevailing
• Waterborne contracts deliver:
  – a globally-relevant ‘equilibrium’ price
  – arbitrage function means can simultaneously deliver superior performance
  – oil industry concentrates on diffs to crudes, not flat price
• Oil is an arbitraged equilibrium price, when no infrastructure bottlenecks

So what do ICE waterborne oil contracts have to offer?
  – Superior performance – Consistent or more progressive evolution of spread relationships, less volatile returns overall
  – Deep liquidity for long-term physical hedges, fast growth rates also
  – Global benchmarks & longevity, less volatile pricing inter-relationships
  – Expanding physical bases underscore longevity, align appropriate correlations
  – Geographical reach, global footprints

TRADING AND CLEARING THE BRENT COMPLEX

ICE Brent futures are a core price benchmark

OTC swaps may trade at a differential to this ‘core’ price

• Futures do most of the work in covering exposure
  • Some OTC swaps are based on futures
• Remaining exposure then covered by basis or differential swaps
• Can be:
  • Crude quality spreads e.g. Brent/Dubai
  • Or product/crude - Gasoil crack
  • Or products/product e.g. Jet/Gasoil
BENCHMARKS: PRICE DISCOVERY & INSURANCE
STRATEGIC HEDGING EXAMPLES

Strategic hedging – really price fixing (swap) or insurance
• Can then say: ‘Will receive $x/bbl,’
• or ‘Will receive not less than $y/bbl in e.g. Calendar 2012 or 2013
• Complementary liquidity between passive longs and producer hedges
• Larger hedging volumes now possible at less cost
• Swaps are convenient, liquid, logistically easy to place
• Options flexibility, protect budget levels with placement
• Average price options like swaps, but pay-off one way for premium
• Insurance premium, so know will be paid $Y/bbl, especially if cleared

Mexico example – buy put options – right to sell at a price
• If Brent at $116/bbl, can sell forward for e.g. Dec 2013 at $107.15/bbl (as of 24/3/11)
• or: Calendar 2013 Put gives right to sell at $90/bbl @ $9.60/bbl
• Guarantees $80/bbl net sale price for all of 2013 where ever crude price:
  • e.g. $10/bbl, $30/bbl, $60/bbl (in last 10 years- $17 to $147)
  • If over $90, insurance expires, and receive full price- $100 – 150 - 200

TRADING AND CLEARING THE OIL DERIVATIVES FAMILY
OTC BASIS SWAPS ‘SATELLITES’ AROUND ICE BRENT & GASONIL

• ICE Brent futures are a core benchmark, liquidity and price responsiveness underpinning a matrix of OTC crude/product prices

• Thereafter a flexible basis via OTC, despite standardisation
• Futures can do the broad work in price discovery and hedging for 85-99.8% of the flat price in any crude or distillate, depending how close basis is to futures grade
• OTC universe can address pricing on broad or narrow basis (Futures settlements or Quotes/index-based averages)
• First line swaps or options use futures settlements, but sit in OTC universe:
  • Broad basis, but different pay off to futures, no physical delivery
• First line swaps leverage futures liquidity:
  • Simple instruments for futures base
  • Don’t have to trade via futures if too volatile, too much engagement
  • Can lock down OTC contract terms this way
• Swaps volatility is forward and average, more stable pricing, linked to physical contracts
DERIVATIVE INSTRUMENTS

**Exchange-Listed (Futures)**
- Delivery/EFP
- Margin
- Basis risk
  - Product, Location, Time
- Standardised
- Most heavily regulated
- Always cleared

**Over-The-Counter (Swaps)**
- Bilateral, but increasingly cleared
- Cash-settled
- Average prices
- ‘Flexible’ though buckets
- Growing clearing – credit risk

TRADING AND CLEARING THE REFINED PRODUCTS FAMILY

OTC BASIS SWAPS ‘SATELLITES’ AROUND ICE GASOIL

Flexible basis via OTC, despite standardisation
Product, location, time
- Three types of basis risk - product, location, time - examples
- Differential swaps address geographical basis risk - Key flows, ARA distillate blending centre, Med/NWE locations, Urals Med/Brent N. Sea quality and location basis
- The trade off liquidity/basis: differentials and margins apply in OTC too
- Wide range of instruments optimise liquidity, minimise basis risk with choices of specific OTC hedges to address all three kinds of basis risk
- Global reach, forward price discovery via liquidity and transparency
- Instrument summary: A trade off between liquidity and basis: differentials and margins – Futures provide the liquidity, the basis swaps address those issues with a choice of specific linear or non-linear (Options) instruments
**OTC CRUDE AND DISTILLATE PRODUCT EXAMPLES**

<table>
<thead>
<tr>
<th>Brent 1st Line Swap (Calendar futures settlements)</th>
<th>Brent European Option (OTC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dated Brent calendar swap</td>
<td>Brent Dated-First Line swap (or Cal. Spread)</td>
</tr>
<tr>
<td>Brent (BFOE) forward cargo/partial</td>
<td>Brent Weekly CFD swap (Platts Dated vs. Platts Cash Brent)</td>
</tr>
<tr>
<td>Dubai 1st Line Swap</td>
<td>Brent 1st Line vs. Dubai 1st Line Swap (EFS)</td>
</tr>
<tr>
<td>Argus East Siberian Pacific Ocean (ESPO) Diff Swap</td>
<td>ICE (LS) Gasoil Average Price Option</td>
</tr>
<tr>
<td>ICE OTC (LS) Gasoil ‘crack’: Gasoil First line Swap vs. Brent 1st Line Swap</td>
<td>10ppm ULSD Barges ARA /Cargoes NWE vs. (LS) Gasoil 1st Line Swap</td>
</tr>
<tr>
<td>Jet Cargoes CIF NWE swap</td>
<td>Sing Jet Kerosene vs. 0.5% Sing Gasoil Swap</td>
</tr>
<tr>
<td>0.5% Singapore Gasoil Swap</td>
<td>Sing 0.5% Gasoil vs. (LS) Gasoil 1st Line Swap</td>
</tr>
<tr>
<td>180 cst Sing Fuel Oil Swap</td>
<td>Sing 180 cst Fuel Oil vs. Sing 380cst Fuel Oil Swap</td>
</tr>
</tbody>
</table>

**OTC CRUDE: THE BRENT INSTRUMENT “FAMILY”**

**FUTURES & OTC PRICING (AS OF 12/03/2012)**

<table>
<thead>
<tr>
<th>Contract Month</th>
<th>Basis ICE Brent</th>
<th>Spread Basis (Futures/1st Line)</th>
<th>+/- Differential</th>
<th>= Flat Price (Where relevant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cal March 2012</td>
<td>$125.34/bbl Apr Futures $124.76/bbl May Futures</td>
<td>Brent First Line Swap Cal March 2012 (= Apr/May Futures)</td>
<td>$124.74/bbl</td>
<td></td>
</tr>
<tr>
<td>Cal Q2’12</td>
<td>$124.40/bbl</td>
<td>Platts Dated/Frontline (First line) swap – Q2 ‘12 +$46cts/bbl (Backwardation = positive spread)</td>
<td>$124.86/bbl</td>
<td></td>
</tr>
<tr>
<td>Cal 2013</td>
<td>$114.89/bbl</td>
<td>WTI/Brent Cal swap - Cal 2013 -$9.33/bbl (Brent over WTI)</td>
<td>WTI Cal’13 @105.56/bbl $114.89 -$9.33</td>
<td></td>
</tr>
<tr>
<td>Cal Q2’12</td>
<td>$123.95/bbl</td>
<td>OTC Gasoil ‘crack’ (bbl) Q2 2012 swap +$14.49/bbl ‘Crack’</td>
<td>Gasoil Cal Q2’12 @$138.44/bbl (Q2 Gasoil @ $1031.38/mt)</td>
<td></td>
</tr>
</tbody>
</table>

Base and differential principle applies for physical spot, physical term, futures and swaps. Pricing shift to floating monthly average price underlies most term physical and related OTC swaps (From futures expiration and 3/5-day spot physical)
### OTC PRODUCTS: THE EUROPEAN DISTILLATES “FAMILY”

**GASOIL, DIESEL AND JET**

<table>
<thead>
<tr>
<th>Basis</th>
<th>Spread Basis (Spot)</th>
<th>+ (Spot) Differential</th>
<th>= Flat Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE Gasoil $ ARA (Mar)</td>
<td>Gasoil First line (Mar/Apr Futures)</td>
<td>$1029.50/mt Mar12 Futures</td>
<td>$1034.75/mt Apr12 Futures (Contango)</td>
</tr>
<tr>
<td></td>
<td>Platts Gasoil 0.1 Barge FOB ARA</td>
<td>-$0.74/mt</td>
<td>$1023.67/mt</td>
</tr>
<tr>
<td>$1024.41/mt</td>
<td>Platts Gasoil 0.1 CIF NWE Cargoes</td>
<td>$+5.79/mt</td>
<td>$1030.20/mt</td>
</tr>
<tr>
<td>$1024.41/mt</td>
<td>Platts 10ppm Diesel Cargoes CIF NWE</td>
<td>$+25.70/mt</td>
<td>$1050.11/mt</td>
</tr>
<tr>
<td>$1024.41/mt</td>
<td>Platts Jet Cargoes CIF NWE</td>
<td>$+70.85/mt</td>
<td>$1095.26/mt</td>
</tr>
<tr>
<td>$1024.41/mt</td>
<td>0.5% Sing Gasoil</td>
<td>-$1.45/mt</td>
<td>$1022.96/mt</td>
</tr>
</tbody>
</table>

Base and differential principle applies for physical spot, physical term, and swaps.

