

# Impact Assessment

Proposed change to Existing Arrangements for Accessing Licence Baseline Exit Capacity on the National Transmission System at Bacton Interconnection Point

Directorate:	Systems and Networks	Type of measure:	Wholesale Competition
Team:	GB Wholesale Markets, Gas Systems	Type of IA:	Qualified under Section 5A Utilities Act 2000
Associated	Call for Evidence (August	<b>Contact</b> for	Robin.Dunne@ofgem.gov.uk
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	Consultation Document		
	(published alongside this		
	IA)		
Coverage:	Full coverage		

**Summary:** The current arrangements in National Grid Gas Plc ("NGG") Gas Transporter Licence Special Conditions<sup>1</sup> ("Licence") stipulate that the Licence Baseline Exit Capacity for the Bacton (BBL) Aggregated System Entry Point is set at 0 GWh/day compared to the Bacton (IUK) Licence Baseline Exit Capacity of 623.58 GWh/day. Therefore, while BBL Company ("BBLC") are able to access interruptible and non-obligated exit capacity, they are not entitled to obligated exit capacity to flow gas from Bacton to the Netherlands<sup>2</sup>. This Impact Assessment analyses whether or not current arrangements on exit at Bacton should be changed to allow Shippers to access Licence Baseline Exit Capacity at both Interconnection Points ("IP")s: Bacton (IUK) and Bacton (BBL). In particular, the Impact

<sup>&</sup>lt;sup>1</sup> National Grid Gas Plc (NTS) Gas Transporter Licence Special Conditions, Table 8.

<sup>&</sup>lt;sup>2</sup> Interruptible capacity is capacity that is not guaranteed at any time. Non-obligated is guaranteed capacity that is released for certain days on a discretionary basis. Obligated capacity is contractually guaranteed at all times.

Assessment is focused on the *efficient use of the* <u>existing</u> Bacton Licence Baseline Exit Capacity.

# What is the problem under consideration? Why is Ofgem intervention necessary?

At present, NGG is obliged to offer 623.58 GWh/day (57 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL). Upon expiry of long-term contracts on exit at Bacton (IUK) at the beginning of October 2018, there has been a notable drop in booked capacity volumes resulting in Licence Baseline Exit Capacity at Bacton (IUK) being largely unsold.

Without regulatory intervention, NGG is not able to redistribute the existing Licence Baseline Exit Capacity at Bacton unless it has been formally initiated through the incremental capacity process.

There has been no signal for an overall increase to exit capacity at Bacton IP and we consider the IP Planning and Advanced Reservation of Capacity Agreement ("PARCA") application process which would result in a technical increase in capacity on exit at Bacton to be inapplicable and unsuitable on this occasion. Furthermore, we consider the technical increase in Baseline Licence Exit Capacity at Bacton (BBL) to be inappropriate in the world of declining utilisation of the network.

# What are the policy objectives and intended effects including the effect on Ofgem's Strategic Outcomes

Our overarching policy objective is to promote competition in exit arrangements to the benefit of consumers and network efficiency.

# What are the policy options that have been considered, including any alternatives to regulation? Please justify the preferred option (further details in Evidence Base)

- Option 1: 'Do nothing' to maintain the status quo. NGG is obliged to offer 623.58 GWh/day (57 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL).
- Option 2: Aggregating Bacton (IUK) and Bacton (BBL) IPs into a single exit point.

• Option 3: Reallocating some of the existing Licence Baseline Exit Capacity at Bacton (IUK) to Bacton (BBL)

Our preferred option is Option 2. Aggregating the two exit points is the preferred option as it best facilitates competition. We would expect NGG in discharging its obligation to provide a merged exit point by treating this capacity as competing capacity. This would make arrangements at Bacton exit competitive and, from a technical perspective would replicate arrangements at other locations on the NTS where capacity is contested.

As mentioned above, NGG cannot redistribute the existing Licence Baseline Exit Capacity at Bacton unless it has been formally initiated through the incremental capacity process. We don't think this process is a compatible solution as it only address ways of increasing the technical capacity at the exit point under consideration rather than how existing capacity is efficiently distributed at Bacton. In addition, this process is initiated by firm user commitment and could even result in investment in the network which would incur a cost to the consumer. Therefore, we currently do not consider this as a possible policy option.

## Preferred option - Monetised Impacts (£m)

Business Impact Target Qualifying Provision	N/A
Business Impact Target (EANDCB)	N/A
Net Benefit to GB Consumer	We have not monetised the benefits and costs of the different options. We discuss below some of the relevant quantitative and qualitative evidence
Wider Benefits/Costs for Society	N/A. Implementation costs are deemed to be negligible <sup>3</sup>

#### Explain how was the Net Benefit monetised, NPV or other

Many of the principal costs and benefits are qualitative and difficult to predict, so we have not provided monetised estimates of costs and benefits. There is some relevant quantitative evidence. For instance, BBLC calculated that there would have been potential £2.1m additional revenue for National Grid Gas in 2018, had physical reverse flow been available based on historical price spreads between hubs (a 13-day window of arbitrage opportunity). This provides an indication of the magnitude of benefits as a result of facilitating competition on exit at Bacton, but is not an independent assessment. The calculation and BBLC's assumptions are set out on page 6 of their response which is published alongside this consultation.

We expect implementation costs, which relate primarily to regulatory changes, to be negligible.

Consultees are invited to submit any additional evidence on benefits and costs at public consultation.

 $<sup>^{\</sup>scriptscriptstyle 3}$  Implementation costs will relate primarily to regulatory changes

## **Preferred option - Hard to Monetise Impacts**

#### **Describe any hard to monetise impacts, including mid-term strategic and longterm sustainability factors following Ofgem IA guidance** (maximum 10 lines).

- Increased Competition at Bacton Exit and more efficient cross-border trade. The aggregation of exit capacity will increase competition to use that capacity and potentially higher utilisation.
- Higher flexibility and optionality allowing shippers and traders to optimise their positions may attract gas supply e.g. increased LNG deliveries to UK.
- Potential to help support gas market liquidity in GB through greater physical links with the very liquid Dutch market. Greater liquidity should help support robust prices in GB.
- The consequential additional revenue due to higher utilisation and expected higher capacity sales would result in a requirement for NGG to reduce the tariffs it applies to other network flows in order to reduce the amount of revenue recovered from these sources. This would most likely feed through to a direct benefit to GB end consumers.

