

SUBMISSION COVER SHEET

IMPORTANT: Check box if Confidential Treatment is requested

Registered Entity Identifier Code (optional): 17-211 (1 of 4)

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): June 22, 2017 **Filing Description:** Initial Listing of Four (4) Physically-Delivered Natural Gas Futures Contracts

SPECIFY FILING TYPE

Please note only ONE choice allowed per Submission.

Organization Rules and Rule Amendments

- | | | |
|--------------------------|-------------------------------------|------------|
| <input type="checkbox"/> | Certification | § 40.6(a) |
| <input type="checkbox"/> | Approval | § 40.5(a) |
| <input type="checkbox"/> | Notification | § 40.6(d) |
| <input type="checkbox"/> | Advance Notice of SIDCO Rule Change | § 40.10(a) |
| <input type="checkbox"/> | SIDCO Emergency Rule Change | § 40.10(h) |

Rule Numbers:

New Product

Please note only ONE product per Submission.

- | | | |
|-------------------------------------|---------------------------------------|------------|
| <input checked="" type="checkbox"/> | Certification | § 40.2(a) |
| <input type="checkbox"/> | Certification Security Futures | § 41.23(a) |
| <input type="checkbox"/> | Certification Swap Class | § 40.2(d) |
| <input type="checkbox"/> | Approval | § 40.3(a) |
| <input type="checkbox"/> | Approval Security Futures | § 41.23(b) |
| <input type="checkbox"/> | Novel Derivative Product Notification | § 40.12(a) |
| <input type="checkbox"/> | Swap Submission | § 39.5 |

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

- | | | |
|--------------------------|---|----------------------|
| <input type="checkbox"/> | Certification | § 40.6(a) |
| <input type="checkbox"/> | Certification Made Available to Trade Determination | § 40.6(a) |
| <input type="checkbox"/> | Certification Security Futures | § 41.24(a) |
| <input type="checkbox"/> | Delisting (No Open Interest) | § 40.6(a) |
| <input type="checkbox"/> | Approval | § 40.5(a) |
| <input type="checkbox"/> | Approval Made Available to Trade Determination | § 40.5(a) |
| <input type="checkbox"/> | Approval Security Futures | § 41.24(c) |
| <input type="checkbox"/> | Approval Amendments to enumerated agricultural products | § 40.4(a), § 40.5(a) |
| <input type="checkbox"/> | “Non-Material Agricultural Rule Change” | § 40.4(b)(5) |
| <input type="checkbox"/> | Notification | § 40.6(d) |

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

Rule Numbers:

June 22, 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 Four (4) Physically-Delivered Natural Gas Futures Contracts NYMEX Submission No. 17-211 (1 of 4)

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 four (4) physically-delivered natural gas futures contracts as noted in the tables below (the “Contracts”) for trading on the CME Globex electronic trading platform and for submission for clearing via CME ClearPort effective on Sunday, July 9, 2017 for trade date Monday, July 10, 2017.

Contract Title	UK NBP Natural Gas Calendar Month Futures
Commodity Code	UKG
Rulebook Chapter	1157
Settlement Method	Physical
Contract Size	1,000 therms multiplied with the number of calendar days in the contract month
Listing Schedule	Monthly contracts listed for the current year and the next five (5) calendar 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	0.005 pence per therm
Value per Tick	£1.40 to £1.55
First Listed Month*	January 2018
Block Trade Minimum Threshold	5 contracts
Termination of Trading	Trading shall cease on the second London business day immediately preceding the first calendar day of the Contract Month, unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is a London business day.
CME Globex Matching Algorithm	FIFO

Contract Title	UK NBP Natural Gas Daily Futures
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Commodity Code	NBD
Rulebook Chapter	1158
Settlement Method	Physical
Contract Size	1,000 therms
Listing Schedule	Daily contracts listed for the current calendar month and the next calendar month. A new calendar month will be added following the termination of trading of the last calendar day of the current month.
Minimum Price Fluctuation	0.005 pence per therm
Value per Tick	£0.05
First Listed Month*	January 2018
Block Trade Minimum Threshold	5 contracts
Termination of Trading	Trading shall cease on the first London business day immediately preceding the contract day unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is a London business day.
CME Globex Matching Algorithm	FIFO

Contract Title	Dutch TTF Natural Gas Calendar Month Futures
Commodity Code	TTF
Rulebook Chapter	1159
Settlement Method	Physical
Contract Size	1 MWh (megawatthour) per hour for each hour in each Gas Delivery Day in the Contract Month
Listing Schedule	Monthly contracts listed for the current year and the next five (5) calendar 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	€0.005 per MWh
Value per Tick	Between €3.36 and €3.725
First Listed Month*	January 2018
Block Trade Minimum Threshold	5 contracts
Termination of Trading	Trading shall cease on the second London business day immediately preceding the first calendar day of the Contract Month, unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is a London business day.
CME Globex Matching Algorithm	FIFO

Contract Title	Dutch TTF Natural Gas Daily Futures
Commodity Code	TTD
Rulebook Chapter	1160
Settlement Method	Physical
Contract Size	1 MWh (megawatthour) per hour for each hour in the Gas Delivery Day applicable to the Contract
Listing Schedule	Daily contracts listed for the current calendar month and the next calendar month. A new calendar month will be added following the termination of trading of the last calendar day of the current month.

Minimum Price Fluctuation	€0.005 per MWh
Value per Tick	Between €0.115 and €0.125
First Listed Month*	January 2018
Block Trade Minimum Threshold	5 contracts
Termination of Trading	Trading shall cease on the first London business day immediately preceding the contract day unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is a London business day.
CME Globex Match Algorithm	FIFO

* Subject to obtaining all physical delivery approvals and authorizations.

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 a 60-minute break each day beginning at 5:00 p.m. (4:00 p.m. CT)
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Exchange Fees:

UK NBP Natural Gas Calendar Month Futures

	Member	Non-Member
Exchange Fees**		
CME Globex	\$0.32	\$0.35
EFP	\$0.32	\$0.35
Block	\$0.32	\$0.35
EFR/EOO	\$0.32	\$0.35
Agency Cross	\$0.32	\$0.35

	House Account	Customer Account
Processing Fees***		
Delivery Notice	\$0.02	\$0.03
Other Fees		
Facilitation Fee		\$0.60
Give-Up Surcharge		\$0.05
Position Adjustment/Transfer		\$0.10

UK NBP Natural Gas Daily Futures

	Member	Non-Member
Exchange Fees**		
CME Globex	\$0.02	\$0.03

EFP	\$0.02	\$0.03
Block	\$0.02	\$0.03
EFR/EOO	\$0.02	\$0.03
Agency Cross	\$0.02	\$0.03

Processing Fees***	House Account	Customer Account
Delivery Notice	\$0.02	\$0.03
Other Fees		
Facilitation Fee		\$0.60
Give-Up Surcharge		\$0.05
Position Adjustment/Transfer		\$0.10

Dutch TTF Natural Gas Calendar Month Futures

	Member	Non-Member
Exchange Fees**		
CME Globex	\$1.35	\$1.50
EFP	\$1.35	\$1.50
Block	\$1.35	\$1.50
EFR/EOO	\$1.35	\$1.50
Agency Cross	\$1.35	\$1.50

Processing Fees***	House Account	Customer Account
Delivery Notice	\$0.02	\$0.03
Other Fees		
Facilitation Fee		\$0.60
Give-Up Surcharge		\$0.05
Position Adjustment/Transfer		\$0.10

Dutch TTF Natural Gas Daily Futures

	Member	Non-Member
Exchange Fees**		
CME Globex	\$0.04	\$0.05
EFP	\$0.04	\$0.05
Block	\$0.04	\$0.05
EFR/EOO	\$0.04	\$0.05
Agency Cross	\$0.04	\$0.05

Processing Fees***	House Account	Customer Account
Delivery Notice	\$0.02	\$0.03
Other Fees		
Facilitation Fee		\$0.60
Give-Up Surcharge		\$0.05
Position Adjustment/Transfer		\$0.10

**Fees waived through December 31, 2017

***Fees waived through August 31, 2017

The Exchange is also notifying the CFTC that it is self-certifying the insertion of the terms and conditions for the contracts into the Position Limit, Position Accountability and Reportable Level Table and Header Notes located in the Interpretations and Special Notices Section of Chapter 5 of the NYMEX Rulebook in relation to the listing of the new contracts. The terms and conditions establish the all month/any one-month accountability levels, expiration month position limit, reportable level, and aggregation allocation for the new contracts. Please see Appendix B, attached under separate cover.

NYMEX is also notifying the CFTC that it is self-certifying block trading on the contracts with a minimum block threshold of 5 contracts. The block levels are consistent with the Exchange's similar 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 the rules in Rulebook Chapter 4 which includes prohibitions against fraudulent, noncompetitive, unfair and abusive practices. Additionally, trading in these contracts will also be subject to the full panoply of trade practice rules, the majority of which are contained in Chapter 5 and Chapter 8 of the Rulebook. As with all products listed for trading on one of CME Group's designated contract markets, activity in the new products will be subject to extensive 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.

Contracts Not Readily Subject to Manipulation: The Contracts are not readily subject to manipulation as a result of the liquidity and transparency of the underlying cash market.

Prevention of Market Disruption: Trading in the Contracts will be subject to Rulebook Chapters 4 and 7 which include prohibitions on manipulation, price distortion and disruptions of the delivery or cash-settlement process. As with all products listed for trading on one of CME Group's designated contract markets, activity in the new products will be subject to extensive 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 information on the contracts' specifications on its website, together with daily trading volume, open interest and price information.

Daily Publication of Trading Information: The Exchange shall make public daily information on settlement prices, volume, open interest, and opening and closing ranges for actively traded contracts on the contract market.

Execution of Transactions: The Contracts will be listed for trading on the CME Globex electronic trading and for clearing through CME ClearPort. The CME Globex trading venue provides for competitive and open execution of transactions. CME Globex affords the benefits of reliability and global connectivity.

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

Financial Integrity of Contracts: All contracts traded on the Exchange will be cleared by the CME Clearing House which is a registered derivatives clearing organization with the Commission and is subject to all Commission regulations related thereto.

Protection of Market Participants: Rulebook Chapters 4 and 5 contain multiple prohibitions precluding intermediaries from disadvantaging their customers. These rules apply to trading on all of the Exchange's competitive trading venues and will be applicable to transactions in these products.

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 rules. Trading in these 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. The rules in Chapter 6 allow all nonmembers 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 nonmember is required to participate in the arbitration pursuant to the rules in 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 complies with the Act, including regulations under the Act. There were no substantive opposing views to the proposal by market participants.

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 (attached under separate cover)

Appendix A
NYMEX Rulebook

Chapter 1157

UK NBP Natural Gas Monthly Futures

1157100. SCOPE OF CHAPTER

This chapter is limited in application to UK NBP Natural Gas Monthly futures. The procedures for trading, clearing, delivery and settlement not specifically covered herein or in Chapter 7 shall be governed by the general rules of the Exchange.

The provisions of these rules shall apply to all natural gas bought or sold for future delivery on the Exchange with delivery at the UK NBP ("National Balancing Point"), the Natural Gas virtual trading hub in the UK.

The term **Balancing Charges** shall have the meaning ascribed to it in the Uniform Network Code.

The term **Contract Month** means one of such months in which the UK NBP Natural Gas Monthly Future is available for trading.

