

SUBMISSION COVER SHEET

IMPORTANT: Check box if Confidential Treatment is requested

Registered Entity Identifier Code (optional): 17-003 (1 of 3)

Organization: New York Mercantile Exchange, Inc. ("NYMEX")

Filing as a: DCM SEF DCO SDR

Please note - only ONE choice allowed.

Filing Date (mm/dd/yy): 1/4/17 Filing Description: Initial Listing of Three (3) Crude Oil Futures Contracts

SPECIFY FILING TYPE

Please note only ONE choice allowed per Submission.

Organization Rules and Rule Amendments

- Certification § 40.6(a)
- Approval § 40.5(a)
- Notification § 40.6(d)
- Advance Notice of SIDCO Rule Change § 40.10(a)
- SIDCO Emergency Rule Change § 40.10(h)

Rule Numbers:

New Product

Please note only ONE product per Submission.

- Certification § 40.2(a)
- Certification Security Futures § 41.23(a)
- Certification Swap Class § 40.2(d)
- Approval § 40.3(a)
- Approval Security Futures § 41.23(b)
- Novel Derivative Product Notification § 40.12(a)
- Swap Submission § 39.5

Official Product Name: See filing.

Product Terms and Conditions (product related Rules and Rule Amendments)

- Certification § 40.6(a)
- Certification Made Available to Trade Determination § 40.6(a)
- Certification Security Futures § 41.24(a)
- Delisting (No Open Interest) § 40.6(a)
- Approval § 40.5(a)
- Approval Made Available to Trade Determination § 40.5(a)
- Approval Security Futures § 41.24(c)
- Approval Amendments to enumerated agricultural products § 40.4(a), § 40.5(a)
- "Non-Material Agricultural Rule Change" § 40.4(b)(5)
- Notification § 40.6(d)

Official Name(s) of Product(s) Affected:

Rule Numbers:

January 4, 2017

VIA ELECTRONIC PORTAL

Mr. Christopher J. Kirkpatrick
Office of the Secretariat
Commodity Futures Trading Commission
Three Lafayette Centre
1155 21st Street, N.W.
Washington, DC 20581

**RE: CFTC Regulation 40.2(a) Certification. Notification Regarding the Initial Listing of
Three (3) Crude Oil Futures Contracts.
NYMEX Submission No. 17-003 (1 of 3)**

Dear Mr. Kirkpatrick:

New York Mercantile Exchange, Inc. (“NYMEX” or “Exchange”) is notifying the Commodity Futures Trading Commission (“CFTC” or “Commission”) that it is self-certifying the initial listing of three (3) crude oil futures as noted in the tables below (collectively, the “Contracts”) for trading on CME Globex and for submission into clearing via CME ClearPort, effective Sunday, January 22, 2017 for first trade date Monday, January 23, 2017.

Contract Title	Urals Med (Platts) vs. Dated Brent (Platts) CFD Futures
Commodity Code	UMD
Rulebook Chapter	226
Settlement method	Financial
Contract Size	1000 barrels
Listing Schedule	Monthly contracts shall be listed for the current year plus two consecutive years. Monthly contracts for a new calendar year will be added following the termination of trading in the December contract of the current year.
Minimum Price Fluctuation	\$0.01 per barrel for contracts traded on CME Globex; \$0.001 per barrel for contracts submitted for clearing via CME ClearPort. Daily settlement prices and the final settlement price shall have a minimum price fluctuation of \$0.001 per barrel.
Value per tick	\$1.00, based on the minimum price fluctuation available via CME ClearPort.
First Listed Contract	February 2017
Block Trade Minimum Threshold	10 contracts
Termination of Trading	Last business day of the contract month
CME Globex Match Algorithm	First-In, First-Out (FIFO)

Contract Title	Urals North (Platts) vs. Dated Brent (Platts) CFD Futures
Commodity Code	UNS
Rulebook Chapter	227
Settlement method	Financial
Contract Size	1000 barrels

Listing Schedule	Monthly contracts shall be listed for the current year plus two consecutive years. Monthly contracts for a new calendar year will be added following the termination of trading in the December contract of the current year.
Minimum Price Fluctuation	\$0.01 per barrel for contracts traded on CME Globex; \$0.001 per barrel for contracts submitted for clearing via CME ClearPort. Daily settlement prices and the final settlement price shall have a minimum price fluctuation of \$0.001 per barrel.
Value per tick	\$1.00, based on the minimum price fluctuation available via CME ClearPort.
First Listed Contract	February 2017
Block Trade Minimum Threshold	10 contracts
Termination of Trading	Last business day of the contract month
CME Globex Match Algorithm	First-In, First-Out (FIFO)

Contract Title	CPC Blend CIF Med Cargoes (Platts) vs. Dated Brent (Platts) Futures
Commodity Code	CPD
Rulebook Chapter	228
Settlement method	Financial
Contract Size	1000 barrels
Listing Schedule	Six consecutive monthly contracts. An additional monthly contract shall be added following the termination of the current contract month.
Minimum Price Fluctuation	\$0.01 per barrel for contracts traded on CME Globex; \$0.001 per barrel for contracts submitted for clearing via CME ClearPort. Daily settlement prices and the final settlement price shall have a minimum price fluctuation of \$0.001 per barrel.
Value per tick	\$1.00, based on the minimum price fluctuation available via CME ClearPort.
First Listed Contract	February 2017
Block Trade Minimum Threshold	10 contracts
Termination of Trading	Last business day of the contract month
CME Globex Match Algorithm	First-In, First-Out (FIFO)

Trading and Clearing Hours:

CME Globex and CME ClearPort: Sunday – Friday 6:00 p.m. – 5:00 p.m. (5:00 p.m. – 4:00 p.m. Central Time/CT) with an hour break each day beginning at 5:00 p.m. (4:00 p.m. CT).

Trading and Clearing Fees:

	Member	Non-Member	International Incentive Programs (IIP/IVIP)
Exchange Fees			
CME Globex	\$0.85	\$1.25	\$1.05
Block	\$0.85	\$1.25	

EFR/EOO	\$0.85	\$1.25	
Agency Cross	\$0.85	\$1.25	

Processing Fees	Member	Non-Member
Cash Settlement	\$0.10	\$0.10
Other Fees		
Facilitation Fee	\$0.40	
Give-Up Surcharge	\$0.05	
Position Adjustment/Transfer	\$0.10	

The Exchange execution fees and the cash settlement processing fee described above will be waived until July 31, 2017.

NYMEX is self-certifying block trading on these contracts with a minimum block threshold of ten (10) contracts for the Contracts. The block level is consistent with the Exchange's existing products.

The Exchange reviewed the designated contracts market core principles ("Core Principles") as set forth in the Commodity Exchange Act ("CEA" or "Act") and identified that the Contracts may have some bearing on the following Core Principles:

Compliance with Rules: Trading in the Contracts will be subject to all CME Rules, including prohibitions against fraudulent, noncompetitive, unfair and abusive practices as outlined in CME Rule Chapter 4, the Exchange's trade practice rules, the majority of which are contained in Chapter 5 and Chapter 8 of the CME Rulebook, and the dispute resolution and arbitration procedures of CME Rule Chapter 6. As with all products listed for trading on one of CME Group's designated contract markets, trading activity in the Contracts will be subject to monitoring and surveillance by CME Group's Market Regulation Department. The Market Regulation Department has the authority to exercise its investigatory and enforcement power where potential rule violations are identified.

Contract Not Readily Subject to Manipulation: The Contracts are not readily subject to manipulation as a result of the deep liquidity and robustness of the underlying futures market and the settlement index.

Prevention of Market Disruption: Trading in the Contracts will be subject to the rules of the Exchange, which include prohibitions on manipulation, price distortion, and disruption to the cash settlement process. As with any new product listed for trading on a CME Group designated contract market, trading activity in the 3 futures contracts proposed herein will be subject to monitoring and surveillance by CME Group's Market Regulation Department.

Position Limitations or Accountability: The speculative position limits for the Contracts as demonstrated in this submission are consistent with the Commission's guidance.

Availability of General Information: The Exchange will publish on its website information in regard to contract specifications, terms, and conditions, as well as daily trading volume, open interest, and price information for the contracts. The Exchange will issue a Special Executive Report ("SER") regarding the launch of the Contracts.

Daily Publication of Trading Information: The Exchange will publish contract trading volumes, open interest levels, and price information daily on its website and through quote vendors for the Contracts.

