Final Impact Assessment

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

Division:	Energy Systems Management and Security	**Type of measure:**	Wholesale Competition
Team:	Gas Markets and Systems	**Type of IA:**	Qualified under Section 5A UA 2000
Associated documents:	- Call for Evidence (CfE) - Initial Impact Assessment ('Initial IA') and Minded to Consultation ('MTC')	**Contact for enquiries:**	Gas.TransmissionResponse@ofgem.gov.uk
Coverage:	Full Coverage		

Summary

The current arrangements in National Grid Gas Plc ('NGG') Gas Transporter Licence Special Conditions[1] ('Licence') stipulate that the Licence Baseline Exit Capacity for the Bacton (BBL) Aggregated System Entry Point is set at 0 GWh/day. The Bacton (IUK) Licence Baseline Exit Capacity is set at 651.68 GWh/day. Therefore, while Shippers are able to access

[1] National Grid Gas Plc (NTS) Gas Transporter Licence Special Conditions, 9.13, Appendix 2.

interruptible and non-obligated exit capacity at Bacton (BBL) to flow gas from Bacton to the Netherlands, they are not entitled to access obligated exit capacity at Bacton (BBL) to flow gas from Bacton to the Netherlands.[2] This Final Impact Assessment analyses whether or not current arrangements for exit capacity at Bacton should be changed to allow Shippers[3] to access obligated exit capacity at Bacton (BBL) Interconnection Point (IP) in the same way that they can at Bacton (IUK) IP.

Therefore, this Final Impact Assessment is focused on the efficient use of existing Bacton Licence Baseline Exit Capacity.

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

We do not consider current arrangements on exit at Bacton as sufficiently competitive. At present, NGG is obliged to offer 651.68 GWh/day (~60 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 unsold. NGG has so far been able to release interruptible (off-peak) exit capacity to Shippers (BBLC Shippers) that wish to flow gas from Bacton to the Netherlands. In June 2021, NGG also released non-obligated firm capacity on some days. However, this may not be the case going forward, and NGG may have to scale back interruptible (off-peak) capacity, which is not a firm product and is released by NGG under the caveat that it can be curtailed, or NGG may be unable to offer non-obligated firm capacity. This may be due to a range of reasons, including unavailability of capacity due to commercial and capacity constraints, technical issues when releasing non-obligated firm capacity, commercial risks etc.

Without regulatory intervention, NGG is not able to change the existing capacity arrangements at Bacton other than to respond to a formal incremental capacity process resulting in an increase in exit IP capacity ie the IP Planning and Advanced Reservation of Capacity Agreement ('IP PARCA'). There has been no signal for an overall increase to exit capacity at Bacton IP and we consider the IP PARCA application process which would result in a technical increase in capacity on exit at Bacton to be inapplicable and unsuitable on this occasion. We also consider a technical increase in Baseline Licence Exit Capacity at

[2] Interruptible capacity is capacity that is not guaranteed at any time. Non-obligated capacity is guaranteed capacity that is released for certain days on a discretionary basis. Obligated capacity is contractually guaranteed at all times.
[3] The Shipper is a company that buys and sells gas and arranges for the transportation of gas through networks owned by gas transporters. Shippers must have a licence from Ofgem before they can ship gas.

Bacton (BBL) to be inappropriate in a network with expected declining demand and in the context of the United Kingdom's ('UK') Net Zero target.

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: existing and future consumers[4] in relation to gas conveyed through pipes, and network efficiency. And to help achieve the UK's Net Zero targets.

What are the policy options that have been considered, including any alternatives to regulation?

- Option 1: 'Do nothing' and maintain the status quo. NGG is obliged to offer 651.68 GWh/day (~60 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 in NGG's Licence.

- 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 within NGG's Licence 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, it would replicate arrangements at other locations on the National Transmission System ('NTS') where capacity is contested.

As mentioned above, NGG cannot change the existing capacity arrangements at Bacton unless there has been a formally initiated request for an increase in capacity above baseline through the incremental capacity process. We don't think this process is a compatible solution for the problem under consideration as it only addresses ways of increasing the technical capacity at the exit point rather than how existing capacity is efficiently

[4] The interests of such consumers are their interests taken as a whole, including their interests in the reduction of greenhouse gases in the security of the supply of gas and electricity to them and in the fulfilment of Ofgem's functions as the designated regulatory authority for Great Britain.

distributed at Bacton. In addition, this process is initiated by firm user commitment and could result in investment in the network which would incur a cost to the consumer. Therefore, we currently do not consider an increase in capacity above baseline as a possible policy option.