Pricing shift to floating monthly average price underlies most term physical and related OTC swaps (From futures expiration and 3/5-day spot physical).

### FUTURES/OTC DISTILLATE HEDGE/TRADE EXAMPLES

<table>
<thead>
<tr>
<th>Trader buying Jet in Singapore, buy-side hedge</th>
<th>Buy ICE Brent futures or first line swap longer-term, buy ICE (LS) Gasoil crack in medium-term, buy Jet differential swap nearer-term to cover remaining product basis to physical Jet (Singapore Jet Kerosene vs 0.5% Singapore Gasoil Swap) or buy ICE LS Gasoil futures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trader buying Jet rateably in USGC, Platts-related</td>
<td>Buy ICE Brent futures or options on ICE Brent in ‘Collar’ pattern (Long OTM call strip, Sell OTM Put strip) or: Buy ICE Brent longer-term plus Heat crack medium term</td>
</tr>
<tr>
<td>Airline has Jet term contract, budget max. for fuel</td>
<td>Buys ICE LS Gasoil Average Price Option (Call) to cover upside risk (budget target for fuel at cap level)</td>
</tr>
<tr>
<td>Consumer buying Jet rateably on Platts Sing MOPS monthly average, prefers OTC</td>
<td>Buys Sing Jet Swap – converts floating back to fixed price after swap reconciliation (Clears to maximise capital efficiency) or: Sing 0.5% Gasoil Swap in medium term - add regrade swap for relevant tenor opportunistic (shorter-term)</td>
</tr>
<tr>
<td>Airline has crude hedge, concerned gasoil/jet basis to crude to widen</td>
<td>Can hedge ICE (LS) Gasoil or Sing crack, plus Jet Cargoes vs. Gasoil 1st Line Diff’l Swap, or Jet crack to Brent</td>
</tr>
<tr>
<td>Choices basis – East/West gasoil or Jet</td>
<td>Can also deliver physical gasoil into futures screen (if not +/- EFP before)</td>
</tr>
</tbody>
</table>
ICE ENERGY OFFERING:
FULL PRODUCT SUITE, FUTURES, SWAPS & PHYSICAL, TRADED AND CLEARED

Futures

OTC cleared ICE
Block, EFP, EFS

OTC, ICE platform, cleared or bilateral

OTC bilateral

Platts E-window

Execution by screen, voice brokered, direct

Cleared trades, ICE Clear Europe
(Offsets for capital & logistical efficiency)

Non cleared

Ancillary services:
e-confirm, Market Price Validation Service, historic data

Implications of bilateral trading

What is the best way to access the market?
What are my needs as a participant?

BASICS - FUNDAMENTAL TRENDS RELATING TO PRICE CHANGES
PRODUCTS - GASOIL

Summary: What’s in a barrel of crude:

Light Ends
• LPG
• Gasoline
• Naphtha

Middle Distillates
• Diesel
• Heating Oil
• Jet Fuel

Fuel Oil
• Residual Fuel Oil
• Bunker Fuel

Other Products
• Lubricating Oils
• Bitumen
• Wax

Gasoil
- Refiners maximising production
- Sweet crude preferred
- Europe is short distillate - so a big price driver
ICE FUTURES EUROPE:  
THE ICE GASOIL FUTURES CONTRACT

- The ICE Gasoil contract is the key European oil products benchmark
- ICE Gasoil is now a global benchmark for all heating oil, flowing east and west
- All European middle distillates products are priced at a differential to ICE Gasoil
- As of September 2011, traders can also trade the Low Sulphur (10ppm) Gasoil Futures Contract
- The new contract reflects the global move to lower sulphur specification middle distillates
- Low Sulphur Gasoil will ultimately replace the existing 0.1% Sulphur Gasoil to become the key European oil products benchmark

OIL MARKET HIGHLIGHTS: ICE GASOIL  
THE ICE GASOIL GROWTH STORY

ICE Gasoil now a global refined product leader-physical & financial markets
- New refining capacity, esp. in Mid and Far East, Jamnagar, Russia, China and USGC
- Growth in diesel market (x1.5 to x2 gasoil market)
- Global Spec evolution, green agenda
- Europe short diesel, importance of clean transport fuels as driver of the crude
- US imports of 61 grade targeting diesel margins
- China uses diesel as short term fuel in marginal power generation – classic migration from coal and fuel oil to distillates for oil-intensive economy
- Latin America & West African flows - big increase in their imports from EU last 2 yrs – pricing ICE Gasoil plus EFP

Other non-geographical reasons for Gasoil’s globalisation:
- Distillate crack price versus others, increasingly the key product driver- echoes longer-term storage trend.
- Decline of gasoline and destruction of FO - this is the refined crack to watch now…
- Switch of OTC to on-screen hedging
- Spreaders like low spread volatility, index funds - winner
- Seaborne, arbitrated equilibrium price
- Bunkers are also set to enter the Gasoil slate, 1000 ppm IMO SECAs from 2015 esp
SPREAD TRADING & INDEX REPLICATION: ICE GASOIL FUTURES
GROWTH IN FORWARD CURVE LIQUIDITY

ICE Gasoil - a global refined product leader
- Pricing flows east & west
- Larger than Gasoline and Heat put together
- Open Interest has doubled since 2008
- Superior roll returns
- Global status grew following move to 0.1% sulphur (and now to 10ppm, particularly in Europe)
- Liquidity extending faster down curve: crude-equivalent spread liquidity @ 500 lots
- Fastest growing major oil contract, underlies global distillate market

ICE Low Sulphur Gasoil (10ppm Diesel Barges)
- Contract launched September 2011
- Will provide an effective hedging instrument-essential in a rising diesel demand world
- Spread trading between the two gasoil futures contracts will be available on ICE Futures

Global demand (M tonnes/yr) for diesel/gasoil will grow over the next decade, while gasoline demand stagnates

FUNDAMENTALS - REFINERY CAPACITY ADDITIONS

Global Sulphur Levels (PPM) in Diesel GSO - March 2010

- Refinery capacity increases – to meet an increase in diesel demand & generally for cleaner transport fuels
- Increasing refinery capacity in the Middle East and Far East is supporting rising product flows into Europe
- Jamnagar and Saudi Arabia constructed as purely export orientated refinery, make any EU spec
- Asian low sulphur diesel pressuring EU margins
- Negative margin outlook for European refineries?