#### Key Assumptions/sensitivities/risks

#### Assumptions

A key underlying assumption when assessing benefits is that there will be some periods of time where price spreads dictate flows to the Title Transfer Facility ("TTF") market area in the Netherlands via BBL pipeline over IUK in the future as seen for virtual flows in the past.

#### Risks

Aggregating exit could potentially reduce the amount of capacity flowing through IUK into the Belgian network. However, data suggests that IUK is not currently fully utilised and on a downward trend following the expiry of long-term IUK contracts, suggesting that there should be an opportunity to meet BBLC's needs with little or no impact on flows via IUK.

Will the policy be reviewed? No <sup>4</sup>	If applicable, set review date: n/a

No

Is this proposal in scope of the Public Sector Equality Duty?

<sup>4</sup> NGG's Gas Transporter Licence would be amended in order to implement new policy. The Licence is subject	t to
periodic reviews to ensure arrangements reflect our statutory objectives.	

# Background

## Introduction

1.1. We have been approached by the BBLC who have recently undertaken an investment to enable physical reverse flow of gas from Great Britain ("GB") (Bacton) to the Netherlands (Balgzand).

1.2. The GB gas market is physically connected to the continent via two gas interconnectors that connect to the National Transmission System ("NTS") at the Bacton gas terminal: Bacton (IUK) (GB-Belgium) and Bacton (BBL) (GB-Netherlands). As such, Bacton is an Aggregated System Entry point ("ASEP"), where the European interconnectors 'meet' the NTS, flowing gas to GB. Gas from the UK Continental shelf ("UKCS") flows into the NTS at Bacton through a separate commercial entry point, Bacton UKCS.

1.3. The BBL pipeline, which is a 235-kilometre gas pipeline with a daily import capacity of ~500 GWh (46 million cubic metres ("mcm)")<sup>5</sup> between Balgzand in the Netherlands and Bacton (BBL) in GB. The BBL pipeline connects Europe's largest trading hubs, TTF (Netherlands) and the National Balancing Point ("NBP") (GB).

1.4. Until recently, the BBL pipeline was physically unidirectional only, flowing gas from the Netherlands to GB, but accommodating virtual reverse flow<sup>6</sup> in the opposite direction on exit. In December 2017, BBLC shareholders decided to carry out and fund works to enable bidirectional physical flow on this pipeline.

1.5. The physical reverse flow project has recently been completed and the BBL pipeline is now physically capable of offtaking up to ~170GWh/day (15 mcm/day) of gas from the NTS at Bacton (BBL). BBL's physical capability of ~170GWh/day is equivalent to 27% of the current Licence Baseline Exit Capacity at Bacton (IUK).

1.6. The current arrangements in National Grid Gas Plc ("NGG") Gas Transporter Licence Special Conditions<sup>7</sup> ("Licence") stipulate that the Licence Baseline Exit Capacity for the Bacton (BBL) ASEP is set at 0 Gigawatt hours (GWh)/day. This means NGG can currently

<sup>&</sup>lt;sup>5</sup>National Grid Gas Ten Year Statement 2018; Appendix 6 Conversion matrix

<sup>&</sup>lt;sup>6</sup> Virtual reverse flow allows shippers to counter-nominate to flow in the direction GB to the Netherlands and for this to be netted off against the physical forward flow (Netherlands to GB).

<sup>&</sup>lt;sup>7</sup> National Grid Gas Plc (NTS) Gas Transporter Licence Special Conditions, Table 8.

offer interruptible and non-obligated capacity products at its discretion. BBLC now wish to able to offer its Shippers a full range of products on exit at Bacton.

1.7. Ofgem published a Call for evidence ("CfE")<sup>8</sup> to seek views regarding whether or not existing arrangements on exit at Bacton should be changed to allow Shippers to access Licence Baseline Exit Capacity at both Interconnection Points ("IP") at Bacton: Bacton (IUK) and Bacton (BBL).

<sup>&</sup>lt;sup>8</sup> <u>https://www.ofgem.gov.uk/publications-and-updates/call-evidence-change-existing-arrangements-accessing-licence-baseline-exit-capacity-national-transmission-system-bacton-interconnection-point</u>

## **Evidence Base**

In this section we will define the problem under consideration and use the evidence available to demonstrate the rationale for intervention.

#### Problem under consideration and rationale for intervention

1.8. This Impact Assessment assesses whether or not existing arrangements on exit at Bacton should be changed to allow Shippers to access Licence Baseline Exit Capacity at both IPs at Bacton: Bacton (IUK) and Bacton (BBL).

1.9. In particular, the Impact Assessment is focused on the efficient use of the existing Bacton Licence Baseline Exit Capacity. As such, the Impact Assessment is not addressing the allocation of incremental capacity on exit at Bacton (BBL), for which there is the separate PARCA<sup>9</sup> process which would increase the level of Licence Baseline Exit Capacity at Bacton (BBL)<sup>10.</sup>

1.10. The PARCA process is a bilateral contract that allows long-term NTS entry and/or exit capacity to be reserved for a customer while they develop their own project, before they buy that reserved capacity. A 2017 amendment to the European Network Code on Capacity Allocation Mechanism ("CAM")<sup>11</sup> introduced a process for increasing the capacity at IPs when there is a market signal from network users. The PARCA process facilitates compliance with this aspect of EU law.