The term **Contract Value** shall mean the amount equal to the final settlement price times one thousand (1,000) times the number of Gas Flow Days in the delivery month times the number of contracts to be delivered. The Contract Value represents the payment that the buyer's Clearing Member is obligated to make pursuant to the applicable delivery.

The term **Daily Imbalance** shall have the meaning ascribed to it in the Uniform Network Code.

The term **Designee** means a third party appointed by a Clearing Member to effect the submission of Trade Nominations in its place in respect of an open long position or open short position and who in each case is permitted to make or take delivery of natural gas to or from the Clearing House.

The term **Gas Flow Day** shall mean a delivery period starting at 05:00 hours London prevailing time and ending at 05:00 hours London prevailing time the following calendar day as defined in the Uniform Network Code. Deliveries resulting from a UK Natural Gas Monthly Futures contract shall include all Gas Flow Days in the respective month.

The term **Gas Delivery Agent** shall mean a third party appointed by the Clearing House to effect the submission of Trade Nominations on its behalf.

The term **Gemini System** shall mean the system (forming part of the UK Link system) which enables users to submit Trade Nominations to National Grid for the purposes for the disposal or acquisition of rights to natural gas under the Uniform Network Code.

The term **National Balancing Point** ("NBP") shall mean the virtual point of delivery within the National Transmission System of the United Kingdom at which the balancing of deliveries into and out of the National Transmission System is deemed to take place under the Uniform Network Code.

The term **National Transmission System** shall mean that part of the National Grid system for the time being designated by National Grid;

The term **National Grid** means National Grid Gas plc;

The terms "**seller**" and "**buyer**" shall mean the seller of the physical product and the buyer of the physical product, respectively.

The term **therm** shall mean an amount of energy equal to 29.3071 kilowatthours (kWh). One therm is the equivalent of 100,000 British thermal units (Btu).

Trade Nomination means a trade nomination within the meaning of the Uniform Network Code, which shall include **Acquiring Trade Nominations**, being a trade nomination that is made by a person or, if applicable, its Designee to acquire rights to natural gas at the National Balancing Point

and submitted in the manner required by the Uniform Network Code and **Disposing Trade Nominations**, being a trade nomination that is made by a person or, if applicable, its Designee to dispose of rights to natural gas at the National Balancing Point and submitted in the manner required by the Uniform Network Code;

The term **Uniform Network Code** shall mean the legal and contractual framework to supply and transport natural gas, managed by the Joint Office of Gas Transports, which governs the transportation of natural gas within the UK from time to time.

1157101. CONTRACT SPECIFICATIONS

The contract grade for delivery on futures contracts shall be “natural gas” as defined in the Uniform Network Code as any hydrocarbons or mixture of hydrocarbons and other gases consisting primarily of methane which at a temperature of 15 °C and an absolute pressure of 1.01325 bar are or is predominantly in the gaseous state. Deliveries under the contract shall effected by transferring rights to natural gas in the National Transmission System through the process of making Trade Nominations. Deliveries shall be made in kWh. Trade Nominations shall be submitted for each Gas Flow Day that commences in the contract month in accordance with the requirements of the Uniform Network Code.

1157102. TRADING SPECIFICATIONS

The number of Contract Months open for trading at any given time shall be determined by the Exchange.

1157102.A. Trading Schedule

The hours of trading shall be determined by the Exchange.

1157102.B. Trading Unit

The contract quantity shall be measured in therms. The contract quantity shall be 1,000 therms per day for each Gas Flow Day in the contract month. Each contract shall be valued as the contract quantity multiplied by the settlement price.

1157102.C. Price Increments

Prices shall be quoted in British pence (GBp) per therm. The minimum price fluctuation shall be GBp 0.005 per therm on CME Globex and on CME ClearPort. There shall be no maximum price fluctuation.

Prices shall be exclusive of any taxes or duties that may be applied to a transaction.

1157102.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.

1157102.E. Termination of Trading

Trading shall cease on the second London business day immediately preceding the first calendar day of the contract month, unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is also a London business day. On the last trading day, trading shall terminate at 17:00 hours London prevailing time. Any contracts remaining open after the last day of trading must be settled by delivery which shall take place on each calendar day in the contract month per the delivery process described below.

1157103. DELIVERY

1157103.A. Delivery principles

Delivery is effected by transferring rights to natural gas in the UK National Transmission System through the process of making Trade Nominations through the UK Link system via the Gemini

System, as set out in the Uniform Network Code, between the accounts of Clearing Members (or their appointed Designee) and the Clearing House.

1157104.B. Delivery requirements

The Clearing Member shall be responsible for fulfilling the delivery requirements of every contract that it has entered into. If it is so able, a Clearing Member may directly make the required Trade Nominations to fulfil delivery requirements. Where a Clearing Member chooses not to make Trade Nominations itself, it must appoint a third party to act as Designee in its place. The Clearing Member must notify the Clearing House of the appointment of each relevant Designee through submission of a completed Designee Notification Form (signed by an authorised signatory of each of the Clearing Member and the Designee) to the Clearing House. A Clearing Member may appoint a different Designee in respect of any account or sub-account, provided that only a single Designee may be appointed to effect the submission of Trade Nominations in respect of any single Clearing Member account.

The Clearing Member must ensure that:

1. It notifies the Clearing House of third parties acting as Designee relating to any account or sub-account by submission to the Clearing House of a completed Designee Notification Form by no later than 17:30 hours London prevailing time three NYMEX business days prior to the first Gas Flow Day of the contract month; and
2. The Designee acknowledges its appointment no later than 17:30 hours London prevailing time three NYMEX business days prior to the first Gas Flow Day of the contract in writing by email to the Clearing House.

The Clearing Member is responsible for the accuracy of information provided in any Designee Notification Form and for ensuring that the person signing the Designee Notification Form on behalf of the Clearing Member and the Designee is authorised to do so.

Each Clearing Member must ensure that it, or any Designee that it may appoint, has the right to make Trade Nominations under the Uniform Network Code and has access to the UK Link system. Each Clearing Member must ensure that it, or where one has been appointed, its Designee, will at all times comply with the terms of any applicable licence or registration it holds, the Uniform Network Code, and any other applicable law. Each Clearing Member, or any Designee appointed by the Clearing Member, must obtain and adequately maintain at all times such systems and technology as may be necessary in order to comply with such requirements.

All payments relating to the UK Natural Gas Monthly Futures contract shall be made between the Clearing House and the Clearing Member.

Unless a third party is appointed by a Clearing Member to act as Designee, the Clearing House will deliver natural gas under any contract to, and will receive the delivery of natural gas from, the Clearing Member. The Clearing House may accept delivery from, and make delivery to, third parties acting in the capacity of Designee notified by the Clearing Member to the Clearing House in accordance with this Rule.

For the avoidance of doubt, the Clearing Member shall at all times remain responsible for the satisfactory performance of the contract including completion of its delivery, payment and other obligations under the rules of the Exchange and also for the delivery obligations of any Designee appointed by the Clearing Member.

1157104. DELIVERY PROCEDURES

1157104.A. Delivery Process

Delivery of natural gas shall occur on each Gas Flow Day that commences in the contract month.

Delivery under these contracts is effected by the transfer of rights to natural gas through the process of making Trade Nominations such that the seller of natural gas (or its Designee) makes a Disposing Trade Nomination that corresponds to an Acquiring Trade Nomination made by the Clearing House, and the buyer of natural gas (or its Designee) makes an Acquiring Trade Nomination that corresponds to a Disposing Trade Nomination made by the Clearing House. Trade Nominations must be made through the UK Link system via the Gemini System. The Clearing House may appoint a Gas Delivery Agent to facilitate its processing of delivery instructions and Trade Nominations.

1157104.B. Notices of Intention to Deliver and Notices of Intention to Accept

1. Exchange Clearing Members having open short positions shall provide the Clearing House with a Notice of Intention to Deliver, which shall include the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for Intent to Deliver must be submitted to the Clearing House no later than 20:00 hours London prevailing time on the last trading day of a contract month.
2. Exchange Clearing Members having open long positions shall provide the Clearing House with a Notice of Intention to Accept Delivery including the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for intent to deliver must be submitted to the Clearing House no later than 20:00 London prevailing time on the last trading day of a contract month.

1157104.C. Final Settlement Price

The final settlement price on the last trading day shall be the basis for delivery.

1157105. TIMING OF DELIVERY

Trade Nominations shall be submitted for each Gas Flow Day in the contract month.

1. The Clearing House will calculate the net gas delivery requirements for each account for every Gas Flow Day of the contract month on the NYMEX business day prior to the Gas Flow Day. The Clearing House shall provide a report to each Clearing Member detailing final gas delivery obligations for each of the relevant accounts and sub-accounts of that Clearing Member by 18:30 hours London prevailing time one NYMEX business day prior to the Gas Flow Day. This report shall describe net flows of natural gas relating to the UK Natural Gas Monthly Futures contracts of the Clearing Member for each relevant account and sub-account for the Gas Flow Day. Gas deliveries shall be expressed in whole kWh. The Clearing House may adjust the delivery obligation of an account or sub-account in order express the delivery obligation in whole kWh, and to ensure a balanced delivery for the Gas Flow Day. Clearing Members should report any discrepancies in this report to the Clearing House as soon as possible.
2. The Clearing House, or the Gas Delivery Agent if such an agent has been appointed, shall submit delivery instructions to the UK Link system via the Gemini System by 20:00 hours London prevailing time on the calendar day prior to each Gas Flow Day, reflecting the delivery requirements.
3. The Clearing Member, or its Designee if applicable, must submit Trade Nominations for a Gas Flow Day to the UK Link system via the Gemini System by 20:00 hours London prevailing time on the calendar day prior to each Gas Flow Day.

1157106. DELIVERY MARGIN AND PAYMENTS

1157106. A. Definitions

For the purposes of this Rule, "Payment Date" shall mean the second London banking day following a Gas Flow Day, unless such day is not also a NYMEX business day, in which case the Payment Date shall be next following NYMEX business day that is also a London business day.

1157106. B. Margin

On the first NYMEX business day following the last day of trading, the Clearing Member shall obtain from any buyer margin equal to the full value of the product to be delivered for such Gas Flow Days as directed by the Clearing House, and the Clearing Member shall obtain from any seller margin in an amount fixed, from time to time, by the Clearing House. The buyer's Clearing Member and the seller's Clearing Member shall deposit with the Clearing House margins in such amounts and in such form as required by the Exchange. Such margins shall be returned on the second New York banking day that is also a London banking day following notification to the Exchange that delivery and payment have been completed for the Gas Flow Day.

1157106.C. Payment

On the Payment Date relating to each Gas Flow Day, the payment made on the required Payment Date shall be based on the Contract Value for that Gas Flow Day. The Contract Value shall be rounded to the nearest GBP 0.01, or in the case of an exact uneven multiple of GBP 0.005, to the nearest higher GBP 0.01.

Delivery payment will be made during the 07:45 hours Eastern Time collection cycle, or such other time as designated by the Clearing House. Thus, the cost of delivery will be debited or credited to the Clearing Member's settlement account. Long Clearing Members obligated to accept delivery must take delivery and will make delivery payment and short Clearing Members obligated to make delivery will receive delivery payment during the 07:45 hours Eastern Time settlement process, or at such other time designated by the Clearing House, on the day of delivery, except on London banking holidays when delivery must be taken or made and delivery payment made during the 07:45 hours Eastern Time settlement process, or such other time designated by the Clearing House, on the next London banking business day. Adjustments for differences between contract prices and delivery prices established by the Clearing House shall be made with the Clearing House in accordance with Exchange Rules, policies and procedures.