- New refineries in Asia & Middle East exporting low sulphur to meet the European shortfall
- Distillates will be crucial cut for barrel- growing in transport fuels as Gas grows vs. gasoil for heating
- Increasing low sulphur distillate flows from ARA – pricing relative to ICE Gasoil
- Diesel car fleet globally going to drive the demand (up to 40% penetration by 2020)
ICE GASOIL THE FUTURE BENCHMARK IN ASIA TOO?
OTC BASIS SWAPS ‘SATELLITES’ AROUND ICE GASOIL

**Trend towards cleaner fuels is a global one**
Asia and the Mideast part of that global trend in refining & demand terms

- Players expect lower sulphur benchmark in time, for now 0.5% swap is most popular in Singapore, but how long can it last?
- Asia is already making the refining investment to be able to produce more low-sulphur products for export, local demand for cleaner products will rise also
- Key players like South Korea/Japan already Low-Sulphur, at least for diesel, China/Indonesia happy to stay well above that, India plans to go to lower
- India accounting for most (75%+) of new low-sulphur refinery capacity in recent years
- China likely to invest heavily in de-sulphurization and hydro-treating in years ahead, to use heavier, more sulphurous crudes, and to upgrade inflexible refining to run those
- Currently China hydrotreating to distillation ratio just 7%, vs Sing 43%, US 77%, EU 89%
- Saudi Arabia’s new biggest refinery, with 400 kbd capacity, will target exporting refined products, and comes to stream in late 2012

**DIESEL – DISTILLATE CORE PRODUCT**

- New refineries in Asia and the Middle East will export low sulphur to meet the European shortfall
- US refineries increasing flexibility/capacity to produce distillates for export to Europe
- Distillates will be crucial cut for barrel- growing in transport fuels as NatGas grows vs. gasoil for heating
- Increasing low sulphur distillate flows from ARA – pricing relative to ICE Gasoil
- Diesel car fleet globally going to drive the demand (up to 40% penetration by 2020)
ICE LOW SULPHUR GASOIL – GROWING GLOBAL SHARE

DRIVERS FOR LAUNCH – LOW SULPHUR DISTILLATE 2000-2020

- 10ppm Diesel increasingly the global boilerplate distillate product, policy makers favouring cleaner products
- Growth in transport vs. heating fuels, positive refining margins
- Rise in diesel vehicle fleet vs. gasoline
- 0.1% still important but diesel globally larger, fall in demand/supply in core Europe for 0.1%

EUROPEAN GASOIL DEMAND MOVES TO LOW SULPHUR

- 10ppm Diesel increasingly the global boilerplate distillate product, policy makers favouring cleaner products
- Growth in transport vs. heating fuels, positive refining margins
- Rise in diesel vehicle fleet vs. gasoline
- 0.1% still important but diesel globally larger, fall in demand/supply in core Europe for 0.1%
ICE LOW SULPHUR GASOIL FUTURES
QUALITY/CONTRACT FEATURES

- Based on EN590 DIN Motor diesel specification
  - EU benchmark grade
  - 10ppm sulphur, 46 index cetane, Flash 56
  - Summer/winter cold properties (Apr-Sep +5/-2, Oct-Mar -7/-22)

- Contract otherwise very similar to existing ICE gasoil
  - Physically delivered by barge in ARA region
  - 100 metric tonne lot size, 25cts/mt tick ($25)
  - Same expiries, same trading times

- Underlying oil evolving, contract very familiar otherwise
- Two run in parallel until January 2015

ICE LOW SULPHUR GASOIL
HEDGING AND TRADING OPPORTUNITIES

ICE Low Sulphur Gasoil futures & options
- Outrights to Dec 2016
- Spreads
- Options

On-screen intercommodity spreads
- LS Gasoil vs. Gasoil the ‘Hi-Lo Gasoil’ or ‘LOGO’ spread (ULS-GAS)
- LS Gasoil crack vs. Brent (ULS-BRN)
- Heating Oil / Low Sulphur Gasoil (HO-ULS)
- RBOB / Low Sulphur Gasoil (RBR-ULS)
- RBOB / Gasoil - please note this spread is being introduced based on the existing ICE Gasoil Future (1000ppm) (RBR-GAS)

Low Sulphur OTC
- First line swaps, cracks, differential swaps to LSG, including Diesel, Jet, Gasoil physical
GLOBAL OIL PRODUCT BENCHMARKS
ICE GASOIL A GLOBAL LEADER

- Cracks tell you about disaggregated refining margins (EU)
- Clean transport fuel most important prime mover in oil barrel
- Distillate heading to Europe from US and Asia to capture Diesel market and duty incentive – hugely growing market, fastest growing major oil market
- Distillates much more liquid in Europe, crack more liquid than US equivalent, and seasonal aspects closer to home:
  - German inland market for heating oil
  - Dieselisation of road transport fleet

Front Month ICE Gasoil Futures Crack Spread

Gasoil settlement at 16:30 London time is shown against the Brent 1-minute tradable marker at 16:30 London time

GLOBAL OIL PRODUCT BENCHMARKS
ICE LOW SULPHUR GASOIL – THE NEW BARREL OF OIL

10ppm ULSD Barge ARA M1 vs. ICE Gasoil 0.1% Front Month Futures

- Russia has banned the consumption of 1000ppm material domestically and will shortly cease export of such material also
- Turkey switched to 10ppm diesel effectively from January 2011
- Europe is short diesel in nature, new refineries in Asia and the Middle East will export low sulphur to meet the European shortfall
- US refineries increasing flexibility/capacity to produce distillates to export to Europe – cross Atlanta arb
- The expansion of the Latin American refining sector in the coming years will help to redirect USGC surplus gasoil/diesel to Europe
- Diesel car fleet globally going to drive the demand
GLOBAL OIL PRODUCT BENCHMARKS
ICE LOW SULPHUR GASOIL – THE NEW BARREL OF OIL LEADS THE WAY OF CRUDE

Swap diff between 10ppm ULSD Barge Fob and 0.1% Gasoil vs. ICE Brent Futures

MARKET FUNDAMENTAL TRENDS RELATING TO PRICE CHANGES
REFINING MARGINS MEDIOCRE, UNDERPINNED BY GASOIL

EU Gasoline cracks
The strength of gasoline crack reacted to the anticipated tightening product supply ahead of summer driving season, and the loss of 1 m bbls refining capacity in US East Coast – would it be persistent? – would it be overpowered by the decline of American gasoline consumption?

HSFO Fuel oil crack
Global green energy agenda led to a temporary shortage on the high sulphur/lower grade heavy fuel, which is accelerated by:
- Russia’s new 60:66 tax regime discourages the export of heavy fuel
- increasing demand of bunker fuel from Asia
MARKET FUNDAMENTAL TRENDS RELATING TO PRICE CHANGES
REFINING MARGINS MEDIOCRE, UNDERPINNED BY GASOIL

- OPEC quota breaching used to be rife, suggested less spare capacity overhang to come. Discipline has improved, pressure on Gulf budgets, but comfort down to $80/bbl, remainder is 'cushion'
- Product cracks ex-US had improved in 2010 (2011), especially distillates, but finding headwind apart from distillates
- Gasoil spreads have moved into contango after a persistent long period of backwardation in 2H’11—mild winter in northern hemisphere and impaired European growth prospect lowered demand
- Given the 5-Y low product inventory in OECD and lost of refining capacity around Atlantic Coast, any sign of recovering in product demand o, from Europe especially, would put Gasoil Crack (refining market) in to the test
- 10ppm Low Sulphur Gasoil is a transportation fuel, leading the way in summer driving season
- Sweet demand strong in global for Max distillate, as tentative gasoline demand recovery over, plentiful NatGas

CRACK SPREAD - ICE (LS) GASOIL VS. ICE BRENT (NX)

Brent(NX) (LS)Gasoil

Contract size (1 lot) = 1,000bbls 100mt
(Volume) (Weight)

1) Ratio - 3 lots Brent (NX) vs 4 lots (LS) Gasoil

2) Crack value $ per bbl - (LS) Gasoil conversion, 7.45 (bbls per mt)
   Divide (LS) Gasoil price by 7.45 to give (LS) Gasoil price in $ per bbl

On 12th March, trader thinks April (LS) Gasoil crack will strengthen.
Therefore: Buy 40 Apr (LS) Gasoil @ $1029.71/mt
   Sell 30 Apr Brent (NX) @ $124.46/bbl

(LS) Gasoil 1029.71//7.45 = 138.22
Brent (NX) = -124.46
   $13.76/bbl
ICE GASOIL AND SEASONALITY

- ICE Gasoil and LS gasoil prices primarily affected by:
  - Northern hemisphere winter season
  - Consumption demand/logistics
  - Refining constraints for LS Gasoil/sweet crude
  - Distillate arbitrage prices ex-Europe
- Related to stocks/storage in Northwest Europe and the US
- Generally expect to see stocks build in Q3, some value purchases in EU
- Worth watching returns to storage in summer months
- Winter typically gives rise to a backwardated market
- Macro influences may cancel these out
- ICE Gasoil single seasonality, Nov- Feb in Europe, prices and volatility
- Logistics inland - water/snow

JET PRICING & HEDGE COMPONENTS (JET CIF NWE EXAMPLE)

Jet outright price:
- Singapore Jet FOB
- Platts CIF NWE
- USGC Jet 54

Crude ‘proxy’ hedge:
- ICE Brent crude futures
- Seaborne
- Correlation critical
- Forward liquidity-2/3 years
- Relevant to all global price discovery

Basis risk ‘slice & dice:
- Singapore Jet FOB Platts CIF NWE
- USGC Jet 54
- Can hedge parts opportunistically,
  - Hedge crude first, then crack, then diff’l

Low Sulphur Gasoil ‘proxy’ hedge:
- Singapore Jet FOB
- Platts CIF NWE
- USGC Jet 54
WHY USE ICE IN LOW SULPHUR AND DIESEL MARKETS?