<sup>&</sup>lt;sup>9</sup> National Grid PARCA, A guide for customers:

https://www.nationalgrid.com/sites/default/files/documents/39678-PARCA%20Customer%20Guidance.pdf <sup>10</sup> As part of an IP PARCA process, capacity could be substituted to Bacton (BBL) from other, non-IP NTS exit points. Shippers, not TSOs, must thus first raise a PARCA application to secure incremental capacity, before substitution is considered. Exit capacity substitution is a mechanism that facilitates a permanent transfer or reallocation of unsold baseline exit capacity on the NTS at one or more exit points, to an NTS exit point where incremental capacity in excess of baseline has been requested. Under its Gas Transporter Licence, NGG is responsible for the Exit Capacity Substitution Methodology Statement ("ExCS methodology statement") which sets out how this is managed. There are currently rules concerning the substitution of NTS Exit Capacity away from another IP that are set out in the ExCS (article 22.L) and the European Network Code on Capacity Allocation Mechanism (Article 6). NTS IP exit capacity is excluded from the current rules on substitution - ExCS methodology statement. As such any unsold capacity at Bacton (IUK) would not be included in the calculation, i.e. substitution does not address the first point we mention about the efficient use of the existing Bacton Licence Baseline Exit Capacity.

<sup>&</sup>lt;sup>11</sup> COMMISSION REGULATION (EU) 2017/459 of 16 March 2017 establishing a network code on capacity allocation mechanisms in gas transmission systems and repealing Regulation (EU) No 984/2013.

1.11. There has been no signal for an overall increase to exit capacity at Bacton IP and we consider the PARCA application process which would result in a technical increase in capacity on exit at Bacton to be inapplicable and unsuitable on this occasion. Furthermore, we consider the technical increase in Licence Baseline Exit Capacity at Bacton (BBL) to be inappropriate in the world of declining utilisation of the network.

#### Background on Existing Arrangements at Bacton IP

1.12. The current capacity arrangements at Bacton at entry and exit are set out respectively in Tables 4B<sup>12</sup> and 8<sup>13</sup> ("the baseline tables") of NGG Licence, which set out the level of flat Licence Baseline Exit Capacity that NGG must make available at each network point on an enduring basis.

Exit

1.13. The baseline tables were part of a new contractual framework between NGG and its exit consumers that was introduced by Ofgem during 2005 and onwards as a condition of the sale of NGG's distribution businesses<sup>14</sup>. Common market based rules needed to be established for the release of capacity to customers on the newly created external interface between the NTS and gas distribution networks, as well as all other transmission connected customers such as interconnectors. Each exit connection was allocated an enduring flat baseline, derived by the application of a practical maximum physical capacity approach.

1.14. This in effect enshrined in the Licence a flat enduring exit baseline for each network point which in turn could be marketed and allocated to network users as contractually guaranteed 'obligated' or 'firm' capacity. NGG would provide this capacity to each exit connection on an enduring basis and in return would receive a revenue driver proportional to the level of flat enduring baseline capacity at each offtake<sup>15</sup>.

<sup>&</sup>lt;sup>12</sup> Table 4B applies for Gas Days from 1 November 2015. It specifies Licence Baseline Entry Capacity which means the volume of Entry Capacity that the Licensee must offer for sale as of 1 April 2013 as set out in Table 6 of Special Condition 5F (Determination of Incremental Obligated Entry Capacity volumes and the appropriate revenue drivers to apply).

<sup>&</sup>lt;sup>13</sup> Table 8 specifies Licence Baseline Exit Capacity which means the volume of Exit Capacity that the Licensee must offer for sale as of 1 April 2013 as set out in Table 8 of Special Condition 5G (Determination of Incremental Obligated Exit Capacity volumes and the appropriate revenue drivers to apply). Also referred to as 'Enduring Flat Baseline' capacity.

<sup>&</sup>lt;sup>14</sup> <u>https://www.ofgem.gov.uk/sites/default/files/docs/2004/11/8895-25504a.pdf</u>

<sup>&</sup>lt;sup>15</sup> https://www.ofgem.gov.uk/ofgem-publications/56157/16341-20061129tpcr-fp-supplementaryappendicesinfinal.pdf

1.15. The principle of this new framework was to maximise the amount of capacity released to exit connections for the least investment. As described above, net increases to baselines would need to need be underpinned by firm user commitment to avoid consumer investment in the network which may not yield the expected returns or utilisation levels e.g. asset stranding. Any modifications to the baselines or the licence table itself would need to be carried out by Ofgem, the administrator of the Licence.

1.16. As part of the implementation of this new contractual framework, 623.58 GWh/day was allocated at the Bacton (IUK) exit point for export flows through IUK, which was the only exit connection at Bacton at this time that could offer physical reverse flow. An indicative baseline of 0 GWh/day is allocated at the Bacton (BBL) exit point.

1.17. This is because there is a requirement in CAM for unidirectional interconnectors to offer a daily capacity product in the opposite direction from physical flow to network users on an interruptible basis. Therefore, an exit connection was necessary for BBL, but no firm revenue driver.

#### Entry

1.18. Bacton is an IP, meaning it connects the entry exit system in GB with the entry exit systems of IUK and BBL (and by extension, the Dutch and Belgian networks). In 2015, CAM entered into force at IPs in the European Union. Part of CAM's role was to facilitate competition and integration in the European internal gas market by, among other things, maximising and optimising the offer of firm capacity bundled on both sides of IPs between entry and exit systems, ensuring ease of access for transit flows across the EU gas network.

1.19. In order to implement CAM at Bacton's entry in a way that promoted competition, Ofgem modified NGG's Licence to split the Bacton ASEP into separate entry points for Bacton interconnectors and Bacton UKCS<sup>16</sup>, with the Bacton interconnector entry point being based on the technical capacity of the interconnectors. This is because CAM applied to IPs and not to UKCS and, pursuant to Article 6, required that the maximum technical capacity that can be bundled on both sides of an IP be made available to network users at IPs, taking into account system integrity and efficient network operation.

<sup>&</sup>lt;sup>16</sup> Bacton UKCS accommodates flows from gas produced on the UK Continental Shelf (UKCS).

#### **Current Arrangements**

1.20. The current Bacton exit arrangements are different from the arrangements on entry. As described above NGG was and is now obliged to offer 623.58 GWh/day (57 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL).

1.21. At the time of implementation, CAM did not need to be clarified for Bacton exit as IUK was the only physical exit User, therefore the maximum possible bundle of firm capacity could be offered at Bacton exit to Bacton (IUK) only.

1.22. In summer of 2019 after completing the necessary technical modifications, BBL made physical reverse flow available to the market.