Preferred option - Monetised Impacts (£m)

Business Impact Target Qualifying Provision	N/A
Business Impact Target (EANDCB)	N/A
Benefits to GB and European Consumers, Shippers, and other parties	We estimate the potential direct arbitrage benefits of Option 2 to GB and European consumers, shippers and other parties to be in the range of £0.9m-£1.4m a year. We also estimate that BBLC Shippers will gain approx. £6.9m a year from accessing firm capacity on exit at Bacton. This is due to them being able to take advantage of the short-haul discount (which will only apply to the capacity-based Transmission Services tariffs for firm capacity). Implementation costs are deemed to be negligible.
Wider Benefits/Costs for Society	N/A

Explain how the Benefit was monetised, NPV or other

The potential annual **Direct arbitrage benefits** of Option 2 for GB and European consumers, shippers and other parties were estimated to range from up to approx. £0.9m to approx. £1.4m annually. This assessment was based on assumptions that, on days when the price spread between Title Transfer Facility ('TTF') and National Balancing Point ('NBP') compared to the price spread between Zeebrugge and NBP was greater than 2p/therm and 0.6p/therm, further annual benefits in the range of up to £0.9m to £1.4m, respectively, could have been realised and passed down to GB and European consumers.

The **benefits to BBLC Shippers from competition on exit at Bacton** were estimated at approx. £6.9m annually. This is due to BBLC Shippers being able to take advantage of the short-haul discount. This estimate considers total physical exit flows at Bacton (BBL) in 2020 and savings from the discounted price for transmission services.

Preferred option - Hard to Monetise Impacts

Describe any hard to monetise impacts, including mid-term strategic and long-term sustainability factors following Ofgem IA guidance.

- Increased competition at Bacton Exit and more efficient cross-border trade. The aggregation of exit capacity will increase competition to use that capacity and is expected to increase utilisation of the National Transmission System ('NTS').
- Although the expected increase in utilisation of the NTS is difficult to predict, the consequential additional revenue due to higher utilisation and expected additional 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.
- Higher flexibility and optionality, allowing Shippers and traders to optimise their positions, may attract gas supply, eg 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 reduce price volatility and spreads.
- Net Zero benefits from increased efficiencies and usage of the existing infrastructure/arrangements as opposed to new investment in methane infrastructure.
- Consumer protection from avoiding new investment in methane infrastructure that is unnecessary.

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 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 points in the Licence could potentially reduce the amount of gas flowing through IUK into the Belgian network. However, data suggests that IUK is not currently fully utilised and is 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? **Yes**	**If applicable, set review date: 2026**

Is this proposal in scope of the Public Sector Equality Duty?	**No**

Summary table for all options

Where possible, summarise the main impacts of each option to allow for easy comparison of benefits/costs (pros/cons). Make sure all options are summarised in comparable units.

Summary of options	**Main effects on Consumer outcomes**	**Benefits**	**Costs**	**Key considerations** (Risks, assumptions, distributional impacts etc.)
Policy Option 1: 'Do nothing' option - In this option, NGG is obliged to offer 651.68 GWh/day (~60 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL).	Consumers will not benefit from additional benefits from competition on equal footing (ie increased competition for the combined capacity at the aggregated Bacton (exit) IP).	Status quo, the current benefits to the system of this arrangement related to cross-border trade based on BBLC Shippers accessing interruptible capacity.	Foregone benefits of ~£6.9m a year from BBLC Shippers not being able to take advantage of the short-haul discount (which will only apply to the capacity-based Transmission Services tariffs for firm capacity).	**Risks -** 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.
Policy Option 2: Aggregating the two points in NGG's Licence - The two current NTS exit points at Bacton (one for flows through	Fair access to capacity would result in competition on equal footing between BBLC and IUK Shippers, which would lead to higher flows on exit at Bacton, further increasing capacity	BBL would be capable of offering its Shippers a full range of products on exit at Bacton. This would also improve	Negligible additional cost compared to Option 1 (do nothing). Aggregating the two points in the Licence does not increase the total Licence	**Risks** - The risk that aggregation will result in less capacity being guaranteed in the IUK flow direction and consequently less gas potentially flowing into the Belgian network when direct flows to TTF are more beneficial.

Summary of options	Main effects on Consumer outcomes	Benefits	Costs	Key considerations (Risks, assumptions, distributional impacts etc.)
the BBL interconnector, the other the IUK interconnector) would be combined in NGG's Licence to allow competitive access.	sales and maximising benefits for GB and European consumers. Competition for capacity may increase its price, ensuring appropriate revenue recovery from the existing assets. A higher level of market liquidity should also help to secure or lower wholesale gas prices and these benefits will flow through to, predominantly, European consumers. BBLC Shippers would benefit from the short-haul discount of ~£6.9m a year, which would further competition between the two interconnectors.	security of supply. GB Shippers would be able to access the Dutch market in a more cost-effective way. Greater competition to GB Shippers as they will 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. Further facilitate entry and trade of LNG in UK and	Baseline Exit Capacity at Bacton exit, therefore, there will likely only be a transfer of interconnector operational costs from one party to another party.	