Why trade Low Sulphur Gasoil at ICE?
- Opportunity to trade a highly influential refined product in its key region
- Outright, spread, inter-product low sulphur instruments in futures and options
- ICE Gasoil liquidity in place already, now 10ppm specification to complement existing Gasoil & on-screen arbitrage
- Hedge efficiency: ICE Brent/Jet correlation - product prices discovered internationally, seaborne crude/products correlate better
- Margin offsets for maximum capital efficiency/minimum cash flow volatility in clearing- offset examples
- OTC flexibility via those bases – list of relevant OTC instruments in Jet
- ICE offers a global instrument reach for global trade

ICE LOW SULPHUR GASOIL
HEDGING AND TRADING OPPORTUNITIES

<table>
<thead>
<tr>
<th>Hedging and Trading Opportunities</th>
<th>ICE Futures and OTC Instruments</th>
</tr>
</thead>
</table>
| Outright or spread basis in deliverable future, and direct protection on outright exposure | ICE LS Gasoil Futures or first line swap (Quarterly, Calendar)  
ICE LS Gasoil Option – On-screen American Style  
ICE LS Gasoil Average Price Option/European Style Option |
| Hedge and make/take delivery using EU’s primary diesel benchmark | Can also deliver physical gasoil into futures screen (if not +/- EFP before) |
| Take a view on seasonal patterns and on macro conditions for refiners in east and west | ICE LS Gasoil Time Spread  
(summer grade: Apr-Sept; winter grade: Oct-Mar)  
ICE LS Gasoil 1st Line Swap/Brent 1st Line Swap(Crack)  
– available via ICE LSG/Brent futures spread on-screen, or crack swap in bbls or MT |
| Key export and arbitrage product from US to EU, Mideast and Far East also to EU | 0.5% Singapore Gasoil vs. LS Gasoil 1st Line Swap  
0.05% Sing Gasoil vs. LS Gasoil 1st Line Swap (launching soon)  
NYH ULSD vs. LS Gasoil futures (launching soon) – on-screen spread |
| Flexibility OTC instruments to hedge product basis risk | 0.1% Gasoil FOB Rdam Barges vs. LS Gasoil 1st Line  
– High-Low Sulphur Gasoil Diff spread available on screen  
Diesel 10ppm FOB Rdam Barges vs. LS Gasoil 1st Line Swap  
Jet CIF NEW Cargoes vs. LS Gasoil 1st Line Swap |
COMMODITY AS AN ASSET CLASS

- **Commodities’ place in a diversified portfolio?**
  - A broadly diversified, long only, passive investment in commodities can help hedge macroeconomic risk – reduce expected portfolio risk and optimise return.
  - The original hypothesis looked to access positive roll returns, which increasingly are delivered only by seaborne contracts such as Brent and Gasoil, rather than US-based pipeline-driven benchmarks.

- **Counter – cyclical with Stocks and Bonds**
  - Commodities returns traditionally are significant negatively correlated with both Bonds and Equities – thus reduce overall portfolio volatility/risk.
  - They deliver their performance at a different point in the economic cycle to Equities and bonds:
  - Commodities are more directly tied to current economic conditions, while traditional financial Asset reflect expected economic activities.

- **Inflation Hedge**
  - Commodities offer a hedge against rising, and especially unexpected, inflation, even when inflation is rising from a low base.
  - Other potential inflation hedges such as TIPS or Gold have different pay-offs (vs. negative real IRs or as a function of conventional bond yield curve, and are thus often less effective than presumed).

- **Diversification Benefit**
  - The GSCI has the largest positive impact on a financial portfolio when financial Asset have their worst returns. During these “hostile markets”, equities and bonds tend to fall together and provide little diversification.

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**COMMODITY AS AN ASSET CLASS**

**EFFICIENCY FRONTIER – OPTIMIZE RISK/RETURN PROFILE**

Risk / Return Analysis of a Balanced Portfolio (60% equities / 40% fixed income)
whilst Adding in S&P GSCI on a Pro-Rata Basis.

(Note: quarterly data from 31-Dec-1969 to 31-Mar-03)

Viewed in a portfolio context, a S&P GSCI investment can increase returns and reduce volatility at the same time.
INDICES & ENERGIES – PERFORMANCE-CRITICAL
WHAT WE LOOK FOR?

• Three types of returns comprised of Commodity Index performance
  - Total Return = Spot Return + Roll Return + Collateral Yield
  - Excess Return = Spot Return + Roll Return

• Spot Return
• Convenience Yield: The market often pays a premium for readily available commodities and this is reflected in an inverted (backwardated) forward price curve.
• Roll Return: Commodity Indices rolled from forward month (normally the 2nd contract month) to next nearby contract, and keeps continuously invested in prompt oil futures, allowing investors to take maximum advantage of the potential backwardation

Backwardation
- sell long position at a premium above the one-month forward price where indices re-establishes the position
- Exposed to curve structure, instead of outright prices - prices do not need to be trending upward to produce substantial returns

S&P GSCI Commodity Futures Prices and Backwardation Measures – February 2012:

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Percentage</th>
<th>12 Months</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE Brent Crude</td>
<td>-6.7%</td>
<td>-4.9%</td>
</tr>
<tr>
<td>NYMEX WTI Crude</td>
<td>-0.4%</td>
<td>+0.3%</td>
</tr>
</tbody>
</table>

(Source: Standard & Poor’s)
INDICES & ENERGIES – PERFORMANCE-CRITICAL
WHAT INDICES TELL US ABOUT BENCHMARKS AND THEIR PHYSICAL INFRASTRUCTURE

- Why oil is critical to most indices performance
- Brent and Gasoil lead energy sub-indices (S&P GSCI & others)
- Our contracts complement performance-oriented active indices for new vehicles and instruments - better performers on roll return, new or emerging contract areas
- ICE Contracts sub-index relative performance (S&P GSCI) 10yrs to Jan 2010
  - (Source: Standard & Poor’s)

<table>
<thead>
<tr>
<th>Date/Period</th>
<th>ICE Brent TR</th>
<th>Crude Oil TR</th>
<th>ICE Contract Out-performance</th>
<th>ICE Gasoil TR</th>
<th>Heat TR</th>
<th>ICE Contract Out-performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan 2012 YTD</td>
<td>3.79</td>
<td>-0.55</td>
<td>4.34</td>
<td>3.74</td>
<td>4.92</td>
<td>-1.18</td>
</tr>
<tr>
<td>Jan 2012 1-yr</td>
<td>14.10%</td>
<td>-1.50%</td>
<td>15.60</td>
<td>14.50</td>
<td>8.46</td>
<td>6.04</td>
</tr>
<tr>
<td>Jun 2011 5-yr*</td>
<td>1.37</td>
<td>-9.26</td>
<td>10.63</td>
<td>3.06</td>
<td>-0.46</td>
<td>3.52</td>
</tr>
<tr>
<td>Jun 2010 10-yr*</td>
<td>12.16</td>
<td>4.06</td>
<td>8.10</td>
<td>13.52</td>
<td>7.83</td>
<td>5.69</td>
</tr>
</tbody>
</table>

(Sources: Standard & Poor’s)

INDEX PERFORMANCE
GLOBAL SEABORNE CONTRACTS CONSISTENTLY OUTPERFORM

Arbitrage ensures globally-relevant valuation (East & West), not local infrastructure conditions

ICE Contracts sub-index recent relative performance (S&P GSCI, 1-yr data as of 31/01/12, 5 & 10-yr data as of 30/6/11*):
INDEX PERFORMANCE
GLOBAL SEABORNE CONTRACTS CONSISTENTLY OUTPERFORM

ICE Contracts sub-index recent relative performance (Dow Jones-UBS, data as of 29/02/2012):

