Northwest European gas industry
stakeholders and all other
interested parties

1 October 2012

Dear Colleagues

Open letter: Call for evidence on the use of the gas interconnectors on Great Britain's (GB's) borders and on possible barriers to trade

The GB, Belgian and Dutch gas markets are interconnected by Interconnector UK (IUK, between GB and Belgium), the Balgzand Bacton Interconnector (BBL, between the Netherlands and GB) and several Interconnection Points (IPs) between Belgium and the Netherlands. These assets play an important role in gas security of supply by allowing for gas to flow to where it is valued most and are a key infrastructure to integrating European markets. Current and expected future developments in Northwest European markets show an ever greater need for market arrangements to seek to ensure that interconnectors operate as efficiently as possible. For example, GB is moving from a position of self sufficiency to one of gas import dependency. In all three markets more wind generation is coming on line potentially leading to an enhanced need for gas-fired power stations to vary their generation within the day (to compensate for when the output of wind power is low). Our initial analysis suggests that gas flows across the two interconnectors (IUK and BBL) between GB and Belgium and between GB and the Netherlands could be further optimised and that there are occasions where gas does not flow to the market where price signals highest demand. This leads to inefficiencies and markets exporting when in fact they should be importing or vice-versa.

The Third Package[1] aims to improve the integration of markets by harmonising market rules. It brings changes to market design, for example the establishment of entry/exit regimes across Europe and provides for European network codes to further harmonise capacity allocation, balancing and trading arrangements. It also places a legal obligation on energy regulators to cooperate and provides a number of objectives which regulators have to pursue in performing their regulatory tasks including promoting a competitive internal market, eliminating restrictions on cross-border trade in gas and enhancing the integration of national markets. The European regulators undertook a process to identify a Gas Target Model[2] for enhancing market integration, which identified principles but left

[1] In this document the term "Third Package" refers to Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC and to Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005.

[2] The CEER gas target model conclusions paper can be found at http://www.energy-regulators.eu/portal/page/portal/EER_HOME/EER_PUBLICATIONS/CEER_PAPERS/Gas/Tab/C11-GWG-82-03_GTM%20vision_Final.pdf

open the question as to how to enhance market integration, for example whether this should be through 'merging market areas' or through 'coupling existing markets'. The regulators committed to review the gas flows on their interconnectors and come to a view on how to enhance integration. This letter launches that review process.

The purpose of this letter is to consult stakeholders' views on the initial analysis as part of this review and seek views on issues that need to be considered when seeking to remove the barriers to cross-border trade. We could proceed with the minimum necessary changes to seek to remove obstacles to trade and to enhance market integration so as to achieve compliance with our objectives under the Third Package, including European network codes. However, we now have an opportunity to consider whether further reforms are needed and to assess how best to proceed.

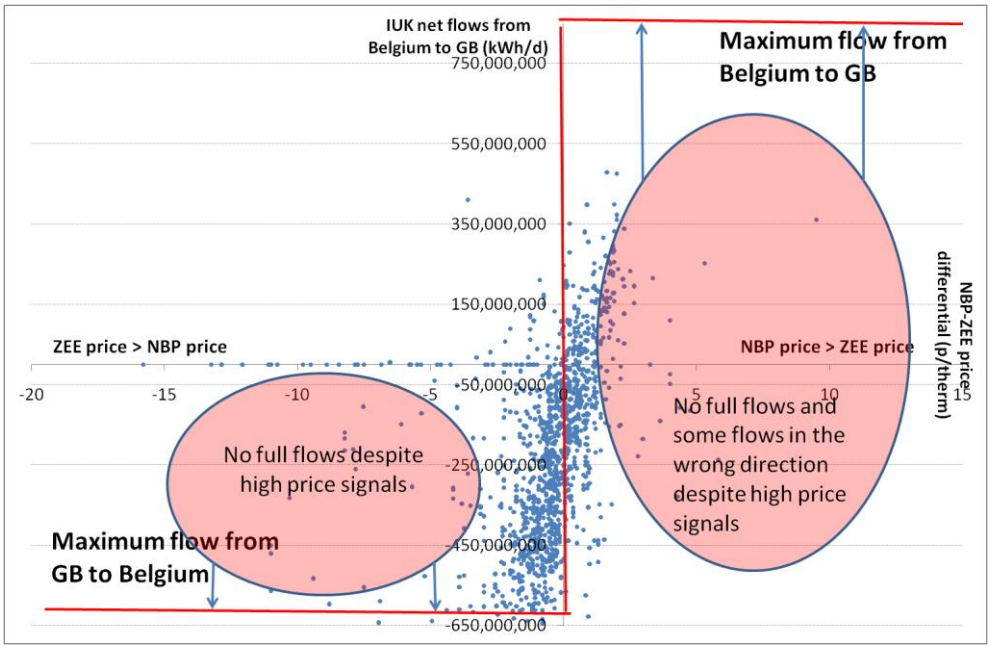
This call for evidence focuses on cross-border flows between GB, the Netherlands and Belgium. Interconnection points with Ireland, Germany, Luxembourg and France are also important but not subject of this call for evidence.