#### The 'Problem'

1.23. We have outlined that the current arrangements mean that even though the BBL pipeline is now physically capable of flowing gas from Bacton (BBL) (GB) to the Netherlands, NGG cannot offer firm exit capacity at Bacton (BBL) on an enduring basis as it is all allocated to Bacton (IUK).

1.24. At present, NGG can – at its discretion – only offer the following capacity products to BBL Shippers at Bacton (BBL):

- a) Interruptible (off-peak) capacity products; these products can be curtailed if there are low pressures on the network and can only be offered day-ahead.
  - Interruptible products (off-peak products) are released as a result of an automated process whereby capacity available on Gemini is offered.
  - Shippers go through the IP auction (day ahead capacity, it cannot be purchased on the day).
- b) Non-obligated capacity products; these firm capacity products can be offered as dayahead and within day. As opposed to obligated capacity:
  - The ability to release non-obligated capacity is dependent on NGG's forecasts of demands for capacity and the capability of the network.

• It is a discretionary product and no guarantee can be provided as to when it will be offered; for example, it may be available on one day but not the next.

1.25. NGG have been able to make interruptible exit capacity to BBL shippers, however flows through IUK would be prioritised. NGG have also said it could release firm capacity to BBL shippers during winter on a non-obligated basis, however this should be distinguished from obligated capacity as this would only be when there is spare capacity on the network and therefore will only be allocated on a limited and unpredictable basis.

1.26. 100% of Bacton's Licence Baseline Exit Capacity is allocated to Bacton Exit (IUK) and there is no formal process to reconfigure this capacity without intervention from Ofgem.

#### The level of utilisation of IUK

1.27. Figure 1 shows that in the period between 1 October 2016 and 31 October 2019, the average utilisation rate of IUK was approximately 27%<sup>17</sup>. The average utilisation rate of IUK in the summer months<sup>18</sup> has shown a decline in the last three years, from 68% in 2017 to 41% in 2019, suggesting there should be an opportunity to meet BBLC's request to compete for capacity on exit at Bacton throughout the year without significantly impacting exit capacity needs of IUK Shippers.

1.28. BBL interconnector's physical reverse flow capacity of ~170GWh/day (15 mcm/day) is approximately 27%<sup>19</sup> of the existing Licence Baseline Exit Capacity currently allocated to the Bacton (IUK) ASEP, 623.58 GWh/day (~57 mcm/day). From 1 October 2016 to 1 November 2019, there were 142 out of 1126 days on which exit capacity allocated to Bacton (IUK) exceeded 73% of the Licence Baseline Exit Capacity currently allocated to Bacton (IUK). However, it should be noted that after the long-term contracts at Bacton IUK expired i.e. after 1 October 2018 there were only 6 such days on which utilisation of the Licence Baseline Exit Capacity currently allocated to Bacton (IUK) exceeded 73%. This again suggests that there should be an opportunity to meet BBLC's request to compete for capacity on exit at Bacton throughout the year significantly impacting exit capacity needs of IUK Shippers.

<sup>&</sup>lt;sup>17</sup> National Grid Data Explorer

<sup>&</sup>lt;sup>18</sup> Our analysis focuses on 'summer months' (April to September) as GB generally becomes a net exporter in this period.

<sup>&</sup>lt;sup>19</sup> This means that a large portion (i.e. approximately 73%) of exit Baseline Licence capacity allocated currently to IUK will not be affected.

1.29. Shippers first used BBL's physical export capacity from GB to the Netherlands on 27 September 2019. Since then and until 31 October 2019, on average, ~36 GWh/day has been exported through BBL's interconnector. This represented approximately 21% of BBL's maximum technical physical reverse flow capability and 6% of the current Licence Baseline Exit Capacity at Bacton (IUK).



Figure 1: Bacton IUK and Bacton BBL – Physical Flow

Source: Ofgem's analysis on the basis of NGG's data.

*Notes: Preliminary data is shown for October 2019. For most days, physical flow is lower than allocated capacity. This is due to entry allocations being netted off exit allocations when determining physical flows.* 

#### Other

1.30. In addition, gas production from the giant Dutch Groningen field will be completely halted from mid-2022<sup>20</sup>, eight years earlier than previously planned in 2030. This is due to the May 2019 earthquake, after which a quicker phase out has gathered momentum. This could present some additional export opportunities from GB to the Netherlands in particular during the summer months, when the UK is generally a net exporter.

1.31. The 2019 CfE (see paragraph 1.36.), has also revealed that respondents have an appetite for accessing a wider range of products than can currently be offered by BBL. Several respondents revealed non-binding expressions of interest in purchasing the new

<sup>&</sup>lt;sup>20</sup> <u>https://www.reuters.com/article/us-netherlands-gas/netherlands-to-halt-groningen-gas-production-by-2022-idUSKCN1VV1KE</u>

Obligated Firm Exit capacity, if made available to the market and the right price was indicated.

1.32. Given the problem under consideration and reasons above we consider that regulatory intervention is needed to take advantage of opportunities to develop markets and competition for the benefit of GB consumers. In particular, we consider the following to be the key reasons for change in existing arrangements for accessing capacity on exit:

- ensuring arrangements are competitive;
- the need to maximise cross-border trade under CAM;
- lower utilisation of IUK and the need to effectively utilise existing capacity before looking to increase capacity; and
- expected increase in demand for export flows due to an earlier-than-expected shut down of the Dutch Groningen field.

#### Policy objective

1.33. Our overarching policy objective here is to promote competition in exit arrangements to the benefit of consumers and network efficiency.

1.34. Our principal objective when carrying out our functions is to protect the interests of existing and future electricity and gas consumers. We do this in a variety of ways including the supervision and development of markets and competition. In addition, when carrying out our functions under the Gas Act 1986 we may have regard to the interests of other consumers including electricity consumers.

1.35. Our decision making is guided by the following principles:

- protection of consumer interest, specifically ensuring that changed capacity arrangements at Bacton would bring benefits to consumers (e.g. increased costrecovery, more liquid markets);
- equal access to transmission capacity;
- enhanced competition;
- transparent, efficient and non-discriminatory allocation of capacity;
- secure supply; and
- compliance with the relevant national and EU legislation.