<table>
<thead>
<tr>
<th>Time Period</th>
<th>DJ-UBS Brent Crude Subindex Total Return</th>
<th>DJ-UBS WTI Crude Oil Subindex Total Return</th>
<th>ICE Brent Out-performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Month</td>
<td>10.05</td>
<td>8.12</td>
<td>1.93</td>
</tr>
<tr>
<td>YTD</td>
<td>14.22</td>
<td>7.55</td>
<td>6.67</td>
</tr>
<tr>
<td>1-Year</td>
<td>13.19</td>
<td>3.84</td>
<td>9.35</td>
</tr>
<tr>
<td>3-Year</td>
<td>29.15</td>
<td>13.51</td>
<td>15.64</td>
</tr>
<tr>
<td>5-Year</td>
<td>7.20</td>
<td>-5.00</td>
<td>12.20</td>
</tr>
<tr>
<td>10-Year</td>
<td>18.01</td>
<td>9.64</td>
<td>8.37</td>
</tr>
</tbody>
</table>

Source: Dow Jones-UBS

CRUDE AND PRODUCTS TREND SUMMARY
BRENT & GASOIL FLOWS & THE FUTURE

Trends – where are we going?
- Brent has been and still is the reference marker for global crude prices
- WTI prices at the front of the forward curve have been pushed down due to the landlocked nature of the benchmark
- ICE Gasoil is increasingly the reference marker for global refined prices
- ICE Low Sulphur Gasoil is placed to continue and build on that position
- Brent/Gasoil crack the most important aggregator of refining margin globally
- Europe now the marginal pricing point globally. EU is short diesel - increasing inward flows from east and west
- Distillates will be crucial cut for barrel - growing in transport fuels as NatGas grows vs. gasoil for heating
- Gasoil base underpins diesel, jet, heating oil in price and basis terms – strong, flexible structure for price discovery, trading, hedging and clearing
- OTC-futures gap narrowed- clearing, capital efficiencies critical, more on-screen hedging
- WTI/Brent increasingly a screen-based futures arbitrage but to revert in late 2018?
BENCHMARKS AND OIL PRICING

CONCLUSION

- Summary/conclusion: What do we expect and need from oil benchmarks?
  - Market views - Analysts, traders, policymakers, investors want global benchmarks which respond to macro influences, liquidity and longevity, with consistency in relational/matrix pricing
    - Normal benchmark requirements - liquidity, longevity, relevance
    - Looking for liquid and robust relative pricing relationships
    - Correlations that follow economic logic
    - Consumption and production emphasis shifting from West to East
    - Q: Is WTI serving markets well?

- What do ICE Brent and ICE Gasoil (1000ppm and 10ppm) have to offer?
  - Progressive price evolution, for term physical contracts this means a reliable base price than can be used to peg differential to; for spread and relational pricing this means less risk
  - Deep liquidity for forward hedging
  - They are water-borne contracts which respond to global, non-local fundamental conditions
  - They side-step localised land-based choke points avoiding price vacuums

- ICE Oil contracts performance drivers:
  - ICE Gasoil Open Interest is larger than Heat and RBOB Gasoline combined, doubling since 2008
  - ICE Brent Futures Open Interest growing faster than WTI
  - Brent prices 65-70% of global physical crude, and is growing, especially in Asia
  - ICE Brent and Gasoil better reflect global macro conditions, more representative term structure – thus outperform WTI and Heat over 3 months through 10 years for indices

NEXT STEPS

Additional resources for ICE Brent NX products:

- Product Information:
  - Brent NX FAQ: [https://www.theice.com/publicdocs/futures/ICE_Brent_NX_FAQ.pdf](https://www.theice.com/publicdocs/futures/ICE_Brent_NX_FAQ.pdf)
  - Webinars: [https://www.theice.com/webinars.jhtml](https://www.theice.com/webinars.jhtml)

- Contract Specifications:
  - ICE Brent NX Crude Futures: [https://www.theice.com/productguide/ProductDetails.shtml?specId=3775846](https://www.theice.com/productguide/ProductDetails.shtml?specId=3775846)
  - ICE Brent NX Crude Option: [https://www.theice.com/productguide/ProductDetails.shtml?specId=3775848](https://www.theice.com/productguide/ProductDetails.shtml?specId=3775848)

- OTC: The simplest way to start trading cleared OTC contracts on ICE is to call or email the ICE Help Desk:
  - Phone: +1 770 738 2101 (US), + 44 (0) 20 7488 5100 (UK)
  - e-mail: ICEHelpdesk@theice.com

HELPFUL LINKS:

- ICE OTC Energy Markets general overview

- ICE OTC Energy Markets general overview

- OTC Clearing Members List [https://www.theice.com/publicdocs/celeurope/ICE_Clear_Europe_Clearing_Member_List.pdf](https://www.theice.com/publicdocs/celeurope/ICE_Clear_Europe_Clearing_Member_List.pdf)
  - An updated list of ICE OTC Clearing Firms

  - An informative user’s guide for Clearing Firms and participants

  - For all administrative, trading, and technical related inquires
RESOURCES

For more information on ICE Low Sulphur Gasoil and other ICE products
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ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2012)

21/03/2012: Javier Blas Financial Times (London) - WTI loses ground in physical oil market

“West Texas Intermediate is losing further ground as a global oil benchmark. The travails of US crude in the derivatives market are well documented, with the oil contract trading at a discount to the Brent benchmark for the last few years.

But now Vitol, the world’s largest oil trading house, has provided evidence of the impact of WTI’s problems in the less known physical market. It says that between 2008 and 2011, the US benchmark has lost half of its share in the physical market.

The oil trading house estimates that WTI was used as a benchmark for physical transactions of about 20 per cent of global oil in 2008. By late 2011, that share has halved to just 10 per cent, while Brent and others gained.

The figures were revealed by David Fransen, managing director of Vitol: “The [physical] market is clearly saying we do not like that [WTI] benchmark,” Mr Fransen says. “WTI is no longer reflecting the global reality.”

… since 2008, its price has been erratic, often trading at discounts of more than $20 to crudes such as Brent or Dubai, a benchmark in the Middle East. The price disconnect has forced some investors to switch their exposure. Moreover, companies, such as US-based airline Delta, have also switched from WTI to Brent as a reference for their hedging programmes.

Saudi Aramco, the state-owned company, used WTI prices published by Platts. But Riyadh in 2009 switched to a new index developed by Argus, the London-based oil pricing company. The Argus Sour Crude Index (Asci) tracks three varieties of crude produced in the US Gulf of Mexico.

Brent accounts for 53 per cent – up from 45 per cent in 2008”

28/02/2012: Mondovisione - ETF Securities Expands Brent Crude Range Against A Background Of Rising Geopolitical Tensions – Four New Products Listed on the London Stock Exchange

“ETF Securities listed four new exchange-traded commodity products on the London Stock Exchange, in recognition of Brent Crude’s growing importance as the new global benchmark for oil.

Brent crude is increasingly seen as the global benchmark for crude oil, particularly as West Texas Intermediate has been beset with local logistical issues that have seen it move to a significant discount to Brent.

Commenting, Neil Jamieson, Head of UK Sales, ETF Securities (UK) Limited, said: “The launch of these new Brent exposures is timely. Brent has emerged as the reference benchmark for crude oil and is therefore potentially sensitive to developments that could impact international oil supplies.

Our recent poll shows that investors are understandably concerned about how to position themselves in light of the continued unrest in the Middle East.”

27/02/2012: Tom Osborn, Financial News - Brent becomes a crude bellwether for global oil tensions

“In January, open interest in the contract – the total number of positions held by traders – topped the one million mark for the first time, the notional equivalent of one billion barrels of oil.”

‘Gareth Lewis-Davies, oil market strategist at BNP Paribas, said: “Brent is the better marker for international pricing. WTI is priced much more closely according to local factors. It’s an isolated market, and can’t be physically moved around as easily. Brent is, therefore, seen as the better hedging tool against real global price risk.”
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2012)

15/02/2012: Crude Watch, Citi - Supply Disruptions Continue to Frustrate the Bears

“Distillate strength may fade but Brent spreads are very strong. WTI remains distressed, … US onshore oil production is clearly outpacing take-away capacity, the Seaway reversal may clean up Cushing temporarily, but the big story in the oil markets is surging US shale oil production, and this promises to keep WTI under pressure to dislocate from global crude benchmarks on a regular basis.”