Summary of options	Main effects on Consumer outcomes	Benefits	Costs	Key considerations (Risks, assumptions, distributional impacts etc.)
		European market.		
Policy Option 3: Reallocating capacity - Some of the existing Licence Baseline Exit Capacity at Bacton (IUK), ie 651.68 GWh/day (~60 mcm/day), would be reallocated to Bacton (BBL). This would entail changes to NGG's Licence.	Providing BBLC access to capacity would result in competition on equal footing between BBLC and IUK Shippers however at two separate points, which would lead to higher flows on exit at Bacton, further increasing capacity sales and maximising benefits for GB and European consumers. A higher level of market liquidity should also help to secure or lower wholesale gas prices and these benefits will flow through to, predominantly, European consumers.	BBL would be capable of offering its Shippers a full range of products on exit at Bacton. This would also improve security of supply. GB Shippers would be able to access the Dutch market in a more cost-effective way. Further facilitate entry and trade of LNG in UK and European market.	Negligible additional cost compared to Option 1 (do nothing). Reallocating capacity does 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.	**Risks** - The risk of IUK Shippers not being able to access IUK capacity in the summer months when export capacity traditionally peaks.

Summary of options	**Main effects on Consumer outcomes**	**Benefits**	**Costs**	**Key considerations** (Risks, assumptions, distributional impacts etc.)
	BBLC Shippers would benefit from the short-haul discount, which would further competition between the two interconnectors.			

Contents

1. Introduction

1.1. This Final Impact Assessment assesses whether 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). Currently, Shippers can only access Licence Baseline Exit Capacity at Bacton (IUK).

1.2. This Final Impact Assessment is accompanied by the Statutory Consultation on the proposed change to Existing Arrangements for Accessing Licence Baseline Exit Capacity on the NTS at Bacton Interconnection Point. Following the Call for Evidence to change the existing arrangements for accessing Licence Baseline Exit capacity at Bacton, Ofgem ran a consultation on the proposed change to existing arrangements for accessing Licence Baseline Exit Capacity at Bacton Interconnection Point[5] ('Minded-to-consultation', 'MTC') with an Initial Impact Assessment ('Initial IA')[6] between 9 December 2019 and February 2020. We considered three options in our Initial IA and shared with industry that our minded to preference was Option 2:

- Option 1: 'Do nothing' and maintain the status quo; or
- Option 2: Amend the Licence to aggregating Bacton (IUK) and Bacton (BBL) Interconnection Points at exit into one; or
- Option 3: Reallocate existing Licence Baseline Exit Capacity at Bacton (IUK) to Bacton (BBL).

1.3. This Final IA assesses all three options against our principle objective of protecting existing and future consumers. In particular, it assesses whether the options promote competition in exit arrangements to the benefit of existing and future consumers in relation to gas conveyed through pipes, whether they promote network efficiency, help achieve the UK's Net Zero targets, and are compliant with the retained EU legislation.

1.4. In general, responses to the Initial IA and our MTC were supportive of Ofgem's proposal to change the existing arrangements for accessing exit capacity (as set in NGG's Licence) at a new Bacton exit IP. However, some respondents, including IUK, have raised

[5] Consultation on the proposed change to existing arrangements for accessing Licence Baseline Exit Capacity on the National Transmission System at Bacton Interconnection Point, December 2019
[6] Impact Assessment: Proposed change to Existing Arrangements for Accessing Licence Baseline Exit Capacity on the National Transmission System at Bacton Interconnection Point, December 2019

concerns that our minded-to-position is not compliant with the existing legal and regulatory frameworks (see Appendix 1 - Stakeholder Views for a summary of responses received).

1.5. We have updated our Initial IA with the information and responses received in the consultation phase. We have also updated it to take into account changes since we consulted – evidence from the experience of NGG making available interruptible (off-peak) capacity to BBLC Shippers. All responses were carefully considered and accounted for. Our view is that the responses and the alternative options suggested, which we have fully considered, do not change our assessment so we maintain our position from the Initial IA.

1.6. We provide details on our decision in the sections that follow. We conclude that we will proceed with changing the existing arrangements on exit at Bacton and to do so, we are issuing a statutory consultation notice to inform industry of our intent to modify NGG's Licence.

2. Problem under consideration

Section summary

In this section we will define the problem under consideration, outline the types of capacity that NGG can release on exit at Bacton, and highlight the background to the existing arrangements at Bacton.

Background

2.1. The Great Britain ('GB') gas market is physically connected to the continent via two bidirectional gas interconnectors at Bacton: Interconnector UK ('IUK'), connecting GB and Belgium, and Balgzand Bacton Line ('BBL'), connecting GB and the Netherlands. As such, Bacton is an Aggregated System Entry point ('ASEP') where the European interconnectors 'meet' the NTS, flowing gas to and out of GB. Gas from the UK Continental shelf ('UKCS') flows into the NTS at Bacton through a separate commercial entry point, listed in NGG's Licence as Bacton (UKCS).