Execution of Transactions: The Contracts will be listed for trading on the CME Globex electronic trading platform and for clearing through the CME ClearPort platform. The CME Globex trading venue provides

for competitive and open execution of transactions. CME Globex affords the benefits of reliability and global connectivity. The CME ClearPort platform provides a competitive, open and efficient mechanism for the novation of transactions that are competitively executed by brokers.

Trade Information: All requisite trade information for the Contracts will be included in the audit trail and is sufficient for the Market Regulation Department to monitor for market abuse.

Financial Integrity of Contract: The Contracts will be cleared by the CME Clearing House, a derivatives clearing organization registered with the Commodity Futures Trading Commission and subject to all CFTC regulations related thereto.

Protection of Market Participants: CME Rulebook Chapters 4 and 5 set forth multiple prohibitions that preclude intermediaries from disadvantaging their customers. These rules apply to trading in all of the Exchange's competitive trading venues.

Disciplinary Procedures: Chapter 4 of the Rulebook contains provisions that allow the Exchange to discipline, suspend or expel members or market participants that violate the Rulebook. Trading in the Contracts will be subject to Chapter 4, and the Market Regulation Department has the authority to exercise its enforcement power in the event rule violations in these products are identified.

Dispute Resolution: Disputes with respect to trading in the Contracts will be subject to the arbitration provisions set forth in Chapter 6 of the Rulebook. Chapter 6 allows all non-members to submit a claim for financial losses resulting from transactions on the Exchange to arbitration. A member named as a respondent in a claim submitted by a non-member is required to participate in the arbitration pursuant to Chapter 6. Additionally, the Exchange requires that members resolve all disputes concerning transactions on the Exchange via arbitration.

Pursuant to Section 5c(c) of the Act and CFTC Regulations 40.2(a), the Exchange hereby certifies that listing the Contracts comply with the Act, including regulations under the Act. There were no substantive opposing views to the proposal.

The Exchange certifies that this submission has been concurrently posted on the CME Group website at <http://www.cmegroup.com/market-regulation/rule-filings.html>.

Should you have any questions concerning the above, please contact the undersigned at (212) 299-2200 or via e-mail at CMEGSubmissionInquiry@cmegroup.com.

Sincerely,

/s/ Christopher Bowen
Managing Director and Chief Regulatory Counsel

Attachments: Appendix A: NYMEX Rulebook Chapters
Appendix B: Position Limits, Position Accountability and Reportable Level Table in Chapter 5 of the NYMEX Rulebook (attached under separate cover)
Appendix C: NYMEX Rule 588.H. – (“Globex Non-Reviewable Trading Ranges”) Table
Appendix D: Cash Market Overview and Analysis of Deliverable Supply

Appendix A

NYMEX Rulebook Chapters

Chapter 226

Urals Med (Platts) vs. Dated Brent (Platts) CFD Futures

226100. SCOPE OF CHAPTER

The provisions of these rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

226101. CONTRACT SPECIFICATIONS

The Floating Price for each contract month is the arithmetic average of the mid-point between the high and low quotations from the S&P Global Platts Crude Oil Marketwire, under the heading Russian Urals/ESPO spot assessment for "Urals RCMB (Recombined)" minus the arithmetic average of the mid-point between the high and low quotations from the S&P Global Platts Crude Oil Marketwire under the heading Key Benchmarks for "Brent (Dated)" for each business day that both are determined during the contract month. The floating Price is calculated using non-common pricing convention. In calculating the spread differential, the monthly average for each component leg of the spread shall be calculated using all trading days in the month for each component leg of the spread, followed by the calculation of the spread differential between the two averages.

226102. TRADING SPECIFICATIONS

The number of months open for trading at a given time shall be determined by the Exchange.

226102.A. Trading Schedule

The hours of trading for this contract shall be determined by the Exchange.

226102.B. Trading Unit

The contract quantity shall be 1,000 barrels. Each contract shall be valued as the contract quantity (1,000) multiplied by the settlement price.

226102.C. Price Increments

Prices shall be quoted in U.S. dollars and cents per barrel. The minimum price fluctuation shall be \$0.01 per barrel for contracts traded on CME Globex. The minimum price fluctuation shall be \$0.001 per barrel for contracts submitted for clearing via CME ClearPort. Daily settlement prices and the final settlement price shall have a minimum price fluctuation of \$0.001 per barrel. There shall be no maximum price fluctuation.

226102.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

226102.E. Termination of Trading

Trading shall cease on the last business day of the contract month.

226103. FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

226104.

DISCLAIMER

S&P Global Platts, a division of S&P Global Inc. ("Platts"), licenses New York Mercantile Exchange Inc. ("NYMEX") to use various Platts price assessments in connection with the trading or posting of the contracts.

NEITHER NYMEX, ITS AFFILIATES, NOR PLATTS GUARANTEES THE ACCURACY AND/OR COMPLETENESS OF THE INDEX OR ANY OF THE DATA INCLUDED THEREIN.

NYMEX; ITS AFFILIATES AND PLATTS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE RESULTS TO BE OBTAINED BY ANY PERSON OR ENTITY FROM USE OF THE ASSESSMENT, TRADING BASED ON THE ASSESSMENT, OR ANY DATA INCLUDED THEREIN IN CONNECTION WITH THE TRADING OF THE CONTRACTS, OR, FOR ANY OTHER USE. NYMEX, ITS AFFILIATES AND PLATTS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIM ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE INDEX OR ANY DATA INCLUDED THEREIN. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL COMEX, ITS AFFILIATES OR PLATTS HAVE ANY LIABILITY FOR ANY LOST PROFITS OR INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS), EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGE.

Chapter 227

Urals North (Platts) vs. Dated Brent (Platts) CFD Futures

227100. SCOPE OF CHAPTER

The provisions of these rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

227101. CONTRACT SPECIFICATIONS

The Floating Price for each contract month is the arithmetic average of the mid-point between the high and low quotations from the S&P Global Platts Crude Oil Marketwire, under the heading Russian Urals/ESPO spot assessment for "Urals Rotterdam" minus the arithmetic average of the mid-point between the high and low quotations from the S&P Global Platts Crude Oil Marketwire under the heading Forward Dated Brent for "Mediterranean Dated Strip" for each business day that both are determined during the contract month. The floating price is calculated using non-common pricing convention. In calculating the spread differential, the monthly average for each component leg of the spread shall be calculated using all trading days in the month for each component leg of the spread, followed by the calculation of the spread differential between the two averages.

227102. TRADING SPECIFICATIONS

The number of months open for trading at a given time shall be determined by the Exchange.

227102.A. Trading Schedule

The hours of trading for this contract shall be determined by the Exchange.

227102.B. Trading Unit

The contract quantity shall be 1,000 barrels. Each contract shall be valued as the contract quantity (1,000) multiplied by the settlement price.

227102.C. Price Increments

Prices shall be quoted in U.S. dollars and cents per barrel. The minimum price fluctuation shall be \$0.01 per barrel for contracts traded on CME Globex. The minimum price fluctuation shall be \$0.001 per barrel for contracts submitted for clearing via CME ClearPort. Daily settlement prices and the final settlement price shall have a minimum price fluctuation of \$0.001 per barrel. There shall be no maximum price fluctuation.

227102.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

227102.E. Termination of Trading

Trading shall cease on the last business day of the contract month.

227103. FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

227104.

DISCLAIMER

S&P Global Platts, a division of S&P Global Inc. ("Platts"), licenses New York Mercantile Exchange Inc. ("NYMEX") to use various Platts price assessments in connection with the trading or posting of the contracts.

NEITHER NYMEX, ITS AFFILIATES, NOR PLATTS GUARANTEES THE ACCURACY AND/OR COMPLETENESS OF THE INDEX OR ANY OF THE DATA INCLUDED THEREIN.

NYMEX; ITS AFFILIATES AND PLATTS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE RESULTS TO BE OBTAINED BY ANY PERSON OR ENTITY FROM USE OF THE ASSESSMENT, TRADING BASED ON THE ASSESSMENT, OR ANY DATA INCLUDED THEREIN IN CONNECTION WITH THE TRADING OF THE CONTRACTS, OR, FOR ANY OTHER USE. NYMEX, ITS AFFILIATES AND PLATTS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIM ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE INDEX OR ANY DATA INCLUDED THEREIN. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL COMEX, ITS AFFILIATES OR PLATTS HAVE ANY LIABILITY FOR ANY LOST PROFITS OR INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS), EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGE.