06/02/2012: Sarah Kent, WSJ - Oceans of Flexibility Give Brent an Edge Over WTI

“Brent crude is bolstering its reputation as the best indicator of global oil prices in 2012, using its transportation flexibility to outmaneuver landlocked U.S. benchmark West Texas Intermediate.

The role of West Texas as the pre-eminent international oil benchmark came into question last year after a backlog at its delivery point of Cushing, Okla., caused it to disconnect from the global market.

By contrast Brent's flexibility as a waterborne crude has allowed it to weather significant changes in its own market, analysts say. One reason Brent has been able to gain traction is its access to international markets compared with WTI.

Over the last three months a significant volume of crude from the North Sea has travelled to Asia,… According to analysts say. One reason Brent has been able to gain traction is its access to international markets compared with WTI.

Over the last three months a significant volume of crude from the North Sea has travelled to Asia,… According to analysts say. One reason Brent has been able to gain traction is its access to international markets compared with WTI.

In this way, Dated Brent is acting as a true global benchmark and is sheltering the Brent complex by limiting downside distortion,” JBC Energy said in a note published last week.

"It's a good sign if a benchmark is traded by other regions,” said David Wech, head of research at JBC Energy.

Adding to the momentum, the Middle East premium for Brent is being eroded by events in the region. The Gulf of Oman crude is 10.5% softer, compared with WTI.

Interest in Brent has been driven by a perception by some traders that WTI is still too expensive. Brent's narrowing premium is making it more attractive to Asian refiners because it's cheaper and easier to process into higher-value products such as gasoline and diesel, according to JBC Energy.

Brent's volumes have risen substantially in recent months. An average of 1.7 million barrels per day was traded in January, compared with 1.4 million for WTI.

"It's a good sign if a benchmark is traded by other regions,” said David Wech, head of research at JBC Energy.

...11.2 million contracts of Brent traded last month, 5% more than the 10.7 million contracts traded a year earlier. By contrast, CME Group recorded monthly trading volume of 12.6 million contracts in WTI, a 30% decline from 17.9 million contracts a year earlier.”

12/02/2012: Grant Smith, Bloomberg - Brent Glut Sends Most North Sea Cargoes to Asia since 2004: Energy Markets

“More North Sea oil is being shipped to Asia than at any time in the past eight years as prices fall to their cheapest levels in 15 months compared with Middle East alternatives.

While still more expensive than Middle East grades, Brent's narrowing premium is making it more attractive to Asian refiners because it's cheaper and easier to process into higher-value products such as gasoline and diesel, according to JBC Energy GmbH, a Vienna-based consultant.”

“North Sea Forties, the usual price-setter of Dated Brent, seems to be increasingly becoming an arbitrage crude,” analysts led by Johannes Benigni at JBC Energy wrote in a Jan. 31 report. “Substantial volumes have been sent to Asia over the last three months, with China, South Korea and Australia accounting for the bulk.”

12/01/2012: Joshua Schneyer and Matthew Robinson, Reuters - Oil markets brace for turbulence of index shift

"... analysts point out that Brent -- considered to be the international benchmark for crude -- is a far more representative of global market conditions than WTI, which is heavily impacted by inventory levels in the U.S. Midwest.

"The obvious thing is that investors don't want to be in WTI unless they feel that the big $10 gap is going to close,” said Adam Sieminski, chief energy economist at Deutsche Bank in Washington DC.”

"The feeling in oil markets is that there are fewer problems associated with Brent, which is more responsive to geopolitical events and what's going on in the global markets.”’
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

20/12/2011: Gregory Meyer, FT - US oil boom town prompts crude glut fears

“Despite its importance as a pricing hub, Cushing is still an opaque marketplace. The energy department began measuring oil there only in 2004 and tank capacity late last year. One company, Genscape, sends a helicopter above the complex twice a week to shoot photos and infrared video in an effort to gauge inventory for clients. Another uses satellites.”

“Frankly, a lot of the storage folks don’t want you to know how much they’re storing,” says Brent Thompson, executive director of the Cushing Chamber of Commerce and Industry.”

20/12/2011: Gregory Meyer, FT - Price of crude: Reversal of fortune

“Crude oil is extraordinarily efficient, internationally. Gaps that exist, exist for very short periods of time,” says James Dyer, chief executive at Blueknight Energy Partners and a senior executive at Vitol, the world’s largest independent oil trader. Blueknight owns crude oil storage tanks in Cushing.

But some estimates show the volumes Seaway will carry are far less than the amount set to pour into Cushing in coming years, as production bounces higher in places such as the Permian Basin in west Texas, the Bakken formation in North Dakota and Canada’s oil sands.”

22/11/2011: From Liam Denning, WSJ ‘Heard on the Street’ - Brent Out of Shape

“Just as speculators betting West Texas Intermediate crude oil would catch up to Brent were given a boost, Brent stops playing ball... Logistical constraints had fueled a glut of oil in the Midwest, where WTI futures are settled physically, depressing the price. But the sale of ConocoPhillips’ stake in a key pipeline, allowing the direction of its flow to be reversed, brought forward the day the glut would end.

Come Monday afternoon, however, and the initial euphoria appears to be wearing off. The discount has stuck at around that $10 mark. This makes sense: That pipeline hasn’t been reversed yet and even when it is, it will only partially relieve the bottleneck in the Midwest. Full relief will require new pipelines, such as the delayed Keystone XL project. Until then, the additional costs many buyers of WTI will have to incur to get oil transported to refineries — say, by rail — will limit what they are prepared to pay.”

04/11/2011: Javier Blas, FT - S&P commodities index to increase Brent weighting

“The S&P GSCI, the most widely tracked commodity index, will increase the weighting of Brent crude next year at the expense of rival West Texas Intermediate, a move that will force billions of dollars moving from one contract to the other. The change in weighting comes after the traditional price relationship between Brent and WTI, the world’s most important oil benchmarks, moved upside down.

The announcement by Standard & Poor’s comes only weeks after the Dow Jones-UBS commodity index, the second-most popular commodities basket, announced it would include Brent in its index for the first time in 2012. The shifts will have big implications for commodity markets.

Michael McGlone, head of the S&P GSCI in New York, said he estimated that about $110bn tracked the commodity index at the end of October. S&P GSCI – formerly Goldman Sachs Commodities Index – said the weight of Brent crude will rise from January to 17.35 per cent from 15.9 per cent while the share of WTI will be cropped to 30.25 per cent, down from 32.59 per cent. It is the third year in a row that Brent weightings in the S&P GSCI index have increased.

It could also increase the number of outstanding Brent contracts, giving a boost to ICE Futures in its fight for market shares with Nymex. Brent has benefited from the rupture in the traditional price relationship, with companies and speculators shifting their exposure in favour of the North Sea crude.

In the most striking example, Delta Air Lines, one of the world’s largest carriers, shifted in March almost all its fuel hedges away from WTI and into Brent.”
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

21/10/2011: Brian Ellsworth and Bruce Nichols, Reuters - Petrobras abandons WTI, joins move to Brent pricing

"Brazilian state oil company Petrobras has switched its pricing of its U.S.-bound crude oil exports to a Brent benchmark, the company's supply director said on Friday, the latest sign of the waning influence of the West Texas Intermediate marker. While Petrobras ships a relatively modest 245,000 barrels a day of crude to U.S. buyers, the switch is yet another blow to the beleaguered U.S. benchmark, which has grown increasingly isolated as airlines, exporters, hedge funds and even commodity indexes shift more of their trading to Europe's Brent.

The Brazilian firm quietly made the shift several months ago, Petrobras Supply Director Paulo Roberto Costa told Reuters. In September, Colombia also switched entirely to Brent-based pricing.

The difference or "spread" between the North Sea and U.S. crude pricing benchmarks has reversed sharply from a $2 difference in favor of WTI to a $25 gap in favor of Brent in the past year, driven by a flood of Canadian crude into U.S. storage tanks that has depressed the WTI price.

The spread and oil price volatility due to global economic and political issues have increased the risk for sellers of foreign crudes historically priced against WTI, so producing countries increasingly have looked to Brent.

Petrobras' departure from WTI is significant because Brazil within the next ten years is expected to become a major oil exporter as it taps into the ultra-deep-water fields in the region known as the subsalt.

The effectiveness of WTI as a world benchmark has been questioned for years because it does not compete like Brent on the world market. It delivers to the interior of North America, at Cushing, Oklahoma, and stays in the interior due to a lack of coast-bound pipelines.