2.2. IUK has the capability for physical flow in both directions, linking the NBP and the Zeebrugge hubs. IUK was commissioned in 1998, primarily to transport export flows from GB to Belgium, with financing supported by 20-year long-term contracts. These contracts expired at the beginning of October 2018.

2.3. BBL interconnector was previously capable of physical flow in only one way, from the Netherlands to GB. BBL interconnector was commissioned in 2009, partially underpinned by a seven-year Centrica – Gas Terra contract which expired in December 2016. The BBL pipeline connects Europe's largest trading hubs, Title Transfer Facility ('TTF') in the Netherlands and the NBP (GB). Although virtual reverse flow[7] had already been accommodated, in December 2017, BBL Company V.O.F. ('BBLC') shareholders decided to carry out works to enable bidirectional physical flow on this pipeline.

The 'Problem'

[7] Virtual reverse flow allowed 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).

2.4. The current arrangements for gas exiting the NTS at Bacton are provided for in National Grid Gas Plc ('NGG') Gas Transporter Licence Special Conditions ('the Licence').[8] The Licence stipulates that the Licence Baseline Exit Capacity for the Bacton (BBL) ASEP is set at 0 GWh/day, even though BBL interconnector's maximum network exit point offtake rate as defined in the network code is 184.78 GWh/day (~17 mcm/day). This is because until recently, BBLC had no physical reverse flow capability. In 2019 however, BBLC completed a project to facilitate physical reverse flow of gas from Bacton (BBL) (GB) to the Netherlands (Balgzand). The current arrangements mean that even though the BBL pipeline is now physically capable of flowing gas from GB to the Netherlands, NGG cannot offer firm exit capacity at Bacton (BBL). The Bacton (IUK) Licence Baseline Exit Capacity is set at 651.68 GWh/day (~60 mcm/day).[9]

2.5. BBLC Shippers are able to access interruptible and non-obligated exit capacity, however they are not, under the Licence, entitled to obligated exit capacity to flow gas from Bacton to the Netherlands. As we observe elsewhere in the document, with the exception of June 2021, NGG has so far only been able to release interruptible (off-peak), as opposed to non-obligated firm capacity at Bacton (BBL), if and when required. However, this may not be the case going forward, and NGG may have to scale back interruptible (off-peak) capacity, which is not a firm product and is released by NGG under the caveat that it can be curtailed, or be unable to release non-obligated firm capacity when required. This may be for a variety of reasons[10].

Types of capacity that NGG can release

2.6. NGG can usually make **firm** and **interruptible (off-peak)** capacity available to the market at each offtake point.

2.7. **Firm capacity** means exit capacity that provides network users with a contractual right to flow from the NTS and has the meaning given to that term in the Network Code.

[8] Licence Baseline Exit Capacity means the volume of Exit Capacity as set out in Appendix 2 of Special Condition 9.13 (Capacity Requests, Baseline Capacity and Capacity Substitution) and any Funded Incremental Obligated Exit Capacity from five years after the contractual delivery date of that capacity. National Grid Gas Plc - Special Conditions Consolidated - Current Version.pdf (ofgem.gov.uk)

[9] NGG's Special Licence Conditions were amended at the start of the RIIO-GT2 price control. The Licence of the previous price control stipulated that the Licence Baseline Exit Capacity for the Bacton (BBL) ASEP was set at 0 Gigawatt-hours ('GWh')/day compared to the Bacton (IUK) Licence Baseline Exit Capacity of 623.58 GWh/day and Legacy Capacity of 28.096940 GWh/day. In our Initial IA we only included the Licence Baseline Exit Capacity from table 8 of the Licence, without adding legacy capacity. The two have now been merged and considered in this document.

[10] Eg unavailability of capacity due to commercial and capacity constraints, technical issues when releasing non-obligated firm capacity, commercial risks etc.

The volume of firm capacity made available at each offtake point consists of the following amounts:

2.7.1. Obligated firm capacity:

- Licence Baseline NTS Exit Capacity (obligated) is the minimum amount of capacity NGG must make available at an exit point, defined in Appendix 2 of Special Licence Condition 9.13;

- Incremental exit capacity (obligated) is firm capacity made available over and above baseline, in response to market demand and supported by user commitment. This increase in capacity is permanent; and

2.7.2. Non-obligated firm capacity:

- Incremental NTS exit capacity (non-obligated) - NGG can release additional firm capacity at an offtake point over and above obligated levels. Such capacity can be released at NGG's discretion.