Chapter 228

CPC Blend CIF Med Cargoes (Platts) vs. Dated Brent (Platts) Futures

228100. SCOPE OF CHAPTER

The provisions of these rules shall apply to all contracts bought or sold on the Exchange for cash settlement based on the Floating Price.

228101. CONTRACT SPECIFICATIONS

The Floating Price for each contract month is the arithmetic average of the mid-point between the high and low quotations from the S&P Global Platts Crude Oil Marketwire, under the heading Mediterranean spot crude assessments "CPC Blend CIF" minus the arithmetic average of the mid-point between the high and low quotations from the S&P Global Platts Crude Oil Marketwire under the heading Forward Dated Brent for "Mediterranean Dated Strip" for each business day that both are determined during the contract month. In calculating the spread differential, the monthly average for each component leg of the spread shall be calculated using all trading days in the month for each component leg of the spread, followed by the calculation of the spread differential between the two averages.

228102. TRADING SPECIFICATIONS

The number of months open for trading at a given time shall be determined by the Exchange.

228102.A. Trading Schedule

The hours of trading for this contract shall be determined by the Exchange.

228102.B. Trading Unit

The contract quantity shall be 1,000 barrels. Each contract shall be valued as the contract quantity (1,000) multiplied by the settlement price.

228102.C. Price Increments

Prices shall be quoted in U.S. dollars and cents per barrel. The minimum price fluctuation shall be \$0.01 per barrel for contracts traded on CME Globex. The minimum price fluctuation shall be \$0.001 per barrel for contracts submitted for clearing via CME ClearPort. Daily settlement prices and the final settlement price shall have a minimum price fluctuation of \$0.001 per barrel. There shall be no maximum price fluctuation.

228102.D. Position Limits, Exemptions, Position Accountability and Reportable Levels

The applicable position limits and/or accountability levels, in addition to the reportable levels, are set forth in the Position Limit, Position Accountability and Reportable Level Table in the Interpretations & Special Notices Section of Chapter 5.

A Person seeking an exemption from position limits for bona fide commercial purposes shall apply to the Market Regulation Department on forms provided by the Exchange, and the Market Regulation Department may grant qualified exemptions in its sole discretion.

Refer to Rule 559 for requirements concerning the aggregation of positions and allowable exemptions from the specified position limits.

228102.E. Termination of Trading

Trading shall cease on the last business day of the contract month.

228103. FINAL SETTLEMENT

Delivery under the contract shall be by cash settlement. Final settlement, following termination of trading for a contract month, will be based on the Floating Price. The final settlement price will be the Floating Price calculated for each contract month.

228104.

DISCLAIMER

S&P Global Platts, a division of S&P Global Inc. ("Platts"), licenses New York Mercantile Exchange Inc. ("NYMEX") to use various Platts price assessments in connection with the trading or posting of the contracts.

NEITHER NYMEX, ITS AFFILIATES, NOR PLATTS GUARANTEES THE ACCURACY AND/OR COMPLETENESS OF THE INDEX OR ANY OF THE DATA INCLUDED THEREIN.

NYMEX; ITS AFFILIATES AND PLATTS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AS TO THE RESULTS TO BE OBTAINED BY ANY PERSON OR ENTITY FROM USE OF THE ASSESSMENT, TRADING BASED ON THE ASSESSMENT, OR ANY DATA INCLUDED THEREIN IN CONNECTION WITH THE TRADING OF THE CONTRACTS, OR, FOR ANY OTHER USE. NYMEX, ITS AFFILIATES AND PLATTS MAKE NO WARRANTIES, EXPRESS OR IMPLIED, AND HEREBY DISCLAIM ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE WITH RESPECT TO THE INDEX OR ANY DATA INCLUDED THEREIN. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL COMEX, ITS AFFILIATES OR PLATTS HAVE ANY LIABILITY FOR ANY LOST PROFITS OR INDIRECT, PUNITIVE, SPECIAL OR CONSEQUENTIAL DAMAGES (INCLUDING LOST PROFITS), EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGE.

Appendix B

**Position Limits, Position Accountability and Reportable Level Table
in Chapter 5 of the NYMEX Rulebook**

(attached under separate cover)

Appendix C

NYMEX Rule 588.H. – (“Globex Non-Reviewable Trading Ranges”) Table

(additions are underscored)

Instrument	Non-Reviewable Range (NRR) in Globex format	NRR including Unit of Measure	NRR Ticks
<u>Urals Med(Platts) vs. Dated Brent (Platts) CFD Futures</u>	<u>100</u>	<u>\$1.00 per barrel</u>	<u>100</u>
<u>Urals North (Platts) vs. Dated Brent (Platts) CFD Futures</u>	<u>100</u>	<u>\$1.00 per barrel</u>	<u>100</u>
<u>CPC Blend CIF Med Cargoes (Platts) vs. Dated Brent (Platts) Futures</u>	<u>100</u>	<u>\$1.00 per barrel</u>	<u>100</u>

Appendix D

Cash Market Overview and Analysis of the Deliverable Supply

The Exchange reviewed the underlying cash market for Caspian Pipeline Consortium (“CPC”) Blend crude oil, Urals (NWE and Mediterranean regions) and Dated Brent in connection with the listing of three (3) financially-settled futures contracts (collectively, the “Contracts”). The Dated Brent is the main physical reference for the global crude oil upstream sector with cargoes priced against this reference price.

The crude markets do not typically follow a seasonal pattern in terms of production with output relatively stable from one month to the next. There will be annual maintenance of some production facilities with field operators choosing when to carry this out. Production in many markets will be sold on a mix of spot and term barrels. In the case of Forties crude oil in the North Sea, the Grangemouth oil refinery is located at the end of the Forties pipeline linking the production fields in the North Sea. For this grade, and others in the Brent basket (Brent, Forties, Oseberg and Ekofisk), all barrels can be re-traded and sold as spot cargoes.

Urals crude oil is a major source of supply for the European Refiners in both Northwest Europe and the Mediterranean. Consequently, Russian crude oil imports into Northwest Europe and the Mediterranean have become the basis of establishing the deliverable supply in both regions. Russian Imports into Belgium, France, Germany and the Netherlands have been determined as the basis for Northwest Europe. A 50% reduction has been applied to the French import number to be reflective of a delivery into the ports based in Northwest Europe. Russian Imports into France, Spain and Italy have been determined as the basis for the Mediterranean. A 50% reduction has been applied to the French and Spanish import numbers to be reflective of a delivery into the ports based in the Mediterranean.

For Urals North and Urals Med we have applied a conversion factor of 7.23 barrels per metric ton. It is worth noting that Platts are in the process of updating their methodology to reflect the more representative crude assay figures and will be publishing a revised document with this figure. This Platts methodology¹ guide is made public on their website.

For CPC Blend crude in the Mediterranean, the import statistics for some countries such as Belgium and the Netherlands are unreliable with the figures not being fully reported. Therefore, the Exchange has determined to base its analysis of the deliverable supply on the upstream production volumes. We have made an adjustment for refinery demand to reflect the volumes of crude oil that are not destined for the export market. Therefore, production minus refinery demand is the basis of the calculation for Kazakh exports.

For the CPC Blend CIF Med Cargoes, we have applied a conversion factor of 7.8 barrels per metric ton. This is consistent with the Platts methodology² for the assessment of these markets. It is worth noting that Platts are in the process of updating their methodology to reflect the more representative crude assay figures and will be publishing a revised document with this figure.

The basis of the analysis in the Brent market is BFOE loadings in the North Sea. The Exchange determined that the volume of loaded barrels of BFOE crude oil from Brent, Forties, Oseberg and Ekofisk best meets the definition of supply readily available for delivery. In addition, the Exchange has reduced the deliverable supply of Forties to account for the crude oil purchases by the Grangemouth refinery.

¹ Urals and Mediterranean Crude Oil assessments – Page 28

<https://www.platts.com/im.platts.content/methodologyreferences/methodologyspecs/crude-oil-methodology.pdf>

² CPC Crude Oil assessments – Page 28

<https://www.platts.com/im.platts.content/methodologyreferences/methodologyspecs/crude-oil-methodology.pdf>

Data Sources

The Exchange has used publicly available data as the basis of its analysis of deliverable supply for CPC Blend, the two Urals markets and Brent.