Initial assessment of gas flows' price responsiveness on the interconnectors and of possible barriers

Our initial analysis on efficiency of flows

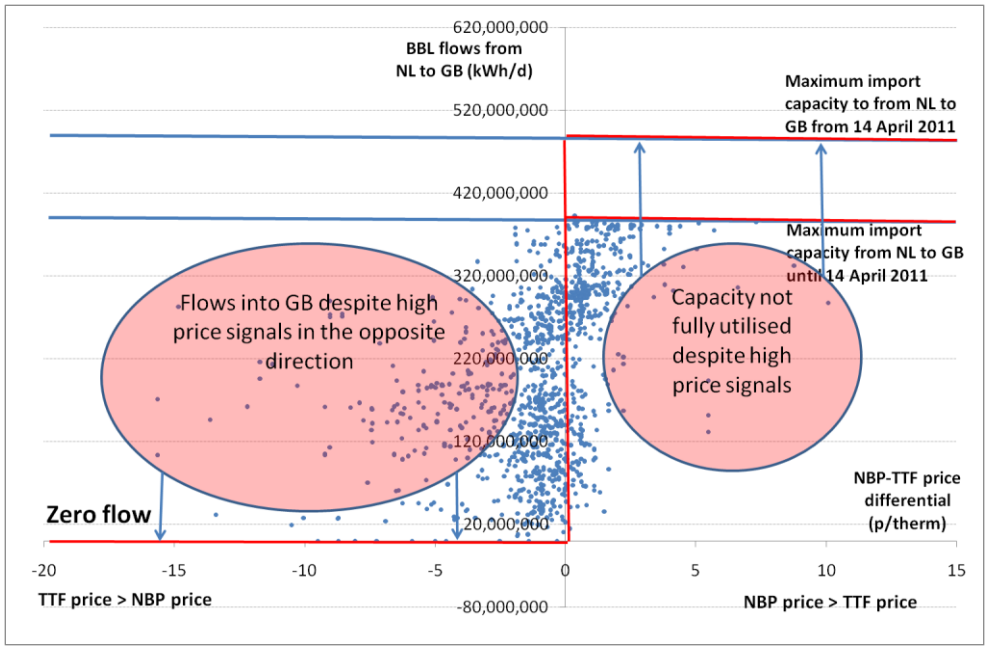
Ofgem has undertaken initial analysis, in cooperation with CREG and the NMa. We have examined whether or not gas trades between GB and Belgian and Dutch hubs (i.e. between the NBP and ZEE and TTF hubs, respectively[3]) are economically efficient. We would consider cross-border trades to be economically efficient if gas flows from the low priced to the high priced market. If this is not the case, we observe flows against price differentials ("FAPDs"). Where FAPDs can be observed, the role of interconnectors in security of supply is undermined, since it may result in additional gas being exported from a market facing a gas shortage.

Figure 1: Gas flows on IUK between GB and Belgium



[3] NBP stands for National Balancing Point and is the virtual trading hub in GB. ZEE is short for Zeebrugge which is the trading point between IUK and the Belgian entry-exit system. TTF stands for Title Transfer Facility which is the virtual trading hub in The Netherlands.