1157107. VALIDITY OF DOCUMENTS

The Exchange makes no representation respecting the authenticity, validity, or accuracy of any Notice of Intention to Deliver, Notice of Intention to Accept, check or any document or instrument delivered pursuant to these Rules.

1157108. IMBALANCE CHARGES

Without prejudice to Chapter 7 of the rules of the Exchange, where a buyer or seller fails to submit a valid Trade Nomination for the Gas Flow Day, such that the Clearing House experiences a Daily Imbalance within the National Transmission System, the Clearing Member shall make a compensation payment to the Clearing House for the full amount of any Balancing Charges imposed on the Clearing House by National Grid. The Clearing House may also require an additional compensation payment from a buyer or seller that fails to submit a valid Trade Nomination to cover any additional costs, express or implied, experienced by the Clearing House in the course of remedying the failed submission and failure to deliver.

Chapter 1158

UK NBP Natural Gas Daily Futures

1158100. SCOPE OF CHAPTER

This chapter is limited in application to UK NBP Natural Gas Daily futures. The procedures for trading, clearing, delivery and settlement not specifically covered herein or in Chapter 7 shall be governed by the general rules of the Exchange.

The provisions of these rules shall apply to all natural gas bought or sold for future delivery on the Exchange with delivery at the UK NBP (“National Balancing Point”), the Natural Gas virtual trading hub in the UK.

The term **Balancing Charges** shall have the meaning ascribed to it in the Uniform Network Code;

The term **Contract Value** shall mean the amount equal to the final settlement price times one thousand (1,000) times the number of contracts to be delivered. The Contract Value represents the payment that the buyer’s Clearing Member is obligated to make pursuant to the applicable delivery.

The term **Contract Day** means one of such days in which the UK NBP Gas Daily Future is available for trading.

The term **Daily Imbalance** shall have the meaning ascribed to it in the Uniform Network Code.

The term **Designee** means a third party appointed by a Clearing Member to effect the submission of Trade Nominations in its place in respect of an open long position or open short position and who in each case is permitted to make or take delivery of natural gas to or from the Clearing House.

The term **Gas Flow Day** shall mean a delivery period starting at 05:00 hours London prevailing time and ending at 05:00 hours London prevailing time the following calendar day as defined in the Uniform Network Code. Deliveries resulting from a Daily Futures contract shall occur on the Gas Flow Day corresponding to the Daily Futures’ Contract Day.

The term **Gas Delivery Agent** shall mean a third party appointed by the Clearing House to effect the submission of Trade Nominations on its behalf.

The term **Gemini System** shall mean the system (forming part of the UK Link system) which enables users to submit Trade Nominations to National Grid for the purposes for the disposal or acquisition of rights to natural gas under the Uniform Network Code.

The term “**National Balancing Point**” (“NBP”) shall mean the virtual point of delivery within the National Transmission System of the United Kingdom at which the balancing of deliveries into and out of the National Transmission System is deemed to take place under the Uniform Network Code;

The term **National Transmission System** shall mean that part of the National Grid system for the time being designated by National Grid;

The term **National Grid** means National Grid Gas plc;

The terms “**seller**” and “**buyer**” shall mean the seller of the physical product and the buyer of the physical product, respectively;

The term **therm** shall mean an amount of energy equal to 29.3071 kilowatthours (kWh). One therm is the equivalent of 100,000 British thermal units (Btu);

Trade Nomination means a trade nomination within the meaning of the Uniform Network Code, which shall include **Acquiring Trade Nominations**, being a trade nomination that is made by a person or, if applicable, its Designee to acquire rights to natural gas at the National Balancing Point

and submitted in the manner required by the Uniform Network Code and **Disposing Trade Nominations**, being a trade nomination that is made by a person or, if applicable, its Designee to dispose of rights to natural gas at the National Balancing Point and submitted in the manner required by the Uniform Network Code;

The term **Uniform Network Code** shall mean the legal and contractual framework to supply and transport natural gas, managed by the Joint Office of Gas Transports, which governs the transportation of natural gas within the UK from time to time.

1158101. CONTRACT SPECIFICATIONS

The contract grade for delivery on futures contracts shall be “natural gas” as defined in the Uniform Network Code as any hydrocarbons or mixture of hydrocarbons and other gases consisting primarily of methane which at a temperature of 15 °C and an absolute pressure of 1.01325 bar are or is predominantly in the gaseous state. Deliveries shall be effected by transferring rights to natural gas in the National Transmission System through the process of making Trade Nominations. Deliveries under the contract shall be made in kWh. Delivery trade nominations shall be submitted for the Gas Flow Day that commences on the Contract Day in accordance with the requirements of the Uniform Network Code.

1158102. TRADING SPECIFICATIONS

The number of Contract Days open for trading at any given time shall be determined by the Exchange.

1158102.A. Trading Schedule

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

1158102.B. Trading Unit

The contract quantity shall be measured in therms. The contract quantity shall be 1,000 therms per day. Each contract shall be valued as the contract quantity multiplied by the settlement price.

1158102.C. Price Increments

Prices shall be quoted in British pence (GBP) per therm. The minimum price fluctuation shall be GBP 0.005 per therm on CME Globex and on CME ClearPort. There shall be no maximum price fluctuation.

Prices shall be exclusive of any taxes or duties that may be applied to a transaction.

1158102.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.

1158102.E. Termination of Trading

Trading shall cease on the first London business day immediately preceding the Contract Day unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is also a London business day. On the last trading day, trading shall terminate at 16:35 hours London prevailing time. Any contracts remaining open after the last day of trading must be settled by delivery on the Contract Day, per the delivery process described below.

1158103. DELIVERY

1158103.A. Delivery principles

Delivery is effected by transferring rights to natural gas at the NBP in the National Transmission System through the process of making Trade Nominations through the Gemini System, as set out in the Uniform Network Code, between the accounts of Clearing Members (or their appointed Designee) and the Clearing House.

1158104.B. Delivery requirements

The Clearing Member shall be responsible for fulfilling the delivery requirements of every contract that it has entered. If it is so able, a Clearing Member may directly make the required Trade Nominations to fulfil delivery requirements. Where a Clearing Member chooses not to make Trade Nominations itself, it must appoint a third party to act as Designee in its place. The Clearing Member must notify the Clearing House of the appointment of each relevant Designee through submission of a completed Designee Notification Form (signed by an authorised signatory of each of the Clearing Member and the Designee) to the Clearing House. A Clearing Member may appoint a different Designee in respect of any account or sub-account, provided that only a single Designee may be appointed to effect the submission of Trade Nominations in respect of any single Clearing Member account and sub-account.

The Clearing Member must ensure that:

1. it notifies the Clearing House of third parties acting as Designee relating to any account or sub-account by submission to the Clearing House of a completed Designee Notification Form to the Clearing House by no later than 17:30 hours London prevailing time three NYMEX business days prior to the Contract Day; and
2. the Designee acknowledges its appointment no later than 17:30 hours London prevailing time three NYMEX business days prior to the Contract Day in writing by email to the Clearing House.

The Clearing Member is responsible for the accuracy of information provided in any Designee Notification Form and for ensuring that the person signing the Designee Notification Form on behalf of the Clearing Member and the Designee is authorised to do so.

Each Clearing Member must ensure that it, or any Designee that it may appoint, has the right to make Trade Nominations under the Uniform Network Code and has access to the UK Link system and must ensure that it or, where appointed, its Designee, will at all times comply with the terms of any applicable licence or registration it holds, the Uniform Network Code, and any other applicable law. Each Clearing Member, or any Designee appointed by the Clearing Member, must obtain and adequately maintain at all times such systems and technology as may be necessary in order to comply with such requirements.

All payments relating to the UK Natural Gas Daily Futures contract shall be made between the Clearing House and the Clearing Member.

Unless a third party is appointed by a Clearing Member to act as Designee, the Clearing House will deliver natural gas under any contract to, and will receive the delivery of natural gas from, the Clearing Member. The Clearing House may accept delivery from, and make delivery to, third parties acting in the capacity of Designee notified by the Clearing Member to the Clearing House in accordance with this rule.

For the avoidance of doubt, the Clearing Member shall at all times remain responsible for the satisfactory performance of the contract including completion of its delivery, payment and other obligations under the rules of the Exchange and also for the delivery obligations of any Designee appointed by the Clearing Member.

1158104. DELIVERY PROCEDURES

1158104.A. Delivery Process

Delivery of natural gas shall occur on the Gas Flow Day that commences on the Contract Day.

Delivery under these contracts is effected by the transfer of rights to natural gas through the process of making Trade Nominations such that the seller of natural gas (or its Designee) makes a Disposing Trade Nomination that corresponds to an Acquiring Trade Nomination made by the Clearing House, and the buyer of natural gas (or its Designee) makes an Acquiring Trade Nomination that corresponds to a Disposing Trade Nomination made by the Clearing House. Trade Nominations must be made through the Gemini System. The Clearing House may appoint a Gas Delivery Agent to facilitate its processing of delivery instruction.

1158104.B. Notices of Intention to Deliver and Notices of Intention to Accept

1. Exchange Clearing Members having open short positions shall provide the Clearing House with a Notice of Intention to Deliver including the following information: Clearing Member firm, trading

member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for Intention to Deliver must be submitted to the Clearing House no later than 17:00 hours London prevailing time on the last trading day of a Contract Day.

2. Exchange Clearing Members having open long positions shall provide the Clearing House with a Notice of Intention to Accept Delivery including the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, and any other information required by the Clearing House. Notices for Intention to Deliver must be submitted to the Clearing House no later than 17:00 London prevailing time on the last trading day of a Contract Day.

1158104.C. Final Settlement Price

The final settlement price on the last trading day shall be the basis for delivery.

1158105. TIMING OF DELIVERY

1. The Clearing House will calculate the final net gas delivery requirements for each account and shall provide a report to each Clearing Member detailing final gas delivery obligations for each of the relevant accounts and sub-accounts of that Clearing Member by 18:30 hours London prevailing time on the last trading day of the contract. This report shall describe final net flows of natural gas relating to the UK Natural Gas Futures contracts of the Clearing Member for each relevant account and sub-account for the Gas Flow Day. Gas deliveries shall be expressed in whole kWh. The Clearing House may adjust the delivery obligation of an account or sub-account in order to express the delivery obligation in whole kWh, and to ensure a balanced delivery for the Gas Flow Day. Clearing Members should report any discrepancies in this report to the Clearing House as soon as possible.
2. The Clearing House, or the Gas Delivery Agent if such an agent has been appointed, shall submit delivery instructions to the Gemini System by 20:00 hours London prevailing time on the calendar day prior to the Gas Flow Day, reflecting the delivery requirements.
3. The Clearing Member, or its Designee if applicable, must submit delivery instructions for the Gas Flow Day to the Gemini System operated by National Grid by 20:00 hours London prevailing time on the calendar day prior to the Gas Flow Day.

1158106. DELIVERY MARGIN AND PAYMENTS

1158106. A. Definitions

For the purposes of this Rule, "Payment Date" shall mean the second London banking day following a Gas Flow Day unless such day is not also a NYMEX business day, in which case the Payment Date shall be next following NYMEX business day that is also a London business day.