Data provided by the US Energy Information Administration (EIA)³ was used as the basis of the analysis for CPC blend crude oil. The EIA is the principal agency of the US Federal Statistical System responsible for collecting, analysing and disseminating energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. The EIA provides a wide range of information and data covering Energy Production, Consumption, Stocks, Demand, Imports, Exports and Prices and prepares ad-hoc special reports on topics of interest on a periodic basis.

Data provided by **Eurostat**⁴ was used as the basis of the analysis for Urals crude oil in both Northwest Europe and the Mediterranean. Eurostat is compiled by the statistical office of the European Union and aims to provide the EU with accurate statistics that enable comparisons between countries and regions. The statistical authorities in each individual member state are responsible for collecting the data. After verification and analysis, the individual authorities send the data to Eurostat who consolidate such data. In addition, Eurostat ensures that all parties are employing the same methodology in collecting and reporting data. The Exchange determined to use Eurostat data for sulphur content of fuel oil in Northwest Europe because of the highly specialized statistical categories collected by Eurostat.

Bloomberg data for the Brent was used as the basis of the analysis for both the Dated Brent and the Mediterranean Dated Brent (strip). They compile total loaded volumes of BFOE (Brent, Forties, Oseberg and Ekofisk) by calendar month and is displayed via the Bloomberg terminal.

S&P Global Platts (“Platts”)

The final settlement for the **Urals Med (Platts) vs. Dated Brent (Platts) CFD Futures** is based on an underlying physical market as assessed by Platts which is one of the major oil price reporting agencies that are used in the over the counter market for pricing contracts. The Urals assessment takes into account cargoes loading from typical Black Sea. The Black Sea port of Novorossiisk is the most active of all the Black Sea ports but delivery volumes from Odessa, Yuzhny, Theodosia, Kavkaz and Kerch are currently considered in the assessment. The non-standard delivery port locations are currently under review by Platts via an October 2016 market consultation⁵. The assessment is basis CIF Augusta/Italy but deliveries into other Mediterranean ports will be considered with the appropriate freight adjustments made. The non-standard delivery port locations are currently under review by Platts via an October 2016 market consultation⁶. All Urals cargoes assessed reflect 80,000 metric tons. However, cargoes of up to 140,000 metric tons are tradable via the window but the larger volume cargoes will be normalized via the Platts assessment process basis 80,000 metric tons (the assessed size). The Platts price assessment for Dated Brent reflects the value of crude oil (Brent, Forties, Oseberg or Ekofisk) for loading 10 days to month ahead (forward). Each cargo will be reflective of a three day laycan and will reflect cargoes of Brent, Forties, Oseberg and Ekofisk. The most competitive of these four grades will set the value of Dated Brent.

The final settlement for the **Urals North (Platts) vs. Dated Brent (Platts) CFD Futures** is based on an underlying physical market as assessed by S&P Global Platts which is one of the major oil price reporting agencies that are used in the over the counter market for pricing contracts. The Urals CIF Rotterdam assessment takes into account cargoes loading from the Baltic Sea port of Primorsk and Ust-Luga (since

³ <http://www.eia.gov/>

⁴ <http://ec.europa.eu/eurostat>

⁵ Platts subscriber note: <http://www.platts.com/subscriber-notes-details/26575698>

⁶ Platts subscriber note: <http://www.platts.com/subscriber-notes-details/26575698>

April 2012) for delivery into Rotterdam with the pricing basis also reflecting delivery at Rotterdam. Any cargoes loading from other Baltic Sea locations such as Butinge, Murmansk and Gdansk are also taken into account on a CIF Rotterdam basis. Whilst the assessment is basis CIF Rotterdam, cargoes delivered into other ports in Northwest Europe will be considered with an appropriate freight adjustment made. All Urals cargoes assessed reflect 100,000 metric tons. The Platts price assessment for Dated Brent reflects the value of crude oil (Brent, Forties, Oseberg or Ekofisk) for loading 10 days to month ahead (forward). The Platts price assessment for Dated Brent reflects the value of crude oil (Brent, Forties, Oseberg or Ekofisk). Platts also reflect Dated Brent over a 13-28-day forward time period and have referred to this as the Mediterranean Dated Strip to align the loading schedule of the Urals North cargoes with those in the Brent market. Each cargo will be reflective of a three day laycan and will reflect cargoes of Brent, Forties, Oseberg and Ekofisk. The most competitive of these four grades will set the value of Dated Brent.

The final settlement price for the **CPC Blend CIF Med Cargoes (Platts) vs. Dated Brent (Platts) Futures** is based on an underlying physical market as assessed by S&P Global Platts which is one of the major oil price reporting agencies that are used in the over the counter market for pricing contracts. The Platts price assessment for Dated Brent reflects the value of crude oil (Brent, Forties, Oseberg or Ekofisk). Platts also reflect Dated Brent 13 to 28 days forward and have referred to this as the Mediterranean Dated Strip to align the loading schedule of the Urals North cargoes with those in the Brent market. The most competitive of these four grades will set the value of Dated Brent. The Platts CPC Blend (CIF Augusta) assessment reflects the value of crude oil cargoes, sized between 80,000 and 140,000 metric tons, loading from the CPC terminal in the Black Sea for delivery into the Mediterranean at Augusta. For cargoes delivered to other ports in the Mediterranean (outside of Augusta), a freight adjustment will be applied.

The Platts methodology for Urals (North and Mediterranean) and CPC Blend (Mediterranean) is published on their website⁷.

Mediterranean Crude Oil – CPC Blend

Kazakhstan is a significant oil producing country and is the second largest in terms of reserves and production of the Soviet republics after Russia. CPC Blend crude oil is a medium sweet crude oil with a sulphur quantity of around 0.5% and an API of 45° gravity. There is a second crude grade called Tengiz and both CPC and Tengiz blends are transported via the 1,500 km long CPC pipeline. The Tengiz blend makes up about 60% of the blend⁸. Both blends are very similar in terms of quality both from API and Sulphur content.

As a landlocked country, it is dependent on the key export routes to transport the oil to the International markets. One such major export route is the Caspian Pipeline Consortium (CPC) which transfers the oil from the major oil fields in Western Kazakhstan to the Black Sea. CPC Blend is transported from the Black Sea to refiners in and around the region in Suezmax (120,000 to 145,000 DWT) and Aframax (80,000 to 90,000 DWT) vessels.

There are two significant oil projects in Kazakhstan, Tengiz and Karachaganak which accounted for about 50% of the total 1.7 million b/d of production in 2014⁹. Major crude oil export pipelines include the Caspian Pipeline Consortium (CPC) which transports crude oil from Kazakhstan to Novorossiysk in the Black Sea, the Kazakhstan-China pipeline and the Uzen-Atyrau-Samara pipeline to Russia. Exports are also transported via rail and then tankers across the Caspian Sea where it can be loaded into the Baku-Tbilisi-Ceyhan pipeline (BTC).

⁷ <http://www.platts.com/IM.Platts.Content/MethodologyReferences/MethodologySpecs/Crude-oil-methodology.pdf>

⁸ Chevron Crude oil Marketing - http://crudemarketing.chevron.com/crude/central_asian/cpc_blend_tengiz.aspx

⁹ US EIA Country brief - <https://www.eia.gov/beta/international/analysis.cfm?iso=KAZ>

According to the US EIA, Kazakhstan's crude exports to Europe represented 76%¹⁰ of the total export volume in 2013. From the remaining volumes 17% of the volume heading to Asia, 4% to the United States and 2% to other destinations which are not specified. We believe that the figure of 76% is representative of overall Kazakh exports into Europe given that this is the most local market with significant refinery demand.

There is a domestic refining network in Kazakhstan but is relatively un-sophisticated in terms of processing of the heavier sulphur products into the lighter products. Jupiter Energy Limited notes that Kazakhstan has the largest recoverable crude reserves in the Caspian. There are three oil refineries based in Kazakhstan and according to the EIA¹¹ (based on the data from the Oil and Gas Journal), crude distillation capacity was 345,093 b/d as of January 1 2014. There are three oil refineries within Kazakhstan at Pavlodar in the Northern region, Atrayau in the Western Region and Shymkent in the Southern Region. There are plans to upgrade all refineries within Kazakhstan according to Kazmunaigas, the state oil company¹². Two of the three refineries process domestic crudes but the largest Pavlodar oil refinery with a nameplate capacity of 163,000 b/d processes Russian Urals crude oil therefore we have excluded this from our analysis.