Figure 2: gas flows on BBL between the Netherlands and GB



Each blue dot in Figures 1 and 2 displays actual physical flows between GB and its adjacent hubs (TTF and Zeebrugge) on one day between 1st January 2009 and 30th June 2012[4] (note that BBL can only physically flow gas from NL to GB). The horizontal axis shows the difference between day-ahead prices on the British hub (NBP) and Zeebrugge or TTF hubs (in Belgium and the Netherlands, respectively), all converted to pence/therm[5]. The vertical axis indicates the flow in kWh/day: any flows above the zero line are imports from Belgium (in Figure 1) or the Netherlands (in Figure 2) to GB. Any flows below the zero line in Figure 1 are exports from Belgium to GB (Figure 2 has no negative flows because BBL does not have the capability to export to the Netherlands). Note that the maximum capacity of BBL increased on 14th April 2011 which is why in Figure 2 there are two lines that indicate the maximum flow.

The red line depicts the economically efficient flow using day-ahead prices as an indication of the short-term value of gas (assuming no marginal cost of transportation)[6]. The red bubbles indicate the most severe departures from the economically efficient flow, either because the pipeline capacity is not fully used or because we observe FAPDs. Some departures from the red line could be explained through costs associated to cross-border trading, such as the charges facing network users. However, these costs do not explain FAPDs or inefficient flows where the price differentials are significant, as the marginal charges facing capacity holders are typically below 0.07 p/kWh/d, i.e. below 2 pence per therm[7].

On IUK, we found (excluding days on which no flow occurred on the assumption that this was due to technical reasons):

- The absolute price difference between NBP and Zeebrugge ranged from 0p/therm to 11 p/therm during the time period considered. The average of the absolute price difference between NBP and Zeebrugge was 1.05p/therm. The price spread was above this average 35% of the time.

[4] The diagrams also include days on which the flow was zero and it can be assumed that this is because IUK/BBL were technically unable to flow gas on that day, for example due to maintenance activity.
[5] 1 therm ≈ 29,3 kWh.
[6] The use of day-ahead prices means that changes in the value of gas during the day are not captured, but we considered it the best approximation for the short-term value of gas. This issue is described further in Annex 1.
[7] Annex 2 describes the different charges faced by network users.

- Even where price differentials are significant (multiples of the average price differential), the economically efficient flow is rarely achieved. On 28% of days gas flowed on IUK from the high-priced to the low-priced market, i.e. against price differentials.
- IUK was not fully utilised on 305 days out of the 309 days during which the NBP - Zeebrugge price spread rose "above average" (not counting days where no flow occurred). Out of these 305 instances, we observed FAPDs on 40 days. The full daily import capacity (from Belgium to GB) was never used. The average utilisation rate of IUK was only 38%.
- IUK has a tendency to export gas from GB to Belgium.

On BBL, we found (excluding days on which no flow occurred on the assumption that this was due to technical reasons):

- The absolute price difference between NBP and TTF ranged from 0p/therm to 15.65 p/therm. The average of the absolute price difference between NBP and Zeebrugge was 1.81p/therm. The price spread was above this average 31% of the time.
- Even where price differentials were significant, the economically efficient flow is rarely achieved. BBL has never seen full utilisation on any of the 395 days on which above average price differentials would have suggested it. On 65% of days, gas flowed from the Netherlands to Britain despite NBP prices being below TTF prices. Since its expansion in 2011, utilisation rates have not exceeded 79%, meaning that the new capacity has so far never been used over a full day.
- Virtual reverse flows on BBL were used only on 29% of days.

Possible causes

We have started to explore at a high level the possible causes for these potential inefficiencies, which we group into two categories: (1) market arrangements (or market development) on either side of the interconnectors and (2) arrangements on the interconnectors themselves. The areas to be examined for both categories are similar, although some are more relevant to one category than the other. We have not as part of our initial analysis identified one individual reason which would explain our findings on the economic efficiency of interconnector flows. There may be a range of factors that contribute to these findings. It may even be that some level of inefficiency is inherent in cross-border trading and that deeper regional integration or harmonisation of market arrangements between the three markets is required.