1158106. B. Margin

On the last day of trading, the Clearing Member shall obtain from any buyer margin equal to the full value of the product to be delivered and the Clearing Member shall obtain from any seller margin in an amount fixed, from time to time, by the Clearing House. The buyer's Clearing Member and the seller's Clearing Member shall deposit with the Clearing House margins in such amounts and in such form as required by the Exchange. Such margins shall be returned on the second New York banking day that is also a valid London banking day following notification to the Exchange that delivery and payment have been completed for the Gas Flow Day.

1158106.C. Payment

On the Payment Date, the payment made on the required Payment Date shall be based on the Contract Value for that Gas Flow Day. The Contract Value shall be rounded to the nearest GBP 0.01, or in the case of an exact uneven multiple of GBP 0.005, to the nearest higher GBP 0.01.

Delivery payment will be made during the 07:45 hours Eastern Time collection cycle, or such other time as designated by the Clearing House. Thus, the cost of delivery will be debited or credited to the Clearing Member's settlement account. Long Clearing Members obligated to accept delivery must take delivery and will make delivery payment and short Clearing Members obligated to make delivery will receive delivery payment during the 07:45 hours Eastern Time settlement process, or at such other time designated by the Clearing House, on the day of delivery, except on London banking holidays when delivery must be taken or made and delivery payment made during the 07:45 hours Eastern Time settlement process, or such other time designated by the Clearing House, on the next London banking business day. Adjustments for differences between contract prices and delivery prices established by the Clearing House shall be made with the Clearing House in accordance with Exchange Rules, policies and procedures.

1158107. VALIDITY OF DOCUMENTS

The Exchange makes no representation respecting the authenticity, validity, or accuracy of any Notice of Intention to Deliver, Notice of Intention to Accept, check or any document or instrument delivered pursuant to these rules.

1158108. IMBALANCE CHARGES

Without prejudice to Chapter 7 of the rules of the Exchange, where a buyer or seller fails to submit a valid Trade Nomination for the Gas Flow Day, such that the Clearing House experiences a Daily Imbalance within the National Transmission System, the Clearing Member shall make a compensation payment to the Clearing House for the full amount of any Balancing Charges imposed on the Clearing House by National Grid. The Clearing House may also require an additional compensation payment from a buyer or seller that fails to submit a valid Trade Nomination to cover any additional costs, express or implied, experienced by the Clearing House in the course of remedying the failed submission and failure to deliver.

Chapter 1159

Dutch TTF Natural Gas Monthly Futures

1159100. SCOPE OF CHAPTER

This chapter is limited in application to Dutch TTF Natural Gas Monthly futures. The procedures for trading, clearing, delivery and settlement not specifically covered herein or in Chapter 7 shall be governed by the general rules of the Exchange.

The provisions of these rules shall apply to all natural gas bought or sold for future delivery on the Exchange with delivery at the Dutch TTF ("Title Transfer Facility"), the virtual trading hub in the Netherlands.

The term **Contract Month** means one of such months in which the Dutch TTF Natural Gas Monthly Future is available for trading.

The term **Contract Value** shall mean the amount equal to the final settlement price multiplied by 1 MWh per hour multiplied by the number of hours of delivery in the contract month multiplied by the number of contracts to be delivered. Adjustments will be made to the number of MWh for leap years and Dutch daylight savings time to reflect the total number of hours in a Contract Month;

The term **Designee** means a third party appointed by a Clearing Member to effect the submission of Trade Nominations in its place in respect of an open long position or an open short position and who in each case is permitted to make or take delivery of natural gas to or from the Clearing House;

The term **Edig@s** shall mean the electronic facility operated by GTS enabling users to submit Trade Nominations to GTS for the purposes of the disposal or acquisition of rights to natural gas, and any successor facility from time to time.

The term **Gas Delivery Agent** means a third party appointed by the Clearing House to effect the submission of Trade Nominations on its behalf.

The term **Gas Delivery Day** means the period beginning at 06:00 hours (Central European Time) on any day on which the transfer of rights in respect of natural gas to be made under a Dutch TTF Natural Gas Monthly Future applies, and ending at 06:00 hours (Central European Time) on the following calendar day. Deliveries resulting from a Monthly Futures contract shall include all Gas Delivery Days in the delivery month.

GTS means Gasunie Transport Services BV, a subsidiary of NV Nederlandse Gasunie, the independent operator of the national gas transmission system in the Netherlands.

GTS Rules means the *Gasvoorwaarden*, the rules, regulations, operational manuals and procedures of GTS governing the operation of the national gas transmission system in the Netherlands from time to time under the Dutch Gas Act, including the Transportation Conditions Gas (TCG) and the Transmission Service Conditions (TSC) for gas trading at the TTF and such successor rules and regulations from time to time.

The term **MWh** means megawatthour. One MWh is equal to 1,000 kWh.

National Gas Transmission System means the transmission system for natural gas in the Netherlands owned and operated by GTS.

The terms "**seller**" and "**buyer**" shall mean the seller of the physical product and the buyer of the physical product, respectively.

The term **Title Transfer Facility (TTF)** means the virtual point of delivery within the National Gas Transmission System at which the balancing of deliveries into and out of the GTS transmission system is deemed to take place for the purposes of the Transmission Service Conditions.

Trade Nomination means a trade nomination for the purposes of the Transmission Service Conditions, which shall include **Acquiring Trade Nominations**, being a trade nomination that is

made by a person or, if applicable, its Designee to acquire rights in natural gas at the Title Transfer Facility and submitted in the manner required by the GTS Rules and **Disposing Trade Nominations**, being a trade nomination that is made by a person or, if applicable, its Designee to dispose of rights in natural gas at the Title Transfer Facility and submitted in the manner required by the GTS Rules.

1159101. CONTRACT SPECIFICATIONS

The contract grade for delivery on futures contracts shall be “natural gas” as defined by GTS as matter that at a temperature of 15°C and at a pressure of 1.01325 bar is in a gaseous state and mainly consists of methane or other matter that due to its properties is equivalent to methane. Deliveries under the contract shall be effected by transferring rights to natural gas in the national gas transmission system operated by GTS through the process of making Trade Nominations. Deliveries shall be made in kWh, on a uniform rate of flow and Trade Nominations shall be submitted for each Gas Delivery Day that commences in the Contract Month.

1159102. TRADING SPECIFICATIONS

The number of Contract Months open for trading at any given time shall be determined by the Exchange.

1159102.A. Trading Schedule

The hours for trading shall be determined by the Exchange.

1159102.B. Trading Unit

The contract quantity shall be measured in MWh. The contract quantity shall be 1 MWh (megawatthour) per hour for each hour in each Gas Delivery Day in the Contract Month. Each contract shall be valued as the contract quantity multiplied by the settlement price.

1159102.C. Price Increments

Prices shall be quoted in Euros per MWh. The minimum price fluctuation shall be €0.005 per MWh on CME Globex and CME ClearPort. There shall be no maximum price fluctuation.

Prices shall be exclusive of any taxes or duties that may be applied to a transaction.

1159102.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.

1159102.E. Termination of Trading

In respect of a Contract Month, trading shall cease on the second London business day immediately preceding the first calendar day of the Contract Month, unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is also a London business day. On the last trading day, trading shall terminate at 17:00 hours London prevailing time. Any contracts remaining open after the last day of trading must be settled by delivery which shall take place on each calendar day in the contract month per the delivery process described below.

1159103. DELIVERY

1159103.A. Delivery principles

Delivery is effected by transferring title to natural gas at the TTF, through the process of making Trade Nominations in the Edig@s system between the accounts of Clearing Members (or their appointed Designee) and the Clearing House.

1159103.B. Delivery requirements

The Clearing Member shall be responsible for fulfilling the delivery requirements of every Contract that it has entered into. If it is so able, a Clearing Member may directly make the required Trade Nominations in order to fulfil delivery requirements. Where a Clearing Member chooses not to make Trade Nominations itself, it must appoint a third party to act as Designee in its place. The Clearing Member must notify the Clearing House of the appointment of each relevant Designee through submission of a completed Designee Notification Form (signed by an authorized signatory of each of the Clearing Member and the Designee) to the Clearing House. A Clearing Member may appoint a different Designee in respect of any account or sub-account, provided that only a single Designee may be appointed to effect the submission of Trade Nominations in respect of any single account or sub-account of a Clearing Member.

The Clearing Member must ensure that:

1. It notifies the Clearing House of third parties acting as Designee relating to any account or sub-account by submission to the Clearing House of a completed Designee Notification Form by no later than 17:30 hours London prevailing time three NYMEX business days prior to the first Gas Delivery Day of the contract month; and
2. The Designee acknowledges its appointment no later than 17:30 hours London prevailing time three NYMEX business days prior to the first Gas Delivery Day of the contract in writing by email to the Clearing House.

The Clearing Member is responsible for the accuracy of information provided in any Designee Notification Form and for ensuring that the person signing the Designee Notification Form on behalf of the Clearing Member and the Designee is authorized to do so.

Each Clearing Member must ensure that it, or any Designee that it may appoint, has the right to make Trade Nominations under the GTS Rules and has access to the Edig@s system. Each Clearing Member must ensure that it, or where appointed, its Designee, will at all times comply with the terms of any applicable licence or registration it holds, the GTS Rules and any other Applicable Law and that the Designee meets the conditions on electronic messaging and expertise and care set out in clause 3.2.0(b) and 3.2.0(c) of the Transmission Code Gas. Each Clearing Member, or any Designee appointed by the Clearing Member, must obtain and adequately maintain at all times such systems and technology as may be necessary in order to comply with such requirements.

All payments relating to Dutch Natural Gas Monthly Futures contracts shall be made between the Clearing House and the Clearing Member.

Unless a third party is appointed by a Clearing Member to act as Designee, the Clearing House will deliver natural gas under any contract to, and will receive the delivery of natural gas from, the Clearing Member. The Clearing House may accept delivery from, and make delivery to, third parties acting in the capacity of Designee notified by the Clearing Member to the Clearing House in accordance with this rule.

For the avoidance of doubt, the Clearing Member shall at all times remain responsible for the satisfactory performance of the contract including completion of its delivery, payment and other obligations under the Rules and also for the delivery obligations of any Designee appointed by the Clearing Member.

1159104. DELIVERY PROCEDURES

1159104.A. Delivery Process

Delivery of natural gas shall occur on each Gas Delivery Day that commences in the contract month.

Delivery under these contracts is effected by the transfer of rights to natural gas through the process of making Trade Nominations such that the seller of natural gas (or its Designee) makes a Disposing Trade Nomination that corresponds to an Acquiring Trade Nomination made by the Clearing House, and the buyer of natural gas (or its Designee) makes an Acquiring Trade Nomination that corresponds to a Disposing Trade Nomination made by the Clearing House. Trade Nominations must be made through the Edig@s system.

The Clearing House may appoint a Gas Delivery Agent to facilitate its processing of delivery instructions and Trade Nominations. The Clearing House, or the Gas Delivery Agent if such an agent has been appointed, shall submit delivery instructions to the Edig@s System operated by GTS by

21:00 hours Central European time on the calendar day prior to each Gas day in the Contract Month. The Clearing Member, or its Designee as applicable, must submit delivery instructions to the Edig@s system operated by GTS by no later than 21:00 hours Central European time on the calendar day prior to each Gas Day in the Contract Month. All Trade Nominations in respect of deliveries of natural gas must be matched by no later than two hours prior to the start of the Gas Delivery Day.