According to Kazmunaigas, the Kazakh refineries processed crude oil at a rate of around 70% therefore we have adjusted for this on refinery demand. The two domestic refineries at Atrayau and Shymkent have a capacity of 182,000 b/d but using the run rate of 70% we have adjusted the refinery demand figure by 30%. This implies a total refinery demand of 127,500 barrels per day. This has reduced the amount of crude oil available for by 127,500 barrels per day and our analysis reflects this figure.

Kazakhstan crude production is expected to rise over the coming years. According to the EIA, total production of crude oil, Natural Gas Petroleum Liquids (NGPL) and Other Liquids were 1.7 million barrels per day in 2014. The three-year average production figure was 1.66 million barrels per day from 2012 to 2014. The EIA does not split out the production of Crude Oil from NGPL and Other Liquids. Based on discussions with the market, we understand that Kazakh production is almost exclusively Crude Oil and therefore we have not discounted this figure.

¹⁰

<http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=5&aid=2&cid=KZ,&syid=2002&eyid=2014&unit=TBPD>

¹¹US EIA Country brief – Kazakhstan (Downstream and Refining)
<https://www.eia.gov/beta/international/analysis.cfm?iso=KAZ>

¹² <http://www.thkmg.kz/en/activity>

Table 1: Kazakhstan Oil Production, Refinery Demand and Net European Exports (000's b/d)

Source: US EIA Data¹³

	2012	2013	2014	3 Year Average
Crude Production	1,606	1,658	1,719	1,661
Refinery demand*	127.5	127.5	127.5	127.5
Total Exports	1,478.5	1,530.5	1,591.5	1,533.5
Exports to Europe**	1,124	1,163	1,210	1,165

* Atyrau and Shymkent refiners @ 70% capacity and ** Export volumes to Europe are 76% of total production

The industry standard conversion between metric tons and barrels for CPC blend crude oil is 7.23 barrels per metric ton.



Urals Crude

Production overview

The Russian crude oil market is based on a blended crude stream which is more commonly referred to as Urals Crude Oil. Production is largely sour and is generally considered to have a high sulphur content which relates to the yield of refined products that can be generated. Crude oils with higher sulphur will have a higher content of Fuel oil and a lower content of Gasoline and Middle Distillates compared to lower sulphur crudes.

¹³ US EIA data – Kazakhstan Oil Production and Exports

<http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=5&aid=2&cid=KZ,&syid=2002&eyid=2014&unit=TBPD>

According to the Energy Information Administration (EIA)¹⁴ Russia was the third largest producer of Oil in 2014 behind Saudi Arabia and the United States. According to the EIA¹⁵ Russia was ranked the third largest producer of total liquids with average production at 10.8 million barrels per day (data based up to and including December 2014). There are several producing regions of Crude oil in Russia but around 80% of the production is concentrated in Western Siberia and the Urals-Volga regions. In 2013 around 6.4million barrels per day was produced in Western Siberia and 2.3million barrels per day was produced in the Urals-Volga region. The US EIA estimates total liquid fuel exports were 7.3million barrels per day in 2014 and of the total around 72% was crude oil with most volumes destined for European countries such as Germany, Netherlands, Belarus and Poland where extensive refining infrastructure is located at the ends of the Druzhba pipeline network. Increased flows of crude oil have been sent to Asia with China and Japan being the major recipients of the east-bound flows.

The Russian pipeline network is extensive with the vast majority of the pipeline network owned and run by the state owned company Transneft. For European deliveries, Crude oil is transported from the producing oil fields in Western Siberia and the Urals region to export terminals such as Primorsk on the Baltic Sea and Novorossiysk in the Black Sea. There are a number of inter-connected pipelines connecting Russia directly to the European refining network. The most significant of these is the Druzhba pipeline that carries around 2million barrels per day of crude oil via the so-called Northern Route to Belarus, Poland and Germany and via the Southern Route to Belarus, Ukraine, Slovakia, Czech Republic and Hungary.

Northwest European Urals Crude Oil Imports

To determine the deliverable supply for Northwest Europe, we have reviewed the monthly imports of Russian crude into Northwest Europe using the Eurostat data. The full volume detail of imports by month into Northwest Europe countries is enclosed in **Appendix 2**. Over the three-year period up to and including June 2016, Imports of Russian Crude Oil into Belgium, Germany, France and the Netherlands were 5.08 million metric tons per month which was the equivalent of 36.7 million barrels per month or 1.22 million barrels per day using the conversion factor of 7.23 barrels per metric ton. The import volumes into France have been reduced by 50% on the basis that around half of the Russian crude oil imports to France are delivered into ports classified as Northwest Europe with the other 50% being refined in a different region (the Mediterranean).

Mediterranean Urals Crude oil imports

The deliverable supply for the Mediterranean is based on the Russian Crude oil exports into France, Italy and Spain. The reference source for the data is the European Union statistics agency (EUROSTAT). Over the three-year period up to and including June 2016 (see **Appendix 3**), imports of Russian Crude Oil into France, Italy and Spain were on average 1.21 million metric tons per month which was the equivalent of 8.74 million barrels per month or 291,500 barrels per day. The conversion factor from metric tons to barrels we have used is 7.23. The import volumes for France and Spain have been reduced by 50% on the basis that around half of the Russian crude oil exports to these countries are refined in Northwest Europe with the remaining 50% being refined in another region.

¹⁴ US Energy Information Administration Country Brief – Russia
<http://www.eia.gov/countries/cab.cfm?fips=RS>

¹⁵ US Energy Information Administration – March 12 2014 – Country Analysis Brief on Russia
<http://www.eia.gov/countries/cab.cfm?fips=RS>

Brent Crude Oil (BFOE)

The North Sea market is comprised of a series of smaller oil fields in the UK and Norwegian North oil sectors. Each of the “satellite fields” connect into the large production systems such as Brent, Forties, Oseberg or Ekofisk. There is a series of smaller oil fields which connect into larger streams. The most important streams in the North Sea are Brent, Forties, Oseberg and Ekofisk and each stream has a principle operator that is responsible for the day to the day control of the operations including the scheduling of the cargoes based on the production from each of the smaller producing fields. The Brent, Forties, Oseberg and Ekofisk fields are known as BFOE and they underpin the Brent complex and are the key grades of oil that make up the trading of Dated Brent – the international crude oil physical benchmark price. The four BFOE fields lie in the North Sea. Brent and Forties are in the UK sector, whilst Ekofisk and Oseberg are in the Norwegian sector.

The core of the Brent market is the cash market. The Brent forward market consists of the trading of cargoes of any of the Brent, Forties, Oseberg and Ekofisk streams for delivery beyond month ahead, with no specific dates assigned for loading. The cargoes are 600,000 barrels and, in the forward market, the precise loading dates are not provided, only the delivery month i.e. December BFOE Cargo. However, the commercial contracts, which are standardized, underlying the forward market to specify the minimum timing the seller must provide the buyer to notify them as to the specific cargo loading date – currently 10 days to month ahead. After the seller of a BFOE forward cargo notifies the buyer as to the loading date and which stream is being loaded, the contract is now considered to have moved from the forward market to the Dated Brent market, historically this moment is referred to as the cargo going “wet” i.e. it has loading dates attached to it and can therefore be sold as a Dated Brent cargo.

The Brent cash market is essentially a reseller market where buyers either: resell the oil to someone else; transport the cargo and resell it later; or transport the cargo to consume it. Most of the sales in the Brent market are conducted as spot-market transactions; in fact, Brent cargoes in the physical market are estimated to trade 10 or more times. Typically, there is a chronology of sales and purchases of crude oil in the Brent cash market that starts with a sale from the equity producer in a spot market transaction, and finishes with a purchase by an end-user to consume the crude oil. Equity producers typically utilize the robust spot market to sell their BFOE production at the cargo loading terminal, as a “Free on Board” (FOB) delivery. Traders play an active role in the Brent market as middlemen with the expressed responsibility of reselling the oil. Further, the refiners typically rely on the spot market to purchase Brent crude oil, because there is vibrant liquidity in the spot market, and hence, the refiners have developed a preference for short-term spot market purchases, rather than long-term contracts. This applies to refiners affiliated with equity producers as well as those not affiliated; this is the standard practice, established and institutionalized over the past 34 years.