Insufficient liquidity or a lack of transparency may mean that shippers do not face **stable and robust price signals** to enable them to take efficient trading decision. We consider day-ahead price signals in all three markets to be sufficiently robust to enable shippers to trade, but there remains a question around within-day price signals[8].This area of analysis is most relevant for market arrangements and development on either side of the interconnectors (category 1).

The nature of trading activity, particularly the dominance of **long-term contracts** for cross-border trade, mean that the majority of gas shipped across the interconnectors may not be priced according to spot markets and its flows may be determined according to strategies not immediately related to short-term signals. However, we would still expect traders, potentially third parties, to exploit the existing arbitrage opportunities and therefore make cross-border flows more responsive to short-term price signals.

Balancing rules in each of the three markets and on the interconnectors themselves differ. Dutch and Belgian balancing arrangements are generally more granular compared to the GB arrangements and therefore provide incentives for shippers to remain within

[8] This is further explained in Annex 1

balancing during the day, rather than just by the end of the gas day. This could contribute to a divergence of cross-border trades away from the pure daily commodity prices.

Security of supply rules are set differently by Member States. Although a process at the European level has been initiated for better coordination[9], such rules and obligations may be identified as a reason for different market behaviour, causing divergence in short term prices between these markets, for example because gas flows may be determined by requirements to fill gas storage sites rather than price signals.

For both categories (arrangements on interconnectors or on the adjacent transmission system operators' (TSOs') systems), there may be **barriers to obtaining short-term capacity**, such as the availability of day-ahead/ within-day capacity. To flow gas across the interconnectors, shippers need to purchase exit capacity from one entry-exit zone (for example, GTS' system in the Netherlands to access the TTF hub), capacity on the interconnector itself (for example, BBL) and entry capacity in the other system (for example for National Grid's system to access the NBP hub). If any of these allocation rules are inefficient, not transparent, discriminatory or if effective congestion management procedures are not in place, this could prevent traders from exploiting cross-border arbitrage opportunities (and cause contractual congestion on the pipelines[10]).

To the extent that **nomination rules** either on the interconnectors or on the adjacent TSOs' systems restrict shippers' flexibility during the day, this could also represent a barrier to efficient cross-border trade. Shippers need to be able to adjust their nominations during the day in order to react to price signals.

Some perceived inefficiencies, either on the interconnector or on the domestic systems, may also be caused by **technical issues**, such as outages due to maintenance.

Charging arrangements either on the interconnectors or on the adjacent TSOs' systems could explain why cross-border trades do not always fully respond to short-term price signals, where the aggregate charges of shipping gas across borders outweighs the price differential. Such costs could include charges for obtaining capacity in the adjacent network and premiums on short-term capacity. Also other additional charges to enter the network, such as the GB commodity charge, will be factored into a shippers' trading decision and may therefore mean that arbitrage opportunities are not exploited. For example, representations have been received that the GB short-haul commodity charge distorts cross-border trade and provides an incentive to shippers importing gas through BBL into GB to re-export directly through IUK rather than trading on the NBP. However, this does not explain why when price differences are above the level of the resulting incentive there continue to be FAPDs.

There are **other costs faced by network users**, such as fees to use trading platforms or the direct cost of operating a trading floor.

Even where market arrangements work perfectly in one market, there could be an issue with a **lack of coordination** between these, for example the need to interact with three TSOs to trade across borders. So there may be a need for greater coordination of trading rules across borders to remove barriers created by different national arrangements.

[9] Through implementation of Regulation (EU) No 994/2010 of the European Parliament and the Council of 20 October 2010 concerning measures to safeguard security of gas supply and repealing Council Directive 2004/67/EC, OJ L295/1, 12.11.2010.

[10] Contractual congestion occurs where demand for capacity is not met despite the fact that capacity is underutilised.

European network codes

The Third Package contains a range of measures which are aimed at increasing the efficiency of cross-border flows across the EU. The effectiveness of these policies will depend on how they are implemented on the interconnection points between markets. Our view is that the European network codes will apply to all non-exempt capacity at cross-border points. Specifically, the following measures are currently being considered and we will need to examine whether their implementation will go far enough in addressing the problems this call for evidence may identify:

- The European Commission's Guidelines on Congestion Management Procedures[11], to be implemented by 1st October 2013, will enable interconnector capacity that has been sold but is underused to be made available to third parties. Rather than only as interruptible, this capacity could be offered as firm capacity using 'firm day-ahead use it or lose it' and 'overselling and buyback mechanisms'. The guidelines also require arrangements to be in place for shippers to surrender capacity or for capacity that is systematically underutilised to be withdrawn.