2.8. **Interruptible (Off-peak) capacity** can be made available to the market at offtake points where firm capacity is not being used. These products can be curtailed if there are low pressures on the network and can only be offered day-ahead. The volume of off-peak capacity available at an offtake consists of three parts:

2.8.1. use it or lose it (UIOLI) – any firm capacity that hasn't been used over recent days can be resold to the market as interruptible capacity;

2.8.2. unutilised maximum network exit point offtake rate (MNEPOR) – during day ahead at 13:30 the NTS demand forecast is published. Where day ahead demand forecast is less than 80% of the annual peak 1-in-20 demand forecast, NGG are obliged to release any remaining capacity up to the MNEPOR level as off-peak capacity; and

2.8.3. discretionary capacity – NGG can make additional off-peak capacity available to the market.

Existing Arrangements on entry and exit at Bacton

2.9. Currently, the arrangements for entry and exit at Bacton are different. NGG is obliged to offer 651.68 GWh/day (~60 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK). NGG is currently not obliged to offer any such capacity at Bacton (BBL).

2.10. The current capacity arrangements at Bacton at entry and exit are set out respectively in Appendices 1 and 2 ('the baseline tables') of Special Condition 9.13 of NGG Licence. The tables state the level of flat Licence Baseline Exit Capacity that NGG must make available at each network point on an enduring basis.

Entry

2.11. 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 Belgian and Dutch networks). In 2015, European Network Code on Capacity Allocation Mechanisms ('EU CAM NC') entered into force at IPs in the European Union. The amended EU CAM NC entered into force two years later and still applies today as 'retained legislation.[11,12] Part of EU CAM NC'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.

2.12. In order to implement EU CAM NC at Bacton 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),[13] 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 (EU CAM NC), 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.

[11] 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.
[12] Since the UK exit from the EU, EU CAM NC has been retained as part of UK law. 'Retained law' has the meaning of the European Union (Withdrawal) Act 2018, s 6.7 (European Union (Withdrawal) Act 2018 (legislation.gov.uk)). EU CAM NC has been retained through The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019/531, Schedule 4 (The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (legislation.gov.uk)
[13] Bacton UKCS accommodates flows from gas produced on the UK Continental Shelf (UKCS).

Exit

2.13. 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.[14] 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.

2.14. 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.[15]

2.15. The principle of this new framework was to maximise the amount of capacity released to exit connections for the least investment. Net increases to baselines would need to be underpinned by firm user commitment to avoid consumer investment in the network which may not yield the expected returns or utilisation levels, ie 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.

2.16. At the time of implementation, EU CAM NC did not need to be clarified[16] 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. As part of the implementation of this new contractual framework, 651.58 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 was allocated at the Bacton (BBL) exit point.

2.17. NGG has been able to make interruptible exit capacity to BBLC Shippers, however, flows through IUK would be prioritised. NGG also said it could release firm capacity to BBLC

[14] https://www.ofgem.gov.uk/sites/default/files/docs/2004/11/8895-25504a.pdf
[15] https://www.ofgem.gov.uk/ofgem-publications/56157/16341-20061129tpcr-fp-supplementary-appendicesinfinal.pdf
[16] This is because there is a requirement in EU CAM NC 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.

Shippers during winter on a non-obligated basis, however this should be distinguished from obligated capacity as this would only be offered at NGG's discretion when there is spare capacity on the network and therefore will only be allocated on a limited and unpredictable basis.

2.18. During the consultation on our minded-to-position, some respondents raised concerns about the possibility of divergent entry and exit arrangements at Bacton, particularly regarding Option 2. However, aggregating IPs within the Licence and implementing competition would in fact bring Exit arrangements in line with those on Entry. This is covered further in Section 6.

2.19. Concerns were also raised about the compliance with Article 6 of EU CAM NC (as retained in UK law), specifically the fact that technical capacity on the GB side would not match that on the Belgian and Dutch side. This is covered in Section 6 on Compliance with EU regulations and retained EU law.

3. Rationale for intervention

Section summary

In this section we use the evidence available to demonstrate the rationale for intervention ie for changing the existing arrangements for accessing Licence Baseline Exit Capacity at Bacton.

Background

3.1. In 2019, BBLC completed a project to facilitate physical reverse flow of gas from Bacton (BBL) (GB) to the Netherlands (Balgzand). However, the current arrangements mean that even though the BBL pipeline is now physically capable of flowing gas from GB to the Netherlands, NGG cannot offer firm exit capacity at Bacton (BBL) on an enduring basis. 100% of Bacton's Licence Baseline Exit Capacity is allocated to Bacton (IUK) and there is no formal process to reconfigure this capacity without intervention from Ofgem.

3.2. Protection of the interests of existing and future consumers[17] in relation to gas conveyed through pipes, including their interests in the reduction of greenhouse gases, is Ofgem's principal objective. We consider that regulatory intervention is needed to take advantage of opportunities to develop markets and increase competition for the benefit of increased network efficiency and ultimately GB consumers.

3.3. In our view, not only will maximisation of cross-border trade bring benefits to GB and European consumers, it is also a requirement of EU CAM NC as retained in UK law. In the interest of achieving this, BBLC should have equal and transparent access to exit capacity at Bacton.