Global demand for crude has kept Brent strong, pushing the spread between WTI and Brent to record levels. On Friday, the IntercontinentalExchange said open interest in its Brent crude oil futures contract had reached a record high of nearly 1 million contracts. Open interest in New York Mercantile Exchange WTI contracts stands at around 1.4 million, down 15 percent from a record in May."

ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

19/10/2011: Sarah Kent And Jenny Gross, WSJ – Index Changes Weigh on Oil Benchmarks

"A forthcoming shift in the weighting of two of the world's most widely followed commodities indexes in favor of Brent follows a turn late last year to the European benchmark as a better hedge against fluctuations in global oil prices.

"Everyone's looking at new ways of hedging and investing, and Brent's a better indicator of where the market will move," said Andy Riddell, head of retail derivatives at London Capital Group.

Then, in the past two weeks, the Dow Jones-UBS Commodity Index said last week that, beginning in January, it will add Brent crude to the basket of commodities indexes have thrown their weight behind the trend. The Dow Jones-UBS Commodity Index and the Standard & Poor's Goldman Sachs Commodity Index decided to give Brent Crude more heft at the expense of the American contract, beginning in January, meaning that they will shift the balance of their oil investments to favor Brent."

18/10/2011: Dan Strumpf, WSJ - Index Changes Weigh on Oil

"West Texas Intermediate, once the unassailable global crude-oil benchmark, is under siege on a new front. Now, managers of key commodities indexes have thrown their weight behind the trend. The Dow Jones-UBS Commodity Index and the Standard & Poor's GSCI—one of the most widely followed commodities indexes—have said in recent days that they plan to decrease the weighting of WTI and increase—or, in DJ-UBS's case, introduce—the weighting of Brent.

The Dow Jones-UBS Commodity Index said last week that, beginning in January, it will add Brent crude to the basket of commodities whose prices it tracks. Brent's price movements will account for 5% of the index, while WTI will see its slice cut from 15% to 10%.

"Given the deviation of Brent and WTI contracts in recent months, we think the addition is appropriate," said Lee Kayser in an email. Mr. Kayser is an associate portfolio manager at Russell Investments.

A week earlier, S&P disclosed that among the biggest changes to its commodity index next year will be a lower weight for New York Mercantile Exchange futures and additional weight for Brent.

"It's natural that the major indexes are seeking to provide global exposure to commodities," said John Brynjolfsson, manager of the $509 million Eaton Vance Commodity Strategy fund, a mutual fund benchmarked to the Dow Jones-UBS Commodity index. "WTI failed to represent [the price] that was prevailing...WTI has fallen 5.9% this year, ...Meanwhile, Brent has risen 16.5% this year. Supply disruptions in the European market have been among the factors influencing its price."

RECENT QUOTATIONS (2011)
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

28/9/11: PVM Oil Brokerage Fundamental Report 28 September 2011

“September is proving to be an interesting month on the exchange front with ICE Brent volumes only marginally below CME WTI volumes. The ICE Brent market share against total WTI volumes has risen to 42% this month compared to an average of 36% so far for this year and 31% for 2010. The backwardated price structure of Brent appears to have given added impetus to the transfer of volume from WTI to Brent. Open interest on CME WTI which normally runs at over 1.5 million lots has slipped to 1.39 million. In terms of overall market share of crude futures ICE, with its two contracts, has moved into first place with a 55% market share in September. So far this year ICE market share, according to our figures, is running at 50.3% up from 47.3% last year.”

03/08/2011: David Hufton, PVM Daily Oil Fundamentals – Risk off switch flicked with a vengeance

“Whilst a $40/bbl WTI/Brent discount looks unlikely and may only have been thrown out as food for thought, the WTI/Brent arb looks likely to widen further. One simple reason, apart from production, transportation and storage fundamentals, is the probability that the switch of speculative volume from WTI to Brent in search of exposure to international oil prices will continue. Brent’s share of the total futures’ Brent/WTI volumes across ICE and CME has increased from 25% in 2007 to 31% last year and this year is running at just under 35%.”

01/08/2011: Argus Global Markets – Crude evolutionary theory

“The suitability of WTI as a hedging tool rests to an uncomfortable degree on its liquidity alone. The market is now evolving ways around WTI’s inaccuracy as a marker. Forward curves are now reflecting this uncertainty over an eventual solution to the inland US crude market’s dislocation. WTI futures for delivery three years from now are trading at unprecedented discounts of more than $7/bl to Brent futures, compared with around $1/bl in January.”

25/07/2011: Javier Blas, Financial Times – Traders bet on crude oil spread widening

“Thousands of barrels of crude production in the US Midwest and western Canada being shut early next year,…, anticipated by some veteran oil watchers and hedge funds, would have huge implications for global oil benchmarks. At its most extreme, it could push the discount of West Texas Intermediate, the US crude, against Brent, the North Sea benchmark, to as much as $50 a barrel. The discount recently hit a record $23.57.”

While many pipelines feed oil into Cushing, the Oklahoma City that serves as the pricing point for WTI crude, none takes the crude south to the refining hub on the US Gulf of Mexico. Until three years ago, regional refiners around Cushing consumed enough WTI and other crude streams priced against it to keep supply and demand roughly balanced. Thus, WTI traded at a premium against Brent of $1-$2 a barrel to reflect its superior quality. But over the past three years, oil production in the region has surged. The result is that WTI now trades at a record discount to Brent.

Ed Morse, head of commodities research at Citi and among the first to warn about the shift in the WTI-Brent price spread, says the discount is likely to widen further. “At some point between now and summer 2012, market dynamics are being set up for perhaps a doubling of the recent spread to $40 or even wider,” he says. Those dynamics are clear. US and Canadian production continues to grow, but refining intake and pipelines do not. Output is rising, in particular, in the US Midwest, which includes states such as Oklahoma, North Dakota and Kansas.

Evan Calio at Morgan Stanley forecasts that next year oil arriving into Cushing will exceed the intake capacity of regional refiners. Although some oil will move elsewhere by rail, barges and trucks, it will soon start to fill up storage tank capacity. If, and when, that happens, Mr Calio says WTI could drop to more than $50 below Brent and, ultimately, force oil companies to shut production.

Sophisticated hedge funds are putting money into myriad trades that would benefit from a sharp widening in the WTI-Brent price spread. There are two big pipelines in the works that could ease the Cushing bottleneck. But neither is likely to be ready until late 2013 – too late to avoid that feared glut next year.”
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

20/07/2011: Pauline McCaillion, Energy Risk - WTI/Brent spread impacts commodity index returns

"In a report published this week, Barclays Capital has detailed the heavy price index investors have paid for the recent dislocation between global oil price benchmarks, with returns reduced by up to half since early 2010. West Texas Intermediate (WTI) typically trades at a premium to Brent because it is a higher quality crude. However, this relationship has been reversed over the past 16 months and the divergence between the price of WTI and Brent reached an all-time high of $23.57 this month.

This trend has impacted returns for WTI-weighted commodity indexes. According to research from Barclays Capital, returns have halved for the S&P GSCI commodity index, at 10% since early 2010. Index returns for the Dow Jone-UBS Commodity Index are a quarter less than expected at 15%. The Barclays Capital report says: "Because most index investors have very little leeway in their requirement to track a particular commodity investment benchmark, very few have been able to shift their exposure out of WTI and into other crudes, such as Brent, which at present are much better benchmarks of global oil market fundamentals." Barclays Capital estimates that income lost as a result of this trend represents an opportunity cost to investors of almost $25 billion over the past six quarters.

The divergence in the price of WTI is generally blamed on the land-locked position of its delivery point in Cushing, Oklahoma. Experts believe the conditions could not only continue but also get worse as supply in the US Midwest continues to increase as a result of poor transportation capabilities and increased domestic and Canadian flows.

As a result, a rebalance of the major commodity indexes towards Brent could be on the cards. The S&P GSCI is a rules-based index, so if the volume or Total Dollar Value Traded (TDVT) of Brent continues to increase at a greater pace than crude oil or the other petroleum commodities, the weight of Brent will continue to increase in the index, according to Michael McGlone, senior director of commodity indices at S&P Indices, owner of the S&P GSCI.

Dow Jones indexes announced in April that it would consider including Brent in the DJ-UBS index in January 2012. The index is currently 15% weighted to WTI. Dow Jones Indexes is part of the CME Group, owner of the Nymex-traded WTI contract."