Production of BFOE has been declining over the past few years due to the cost of drilling and the returns on investment compared to other regions in the world. These four North Sea grades are segregated blends delivered at different locations in the North Sea, and each can be substituted by the seller in the BFOE cash market (“the forward market”). Quality adjustments ensure that all four grades can be delivered to a buyer under the standardized forward contract. The nomination period in the forward market was changed in March 2015 by Platts to 10 days to month ahead from 10 to 25 days and the futures expiry dates were aligned with this schedule in January 2016 (for the March 2016 delivery month). Platts made an adjustment to the forward market mechanism with effect from the March 2015 contract month.

The process of moving from a forward to the physical market where a forward Brent cargo becomes a physical North Sea Dated Brent cargo happens as follows:

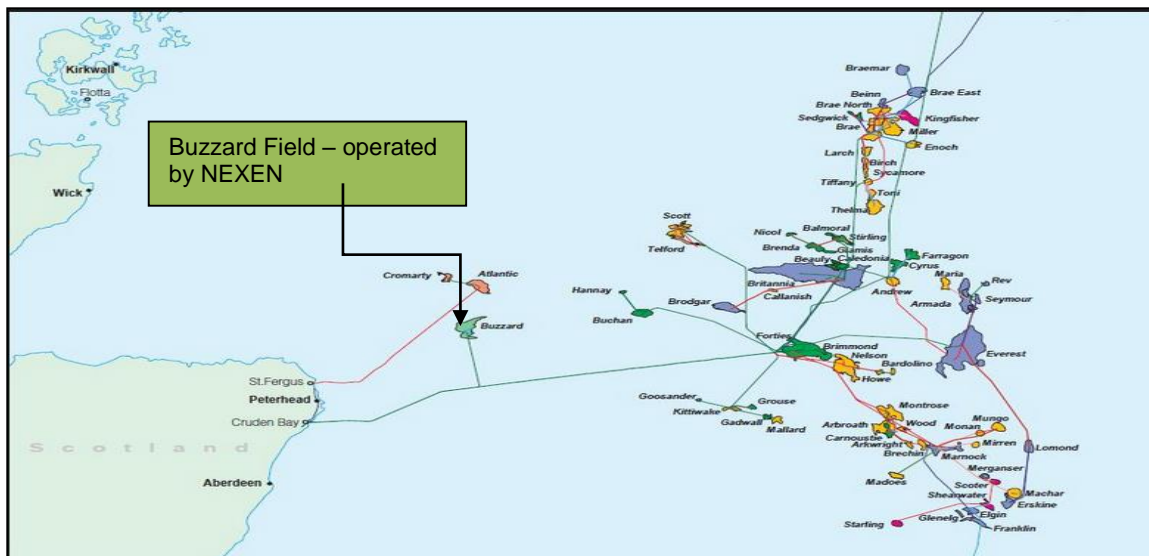
1. Refiners, producers and traders enter into a forward agreement for a particular month.
2. The Operator of each field being Shell for Brent; BP for Forties; ConocoPhillips for Oseberg and Statoil for Ekofisk will announce the loading programs for each contract month a few days prior to the beginning of the month (one month prior) to each loading month (i.e. cargoes in the delivery

month start to load). For example, for a June 2016 contract month, the field operators will announce the loading schedules a few days prior to the beginning of April 2016. The equity producers will begin the chain of nominating cargoes to buyers (or they can decide to keep the cargo). A buyer benefiting from a nomination can keep the cargo or pass it to another player with whom it has another forward contract. Buyers trade the cash BFOE on the basis that they will accept any cargo as nominated provided that it is done so within the agreed notice period (10 days to month ahead) by 4pm London time. Any cargo not nominated by this time will remain with the participant last notified. After 4pm London time, the cargo becomes wet physical with precise loading dates attached.

3. Cargoes that are wet physical will be sold as a Dated Brent cargo with cargo loading dates between 10 days and month ahead (forward).

Chart 1 shows the makeup of the fields in the Forties pipeline system (FPS) which is operated by BP. There are over 50 offshore fields that flow through within the FPS. The delivery point for Forties crude oil is Hound Point, which is on the East coast of Scotland a short distance from the UK oil capital Aberdeen. Forties is a blended crude oil from all of the fields that feed into it.

Chart 1: Example of the Forties Pipeline system



The blend changed at the beginning of 2007 when crude oil from the Buzzard field began to flow into it. Crucially Buzzard is now the largest field within the FPS. Buzzard crude oil is a medium gravity, sour crude oil with an API of 32.6 and a sulphur content of 1.44% therefore the yield is very similar to that of Urals crude oil (from Russia). The FPS produces a forward forecast of the anticipated percentage of Buzzard crude in Forties Blend. The overall quality of Forties crude oil varies depending on the percentage of Buzzard as a proportion of the overall blend.

Table 1: Percentage of Crude from Buzzard Field Estimates¹⁶ (updated September 2016)

Month	Buzzard % in Forties blend	Forties Blend production (kbd)
September 2016	22.6%	406.5
October 2016	14.1%	393.5
November 2016	33.5%	530.4
December 2016	33.7%	543.9

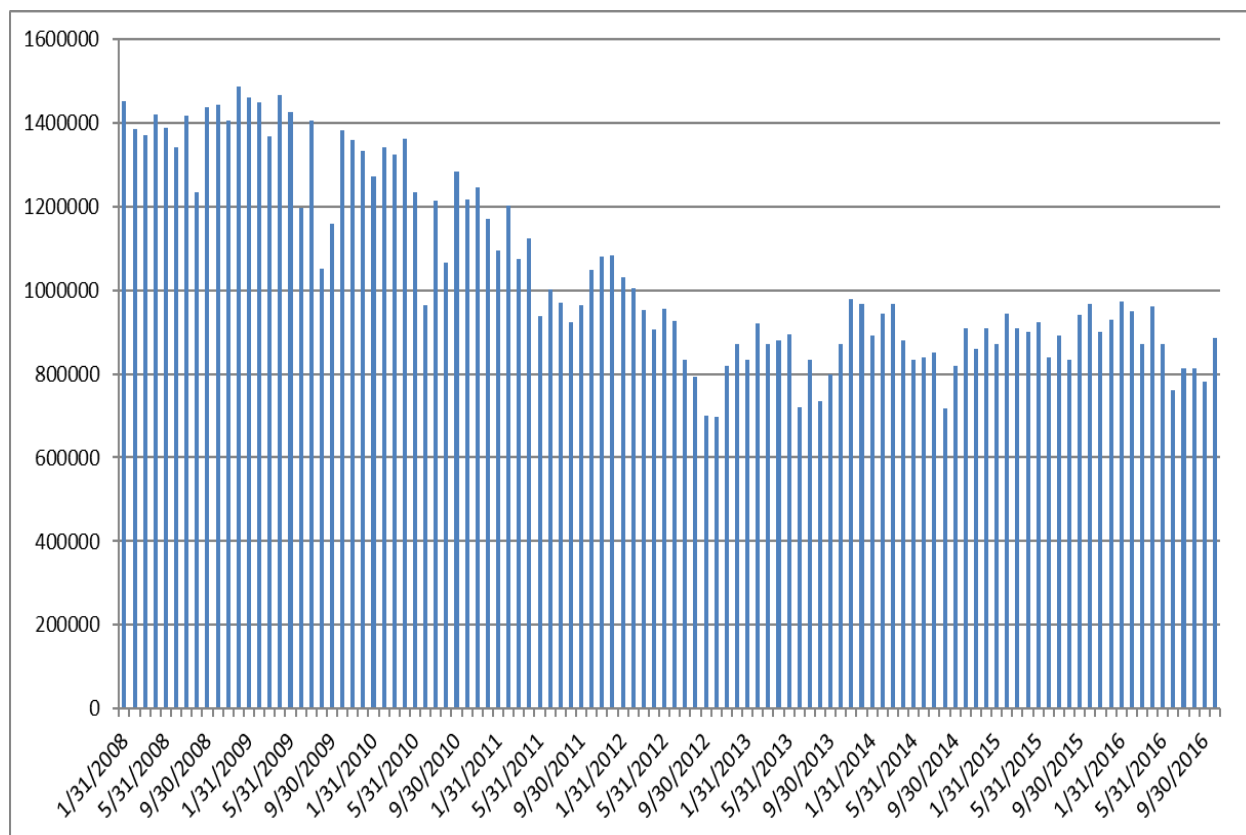
Buzzard crude oil is a feed into the Forties crude stream and is sourer in quality. Therefore the volume of Buzzard in Forties will impact the overall value of the blend. The percentage of Buzzard varies month on month and the Forties Pipeline Operator, BP publishes these statistics on a monthly forward looking basis. Due to the inclusion of Buzzard, the value of Forties has generally always been the cheapest of the four grades to deliver into Dated Brent as a dated cargo.