1159104.B. Notices of Intention to Deliver and Notices of Intention to Accept

1. Exchange Clearing Members having open short positions shall provide the Clearing House with a Notice of Intention to Deliver including the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for intent to deliver must be submitted to the Clearing House no later than 20:00 hours London prevailing time on the last trading day of a Contract Month.
2. Exchange Clearing Members having open long positions shall provide the Clearing House with a Notice of Intention to Accept Delivery including the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for Intention to Deliver must be submitted to the Clearing House no later than 20:00 London prevailing time on the last trading day of a Contract Month.

1159104.C. Final Settlement Price

The final settlement price on the last trading day shall be the basis for delivery.

1159105. TIMING OF DELIVERY

Trade Nominations shall be submitted for each Gas Delivery Day in the contract month.

1. The Clearing House will calculate the net gas delivery requirements for each account for every Gas Delivery Day of the contract month on the NYMEX business day prior to the Gas Delivery Day. The Clearing House shall provide a report to each Clearing Member detailing gas delivery obligations for each of the relevant accounts and sub-accounts of that Clearing Member by 18:30 hours Central European time one London business day prior to the Gas Delivery Day. The report shall describe the net flows of natural gas relating to Dutch Natural Gas Monthly Futures contracts of the Clearing Member for each relevant account and sub-account for the Gas Delivery Day. Gas deliveries shall be expressed in whole kWh. The Clearing House may adjust the delivery obligation of an account or sub-account in order express the delivery obligation in whole kWh, and to ensure a balanced delivery for the Gas Delivery Day. Clearing Members should report any discrepancies in this report to the Clearing House as soon as possible.
2. The Clearing House, or the Gas Delivery Agent if such an agent has been appointed, shall submit Trade Nominations to the Edig@s System by 21:00 hours Central European time on the calendar day prior to each Gas Delivery Day in the delivery period, reflecting the final delivery requirements.
3. The Clearing Member (or its Designee, as applicable) must submit Trade Nominations to the Edig@s system by 21:00 hours Central European time on the calendar day prior to each Gas Delivery Day in the delivery period, reflecting the final delivery requirements. All Trade Nominations in respect of deliveries of natural gas must be matched by no later than two hours prior to the start of the Gas Delivery Day.

1159106. DELIVERY MARGIN AND PAYMENTS

1159106.A. Definitions

For the purposes of this Rule, "Payment Date" shall mean the second London banking day following a Gas Delivery Day unless such day is not also a NYMEX business day or a valid business day for Euro payments, in which case the Payment Date shall be the next following London banking day that is also a NYMEX business day and a valid business day for Euro payments.

1159106.B. Margin

On the first NYMEX business day following the last day of trading, the Clearing Member shall obtain from any buyer margin equal to the full value of the product to be delivered for such Gas Delivery Days as directed by the Clearing House, and the Clearing Member shall obtain from any seller margin in an amount fixed, from time to time, by the Clearing House. The buyer's Clearing Member and the seller's Clearing Member shall deposit with the Clearing House margins in such amounts and in such form as required by the Exchange. Such margins shall be returned on the second New York banking day that is also a London banking day following notification to the Exchange that delivery and payment have been completed for the Gas Delivery Day.

1159106.C. Payment

On the Payment Date relating to each Gas Delivery Day, the payment made on the required Payment Date shall be based on the Contract Value for that Gas Delivery Day. The Contract Value shall be rounded to the nearest €0.01, or in the case of an exact uneven multiple of €0.005, to the nearest higher €0.01.

Delivery payment will be made during the 07:45 hours Eastern time collection cycle, or such other time as designated by the Clearing House. Thus, the cost of delivery will be debited or credited to the Clearing Member's settlement account. Long clearing members obligated to accept delivery must take delivery and will make delivery payment and short clearing members obligated to make delivery will receive delivery payment during the 07:45 hours Eastern time settlement process, or at such other time designated by the Clearing House, on the day of delivery, except on London banking holidays when delivery must be taken or made and delivery payment made during the 07:45 hours Eastern time settlement process, or such other time designated by the Clearing House, on the next London banking business day. Adjustments for differences between contract prices and delivery prices established by the Clearing House shall be made with the Clearing House in accordance with Exchange Rules, policies and procedures.

1159107. VALIDITY OF DOCUMENTS

The Exchange makes no representation respecting the authenticity, validity, or accuracy of any Notice of Intention to Deliver, Notice of Intention to Accept, check or any document or instrument delivered pursuant to these Rules.

1159108. IMBALANCE CHARGES

Without prejudice to Chapter 7, where a buyer or seller fails to submit a valid Trade Nomination for the Gas Delivery Day, such that the Clearing House experiences an imbalance within the National Gas Transmission System, the Clearing Member shall make a compensation payment to the Clearing House for the full amount of any imbalance charges imposed on the Clearing House by GTS. The Clearing House may also require an additional compensation payment from a buyer or seller that fails to submit a valid Trade Nomination to cover any additional costs, express or implied, experienced by the Clearing House in the course of remedying the failed submission and failure to deliver.

Chapter 1160

Dutch TTF Natural Gas Daily Futures

1160100. SCOPE OF CHAPTER

This chapter is limited in application to Dutch TTF Natural Gas Daily futures. The procedures for trading, clearing, delivery and settlement not specifically covered herein or in Chapter 7 shall be governed by the general rules of the Exchange.

The provisions of these rules shall apply to all natural gas bought or sold for future delivery on the Exchange with delivery at the Dutch TTF ("Title Transfer Facility), the virtual trading hub in the Netherlands.

The term **Contract Value** shall mean the amount equal to the final settlement price multiplied by 1 MWh per hour multiplied by the number of hours of delivery in the Contract Day. Adjustments will be made to the number of MWh for Dutch daylight savings time to reflect the total number of hours in a Contract Day.

The term **Contract Day** means one of such days in which each Product is available for trading.

The term **Designee** means a third party appointed by a Clearing Member to effect the submission of Trade Nominations in its place in respect of an open long position or an open short position and who in each case is permitted to make or take delivery of natural gas to or from the Clearing House.

The term **Edig@s** shall mean the electronic facility operated by GTS enabling users to submit Trade Nominations to GTS for the purposes of the disposal or acquisition of rights to natural gas, and any successor from time to time.

The term **Gas Delivery Agent** means a third party appointed by the Clearing House to effect the submission of Trade Nominations on its behalf.

The term **Gas Delivery Day** means the period beginning at 06:00 hours (Central European Time) on any day on which the transfer of rights in respect of natural gas to be made under a Dutch Natural Gas Daily Future applies, and ending at 06:00 hours (Central European Time) on the following calendar day.

GTS means Gasunie Transport Services BV, a subsidiary of NV Nederlandse Gasunie, the independent operator of the national gas transmission system in the Netherlands.

GTS Rules means the *Gasvoorwaarden*, the rules, regulations, operational manuals and procedures of GTS governing the operation of the national gas transmission system in the Netherlands from time to time under the Dutch Gas Act, including the Transportation Conditions Gas (TCG) and the Transmission Service Conditions (TSC) for gas trading at the TTF and such successor rules and regulations from time to time.

The term **MWh** means megawatthour. One MWh is equal to 1,000 kWh.

National Gas Transmission System means the transmission system for natural gas in the Netherlands owned and operated by GTS.

The terms "**seller**" and "**buyer**" shall mean the seller of the physical product and the buyer of the physical product, respectively;

The term **Title Transfer Facility (TTF)** means the virtual point of delivery within the National Gas Transmission System at which the balancing of deliveries into and out of the GTS transmission system is deemed to take place for the purposes of the Transmission Service Conditions.

Trade Nomination means a trade nomination for the purposes of the Transmission Service Conditions, which shall include **Acquiring Trade Nominations**, being a trade nomination that is

made by a person or, if applicable, its Designee to acquire rights in natural gas at the Title Transfer Facility and submitted in the manner required by the GTS Rules and **Disposing Trade Nominations**, being a trade nomination that is made by a person or, if applicable, its Designee to dispose of rights in natural gas at the Title Transfer Facility and submitted in the manner required by the GTS Rules.

1160101. CONTRACT SPECIFICATIONS

The contract grade for delivery on futures contracts shall be “natural gas” as defined by GTS as matter that at a temperature of 15°C and at a pressure of 1.01325 bar is in a gaseous state and mainly consists of methane or other matter that due to its properties is equivalent to methane. Deliveries under the contract shall be effected by transferring rights to natural gas in the National Gas Transmission System operated by GTS through the process of making Trade Nominations. Deliveries shall be made in kWh. Deliveries shall be made on a uniform hourly rate of flow and Trade Nominations shall be submitted for the Gas Delivery Day that commences on the Contract Day.

1160102. TRADING SPECIFICATIONS

The number of Contract Days open for trading at any given time shall be determined by the Exchange.

1160102.A. Trading Schedule

The hours for trading shall be determined by the Exchange.

1160102.B. Trading Unit

The contract quantity shall be measured in MWh. The contract quantity shall be 1 MWh (megawatthour) per hour for each hour in the Gas Delivery Day applicable to the Contract Day. Each Contract Day shall be valued as the contract quantity multiplied by the settlement price.

1160102.C. Price Increments

Prices shall be quoted in Euros per MWh. The minimum price fluctuation shall be €0.005 per MWh, on CME Globex and CME ClearPort. There shall be no maximum price fluctuation.

Prices shall be exclusive of any taxes or duties that may be applied to a transaction.

1160102.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.

1160102.F. Termination of Trading

In respect of a Contract Day, trading shall cease on the London business day immediately preceding the Contract Day, unless such day is not also a NYMEX business day, in which case trading shall cease on the first preceding NYMEX business day that is also a London business day. On the last trading day, trading shall terminate at 16:35 hours London prevailing time. Any contracts remaining open after the last day of trading must be settled by delivery per the delivery process described below.

1160103. DELIVERY

1160103.A. Delivery principles

Delivery is effected by transferring title to natural gas at the TTF, through the process of making Trade Nominations in the Edig@s system which is part of the National Gas Transmission System in the Netherlands.

1160103.B. Delivery requirements

The Clearing Member shall be responsible for fulfilling the delivery requirements of every Contract that it has entered into. If it is so able, a Clearing Member may directly make the required Trade Nominations in order to fulfil delivery requirements. Where a Clearing Member chooses not to make

Trade Nominations itself, it must appoint a third party to act as Designee in its place. The Clearing Member must notify the Clearing House of the appointment of each relevant Designee through submission of a completed Designee Notification Form (signed by an authorized signatory of each of the Clearing Member and the Designee) to the Clearing House. A Clearing Member may appoint a different Designee in respect of any account or sub-account, provided that only a single Designee may be appointed to effect the submission of Trade Nominations in respect of any single account of a Clearing Member.

The Clearing Member must ensure that:

1. It notifies the Clearing House of third parties acting as Designee relating to any account or sub-account by submission to the Clearing House of a completed Designee Notification Form by no later than 17:30 hours London prevailing time three NYMEX business days prior to the Gas Delivery Day; and
2. The Designee acknowledges its appointment no later than 17:30 hours London prevailing time three NYMEX business days prior to the Gas Delivery Day of the contract in writing by email to the Clearing House.