#### Stakeholder evidence gathering exercise

1.36. We carried out pre-consultation evidence gathering exercises, including meeting with some stakeholders, asking BBLC for their market demand test and publishing a CfE in an attempt to gather a broad understanding of existing arrangements.

1.37. Early 2019, BBLC asked Shippers to test interest in purchasing Licence Baseline Exit Capacity at Bacton (BBL). 8 Shippers responded to the questionnaire, all of which confirmed their interest in firm capacity products at Bacton (BBL) subject to market conditions. Despite the expressed interest, only one Shipper User provided an indication of the quantity (1GWh/h) they would be interested in purchasing subject to market conditions, with other Shippers finding it difficult to define the exact volumes of capacity they would be interested in.

1.38. As mentioned previously, on 26 July 2019 we launched a CfE to gather views from industry and other relevant stakeholders on whether or not arrangements for accessing Licence Baseline Exit Capacity on the NTS at Bacton IP should be changed<sup>21</sup>. The consultation period ended on 16 September 2019.

1.39. In total, we received 12 responses: 7 from Shippers, 4 from transmission network operators and one from academia. Two respondents requested their responses remain confidential<sup>22</sup>.

1.40. Due to the seasonality of demand, most Shippers would prefer to have access to firm and interruptible products, with one Shipper User expressing a clear preference for firm products. Another Shipper User said that its interest in firm or interruptible products will depend on the ease of accessing the interconnector, the product offerings and transportation rates. Shippers are interested in long- and short-term products, even though two of them said they would generally prefer short-term products. This is due to the reduced flexibility of long-term products in changing market demand conditions.

1.41. Some Shippers who supported changes to the existing arrangements for accessing capacity on exit at Bacton believe that such changes would result in more certainty on booked capacity and standardisation of booking processes. Additionally, it would mean

<sup>&</sup>lt;sup>21</sup> <u>https://www.ofgem.gov.uk/publications-and-updates/call-evidence-change-existing-arrangements-accessing-licence-baseline-exit-capacity-national-transmission-system-bacton-interconnection-point</u>
<sup>22</sup> All 10 pon-confidential responses have been published on our website together with this Impact Assessment

<sup>&</sup>lt;sup>22</sup> All 10 non-confidential responses have been published on our website together with this Impact Assessment.

more fair market conditions for BBL and IUK. However, some respondents added, exit conditions with NGG for BBL and IUK are of a direct equivalence and should be charged equivalently. We consider this to be a contractual matter to be addressed in the Interconnector Agreements between NGG and the two respective interconnectors.

1.42. Some respondents expressed concerns related to potential changes to the current arrangements for accessing capacity on exit at Bacton. While we draw on evidence provided by stakeholders in the cost and benefits sections of this document, we also provide further detail on the consultation responses received in the appended Consultation document. Please also see all non-confidential consultation responses published on our website alongside this document.

#### Description of the options considered

1.43. Three policy options have been initially considered in this Impact Assessment. These options will be explored during the consultation to gather more detailed information and evidence on the additional costs and benefits.

#### Policy Option 1: 'Do nothing' option

1.44. In order to analyse the impacts of implementing a potential change, the policy options have been assessed against a "business as usual" baseline scenario. In this business as usual scenario case, NGG is obliged to offer 623.58 GWh/day (57 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL).

1.45. The current arrangements do not provide for any competition at the Bacton exit point itself. This situation was not assessed during Bacton ASEP as IUK at the time was the only user with export capability.

1.46. The current NGG Exit Capacity baseline of 0 GWh/day for BBL is not facilitating fair and equal grid access for BBL Users, when compared to IUK Users. Users have less "firm" rights to flow gas compared to IUK Users. This does not facilitate effective competition in the UK wholesale market, particularly between different interconnector Users.

1.47. Therefore, this option does not resolve our problem under consideration or achieve our policy objectives outlined above.

# Policy Option 2: Aggregating the two exit Bacton ASEPs (one serving the BBL interconnector, the other the IUK interconnector) – our preferred option

1.48. The two current NTS exit points at Bacton (one for flows through the BBL interconnector, the other the IUK interconnector) would be combined to allow competitive access. However, in reality BBL interconnector's physical reverse flow capacity of ~170GWh/day (15 mcm/day) is approximately 27%<sup>23</sup> of the existing Licence Baseline Exit Capacity currently allocated to the Bacton (IUK) ASEP, 623.58 GWh/day (~57 mcm/day). Therefore, the remaining 73% would be uncontested by BBL as it is currently not physically capable to do so. Based on historic data, we expect the two interconnectors to compete in the summer months when gas is typically exported to the Continent.

1.49. Aggregating the two NTS exit points at Bacton would entail changes to NGG's Licence, a process similar to aggregation of the entry Bacton IP point in 2015 that Ofgem led on.

1.50. When considering this option, we assume that market-based approaches to allocating capacity, such as auctions, would be used leading to an efficient allocation. This is because auctions generally result in capacity being allocated to those customers who place the highest value on the capacity, as reflected in the ultimate auction price. This is currently the approach used for entry capacity at Bacton IP which facilitates competition on entry.

1.51. Introducing competing auctions at Bacton would be an industry-led process adjudicated by Ofgem and would entail changes to the Uniform Network Code ("UNC"). NGG as the transporter would raise these changes in order to clarify rules for the newly aggregated baseline at an operational level.

1.52. However, in reality, UNC signatories may elect a different approach to capacity allocation at the exit point. If so, we would expect any solution to facilitate competition at Bacton exit point, at least to the same extent as competing auctions would.

<sup>&</sup>lt;sup>23</sup> This means that a large portion (i.e. approximately 73%) of exit Baseline Licence capacity allocated currently to IUK will not be affected.

#### Policy Option 3: Reallocating capacity

1.53. Under this option, some of the existing Licence Baseline Exit Capacity at Bacton (IUK), i.e. 623.58 GWh/day (~57 mcm/day), would be reallocated to Bacton (BBL). This would entail changes to NGG's Licence.