18/07/2011: Aaron Clark, Bloomberg - Indexes Linked to WTI Oil Lose Out on $25 Billion, Barclays Says

"Index investors with exposure to West Texas Intermediate oil contracts lost out on almost $25 billion in income over the past six quarters, analysts from Barclays Plc (BARC) estimate. The S&P GSCI Index would have nearly double the return of 10 percent it has earned since March 2010 if the U.S. benchmark had maintained its "more usual relationship" with Brent, analysts including London-based Kevin Norrish, said in a note to investors today.

"The persistent dislocation in the usual relationship between WTI and other global oil price benchmarks is having a massive effect on returns to commodity investors," wrote Norris. Very few index investors have been able to "shift their exposure out of WTI and into other crudes, such as Brent, which at present are much better benchmarks of global oil fundamentals." Total returns of 15 percent for Dow Jones-UBS Commodity Index in the same time period would have been almost 20 percent, if the traditional spread between the two benchmarks had held, according to the bank."

18/07/2011: Gregory Meyer, FT - WTI-Brent spread rises back above $20 a barrel

"The stubborn WTI discount over Brent has been a drag on returns for commodity investors over the past year and a half. Kevin Norrish and Amrita Sen, commodities analysts at Barclays, put the shortfall at $25bn. Investors had $195bn tracking commodities indices, up from a little over $115bn since 2010 began, they said.

"Making the simple assumption that the WTI-linked portions of index investors exposures had gained the same as the Brent portions, we estimate that but for the poor performance of WTI, total index Asset under management could have reached approximately $220bn by now. In other words, the dislocation of WTI from global crude oil benchmarks has cost index investors about $25bn since early 2010," they said.

For investors tracking the S&P GSCI, returns of 10 per cent since early 2010 are half what they would have been without the disparity."
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

01/07/2011: Dan Strumpf, Dow Jones Newswires - ICE Gaining Fast On CME In Oil Futures Volume War

"IntercontinentalExchange Inc.'s (ICE) Brent futures traded more heavily than the Nymex's flagship light, sweet crude futures over four consecutive trading sessions in late June, a record streak. ICE's overall oil futures trading volumes, including its lookalike to the Nymex contract, were also higher in June, the first month ICE has won the volume war in four years.

It is also another sign of America's waning role in setting global oil prices, as more and more traders view North Sea Brent crude as a better pricing benchmark than the Nymex's Cushing, Okla.-based contract. In the last three months, Nymex benchmark futures volume was down 15% from a year earlier, compared with a 26% rise for ICE's Brent. 'Brent is winning the popularity contest,' said Tim Evans, energy analyst with Citi Futures Perspective. Several big oil producers, airlines and refineries, which use the futures market to protect against price volatility, have switched to Brent this year. They view Nymex futures as trading at an artificially low price due to a glut of oil in Cushing."

31/05/2011: Dan Strumpf and Carolyn Cui, Wall Street Journal - Oil Epicenter's Sway on Prices Begins to Slip

"The resulting price gap is clobbering airlines that use the Cushing-tied contract to lock in fuel prices, while causing some major oil producers to switch to different pricing methods. 'It's a broken marker,' said Larry Goldstein, director of the Energy Policy Research Foundation, a Washington group that studies the oil industry.

Delta Air Lines Inc., of Atlanta, Ga., now mostly uses Brent and heating-oil contracts to hedge fuel costs, according to Ed Bastian, the company's president, Mr. Bastian, speaking at a conference in March, cited the price difference between Brent and WTI for the change.

Petroleo Brasileiro SA, the Brazilian oil exporter, said it recently began pricing most of its oil based on Brent, not WTI. Ecopetrol SA, Colombia's largest oil company by output, recently started to sell some of its crude priced against Brent instead of WTI. Saudi Arabia, the world's biggest oil exporter, abandoned WTI last year and started pricing oil sold in the U.S. against crude produced in the Gulf of Mexico."

ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)

02/05/2011: Chevron CFO Patricia Yarrington, HOUSTON (Dow Jones) - Brent to Replace WTI In Way Co. Gauges Foreign Production Contracts' Effect:

"Chevron will start using European Brent crude benchmark prices, instead of Nymex-traded West Texas Intermediate oil prices, when it calculates the effects of production-sharing contracts signed with foreign governments. These contracts reduce the amount of output received by companies when oil prices rise. In order to gauge the impact of production due to oil-price variation, Chevron and other oil companies have traditionally used WTI prices. But given the sharp price disparity between the two benchmarks, Chevron is switching to Brent, which is used in most international contracts." Yarrington said.

29/04/2011: S&P Commodities Market Attributes May 2011 – Brent, Beta and Backwardation:

"Petroleum continued to drive S&P GSCI gains in April, as evidenced by the 6.54% increase in the S&P GSCI Petroleum Index, bringing the YTD gain to 23.89%. Better reflecting strong global demand and supply disruptions in the Middle East and North Africa (MENA), Brent has asserted itself in 2011 as the best performing major petroleum benchmark. The S&P GSCI Brent Index ended April with a YTD gain of 32.79% on the back of a MTD increase of 7.56%. The anticipation of strong global demand has recently accelerated due to the need for generating electricity in Japan in the aftermath of the March earthquake and the potential for reduced longer-term global use of nuclear power."

YTD, the S&P GSCI Gasoil Index was the best performing S&P GSCI Energy commodity with a gain of 33.48% on the back of a 4.75% increase in April. Helping to boost S&P Gasoil 2011 total returns has been its relatively flat futures term structure as measured by a slightly higher YTD S&P GSCI Gasoil spot return of 34.93%, for a difference of 1.45% above the total return."

12/04/2011: FT (Lex) - WTI v Brent: Cushing disease:

"Airlines, truckers and utilities are reeling from a sharp gap in the price between refined products and the West Texas Intermediate (WTI) crude futures, which are based on the price at the physical delivery point in Cushing, Oklahoma. Crude is used as a hedge because the market is liquid and the price is usually a good proxy for jet fuel, diesel and the like. But a physical glut around Cushing has skewed prices into what one airline boss calls a "silent killer." Oil for delivery at Cushing plunged nearly $20 a barrel below ostensibly less valuable Brent crude early this year. May futures remain more than $12 lower."

Hedgers' loss is others' gain, giving a temporary windfall to Midwestern refiners. JPMorgan estimates that the Cushing surplus, and demand from power-starved Japan could widen the crack spread (the gap between crude and refined product prices) to a juicy $50 a barrel on diesel this summer."
ICE FUTURES: MIGRATION TO BRENT
RECENT QUOTATIONS (2011)


“Delta Air Lines, one of the world's largest carriers, has shifted almost all its jet fuel hedges away from US crude in the latest sign that the benchmark has run into trouble as a tool to manage energy costs. Delta and other US airlines have traditionally purchased contracts for US benchmark crude oil to hedge volatile jet fuel costs. Jet fuel is refined from crude oil and usually tracks its price.

But this year the US crude benchmark, known as West Texas Intermediate, has lagged behind the 27 per cent rise in jet fuel, creating difficulties for US airlines. The rise in Brent, a European benchmark, has been more in line with the jet fuel trend.

"We've needed to restructure our hedge position," Ed Bastian, Delta president, told a conference last week. The airline spent $7.6bn on fuel and related taxes in 2010.

"WTI, which is the instrument that many of us hedge in this market, has dislocated from Brent in terms of pricing," Mr Bastian said Delta had "converted, over the course of the last 45 days, nearly all of our WTI positions" to Brent or heating oil. JetBlue Airways, Southwest Airlines and Virgin America have also raised concerns about the discrepancy between WTI and jet fuel."

24/3/2011: Florence Tan for Reuters Singapore: Petronas opts for Brent pricing:

"SINGAPORE, March 24 (Reuters) - Malaysian state oil firm Petronas is expected to announce a new pricing formula soon for its crude based primarily on European bellwether Brent, dropping a decade-old marker once commonly used to price Asia-Pacific crude, industry sources said on Thursday. The move would homogenise and simplify a fragmented pricing structure in Asia, user of a third of global crude, extending Brent's influence as a cross-continent price marker beyond the 70 percent of world supplies that now use it as a reference.

A Reuters survey in August last year showed traders expected Brent to replace regional benchmarks such as the Asia Petroleum Price Index (APPI) and Indonesia Crude Price (ICP) by 2012. Local markers suffer from low liquidity due to production decline at mature fields, with prices frequently diverging from global benchmarks, traders and analysts say. Australian crude and condensates are now sold on dated Brent after gradually moving away from APPI in 2009."