The Clearing Member is responsible for the accuracy of information provided in any Designee Notification Form and for ensuring that the person signing the Designee Notification Form on behalf of the Clearing Member and the Designee is authorized to do so.

Each Clearing Member must ensure that it, or any Designee that it may appoint, has the right to make Trade Nominations under the GTS Rules and has access to the Edig@s system. Each Clearing Member must ensure that it, or where appointed, its Designee, will at all times comply with the terms of any applicable license or registration it holds, the GTS Rules and any other Applicable Law and that the Designee meets the conditions on electronic messaging and expertise and care set out in clause 3.2.0(b) and 3.2.0(c) of the Transmission Code Gas. Each Clearing Member, or any Designee appointed by the Clearing Member, must obtain and adequately maintain at all times such systems and technology as may be necessary in order to comply with such requirements.

All payments relating to Dutch Natural Gas Daily Futures contracts shall be made between the Clearing House and the Clearing Member.

Unless a third party is appointed by a Clearing Member to act as Designee, the Clearing House will deliver natural gas under any contract to, and will receive the delivery of natural gas from, the Clearing Member. The Clearing House may accept delivery from, and make delivery to, third parties acting in the capacity of Designee notified by the Clearing Member to the Clearing House in accordance with this Rule.

For the avoidance of doubt, the Clearing Member shall, at all times remain responsible for the satisfactory performance of the contract including completion of its delivery, payment and other obligations under the Rules and also for the delivery obligations of any Designee appointed by the Clearing Member.

1160104. DELIVERY PROCEDURES

1160104.A. Delivery Process

Delivery of natural gas shall occur on the Gas Delivery Day that commences on the Contract Day.

Delivery under these contracts is effected by the transfer of rights to natural gas through the process of making Trade Nominations such that the seller of natural gas (or its Designee) makes a Disposing Trade Nomination that corresponds to an Acquiring Trade Nomination made by the Clearing House, and the buyer of natural gas (or its Designee) makes an Acquiring Trade Nomination that corresponds to a Disposing Trade Nomination made by the Clearing House. Trade nominations must be made through the Edig@s system.

The Clearing House may appoint a Gas Delivery Agent to facilitate its processing of delivery instructions. The Clearing House, or the Gas Delivery Agent if such an agent has been appointed, shall submit delivery instructions to the Edig@s System by 21:00 hours Central European time on the calendar day prior to the Gas Delivery Day. The Clearing Member, or its Designee as applicable, must submit delivery instructions to the Edig@s System by no later than 21:00 hours Central European time on the calendar day prior to the Gas Delivery Day. All Trade Nominations in respect

of deliveries of natural gas must be matched by no later than two hours prior to the start of the Gas Delivery Day.

1160104.B. Notices of Intention to Deliver and Notices of Intention to Accept

1. Exchange Clearing Members having open short positions shall provide the Clearing House with a Notice of Intention to Deliver including the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for Intention to Deliver must be submitted to the Clearing House no later than 17:00 hours London prevailing time on the last trading day of a Contract Day.
2. Exchange Clearing Members having open long positions shall provide the Clearing House with a Notice of Intention to Accept Delivery including the following information: Clearing Member firm, trading member firm, origin (customer/house), quantity, shipper code and any other information required by the Clearing House. Notices for Intention to Deliver must be submitted to the Clearing House no later than 17:00 London prevailing time on the last trading day of a Contract Day.

1160104.C. Final Settlement Price

The final settlement price on the last trading day shall be the basis for delivery.

1160105. TIMING OF DELIVERY

Delivery shall be made on a uniform hourly flow rate over the course of the Contract Day.

1. The Clearing House will calculate the net gas delivery requirements for each account and shall provide a report to each Clearing Member detailing final gas delivery obligations for each of the relevant accounts and sub-accounts of that Clearing Member by 18:30 hours London prevailing time on the last trading day of the Contract Day. The report shall describe the net flows of natural gas relating to Dutch Natural Gas Contracts of the Clearing Member for each relevant account and sub-account for the Gas Delivery Day. Gas deliveries shall be expressed in whole kWh. The Clearing House may adjust the delivery obligation of an account or sub-account in order to express the delivery obligation in whole kWh, and to ensure a balanced delivery for the Gas Delivery Day. Clearing Members should report any discrepancies in this report to the Clearing House as soon as possible.
2. The Clearing House, or the Gas Delivery Agent, if such an agent has been appointed, shall aim to submit Trade Nominations to the Edig@s System operated by GTS by 21:00 hours Central European time on the calendar day prior to the Gas Delivery Day, reflecting the delivery requirements.
3. The Clearing Member (or its Designee as applicable) must submit Trade Nominations to the Edig@s System operated by GTS by 21:00 hours Central European time on the calendar day prior to the Gas Delivery Day, reflecting the final delivery requirements. All Trade Nominations in respect of deliveries of natural gas must be matched by no later than two hours prior to the start of the Gas Delivery Day.

1160106. DELIVERY MARGIN AND PAYMENTS

1160106.A. Definitions

For the purposes of this Rule, "Payment Date" shall mean the second London banking day following a Gas Delivery Day unless such day is not also a NYMEX business day or a valid business day for Euro payments, in which case the Payment Date shall be the next following London banking day that is also a NYMEX business day and a valid business day for Euro payments.

1160106.B. Margin

On the last day of trading, the Clearing Member shall obtain from any buyer margin equal to the full value of the product to be delivered and the Clearing Member shall obtain from any seller margin in an amount fixed, from time to time, by the Clearing House. The buyer's Clearing Member and the seller's Clearing Member shall deposit with the Clearing House margins in such amounts and in such form as required by the Exchange. Such margins shall be returned on the second New York banking day that is also a London banking day following notification to the Exchange that delivery and payment have been completed for the Gas Delivery Day.

1160106.C. Payment

On the Payment Date relating to the Gas Delivery Day, the payment made on the required Payment Date shall be based on the Contract Value for that Gas Delivery Day. The Contract Value shall be

rounded to the nearest €0.01, or in the case of an exact uneven multiple of €0.005, to the nearest higher €0.01.

Delivery payment will be made during the 07:45 hours Eastern time collection cycle, or such other time as designated by the Clearing House. Thus, the cost of delivery will be debited or credited to the Clearing Member's settlement account. Long Clearing Members obligated to accept delivery must take delivery and will make delivery payment and short Clearing Members obligated to make delivery will receive delivery payment during the 07:45 hours Eastern time settlement process, or at such other time designated by the Clearing House, on the day of delivery, except on London banking holidays when delivery must be taken or made and delivery payment made during the 07:45 hours Eastern time settlement process, or such other time designated by the Clearing House, on the next London banking business day. Adjustments for differences between contract prices and delivery prices established by the Clearing House shall be made with the Clearing House in accordance with Exchange Rules, policies and procedures.

1160107. VALIDITY OF DOCUMENTS

The Exchange makes no representation respecting the authenticity, validity, or accuracy of any Notice of Intention to Deliver, Notice of Intention to Accept, check or any document or instrument delivered pursuant to these rules.

1160108. IMBALANCE CHARGES

Without prejudice to Chapter 7, where a buyer or seller fails to submit a valid Trade Nomination for the Gas Delivery Day, such that the Clearing House experiences an imbalance within the National Gas Transmission System, the Clearing Member shall make a compensation payment to the Clearing House for the full amount of any imbalance charges imposed on the Clearing House by GTS. The Clearing House may also require an additional compensation payment from a buyer or seller that fails to submit a valid Trade Nomination to cover any additional costs, express or implied, experienced by the Clearing House in the course of remedying the failed submission and failure to deliver.

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 Name	Globex Symbol	Globex Non-Reviewable Ranges (NRR)	NRR: Globex Format	NRR: Ticks
<u>UK NBP Natural Gas Calendar Month Futures</u>	<u>UKG</u>	<u>£0.10 per therm</u>	<u>20</u>	<u>20</u>
<u>UK NBP Natural Gas Daily Futures</u>	<u>NBD</u>	<u>£0.10 per therm</u>	<u>20</u>	<u>20</u>
<u>Dutch TTF Natural Gas Calendar Month Futures</u>	<u>TTF</u>	<u>€0.30 per MWh</u>	<u>60</u>	<u>60</u>
<u>Dutch TTF Natural Gas Daily Futures</u>	<u>TTD</u>	<u>€0.30 per MWh</u>	<u>60</u>	<u>60</u>

Appendix D

Cash Market Overview and Deliverable Supply

DATA SOURCES:

We have used the following data sources within this analysis and provided further information on each source below.

For Dutch TTF Natural Gas

Gasunie Transport Services (GTS), is a gas Transmission System Operator (TSO) operating in the Netherlands and is responsible for the management of the natural gas network in the country. Gasunie set up the Title Transfer Facility (“TTF”) virtual trading hub in 2003. It is the owner and operator of the Dutch gas transmission network and is responsible for the management, operation and development of the gas transport system in the country¹.

FOR UK NBP Natural Gas

National Grid² is the gas and power TSO operating in the United Kingdom and is responsible for the management of the natural gas network in the country. National Grid is the operator of the National Balancing Point (“NBP”), which serves as the central trading and balancing venue for natural gas market participants in the UK.

OFGEM³ is the Office of Gas and Electricity Markets in the UK. The agency is a non-ministerial government department and an independent National Regulatory Authority, recognized by EU Directives. The principal objective of OFGEM is to protect the interests of existing and future electricity and gas consumers, mainly by promoting competition in the market place. OFGEM publishes a range of reports to monitor wholesale energy markets in the UK.

PEGAS

PEGAS⁴ was launched as a cooperation between European Energy Exchange (EEX) and Powernext in 2013. PEGAS is a central gas trading platform which provides its members with access to all products and allows them to trade natural gas contracts in the major European gas market areas including the UK. All natural gas business activities of EEX and Powernext are conducted under the PEGAS brand name.

ICE OCM⁵

This is the UK natural gas physical market that reflects all contracts for physical delivery through the transfer of rights in respect of Natural Gas at the National Balancing Point, operated by National Grid. The OCM is open 24 hours per day 7 days per week and is hosted by ICE Endex with ICE Clear Europe acting as the central counterparty to all trades thereby guaranteeing the financial performance of the ICE Endex gas spot market.

¹ <https://www.gasunietransportservices.nl/en>

² <http://www2.nationalgrid.com>

³ <https://www.ofgem.gov.uk/>

⁴ <http://www.pegas-trading.com/en/>

⁵ <https://www.theice.com/products/43396041/UK-OCM-Gas-Spot>

The Dutch and UK Natural Gas markets

Overview

The European gas market has seen more than fifteen years of market liberalization. Historically, long term supply deals for the European markets were done on an oil-indexed basis. This is because there was a degree of price linkage between oil and gas, as the two could potentially compete against each other as generation fuel. However, oil for power generation has largely disappeared in Europe, and there are only very few applications in which the two fuels directly compete against each other: the economic justification for oil price linkage is much weaker than it was before. This has led to a gradual decline of oil-indexation as a pricing mechanism for long-term pipeline and LNG supply contracts. The decline of oil-indexation in contract pricing led to an equivalent increase in the use of hub pricing. This development first started in the UK in the early 2000's and was later followed by the continental European gas markets. NBP and TTF are the dominant virtual hubs for contract pricing, both for wholesale gas supply and for the purchase of gas for industrial and commercial use in Europe. TTF is used beyond the Dutch market, as it provides a benchmark reference for the Continental European gas markets: typically gas prices are highly positively correlated as physical infrastructure allows for arbitrage flows to greatly reduce regional price differences between most highly interconnected markets in Western Europe (including prices for Germany – Europe's largest consumer, France, Italy, Austria, etc)⁶.