1.54. In considering this option, we would have to assess the baseline capacity level at each exit point (Bacton (IUK) and Bacton (BBL)) to facilitate fair access for IUK and BBL users. In doing so we would consider current and forecasted flows from both exit points, based on historic data and Shipper User demand forecasts, as well as peak utilisation rates at Bacton (IUK).

1.55. A division of capacity on exit between Bacton (IUK) and Bacton (BBL) would not facilitate competing auctions between the two points, nor facilitate fair and equal grid access for IUK and BBL Users on the peak demand days. Such reallocation of capacity on exit at Bacton (IUK) would reopen the question of matching technical capacity at the European ends of the interconnectors and might bear risks for the security of supply of the GB gas wholesale market. It would also be inconsistent with the arrangements put in place for Bacton entry capacity.

## Monetised and non-monetised costs and benefits of the available options

1.56. In line with our Impact Assessment guidance we have considered the additional costs and benefits of the different options considered. This includes impacts on competition, existing and future consumers and other factors including security of supply.

1.57. As this is a consultation stage Impact Assessment, in our Consultation Document, we are requesting evidence of costs and benefits in the consultation, which will help to monetise the impacts. We have also requested that, wherever possible, any evidence submitted is accompanied by the underlying data and analysis behind the calculations as well as any key assumptions.

1.58. At this stage the limited data does not allow for a quantitative analysis of the competition benefits. Where it has not been possible to monetise a cost or benefit, a qualitative description of the cost or benefit has been provided to the extent that it is possible at this time. The consultation will also be useful in developing our initial qualitative assessments.

1.59. Where the magnitude of costs/benefits has not been mentioned, it is because we have insufficient evidence to comment at this stage, but hope to do so after we have received additional evidence from the consultation.

1.60. As discussed earlier, we carried out a pre-consultation evidence gathering exercise earlier in the year (See para 1.36.). This was helpful to gather an understanding of the existing Bacton exit arrangements and the benefits of change. The exercise did not produce detailed quantitative evidence but a large quantity of qualitative evidence which we try to draw out below where relevant.

#### Additional costs of all of the options considered

1.61. We consider that all the options will impose zero or negligible additional cost to industry relative to the baseline Option 1 (do nothing). The options considered do not increase the total Licence Baseline Exit Capacity at Bacton exit, therefore, there will likely only be a transfer of interconnector operational costs from one party to another party.

1.62. A change to the exit baselines would result in an administrative change to the platform where cross border capacity in GB is auctioned, PRISMA. We don't expect there to be any significant costs to consumers as a result of this.

#### Additional benefits of the options considered

1.63. BBLC would be capable of offering its Shippers a full range of products on exit at Bacton. In this regard, the additional benefits for both Option 2 and 3 (as described above) relative to the baseline Option 1 (do nothing) are considered similar and discussed in detail below.

1.64. There is a general absence of monetised benefits in this area due to the difficulty of forecasting future utilisation of Licence Baseline Exit Capacity at Bacton. However, a key underlying assumption when assessing all additional benefits is that there will be some periods of time where price spreads dictate flows to the Netherlands and TTF via BBL over IUK in the future as seen for virtual flows in the past.

1.65. Through our CfE, Shippers expressed interest in purchasing exit capacity at Bacton (BBL) subject to economically advantageous market conditions (i.e. favourable TTF and Zeebrugge price spreads), believing that such changes would enhance competition).

#### **Competition**

1.66. The two interconnectors connect to different continental gas markets: IUK to Belgium and the Zeebrugge Trading Point ("ZTP") and BBL to the Netherlands and the TTF. The latter is now the most liquid European gas hub (see Figure 2)<sup>24</sup>. As things stand at present, GB Shippers wishing to deliver gas to the Dutch market (TTF) using Licence Baseline Exit Capacity can do so via IUK and the Belgium market. Alternatively, they would have to rely on short-term interruptible and non-obligated capacity, limiting the potential of trading opportunities.



Figure 2: Volume of gas traded at European hubs, from 2011-2018

Source: European Traded Gas Hubs, The Oxford Institute for Energy Studies, July 2019<sup>25</sup>

1.67. Under both options GB Shippers would be able access the Dutch market in a more cost-effective way. The change will offer greater competition to GB Shippers as they will

<sup>&</sup>lt;sup>24</sup> TTF and NBP have the greatest traded volumes in Europe. In Q2 of 2016, TTF overtook NBP, with strong yearon-year increases since 2014.

<sup>&</sup>lt;sup>25</sup> https://www.oxfordenergy.org/wpcms/wp-content/uploads/2019/07/European-traded-gas-hubs-a-decade-ofchange-Insight-55.pdf?v=7516fd43adaa

have a choice they do not have in the current status quo. This should promote greater liquidity at the NBP and in turn lead to a more competitive market.

1.68. It is important to note that we assume gas flows across the two interconnectors would respond to market signals and price spreads. Price spreads between NBP and TTF/ZTP would need to cover the total capacity and commodity costs set by the pipeline as well as the grid operator's.

1.69. There will be periods where market signals indicate flowing to the Netherlands and TTF using BBL and other periods where it signals flowing via Belgium using IUK, however predicting flows in the future is very difficult.

1.70. We have used summer 2020 forward prices (see Figure 3) as an indication of gas flow direction towards the Continent. The chart below shows that since the introduction of physical reverse flows on BBL on 18<sup>th</sup> July 2019 there have been days where the Summer 2020 TTF – NBP spread (blue line) has been greater than the equivalent ZTP – NBP spread (orange line). The TTF arbitrage opportunities for next summer suggests there could be demand for enduring Licence Baseline Exit Capacity at Bacton IP and there may be days where a direct route to TTF could be more efficient and cost-effective, depending on capacity and commodity costs set by the pipeline as well as the grid operator's.

1.71. We recognise that at any point in time forward curves may have embedded risk premia, so they are not perfect representations of market expectations. Nonetheless, the forward prices reflect current expectations of market participants about gas supply and demand over this time horizon and useful to analyse.