- The European Network Code on Capacity Allocation Mechanisms[12], recently finalised by ENTSOG[13], provides for cross-border capacity to be auctioned. Rather than having to purchase separate exit, entry and interconnector capacity, this network code will provide for these products to be allocated as one bundled product, allowing the transportation of gas directly from one hub to the other. The auctions will eventually take place on a harmonised booking platform for all European interconnection points. Such booking platforms are already being developed in different parts of Europe, most prominently Trac-X[14].

- The European Network Code on Gas Balancing[15] will harmonise nomination rules on interconnection points. This is currently being finalised by ENTSOG and due to be submitted to ACER on 5th November.

- ACER[16] has approved its Framework Guideline on interoperability and data exchange rules[17]. This set of rules, to be worked out by ENTSOG in the relevant Network Code by 11th September 2013, is to be developed to ensure that users of two or more systems do not face technical, operational, communications or business-related barriers higher than those that would be reasonably expected.

- ACER is currently consulting on a Framework Guideline on Transmission Tariff Structures[18] which will be the basis for a European network code on this subject. The consultation will close on 5 November. This framework guideline is expected to bring about some harmonisation of transmission tariff structures, including on the determination of reserve prices for capacity auctions, recovery of TSO revenues, payable price and allocation of costs between different entry-exit points.

[11] This decision was published in the Official Journal of the European Union: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:231:0016:0020:en:PDF
[12] This has been published on ENTSOG's website: http://www.entsog.eu/publications/camnetworkcode.html It is now ACER's role to issue a reasoned opinion on this.
[13] ENTSOG is the European Network of Transmission System Operators
[14] https://corporate.trac-x.de/en/startseite/
[15] http://www.entsog.eu/publications/balancing.html
[16] ACER is the Agency for the Cooperation of Energy Regulators
[17] http://www.acer.europa.eu/Official_documents/Acts_of_the_Agency/Framework_Guidelines/Pages/FG-on-Interoperability-Gas.aspx
[18] http://www.acer.europa.eu/Official_documents/Public_consultations/Pages/PC_2012_G_14.aspx

There are also elements of European network codes that apply less to capacity at interconnection points, but aim at harmonising national arrangements. For example, ENTSOG's European Network Code on Gas Balancing[19] will harmonise gas balancing rules, including the TSOs' role as residual balancer and the products used by TSOs.

In a number of Member States, early implementation of the capacity allocation network code at cross-border points has already begun and a regional platform for the allocation of cross-border capacity is being piloted which may form the basis of future pan-European platforms[20]. Besides implementing binding legal requirements, additional changes may be needed to ensure that interconnectors deliver secure and affordable gas for GB, Belgian and Dutch consumers. For example, changes to market arrangements, including on the interconnectors, which are not mandatory but are important for the efficient and effective implementation of the Gas Target Model could aim at enhancing liquidity at the day-ahead and potentially within-day stage in all markets and the development of a robust reference price in each market. This could include better coordinating short-term capacity and commodity trading to optimise cross-border flows or looking at more coordinated balancing arrangements in the three markets, building on the rules proposed in the gas balancing network code. The Gas Target Model is not specific on how market integration should be achieved but the policies it puts forward include merging 'market areas' or 'coupling arrangements'

Process and questions for the call for evidence

Aims and process for call for evidence

Our aim is to come to a view on what (if any) barriers to cross-border trade exist and which are the most significant. Through the call for evidence, we may identify evidence for possible barriers to trade which have not come to light to date, or for some listed above not warranting further attention. We may also receive some input on potential measures that could enhance the integration of markets.

We launch the call for evidence through the publication of this letter and its duration is 12 weeks. The three main components of this call for evidence are:

a) an invitation to submit written evidence and analysis in response to our list of questions below, by 20 December;

b) a public workshop in London on 21 November; and

c) a series of bilateral meetings for the regulator(s) to interview key stakeholders.