Bloomberg LP (“Bloomberg”) provides details of the BFOE loading programs for the four grades that comprise the Brent market. Based on the most recent 3-year average of the Bloomberg data on BFOE loadings (from October 2013 to September 2016), the total loadings of Brent (BFOE) crude oil was approximately 885,474 barrels per day, which is equivalent to approximately 26.56 million barrels per month (see table 2).

The Bloomberg data, in **Appendix 4**, shows the loaded volume of crude oil for Brent, Forties, Oseberg and Ekofisk (collectively known as BFOE). Output stabilized over the 2014-2016 period from the previous sharp declines in the three years prior. However as capital expenditures have been curtailed in 2015 and 2016, output is likely to fall sharply in the years following as operators continue to scale back their operations in the North Sea with the knock on effect on overall production levels.

¹⁶ Forties Pipeline System – Forties Blend Assay http://www.bp.com/en/global/forties-pipeline/about_fps/forties_blend_quality.html

Chart 2: Monthly Loadings of Brent, Forties, Oseberg, Ekofisk



Source: Bloomberg

The Brent market is priced in USD and cents per barrel. There are two significant Futures contracts based on trading activity in the forward BFOE market; NYMEX and ICE Futures Europe offer trading of Brent Futures on their respective Exchanges. The cash market is traded in partials of 100,000 barrels or larger full size cargo transactions of 600,000 barrels. Physical convergence can occur through the partials market mechanism upon the trading of six parcels with the same counterparty in a single delivery month. If physical convergence does not occur, then trades are booked out at the prevailing cash value on the last day of trading day of the cash market for the specific delivery month (i.e. this is currently 25 days prior to the 1st loading date of the delivery month). Full sized physical cargo BFOE trades will be used by ICE in the establishment of the Brent Index which is the mechanism by which the futures open on expiry are cash settled¹⁷.

The Dated Brent or Dated BFOE, as it is sometimes referred, reflects the value of the cheapest of Brent, Forties, Oseberg and Ekofisk, of 600,000 barrels, loading 10 days to Month Ahead (prior to March 2015, the loading period reflected 10-25 days ahead). Dated Brent is estimated to price around 50% of the global crude oil supply¹⁸. Within the North Sea and beyond, grades are traded as a differential to Dated Brent or as a differential to cash Brent (BFOE). Each of the crude oil grades within BFOE are not the same quality, several adjustments have been made. In 2007 Platts included a sulphur de-escalator for Forties crude oil within its Dated Brent and Brent related instruments. The change was made in response to inclusion of sour crude Buzzard into the Forties pipeline system (see chart 1). The de-escalator of price

¹⁷ https://www.theice.com/publicdocs/futures/ICE_Futures_Europe_Brent_Index.pdf

¹⁸ <http://www.oxfordenergy.org/wpcms/wp-content/uploads/2012/03/Brent-Prices-Impact-of-PRA-methodology-on-price-formation.pdf>

is applied to deliveries above a minimum sulphur level of 0.6%. Every month, Platts establishes a USD and cents value de-escalator for every 0.1% of sulphur above the maximum level 0.6% (for Forties crude oil). The value of de-escalator is established by reviewing evidence of significant and sustained changes in the crude market, as affected by refined products (crack spread values of both heavy fuel oils and light ends) and other relevant factors that affect the economics of Forties crude.

Analysis of deliverable supply

In its November 18, 2011, final position limit rulemaking, the Commission defined deliverable supply as “the quantity of the commodity meeting a derivative contract’s delivery specifications that can reasonably be expected to be readily available to short traders and saleable by long traders at its market value in normal cash marketing channels at the derivative contract’s delivery points during the specified delivery period, barring abnormal movement in interstate commerce.”¹⁹

The basis of the analysis in the **Urals Northwest Europe** market is based on Russian crude oil imports delivered into Northwest Europe. We have classified Northwest Europe as Belgium, France, Germany and the Netherlands. As we have done previously, the volumes for France have been reduced by 50% to provide an estimated figure for imports directly into those French ports located in Northwest Europe. The remaining 50% of the volume for France is deemed to be classified as Mediterranean imports. Based on the most recent 3 years of Eurostat Russian crude import data for Northwest Europe imports, volumes were **5.08 million metric tons per month or 36.7 million barrels per month** based on a conversion factor of 7.23 barrels per metric ton. This is represented as 36,700 contract equivalents (contract size: 1,000 bbls).

The basis of the analysis in the **Urals Mediterranean** market is based on Russian crude oil imports delivered into Spain, France and Italy. The volumes for Spain and France have been reduced by 50% to provide an estimated figure for imports directly into those ports located in the Mediterranean area. Based on the most recent 3 years of Eurostat Russian crude import data for the Mediterranean, volumes were **1.21 million metric tons per month or 8.74 million barrels per month** based on a conversion factor of 7.23 barrels per month. This is represented as 8,740 contract equivalents (contract size: 1,000 bbls).

The basis of the analysis for **CPC crude oil** is domestic production minus refinery demand. A further adjustment has been made for European exports. Based on our analysis we have applied a haircut of 127,500 b/d for refinery demand and from the total export figure of Kazakh exports we have made an adjustment to reflect the fact that only 76% of Kazakh exports are sold into Europe²⁰. The volume of domestic production destined for Europe is therefore about 1.16 million barrels per day for the period 2012 to 2014. The EIA does not yet publish statistics for 2015 or 2016. The Exchange has included both CPC Blend and Tengiz in its deliverable supply volume due to the extremely close makeup of both crudes in terms of quality. The 165,000 b/d Pavlodar refinery²¹ solely processes West Siberian crude oil and therefore has been excluded this analysis. Once European sales have been finalised, the remainder of the exports are sold into the US or Asia, according to the EIA. Based on these variables, we have calculated that the deliverable supply of CPC crude oil is around **1.16 million barrels per day or 34.8 million barrels per month** which equates to 34,800 monthly Futures lots equivalent (contract size: 1,000 bbls).

The basis of the analysis in the Brent market is BFOE loadings in the North Sea. The Exchange determined that the volume of loaded barrels of BFOE crude oil from Brent, Forties, Oseberg and Ekofisk best meets the definition of supply readily available for delivery. In addition, the Exchange has reduced the deliverable supply of Forties to account for the long term commitment for crude oil purchases by the Grangemouth refinery. The Grangemouth oil refinery is located close to the delivery point of the Forties pipeline and volumes from the outer fields are connected directly via a series of pipelines to the refinery²². Based on the most recent 3-year average of the Bloomberg data on BFOE loadings (December 2012 to November 2015), total loadings of Brent (BFOE) crude oil was approximately 885,474 barrels per day,

¹⁹ 17 CFR 1,150-51 (2011),

<http://www.cftc.gov/ucm/groups/public/@lrfederalregister/documents/file/2011-28809a.pdf>

²⁰ <http://www.eia.gov/cfapps/ipdbproject/iedindex3.cfm?tid=5&pid=5&aid=2&cid=KZ.&syid=2002&eyid=2014&unit=TBPD>

²¹ Pavlodar Oil Chemistry Refinery LLP - <http://www.pnhz.kz/en/?id=1>

²² http://www.bp.com/en/global/forties-pipeline/about_fps/Technical/technical_information.html - BP Forties Pipeline system

which is equivalent to approximately 26.56 million barrels per month, or 26,560 contract equivalents (contract size: 1,000 barrels). Further, to account for the crude oil purchases by the Grangemouth refinery, the deliverable supply (using the three-year average BFOE figures) would be reduced by 3 million barrels²³ per month²⁴. Therefore, the total deliverable supply of BFOE is approximately **23.56 million barrels per month** which is equivalent to 23,560 contracts.

Positions in the **Urals North (Platts) vs. Dated Brent (Platts) CFD Futures** will aggregate into two legs: Dated Brent (Platts) Financial Futures (commodity code: UB) and the Urals NWE (Platts) Futures (commodity code: UNS). The Exchange proposes a spot month position limit of the Dated Brent (Platts) Financial Futures of 4,000 contracts and the Exchange proposes a spot month of 4,000 contracts for the Urals NWE (Platts) market. Based on the Brent deliverable supply of 23.56 million or 23,560 contract equivalents a spot month position limit of 4,000 contracts equates to 16.97%. For the Urals CIF NWE, the deliverable supply volume is 5.08 million metric tons per month or 36.7 million barrels or 36,700 contract equivalents (based on a conversion factor of 7.23 barrels per metric ton) therefore a position limit of 4,000 contracts equates to 10.89% of the deliverable supply.