Figure 3: Summer 2020 Forward Contract Price Spreads

Source: Ofgem analysis on the basis of data from ICIS Heren

1.72. The majority of respondents to the CfE broadly agreed that a change to the existing arrangements would be good for competition and liquidity of the British gas market. In particular, 9 respondents, including all Shippers, were supportive of any future changes to the existing arrangements for accessing exit capacity at Bacton IP by which additional firm Bacton IP capacity would be made available for BBL. In their view, this would contribute to increased interconnectivity between the British and the European market and open up a new trading possibility for Shippers. The qualitative responses from CfE suggest a significant additional benefit as a result of competition and liquidity.

#### Trading opportunities/flexibility

1.73. Under current arrangements, Shippers have the option of virtual reverse flows and a limited number of interruptible physical reverse flow BBLC products. The offer of virtual reverse flow in the BBL pipeline was initiated in October 2010, allowing capacity to be booked from the UK to the Netherlands. Any capacity booked in this direction is deducted from the physical gas flow from the Netherlands to the UK.

Balancing the UK gas market during the summer

1.74. Option 2 and Option 3 will give the UK an alternative to balance its gas market during the summer months when the UK is generally a net exporter. Both options will help channel excess gas from the UK during the summer, which cannot be absorbed due to the lack of seasonal storage capacity relative to the do nothing option.

1.75. UK storage capacity has diminished substantially following the closure of Centrica's Rough facility on 20 June 2017. Therefore, GB has been relying more heavily on seasonal flows to and from mainland Europe to offload length in summer and cover peaks of demand in winter.

1.76. One of the reasons there is additional demand from mainland Europe during the summer is because of injection demand for gas storage facilities. There is much higher storage capacity in the Netherlands than in GB. The Netherlands has ~13 billion cubic metres ("bcm")<sup>26</sup> of storage capacity compared to ~1 bcm in the UK.

1.77. Through the integration of the BBL pipeline into the TTF market area and realising the BBL PRF project these storage options have become more easily accessible to Shippers thus increasing the security of supply options to GB consumers. However, utilisation of this will be dependent on the cost of transporting gas to and from such storage facilities.

1.78. In the longer term, the Option 2 and 3 could mitigate the increasing import needs of the Netherlands as the Groningen field is gradually phased out.

1.79. The majority of respondents considered that changing arrangements for accessing Licence Baseline Exit Capacity at Bacton would provide additional access to storage facilities in Europe. However, during the CfE, only one Shipper User expressed interest in physical reverse flow on exit at Bacton (BBL) to access storage facilities in Europe. The qualitative responses from CfE therefore suggest a moderate additional benefit from additional access to storage facilities.

<sup>&</sup>lt;sup>26</sup> Gas Infrastructure Europe, AGSI.

#### Attracting gas supplies to the UK e.g. Liquified Natural Gas ("LNG")

1.80. Greater physical capacity for gas traders to export gas to continental markets will make the UK a relatively more attractive destination for gas supplies e.g. LNG.

1.81. Both Option 2 and Option 3 will further facilitate entry and trade of LNG in UK and European market. These "do something" options provide higher flexibility and optionality allowing shippers and traders to optimise their positions.

1.82. In particular, direct access to liquid gas markets directly or indirectly via pipeline are thought to be the most effective promotion for LNG terminal. The TTF is the most liquid European gas hub market as mentioned above (See Figure 2).

1.83. The UK is well placed to take advantage of a growing global market in LNG (supplies purchased on the global market and delivered by a variety of suppliers), with 48 billion cubic metres/year of regasification capacity (25% of the total EU LNG capacity).

1.84. Three respondents to the CfE considered that changing arrangements for accessing Licence Baseline Exit capacity on exit at Bacton would make GB a more attractive place for LNG deliveries due to the additional interconnection with Europe, while two considered this would largely depend on market conditions. One respondent said that there is insufficient evidence to suggest that additional pipeline interconnection would make LNG deliveries more attractive.

1.85. Due to the limited evidence base, we have been unable to monetise the above benefits. However, the qualitative responses from CfE suggest there may be incentivised increased LNG deliveries resulting in a moderate additional benefit.

#### Security of supply

1.86. From a domestic energy security perspective, having more gas in the LNG tanks in the UK is undoubtedly positive and would go some way to addressing the lack of interseasonal storage. Therefore, both Option 2 and 3 would have some security of supply benefits compared to the baseline.

1.87. The UK benefits from highly diverse and flexible sources of gas supply. We consistently have one of the largest and most transparent gas markets in Europe, with extensive import infrastructure and a diverse range of gas supply sources: pipelines from

Norway, Belgium and the Netherlands, domestic production, and LNG terminals to bring in gas from around the world. With decreasing domestic UK production, it is possible that more of GB's gas demand will be satisfied by LNG.

1.88. LNG production has increased and sources of supply have diversified. GB has been largely dependent on Qatar for its LNG imports, typically over 90%, recently however, the LNG market is increasingly diversified and this year the UK has received substantial volumes from Qatar, Russia, Algeria and the US (see Energy Trends, BEIS<sup>27</sup>).

1.89. The counterfactual is that if BBL could not provide increased access for LNG deliveries, that LNG would simply go to import terminals on the continent and UK consumers might have to pay more to import that gas via the interconnectors if needed.

#### **Consumers**

1.90. Given that NGG's total Allowed Revenues are fixed, additional revenue due to higher utilisation and expectedly higher capacity sales would result in a requirement for NGG to reduce the tariffs it applies to other network flows in order to reduce the amount of revenue recovered from these sources. This would therefore be a direct benefit to GB end consumers.

1.91. The magnitude of this additional benefit would be dependent on the marginal increase in utilisation compared to the do nothing option. In the response submitted by BBLC, they refer to market arbitrage analysis based on historical data which calculated the additional NGG transportation revenue that would have accrued had Shippers been able to take advantage of the arbitrage opportunity from price spreads between the three hubs. Given that NGG's total Allowed Revenues are effectively fixed, this additional revenue, estimated by BBL at  $\sim \pounds 2.1$ million (Real 2018)<sup>28</sup>, would necessarily result in a requirement for NGG to reduce the tariffs it applies to other network flows in order to reduce the amount of revenue recovered from these sources.

1.92. A higher level of market liquidity should also help to secure or lower wholesale gas prices and these benefits will flow through to consumers.