All submissions of written evidence and analysis will be shared amongst the three regulators and any non-confidential information may get published on one or more of our websites. We ask respondents to put any confidential information into appendices.

We ask parties who wish to attend the workshop to register their interest by contacting Arina Cosac (Arina.Cosac@Ofgem.gov.uk) by 7 November. Places will be allocated in the order in which registrations are received, and we may need to limit attendance to one representative per organisation. Stakeholders wishing to present at the workshop are asked to contact Arina Cosac (Arina.Cosac@Ofgem.gov.uk) no later than 22 October. The final agenda of the workshop will be circulated to all parties who registered ahead of the workshop.

[19] http://www.entsog.eu/publications/balancing.html
[20] Trac-X is so far auctioning bundled capacity within Germany and between Germany and The Netherlands.

We welcome interested parties who wish to schedule an interview (to present their views and evidence to a regulator) and who have not been approached by us already, to contact one of the regulators by 22 October. Contact details are provided in annex 4.

Questions for written submissions

The questions that we invite stakeholders to submit written evidence and analysis on are as follows:

- **Question 1:** What are your views on the economic efficiency of cross-border gas flows between GB, Belgium and the Netherlands? How important do you consider this review into cross-border flows to be?

- **Question 2:** What is your experience with cross-border gas trading between GB, the Netherlands and Belgium? What, if any, are the key barriers to economically efficient gas trades happening across our borders? Please provide any evidence or analysis that would contribute to our understanding of the observed behaviour of cross-border gas flows.

- **Question 3:** How could current market arrangements be improved so that they better promote the objectives of promoting a competitive internal market, eliminating restrictions on cross-border trade in gas and enhancing the integration of national markets as well as security of supply? In your response, please specifically refer to a) IUK, b) BBL, c) the adjacent market arrangements and d) whether more common arrangements are needed where relevant and possible.

- **Question 4:** Should we try to proceed with minimum necessary changes or should the regulators be looking more holistically at a wider review of arrangements that may present barriers? Should we be considering piloting some deeper regional integration or joining initiatives that are already going on in Europe?

- **Question 5:** What process may help us to achieve the best outcome? What role should regulators, market parties and TSOs have in this process? How would it interact with pan-European policy initiatives?

Kind regards,

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Annex 1: Data limitations

The use of day-ahead prices is a limitation in our analysis since traders are likely to face different prices on the day. However, we considered day-ahead prices the best approximation to daily prices. For trades between the Netherlands and Great Britain we replicated this analysis using within-day prices and the outcome was not altered. Within-day price data is not available for the ZEE hub.

The use of aggregate daily flows means that developments during the day are not fully captured in the analysis. For example, to reach 100% capacity utilisation, gas would need to flow at full capacity from the first to the last moment of the day and any deviations from this flow, potentially caused by within-day price signals, would not be captured. However, in reality price signals are generally in the same direction over several days, so shippers should have a fair amount of certainty about which trades would be profitable over a daily timeframe.

Our analysis only uses hub prices provided by Bloomberg. This does not represent the price paid for each unit of gas flowing from one market to the other, as that price is also determined by long-term contracts. However, hub prices represent arbitrage opportunities open to traders, so we would expect at least some shippers to trade in response to these signals.

Annex 2: Charging arrangements

Network charges facing shippers

Amount of network charges

Network charges reduce arbitrage opportunities between markets. The extent to which network charges for all TSOs (including interconnectors) real costs incurred by network companies could make some economically efficient trades unprofitable to traders. We have made an assessment of the magnitude of such network charges. For existing capacity holders, the marginal charges imposed for trading between GB and Zeebrugge or between GB and the Netherlands are relatively small, between zero and 0.07 p/kWh/d. This equates to between 0 and 2 pence per therm.

GB to Netherlands

BBL does not allow for physical flows from GB to the Netherlands, but in 2011 a virtual reverse flow product was introduced allowing for virtual flows in that direction.

Where shippers already own and use[21] forward capacity from the Netherlands to GB, reducing or stopping this flow incurs no cost, but is an actual cost saving.

Where shippers already own GTS entry capacity (at Julianadorp), BBL reverse flow capacity and NGG exit capacity, they would only incur NGG exit commodity charges which, since 2011, have been between 0.04 and 0.05 p/kWh/d.