[17] 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. 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); 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 as retained in UK law. Sections 6, 7 and 8 provide further information in this respect.

3.4. This could be achieved by increasing Licence Baseline Exit Capacity at Bacton (BBL). However, we feel that the emphasis should be placed on effectively utilising existing capacity, as opposed to investing in unnecessary expansion – the cost of which would be partially passed onto consumers.

3.5. As both parties involved in transporting gas from GB to Europe - IUK and BBLC - have opted for a merchant model,[18] the competition between both interconnector operators will bring overall benefits to all three directly connected markets and their adjacent entry-exit systems.

Utilisation of exit capacity at Bacton

3.6. Until October 2018, IUK capacity was fully booked under long-term contracts. The expiry of these contracts has contributed to a decline in both booked capacity and capacity utilisation since October 2018 (See Figure 1). The average utilisation rate of IUK in the summer months[19] has shown a decline in the last three years, from 65% in 2017 to 28.3% in 2020.

3.7. The physical reverse flow capacity of BBL is ~184.78 GWh/day (~17 mcm/day), it represents approximately 28%[20] of the existing Licence Baseline Exit Capacity currently allocated to the Bacton (IUK) ASEP. Therefore, the remaining 72% would be uncontested by BBLC. Since the introduction of physical reverse flow, the average utilisation rate of BBL in the summer months was ~132 GWh/day.

3.8. From 1 October 2016 to 1 October 2020, there were 130 out of 793 summer days on which exit capacity allocated to Bacton (IUK) exceeded 72% and therefore potentially contestable with BBL. It should be noted that after the long-term contracts at Bacton (IUK) expired ie after 1 October 2018 there were only 4 such days[21] on which utilisation at Bacton (IUK) exceeded 72%, meaning that all the remaining 126 days with utilisation rate higher than 72% occurred prior to October 2018 ie before the expiry of IUK's long-term contracts.

[18] Both interconnectors are considered merchant assets without an allowed or target revenue set in accordance with Article 41(6)(a) of the Gas Directive.
[19] Our analysis focuses on 'summer months' (April to September) only as GB generally becomes a net exporter in this period.
[20] This means that a large portion (ie approximately 72%) of exit Baseline Licence capacity allocated currently to IUK will not be affected.
[21] One of such days was 20 June 2019, when utilisation of the IUK interconnector peaked, reaching 93.7%. However, this is unrepresentative of the average utilisation of the IUK interconnector in the Summer months of 2019 of app. 32%, as well as of the general decline in use of IUK since (ie it has not been observed since). Even on this day however, it is also entirely possible, should BBL have requested it, that NGG could have released further capacity on this day, so we consider any concerns about congestion generally are minimal.

It is worth pointing out that the sum of physical exit flows at Bacton (IUK) and Bacton (BBL) since June 2019 when BBLC's physical reverse flow was introduced did not exceed Licence Baseline Exit capacity at Bacton (IUK) (see Figure 2).

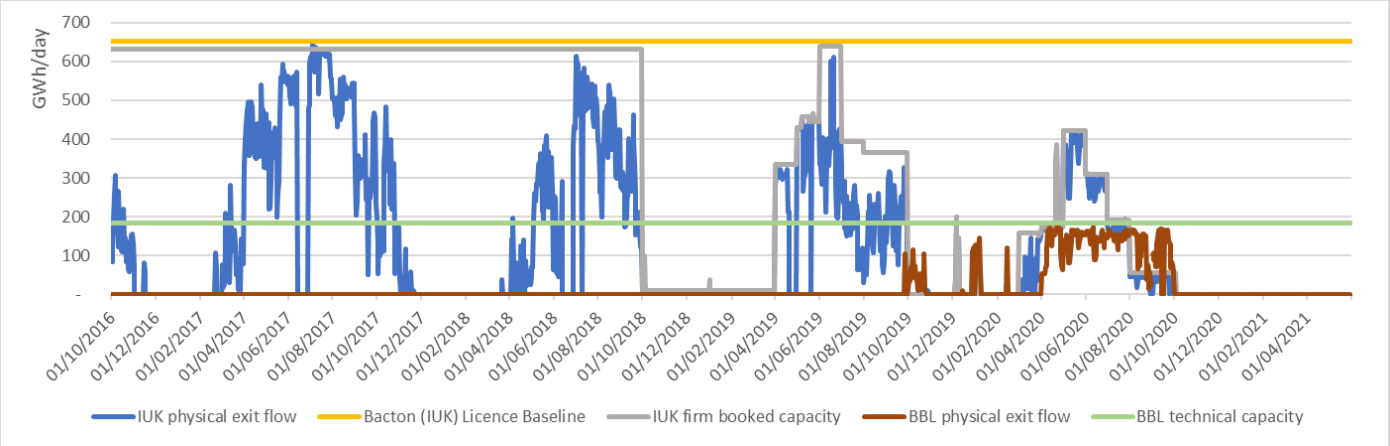
3.9. Considering there are typically no flows from GB to TTF in the winter months[22], there should be an opportunity to meet BBLC's request to compete for capacity on exit at Bacton on equal footing with IUK throughout the year without significantly impacting the exit capacity needs of IUK users. This is not currently the case and that, with the exception of a few days in June 2021, most of the capacity released by NGG at Bacton (BBL) so far has been interruptible (off-peak) capacity to BBLC Shippers, which was offered at NGG's discretion and could have been scaled back.[23]