<sup>&</sup>lt;sup>27</sup> UK Gas Production, Trade and Demand, April-June 2019.

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/834113/Gas\_ September\_2019.pdf

<sup>&</sup>lt;sup>28</sup> This calculation and its assumptions are set out on page 6 of BBLC's response which is published alongside this consultation.

1.93. Five respondents to the CfE said that consumers would benefit from changing the existing arrangements for accessing Licence Baseline Exit Capacity at Bacton (BBL), as more competitive and liquid domestic gas market help to lower wholesale gas prices which will trickle down to consumers. The responses from the CfE and BBL's quantitative evidence suggest a significant additional benefit for consumers going forward.

#### Distributional impacts, strategic and sustainability considerations

1.94. Distributional impacts between GB consumers are not anticipated. The impact on IUK and BBL has been discussed earlier (see paragraph 1.61.)

1.95. Strategic and sustainability issues refer to several concepts. First, to security of supply failure in electricity and gas supplies, and consideration of the interactions between the two fuel sources. The effects of "do something" options are likely to be trivial in GB terms. As described throughout, these options relate to physical gas flowing gas from the GB to Netherlands. However, under both Option 2 and 3 there may be some positive impacts such as attracting additional gas supplies e.g. LNG (see paragraph 1.80.)

1.96. Second, potential risk of extreme energy prices and volatility to a degree which might affect personal security (e.g. winter deaths), even when the likelihood of these events arising may be very small. We do not think this consideration is relevant within this context.

1.97. Third, risks to the UK's legally binding energy targets. We consider these are minimal whichever option is chosen. The UK is the first major economy in the world to pass laws to end its contribution to global warming by 2050. The target will require the UK to bring all greenhouse gas emissions to net zero by 2050, compared with the previous target of at least 80% reduction from 1990 levels. Any impact from gas transit (e.g. through the operation of the network to export greater volumes) would be exceptionally small and of no meaningful significance for option selection.

1.98. The fourth consideration is the natural asset and greenhouse gas (GHG) assessment of potential implications over the longer term. We do not consider there is any meaningful difference between the options in these terms.

#### Summary and preferred option

1.99. While it has not been possible to monetise the expected benefits of the Option 2 the magnitude of benefits listed above are expected to be greatest under Option 2 as both interconnector providers compete to innovate on product and price to attract end users.

1.100. Enhanced liquidity will lead to more efficient price discovery enhancing efficiency and the competitiveness of bi-directional interconnection with Europe. Option 3 would relatively restrict shipper choice, and therefore would not result in the same level of optimal trading as Option 2. There are also additional risks associated with Option 3 described in section below and paragraph 1.54.

1.101. Under our powers in Section 23 of the Gas Act 1986 we can modify conditions of a particular licence. Having regard to our statutory duties to protect current and future consumers through facilitating competition, we are minded to amend Table 8: Licence Baseline Exit Capacity in SSC(5G) of National Grid's Gas Transporter Licence. This change would merge Bacton IUK and Bacton BBL into a single exit point.

1.102. Four respondents to the CfE expressed their preference for aggregating the two exit points and introducing competing auctions on exit at Bacton IP. One respondent said that provision of firm Bacton IP exit capacity to BBL should not impact the current Licence Baseline Exit Capacity at Bacton (IUK). Given this and the associated additional benefits Option 2 is currently preferred.

#### Risks

#### Risks associated with 'Do nothing' option

1.103. The key risk of this option is that consumers do not benefit from competition and a failure to realise the potential of other benefits that the changed arrangements for accessing Licence Baseline Exit Capacity at Bacton BBL would bring. In addition, in the context of the 2050 Net Zero targets set by the Government and in a world of declining network use this would not be an effective option.

#### **Risks associated with Option 2**

1.104. As currently 100% of the existing Licence Baseline Exit Capacity is dedicated to the IUK flow direction, aggregation will result in less capacity being guaranteed in the IUK flow direction and consequently less gas **potentially** flowing into the Belgian network from IUK

when direct flows to TTF are more beneficial. IUK Shippers will be able to contest with BBL Shippers for the Licence Baseline Exit Capacity.

1.105. Given the physical capacity of the BBL pipeline, Option 2 currently could only affect approximately 27% of the existing Licence Baseline Exit Capacity, which is currently allocated to Bacton (IUK).

1.106. Data also suggests that IUK is not currently fully utilised and on a downward trend following the expiry of long-term IUK contracts, suggesting that there should be an opportunity to meet BBL's needs with little or no impact on flows via IUK. Therefore, we deem this risk to be low and offset by the benefits on a European level of gas flowing more efficiently to where it is valued most.

#### **Risks associated with Option 3**

1.107. With reallocation of the baseline capacity from Bacton (IUK) to Bacton (BBL) there is the risk of IUK Shippers not being able to access IUK capacity in the summer months, when export capacity traditionally peaks.

# Direct costs and benefits to business calculations (following BIT methodology)

1.108. Since this policy measure aims to enhance competition, it is classified as nonqualifying regulatory provision based on BIT administrative exclusion D "Deliver or replicate better competition-based outcomes in markets characterised by market power: Procompetition", as outlined in the "Better Regulation Framework".<sup>29</sup>

<sup>&</sup>lt;sup>29</sup>https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\_data/file/735587/bett er-regulation-framework-guidance-2018.pdf (p. 33).

## **Next steps**

1.109. We are keen for stakeholders to respond with their views and evidence to the analysis presented in this draft Impact Assessment. We would also welcome responses to questions posed in the accompanying consultation document.

1.110. This consultation will remain open for eight weeks, until 10 February 2020. We welcome responses at any point during the consultation period. We are not planning any public events or workshops, but we are open to meeting interested stakeholders to hear your views.

1.111. Following the consultation period, we will consider responses and will take these into account in reaching our final decision on whether to change the existing arrangement SSC(5G) as proposed by Option 2. Subject to the number and content of the responses, we are aiming to reach a final decision in spring 2020.

1.112. This Impact Assessment is currently in draft form and will be finalised subject to consultation.

1.113. We note that changes to the UNC may be required to implement our decision. We foresee that these changes will be industry-led.