The Dutch Natural Gas market

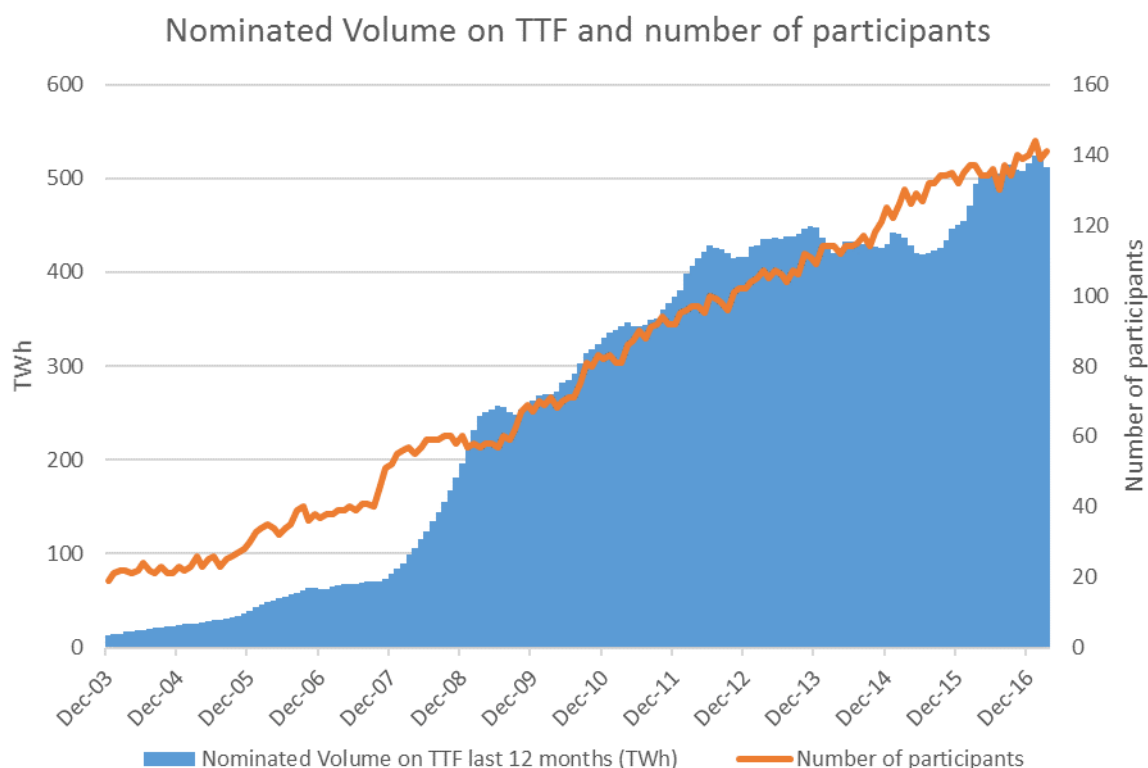
TTF refers to the Title Transfer Facility, a virtual trading hub for natural gas in the Netherlands. The TTF was set up by Gasunie in 2003. TTF participants exchange rights to natural gas via a nomination process within the TTF market area. Unlike Henry Hub, TTF is a purely virtual construct for nominal transfer of gas rights: there is no physical location for exchange as TTF represents gas injected into any part of the Dutch market area. Gas sold on TTF must have been previously injected into the Gasunie system. Trading on TTF means the transfer of ownership to gas within the Dutch grid system. While title transfer via a nomination is a bilateral process between Buyer and Seller, Gasunie needs to always know who owns the gas molecules in its system. The virtual title transfer should be consistent with physical gas flows: counterparties who bought rights to gas in the virtual trading zones physically import gas into the system via pipelines/ LNG cargoes, or withdrew gas from storage facilities and into the transportation grid. The corresponding TTF Sellers export gas into neighboring countries, deliver gas for local consumption or inject gas into storage facilities and out of the grid. Overall, participants are incentivized to balance their portfolio as they are levied a Balancing Charge against net imbalances between acquiring and disposing TTF nominations. GTS monitors the system and gas flows and may enter the market in its role as the "marginal balancer" if such actions are required. However, Gasunie will never enter the market for speculative or trading purposes beyond balancing transactions. TTF is firmly established as the main forward trading and risk management venue for Continental European Gas trading. On its website, GTS provides information how much volume is nominated on TTF and how many parties are active in a given month⁷. We base our Deliverable Supply Analysis on this data, as nominated volume on TTF represents readily available supply that may be used to fulfill delivery obligations via a corresponding nomination. A sufficient amount of nominated volume should indicate a mature market, in which participants can access TTF liquidity (to fulfill delivery obligations resulting from OTC and exchange activity) on a short-term basis.

On its public website, GTS provides data on nominated TTF volume and the number of active participants on a monthly granularity. Below chart shows the historic evolution of nomination volumes and participants numbers since the launch of the virtual trading hub. It shows a very positive evolution of nomination volumes

⁶ For a detailed analysis of European Gas price correlation, see <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2013/10/NG-79.pdf>

⁷ <https://www.gasunietransportservices.nl/en/about-gts/publications>

and the number of active market participants since launch. Below chart tracks the data up to and including March 2017.



source: GTS website

The table below provides an overview how much volume was nominated in the last 3 full Calendar Years in Terawatt-hours (TWh). The data was converted from TWh into Terajoules and MMBtu using the following conversion factors: 1 TWh = 3,600 Terajoules, 1 Terajoule = 947.816 MMBtu. The MMBtu figure was also converted into units of 10,000 MMBtu, which is the standard lot size for Henry Hub natural gas (NG contract). The data is also shown in standard European monthly lots of 720 MWh⁸. Note that the underlying data on a monthly granularity is attached to the Appendix. Note that this data is published on a monthly basis and we have shown this data up to and including March 2017.

Nominated TTF Volume	2014	2015	2016	3y average
TWh	430	450	516	465
Terajoules	1,548,306	1,619,555	1,856,443	1,674,768
MMBtu	1,467,511,029	1,535,042,095	1,759,568,716	1,587,373,947
US Lots (1 lot = 10,000 MMBtu)	146,751	153,504	175,957	158,737
EU Lots (1 lot = 720 MWh)*	597,340	624,828	716,220	646,130
Source: GTS website				

⁸ When trading in MWh per hour, market convention is to define a standard monthly lot as a 30-day month, which results in a lot size of 720 MWh (which is equal to 24 hours' times 30 days). However, actual lot sizes vary from 672 MWh (for the month of February with 28 days) to 745 MWh (the month of October with 31 days plus one extra hour due to Daylight Savings time). 1 TWh is 10⁶ MWh.

A yearly average of approximately 646,000 lots suggests a monthly average of deliverable supply in the order of ~54,000 lots. However, we need to consider that a significant proportion of the nominated volume represents volume that is being nominated to fulfill long-term contract obligations, which would by definition not necessarily automatically be available for sale on a spot basis. To estimate the amount of volume available on a spot basis, we propose to use spot exchange volume as a guide. PEGAS⁹, owned by the European Energy Exchange EEX¹⁰, offers spot trading products for TTF and has become the most important platform for TTF spot trading. Spot trading refers to delivery in the near-term (within month) with most of the volume being done on a “Day-Ahead” basis, which means delivery of the traded gas to be made via nominations for the next Calendar Day. In the European markets, physical spot trading mostly occurs on spot exchanges, as it allows anonymous trading and the pooling of liquidity for near-term balancing purposes.

	2014	2015	2016	3y average
Nominated TTF Volume TWh *	430	450	516	465
PEGAS TTF Spot Trading Volume TWh **	67	124	183	125
Ratio Spot Trading/ Nominations	16%	28%	35%	26%
Source: * GTS website, ** EEX¹¹				

We can see that Exchange spot trading activity has greatly increased in relation to the amount of nominations being made on TTF, this increase being driven by significantly higher volume exchanged on PEGAS. All else being equal, an increase in the ratio of spot trading volume to total nominated volume increases the accessibility of the TTF for sale on a Spot basis.

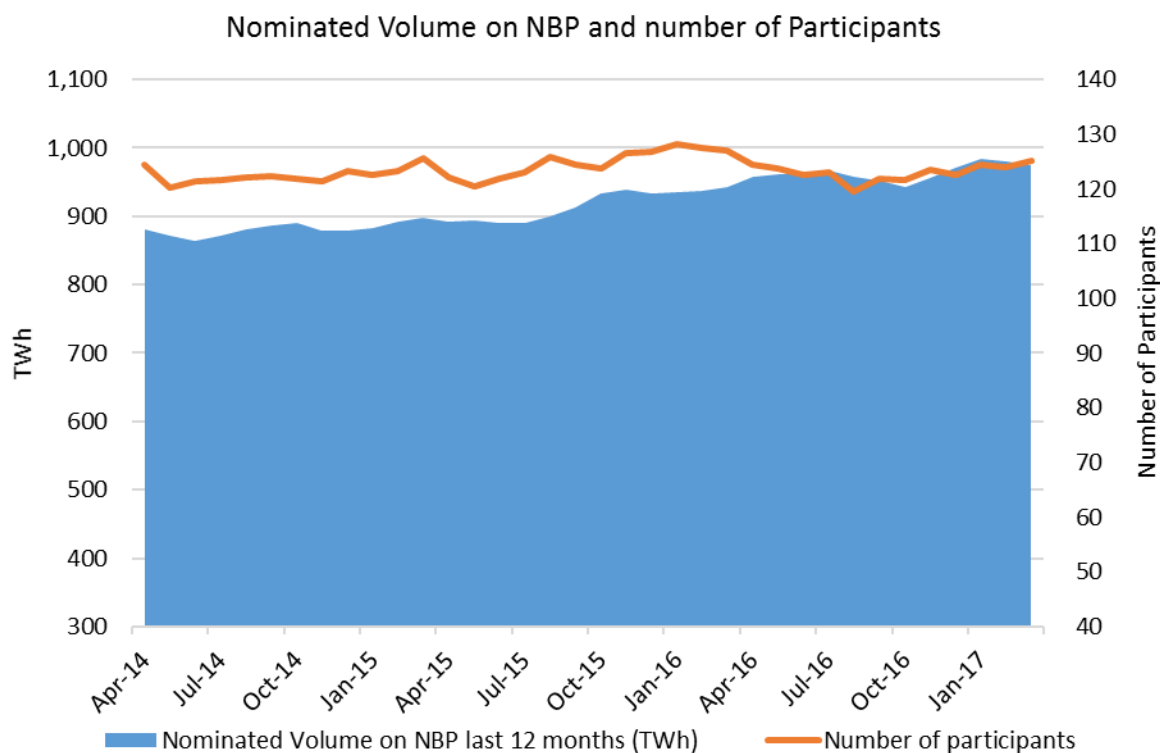
⁹ <http://www.pegas-trading.com/en/>

¹⁰ <https://www.eex.com/en/>

¹¹ <https://www.eex.com/en/about/eex/annual-report> and <https://www.eex.com/blob/7152/7f7df85c657e2576483fae192cc606ab/1-20140605-pegas-eex-powernext-cooperation-in-natural-gas-pdf-data.pdf>

The UK Natural Gas market

In the UK, NBP, the National Balancing Point, refers to a similar system operated by National Grid, the UK's power and gas transmission system operator. The UK was the first fully liberalized gas market in Europe and NBP has quickly become a significant forward trading and risk management venue for natural gas markets. Participants may engage in "title trade", which is the notional transfer of rights to gas within the UK's Transmission system. National Grid monitors the system and gas flows and may enter the market if balancing trades are required. Again, customers are incentivized to balance their portfolios ahead of gas flows as they are otherwise subject to imbalance charges. However, some system imbalance is unavoidable as for example domestic consumption is hard to exactly predict – for such balancing activities, National Grid enters the market as a marginal participant in order to balance its grid system. On its website, National Grid provides data on nominated volumes and on the number of market participants on a given day. Again, those figures represent volume available to be nominated against delivery obligations on the NBP. Such delivery obligations may result from OTC trades or exchange trading activity. On its public website, National Grid provides data on nominated volume and on the number of market participants on a daily granularity. Below chart shows how nominated volumes changed across the past 3 years. The number of participants represents the average active participation in a given month.