If shippers do not yet own any of this capacity, they would need to purchase this and pay BBL T1 charges (typically near zero depending on the auction outcome), Julianadorp entry charges (fixed amount) and NGG exit charges (depending on the auction outcome).

Netherlands to GB

Shippers will need GTS exit capacity at Julianadorp, BBL forward flow capacity and NGG entry capacity at Bacton in order to transport gas from the Netherlands to GB.

If shippers already own this capacity, their charges will only consist of BBL T2 charges and the NGG entry commodity charges. Our initial estimate of these charges, since 2009, is between 0.04 and 0.06 p/kWh/d, but there remain questions around the transparency of these charges.

If shippers do not yet own this capacity, they would also need to pay GTS exit charges (fixed amount), BBL T1 charges (depends on the duration of the capacity product) and NGG entry capacity charge (which depends on the auction outcome).

GB to Zeebrugge

Where shippers already own and use[22] interconnector capacity from Zeebrugge to GB, reducing or stopping this flow incurs no cost, but is an actual cost saving.

[21] The fact that a shipper owns capacity does not necessarily mean that they will have a gas flow that can be reduced or stopped.
[22] See above

To transport gas from GB to Zeebrugge, shippers need to own Bacton exit capacity and IUK forward flow capacity. To access the Zeebrugge hub from IUK, no entry tariff is charged by Fluxys because the hub is situated at the flange, not within Fluxys' entry/exit system[23].

If shippers already own these capacities, they incur National Grid's exit commodity charges and IUK's charges which may either be fuel charges or electricity charges depending on the direction of overall physical flows. This cost typically totals between 0.03 p/kWh/d and 0.04 p/kWh/d.

If shippers do not yet own this capacity they would also need to purchase NGG exit capacity at Bacton and IUK forward flow capacity.

Zeebrugge to GB

Where shippers already own and use[24] interconnector capacity from GB to Zeebrugge, reducing or stopping this flow incurs no cost, but is an actual cost saving.

To transport gas from Zeebrugge to GB, shippers need to own Bacton entry capacity and IUK reverse flow capacity. To inject gas from the Zeebrugge hub into IUK does not incur an exit tariff in Belgium because the hub is situated at the flange, not within Fluxys' entry/exit system[25].

If shippers already own these capacities, they incur National Grid's entry commodity charges and IUK's charges which may either be fuel charges or or electricity charges depending on the direction of overall physical flows. This cost totals around 0.04 p/kWh/d and 0.07 p/kWh/d.

Effect of GB short-haul commodity charge

One issue highlighted by stakeholders is that there is a tendency for IUK to export gas from the UK at a price differential of (or close to) zero. We consistently see some limited UK exports when the price differential is close to zero and it takes a clear negative price differential to move the direction of flow to UK imports. One stakeholder argued that this was explained by the impact of the NTS Optional Commodity Tariff (also known as the short haul tariff). This tariff is designed to avoid inefficient bypass of the National Grid and is attractive for large supply points situated close to a terminal. This NTS Optional Commodity Tariff replaces the Entry SO, Exit SO and Entry TO Commodity charges which means that gas delivered to the Bacton Terminals can either:

(i) flow to the NBP at a cost of 0.0478p/kWh (TO Entry + SO Entry); or
(ii) flow to the Interconnector at a cost of around 0.0006p/kWh (NTS Optional Commodity Tariff, Bacton Terminal to Interconnector).

Taking account of the Interconnector compression costs (~0.8% of net aggregate flow) it costs around 0.03 p/kWh less to deliver the gas to Zeebrugge than it does to the NBP. This is equivalent to around 0.9p/therm.

[23] A small flat fee applies for the usage of the Zeeplatform Service.
[24] The fact that a shipper owns capacity does not necessarily mean that they will have a gas flow that can be reduced or stopped.
[25] A small flat fee applies for the usage of the Zeeplatform Service.