3.10. Some respondents commented on the current levels of utilisation and bookings at Bacton (IUK) ASEP. They argued that capacity on the IUK pipeline is regularly fully booked and utilised at peak times, and so, giving BBLC access to firm obligated capacity would mean a loss of business for IUK and inefficiencies in the market. This was also used as a justification for potential expansion of technical capacity.

3.11. Data shows that historically, on most days, physical flow was lower than booked capacity. The number of days with peaking utilisation were low (see paragraph 3.8). Prior to the expiry of long-term contracts and prior to the new charging regime (1 October 2020), bookings often exceeded Licence Baseline capacity. This was because under the old charging regime capacity was priced low and users were encouraged to acquire short-term NTS capacity. As such, previously high allocated capacities are not representative of the actual flow and interconnector utilisation. Further, historic data since 1 October 2020 shows that booked capacities at Bacton (IUK) have fallen significantly over the last few years (see Figure 7 in Appendix 2).

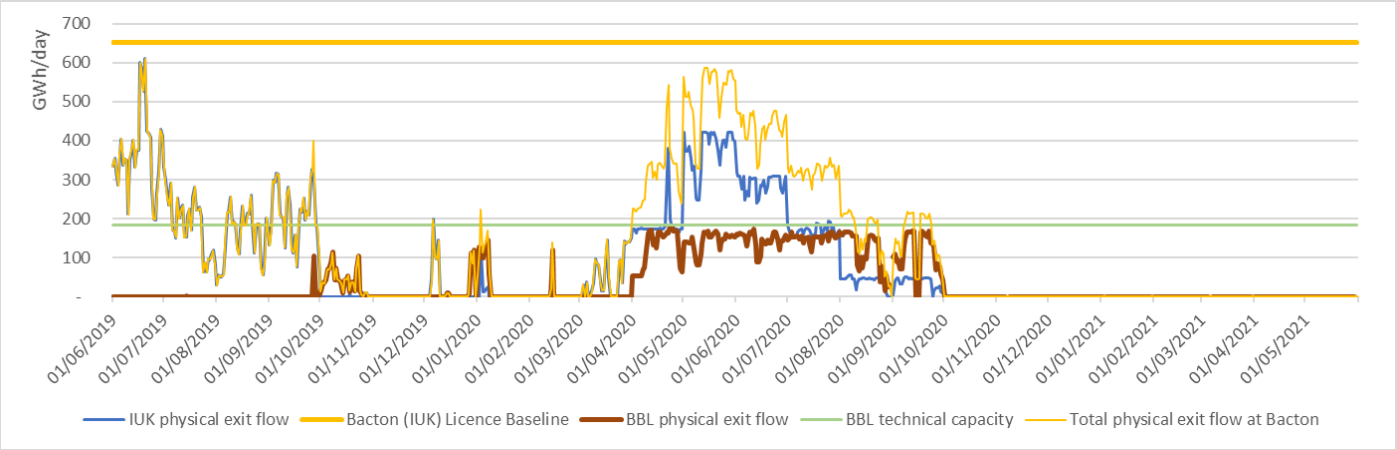
[22] From October to end of March each year.
[23] Non-obligated firm capacity was released in June 2021 when IUK interconnector was under maintenance. Non-obligated firm capacity is released at NGG's discretion and may not always be available.

Figure 1: Bacton (IUK) and Bacton (BBL) – Physical Flow – October 2016 – May 2021



Source: Ofgem's analysis based on NGG's data

Figure 2: Total physical flow on exit at Bacton – June 2019 - May 2021



Source: Ofgem's analysis based on NGG's data

Market Conditions

3.12. Gas production from the giant Dutch Groningen field will be completely halted from mid-2022,[24] eight years earlier than previously planned. This is due to the May 2019 earthquake, after which the phase out accelerated. This could present some additional export opportunities from GB to the Netherlands, particularly during the summer months when the UK is generally a net exporter.

[24] https://www.reuters.com/article/us-netherlands-gas/netherlands-to-halt-groningen-gas-production-by-2022-idUSKCN1VV1KE

3.13. The increasing adoption of LNG has resulted in a surge in supply over the last decade, with LNG imports becoming an increasingly important component of many countries' gas supplies. This is true in GB, where falling domestic production has required uptake of alternative sources. With the expansion of the South Hook terminal, imports are expected to increase, which could in turn provide export opportunities to the EU.