The table below was based on the same data from National Grid. For NBP, the standard trading unit is 30,000 therms per monthly lot¹². The underlying data is attached to the appendix (with the daily data aggregated into months for the sake of brevity):

Nominated NBP Volume	2014	2015	2016	3y average
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¹² Just like "european" MWh per hour monthly lots are referred to with a standard lot size of 720 MWh, UK monthly lots are computed based on a standard lot size of 30,000 therms (30 day months times 1,000 therms per day). 1 MMBtu is equal to 10 therms

TWh	879	934	971	928
Terajoules	3,164,164	3,361,022	3,496,540	3,340,575
MMBtu	2,999,048,866	3,185,633,974	3,314,080,287	3,166,254,376
US Lots (1 Lot = 10,000 MMBtu)	299,905	318,563	331,408	316,625
UK Lots (1 Lot = 30,000 therms)	999,683	1,061,878	1,104,693	1,055,418
Source: National Grid¹³				

A yearly average of approximately 1,055,000 lots is equivalent to a monthly average of ~88,000 lots of nominations. Again, we need to consider that a large part of that nominations will have been scheduled as part of contractual obligations resulting from long-term trading and procurement activities.. Using a method that replicates the approach taken for the deliverable supply analysis of the TTF market, we will consider volume traded on the NBP spot exchange, namely the OCM¹⁴ (“on the day Commodity market”) operated by ICE ENDEX, to estimate deliverable supply. National Grid publishes regular OCM updates which include OCM volume charts¹⁵. In addition, OFGEM publishes “interactive wholesale market indicators”¹⁶ which include ICE ENDEX (OCM) trading volume by month (data available up to and including December 2016). OFGEM data is published in BCM (billion cubic meters of gas), which was converted into TWh using a ratio of 1 BCM = 10.46 TWh¹⁷

By Calendar Year	2014	2015	2016	3y average
Nominated NBP Volume TWh *	879	934	971	928
OCM Spot Trading Volume TWh **	126	105	100	110
Ratio OCM Spot Trading/ Nominations	14%	11%	10%	12%
<i>Source: * National Grid, ** OFGEM</i>				

¹³ <http://www2.nationalgrid.com/uk/industry-information/gas-transmission-operational-data/data-item-explorer/>

A detailed explanation of where the numbers are derived is shown in Appendix B below.

¹⁴ <https://www.theice.com/products/43396041/UK-OCM-Gas-Spot>

¹⁵ <http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=44951> and <http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=8589936694>

¹⁶ <https://www.ofgem.gov.uk/data-portal/wholesale-market-indicators> under “Access and Liquidity”, Gas trading volumes and monthly churn ratio by Platform

¹⁷ 1 BCM is 35.7 * 10¹² BTU, 1 BTU is 1/3412 KWh. 1 KWh is 10⁻⁹ TWh. See <http://www.bp.com/content/dam/bp/excel/energy-economics/statistical-review-2015/bp-stats-review-conversion-factors.xlsx>

Analysis of Deliverable Supply

In estimating deliverable supply for the futures contracts, the Exchange relied on long-standing precedent, which provides that the key component in estimating deliverable supply is the portion of typical production and supply stocks that could reasonably be considered to be readily available for delivery. In its guidance on estimating deliverable supply, the Commodity Futures Trading Commission (“CFTC” or “Commission”) states:

In general, the term “deliverable supply” means 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. Typically, deliverable supply reflects the quantity of the commodity that potentially could be made available for sale on a spot basis at current prices at the contract’s delivery points. For a non-financial physical-delivery commodity contract, this estimate might represent product which is in storage at the delivery point(s) specified in the futures contract or can be moved economically into or through such points consistent with the delivery procedures set forth in the contract and which is available for sale on a spot basis within the marketing channels that normally are tributary to the delivery point(s).¹⁸

For TTF and NBP, the basis for deliverable supply are the nominations executed on the UK and Dutch transmission systems. These figures include all nominations regardless whether those nominations are the result of spot trades or long-term transactions. To exclude long-term transactions from the total nominations available, we apply a reduction to the TSO nominations of 80% for the Dutch market and 90% for the UK market.

For the Dutch market, based on the spot trading figures and the ratios between spot trading and nominations (26% on average across the last 3 years), we propose to define 20% of the monthly average of 54,000 lots nominated to be available on a short-term basis. The monthly deliverable supply would be 10,800 lots per month (20% of 54,000). For the daily deliverable supply, we need to calculate the daily deliverable amount in MWh and convert using the unit size for the daily contracts of 24 MWh. The monthly deliverable supply is equal to 10,800 monthly lots times 720 MWh per monthly lot. The daily deliverable supply in *daily lots* is also equal to 10,800 lots.¹⁹ Given the increased volume traded on the spot platform operated by PEGAS and the growing volume on TTF, we estimate that this percentage figure is conservative. In addition, we believe this estimate of deliverable supply to be at the lower end of the range because it does not consider significant OTC bilateral activity in the day-ahead markets, which adds a further layer of supply deliverable on a short-term/ spot basis.

For the UK market, based on the spot trading figures and the ratios between spot trading and nominations (12% on average across the last 3 full gas years), we propose to define 10% of the monthly average of 88,000 lots to be available for supply on a short-term basis. The monthly deliverable supply would be 8,800 lots per month (10% of 88,000). The deliverable supply in daily lots is also equal to 8,800 daily lots²⁰. Because the NBP is an established mature market, we believe that this estimate is a reasonable approximation of the deliverable supply for NBP. Again, we believe it to be a conservative estimate because

¹⁸ http://www.ecfr.gov/cgi-bin/text-idx?SID=74959c3dbae469e2efe0a42b45b8dfae&mc=true&node=ap17.1.38_11201.c&rgn=div9

¹⁹ Monthly deliverable supply is 10,800 monthly lots * 720 MWh per lot = 7,776,00 MWh. On a daily basis, this amounts to 7,776,000 MWh / 30 = 259,200 MWh. The daily lot size is 24 MWh, which means 259,200 MWh per day, equivalent to 10,800 daily lots per day.

²⁰ 8,800 monthly lots per month is equal to 8,800 lots * 30,000 therms per lot. 264,000,000 therms per month is equal to 8,800,000 therms per day. 8,800,000 therms per day is equal to 8,800 daily lots.

OTC bilateral volume traded on a day-ahead basis is not captured but will be available on a short-term basis for delivery purposes.

Using the 20% figure for the Dutch and 10% for the UK, we have calculated the deliverable supply volume into both markets. This is the volume of gas that could be readily available for nomination on a month ahead basis for the UK and the Netherlands.

The Exchange proposes a spot month position limit for the Dutch TTF Natural Gas Calendar Month Futures (commodity code TTF) of 2,000 contracts equivalents (based on a monthly contract size of 720 MWh), which represents 18.5% of the monthly deliverable supply of 10,800 contracts and is below the 25% of deliverable supply threshold. A spot month limit for the Dutch TTF Natural Gas Daily Futures (commodity code TTD) is also proposed to be set at 2,000 contracts per day (based on a daily contract size of 24 MWh). Trades in the daily futures will aggregate into themselves for the purposes of spot limit calculation purposes. The proposed daily spot limit is below the 25% of deliverable supply threshold.

The Exchange proposes a spot month position limit for the UK NBP Natural Gas Calendar Month Futures (commodity code UKG) of 1,750 contracts equivalents (based on a monthly contract size of 30,000 therms), which represents 19.9% of the monthly deliverable supply of 8,800 contracts and is below the 25% of deliverable supply threshold. A spot month limit for the UK NBP Natural Gas Daily Futures (commodity code NBD) is also proposed to be set at 1,750 contracts per day (based on a daily contract size of 1,000 therms). Trades in the daily futures will aggregate into themselves for the purposes of spot limit calculation purposes. The proposed daily spot limit is below the 25% of deliverable supply threshold.

Appendix A

TTF Data (source: GTS website)

	2013		2014		2015		2016		2017	
	Volume TWh	Participants	Volume TWh	Participants	Volume TWh	Participants	Volume TWh	Participants	Volume TWh	Participants
January	58	104	48	114	61	122	65	135	74	144
February	54	105	44	114	43	126	59	137	56	139
March	48	107	41	114	36	130	59	137	51	141
April	33	105	38	112	31	126	39	134		
May	31	107	38	114	29	129	29	134		
June	26	106	25	114	24	127	27	136		
July	25	104	24	115	26	132	28	130		
August	25	107	23	117	25	132	31	137		
September	24	106	23	114	26	134	29	134		
October	37	112	36	118	44	134	39	140		
November	42	111	39	121	52	135	50	139		
December	44	109	49	125	53	132	61	140		

NBP Data (source: National Grid website): Nominations

	2013		2014		2015		2016		2017	
	Volume TWh	Participants	Volume TWh	Participants	Volume TWh	Participants	Volume TWh	Participants	Volume TWh	Participants
January	109	119	95	120	100	123	101	128	113	124
February	101	118	85	121	93	123	95	128	92	124
March	108	118	84	122	89	126	94	127	88	125
April	88	116	72	120	68	122	84	124		
May	76	117	67	120	69	121	73	124		
June	71	116	62	121	59	122	60	123		
July	53	119	61	122	60	123	65	123		
August	46	119	55	122	66	126	55	120		
September	51	119	56	122	68	125	64	122		
October	66	119	69	122	90	124	79	122		
November	89	120	79	121	86	127	99	123		
December	92	120	92	123	86	127	102	123		

NBP Data (source: OFGEM): ICE ENDEX volume

Volume BCM	2013	2014	2015	2016
January	1.07	0.91	0.94	0.87
February	1.01	0.99	0.93	0.76
March	1.52	1.03	0.92	0.97
April	1.11	1.15	0.86	0.93
May	1.09	1.11	0.88	0.88
June	1.21	0.94	0.76	0.79
July	1.06	0.95	0.70	0.71
August	1.10	0.97	0.87	0.72
September	1.14	0.95	0.76	0.72
October	1.07	1.11	0.76	0.71
November	1.05	0.99	0.90	0.65
December	1.11	0.95	0.79	0.83