Annex 3: The continental gas interconnectors

Interconnector UK (IUK)

Interconnector UK (IUK) owns and operates the gas pipeline connecting the transmission systems in Great Britain and Belgium. The forward flow capacity (from GB to Belgium) is 20 bcm/year and was completed in 1998. In 1998 the reverse flow capacity (from Belgium to GB) was 8.5 bcm/year. The reverse flow capacity was enhanced in three phases (2005, 2006 and 2007)and is now 25.5 bcm/year.

The shippers holding original contracts with IUK were Amerada Hess Limited, BP Exploration Operating Company Limited, British Gas plc, Conoco (U.K.) Limited, Distrigaz S.A., Elf Aquitaine, RAO Gazprom, National Power PLC and Ruhrgas Aktiengesellschaft. The shippers holding capacity contracts with IUK during the period of analysis were BG International Limited, BP Gas Marketing Limited, British Gas Trading Limited, ConocoPhillips UK Limited, Distrigaz S.A., EDF Trading Limited, Electrabel S.A., ENI SpA, E.On Ruhrgas A.G., RWE Supply & Trading Netherlands B.V., GDF Suez, OAO Gazprom, RWE Supply & Trading GmbH, Statoil (UK) Limited and Total Gas & Power Limited. In addition 4 other shippers held sub-let capacity for either part or all of the period.IUK is owned by La Caisse de dépôt et placement du Québec (23.5%), E.ON Ruhrgas (15.09%), Fluxys (15%), Gasbridge 1 & 2 (16.41%), CDP Investissements (10%), ConocoPhillips (10%) and Gazprom (10%).

IUK allocated the initial firm capacity in 20 year contracts until 2018. Any enhancements to IUK capacity have also been allocated in long-term contracts until 2018. No capacity has been made available yet beyond 2018. If interruptible capacity is made available it is allocated to firm capacity holders proportional to their firm capacity holdings.

A number of mechanisms are in place on IUK to deal with congestion. Firm capacity holders can permanently transfer their capacity to any other party that meets certain financial criteria. Firm capacity holders can sublet their capacity temporarily to any other shipper. IUK also facilitates the re-sale of unwanted capacity too small to be marketable, by aggregating these for re-sale. IUK also offers a bulletin board whereby capacity (to sell or purchase) can be advertised. IUK operates a Use-It-Or-Lose-It (UIOLI) mechanism whereby capacity that is not fully used is made available as interruptible capacity.

BBL

BBL owns and operates the gas pipeline connecting the transmission systems in the Netherlands and Great Britain. The forward flow capacity (from the Netherlands to GB) is 1.75 million cubic metres per hour and became operational in 2006 (in 2011 this was expanded to 2.11 million cubic metres per hour). There is currently no firm reverse flow capacity but interruptible reverse flow capacity can be made available. BBL is owned by Gasunie (60%), Fluxys (20%) and E.on (20%).

BBL offered initial forward flow capacity by open season and allocated the capacity in long-term contracts until 2016 and 2022. Capacity made available after the expiry of these contracts will be offered to the market. In 2008 an enhancement to forward flow capacity (a fourth compressor) was agreed on long-term contracts via open season. This became operational in 2011. However, not all capacity sold out and the remainder is offered as daily, monthly, quarterly and yearly capacity on a first-come-first-served basis.

Interruptible forward flow capacity is made available after firm capacity has sold out. It is allocated by means of an over-nomination process whereby if users nominate requirements to flow above the firm level of capacity holdings and BBL can allocate the

capacity then it does. Interruptible reverse flow capacity is offered as daily, monthly and quarterly products by auction with a zero reserve price. Users must pay an annual subscription fee to take part in the interruptible reverse flow auctions.

A number of mechanisms are in place on BBL to deal with congestion. BBL operates a bulletin board which allows shippers to notify where they have unwanted capacity or requests for capacity. Shippers can permanently transfer their capacity to other shippers. BBL operate a long-term UIOLI mechanism where shippers that do not use their capacity consecutively for significant periods whilst not offering this for use to others can have their capacity taken from them for up to a year.

BBL's forward flow capacity is divided into three tranches regarding exemptions from third party access under the Second Package. Some of this capacity is exempt until 2016 and a smaller amount is exempt until 2022 while the remainder is not exempt at all.

Annex 4 – Contact details

The contact details for arranging interviews are as follows:

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Arina Cosac
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