Positions in the **Urals Med (Platts) vs. Dated Brent (Platts) CFD Futures** will aggregate into two legs: Dated Brent (Platts) Financial Futures (commodity code: UB) and the Urals Mediterranean (Platts) Futures (commodity code: UMD). The Exchange proposes a spot month position limit of the Dated Brent (Platts) Financial Futures of 4,000 contracts and the Exchange proposes a spot month of 1,500 contracts for the Urals Mediterranean (Platts). Based on the Brent deliverable supply of 23.56 million or 23,560 contract equivalents a spot month position limit of 4,000 contracts equates to 16.97%. For the Urals CIF Mediterranean, the deliverable supply volume is 1.21 million metric tons per month or 8.74 million barrels or 8,740 contract equivalents (based on a conversion factor of 7.23 barrels per metric ton) therefore a position limit of 1,500 contracts equates to 17.16% of the deliverable supply.

Positions in the **CPC Blend CIF Med Cargoes (Platts) vs Dated Brent (Platts) Futures** will aggregate into two legs: Dated Brent (Platts) Financial Futures (commodity code: UB) and the CPC Blend CIF Med Cargoes (Platts) Futures (commodity code: CPD). The Exchange proposes a spot month position limit of the Dated Brent (Platts) Financial Futures of 4,000 contracts and the Exchange proposes a spot month of 4,000 contracts for the CPC Blend (Platts) market. Based on the Brent deliverable supply of 23.56 million or 23,560 contract equivalents a spot month position limit of 4,000 contracts equates to 16.97%. For the CPC Blend, the deliverable supply volume is 1.16 million barrels per day or 34.8 million barrels per month which equates to 34,800 contract equivalents. Therefore, a proposed position limit of 4,000 contracts would equate to 11.49% of the monthly deliverable supply.

Appendix 2: Russian Crude oil imports for delivery into Northwest Europe (000 tons/month)

Source: Eurostat

	Russian Crude Oil Imports - Northwest Europe (Kmt)				
	Belgium	Germany	France	Netherlands	
Jan 2013	1,329	2,822	185	1,118	
Feb 2013	1,038	2,131	150	1,559	
Mar 2013	1,661	2,463	373	1,341	
Apr 2013	1,633	2,387	411	1,834	
May 2013	1,230	2,708	287	1,834	
Jun 2013	810	2,426	281	1,046	

²³ UKPia – Petroineos Grangemouth Refinery capacity
http://www.ukpia.com/industry_information/refining-and-uk-refineries/Petroineos-grangemouth-refinery.aspx

²⁴ Market suggests 50% of the processing capacity for Grangemouth is Forties therefore we have reduced the deliverable supply of Forties by 3-million barrels per month (the full capacity of the refinery is 6 million barrels per month).

Jul 2013	860	2,718	200	1,046	
Aug 2013	796	2,682	285	1,577	
Sep 2013	944	2,674	337	1,160	
Oct 2013	698	2,953	250	1,160	
Nov 2013	700	2,722	301	1,085	
Dec 2013	742	2,793	101	1,082	
Jan 2014	677	2,686	250	1,000	
Feb 2014	789	2,500	205	1,222	
Mar 2014	1,193	2,882	355	1,222	
Apr 2014	1,179	2,808	249	1,141	
May 2014	1,276	2,089	150	979	
Jun 2014	936	1,631	302	979	
Jul 2014	1,121	2,302	175	979	
Aug 2014	1,165	2,776	148	979	
Sep 2014	918	2,543	140	995	
Oct 2014	1,028	2,589	250	904	
Nov 2014	929	2,598	203	904	
Dec 2014	442	2,620	100	933	
Jan 2015	879	2,399	285	933	
Feb 2015	771	2,387	199	1,302	
Mar 2015	849	2,766	150	1,302	
Apr 2015	806	2,786	240	1,456	
May 2015	830	3,112	268	1,340	
Jun 2015	869	2,485	149	1,660	
Jul 2015	780	2,552	175	1,320	
Aug 2015	1,030	2,587	50	1,660	
Sep 2015	736	2,742	137	1,660	
Oct 2015	744	2,904	150	1,660	
Nov 2015	800	2,615	226	1,342	
Dec 2015	957	3,241	223	1,342	
Jan 2016	1,114	2,510	269	1,342	
Feb 2016	1,025	2,717	299	2,130	
Mar 2016	1,064	3,036	159	2,130	
Apr 2016	927	2,888	359	2,142	
May 2016	1,016	3,111	82	:	
Jun 2016	1,071	:	105	:	
Average Monthly Volume - 3 years	907	2,662	209	1,304	5,082
Monthly Volume Barrel Equivalent (Kbbl)	6,578	19,299	1,514	9,455	

*The volume for France has been reduced by 50% to reflect the fact that about half of the volumes are imported into Northwest Europe with the remainder into the Mediterranean.

Appendix 3: Russian Crude oil exports into the Mediterranean (000' tons per month)
Source: Eurostat

	Russian Crude Oil Imports - Mediterranean (Kmt)			
	Spain	France	Italy	
Jan 2013	569	185	926	
Feb 2013	268	150	814	
Mar 2013	290	373	782	
Apr 2013	477	411	722	
May 2013	390	287	761	
Jun 2013	258	281	906	
Jul 2013	194	200	1,436	
Aug 2013	150	285	826	
Sep 2013	285	337	549	
Oct 2013	587	250	1,002	
Nov 2013	280	301	696	
Dec 2013	319	101	972	
Jan 2014	354	250	919	
Feb 2014	444	205	476	
Mar 2014	515	355	632	
Apr 2014	387	249	495	
May 2014	404	150	935	
Jun 2014	284	302	611	
Jul 2014	337	175	654	
Aug 2014	276	148	853	
Sep 2014	142	140	872	
Oct 2014	143	250	1,021	
Nov 2014	160	203	841	
Dec 2014	95	100	366	
Jan 2015	228	285	691	
Feb 2015	309	199	542	
Mar 2015	377	150	660	
Apr 2015	261	240	881	
May 2015	306	268	924	
Jun 2015	193	149	642	
Jul 2015	336	175	799	
Aug 2015	705	50	658	
Sep 2015	367	137	558	
Oct 2015	330	150	456	
Nov 2015	288	226	598	
Dec 2015	268	223	638	
Jan 2016	200	269	641	
Feb 2016	115	299	321	

Mar 2016	284	159	545	
Apr 2016	150	359	841	
May 2016	200	82	794	
Jun 2016	200	105	324	
Average Monthly Volume - 3 years	291	209	713	1,213
Monthly Volume Barrel Equivalent (Kbbl)	2,105	1,512	5,162	

*The volume for France and Spain has been reduced by 50% to reflect the fact that about half of the volumes are imported into the Mediterranean with the remainder into the North

Appendix 4:

This data shows the total volume of BFOE crudes loaded by delivery month. This data is as assessed by Bloomberg. Each field operator for Brent, Forties, Oseberg and Ekofisk releases the amount of crude oil that is scheduled to be loaded by delivery month on a monthly basis prior to the start of trading for the barrels in each month.

(Barrels per Day)

2013	10/31/2013	870,968
	11/30/2013	980,000
	12/31/2013	967,742
2014	1/31/2014	890,323
	2/28/2014	942,857
	3/31/2014	967,742
	4/30/2014	880,000
	5/31/2014	832,258
	6/30/2014	840,000
	7/31/2014	851,613
	8/31/2014	716,129
	9/30/2014	820,000
	10/31/2014	909,677
11/30/2014		

		860,000
	12/31/2014	909,677
2015	1/31/2015	870,968
	2/28/2015	942,857
	3/31/2015	909,677
	4/30/2015	900,000
	5/31/2015	922,581
	6/30/2015	840,000
	7/31/2015	890,323
	8/31/2015	832,258
	9/30/2015	940,000
	10/31/2015	967,742
	11/30/2015	900,000
	12/31/2015	929,032
2016	1/31/2016	974,194
	2/29/2016	950,690
	3/31/2016	870,968
	4/30/2016	960,000
	5/31/2016	870,968
	6/30/2016	760,000
	7/31/2016	812,903
	8/31/2016	812,903
	9/30/2016	780,000
	3-year average	885,474