3.14. The UK was the first major economy in the world to pass laws to end its contribution to global warming by 2050. The target requires the UK to bring all greenhouse gas emissions to Net Zero by 2050, which includes gradual phasing out of natural gas. Enhanced competition and innovation, as well as flexible markets and systems, will be key in reaching the Net Zero targets. Efficiencies sought by enhancing flexibility of existing arrangements and infrastructure (eg including this Impact Assessment to aggregate the two existing exit points in NGG's Licence into one point in NGG's Licence), as opposed to new investment and expansions will play a key role in reaching the Net Zero targets.

4. Options Assessment

Section summary

This section assesses the different options identified after holding a CfE, engaging stakeholders and analysing the situation. This section also includes discounted options.

Background

4.1. This Impact Assessment assesses whether 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). The Impact Assessment is focused on the efficient use of the existing Bacton Licence Baseline Exit Capacity and considers which option would lead to the best outcomes for GB consumers.

4.2. Our Initial IA identified the three options we have considered (ie '*Options Considered*', paragraphs 1.44-1.55,[25] see also Appendix 1 of this document for stakeholder responses) and recommended that Option 2 be implemented. This section and Section 5 explore the benefits and costs of the ***Options Considered*** in more detail, considering the stakeholder evidence received, including during the consultation.

4.3. Next, this section shows the options we have discounted (ie '***Discounted Options***') and the reasons why we have discounted them. Among the Discounted Options is the option of increasing the level of Licence Baseline Exit Capacity at Bacton through the *IP PARCA*[26] process. This would lead to a significant cost to consumers when such an increase in capacity is not required. We had already discounted the IP PARCA option in the Initial IA phase, however – prompted by further stakeholder feedback – we provide additional explanation why we consider IP PARCA unsuitable on this occasion.

[25] Initial Impact Assessment on Arrangements at Bacton Exit (ofgem.gov.uk)
[26] National Grid PARCA, A guide for customers: https://www.nationalgrid.com/sites/default/files/documents/39678-PARCA%20Customer%20Guidance.pdf

4.4. The remaining Discounted Options are the options proposed as alternatives during the stakeholder consultation phase. These options include Over-subscription and Buy-Back mechanism ('OSBB'), dynamic recalculation, and non-obligated firm capacity release.

Options Considered

4.5. Three policy options have been considered in this Final Impact Assessment. These options have been explored in the MTC with the purpose of gathering more detailed information and evidence on the additional costs and benefits.

Option 1: 'Do nothing' option

4.6. 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 651.68 GWh/day (~60 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL).

4.7. As highlighted in Appendix 1, four stakeholders who responded to our consultation said that the current arrangements do not provide for competition on equal footing at the Bacton exit point itself as capacity that is released at Bacton (BBL) to BBLC Shippers is released at NGG's discretion and can be scaled back. Further, since Ofgem's decision on the short-haul discount, ie to implement UNC728B,[27] two Shippers and one transporter expressed concerns that from 1 October 2021 BBLC Shippers will not be able to take advantage of the short-haul discount, whilst IUK Shippers will. This will, in their view, exacerbate the inequalities on exit at Bacton.[28]

4.8. One the other hand, four of 12 respondents (there was one confidential and 12 non confidential responses) argued that Option 1 is not only the compliant option with the relevant EU legislation (as retained in UK law), but also sufficiently facilitates exports to TTF.

[27] On 27 April 2021, we decided on the modification proposal Uniform Network Code (UNC) 728/A/B/C/D (Urgent) - Introduction of a Conditional Discount for Avoiding Inefficient Bypass of the NTS and directed that modification UNC728B be made. From 1 October 2021, a conditional discount for avoiding inefficient bypass of the NTS will apply for specific routes for distances of up to 28 km. The discount will apply only to the capacity-based Transmission Services tariffs for firm capacity. The commodity-based Non-Transmission Services tariffs won't receive a discount and nor will interruptible capacity (which receives a 10% discount). Please see our decision here: UNC728 Decision (ofgem.gov.uk).

[28] These issues were not present and therefore not assessed during Bacton ASEP in 2015 as IUK at the time was the only user with export capability.

4.9. Shippers first used BBL's physical export capacity from GB to the Netherlands on 27 September 2019. As shown in Section 3, since then, in the summer months of 2020, on average, ~132 GWh/day has been exported through BBL interconnector due to NGG being able to release non-firm, interruptible (off-peak) capacity to BBLC Shippers at Bacton (BBL) on a discretionary basis. This represented approximately 72% of BBL's maximum technical physical reverse flow capability and 20% of the current Licence Baseline Exit Capacity at Bacton (IUK).

4.10. Whilst, so far, NGG has released interruptible (off-peak) capacity if and when requested, as well as some non-obligated capacity in June 2021 at Bacton (BBL), this may not always be the case. Further, whilst interruptible (off-peak) capacity at Bacton (BBL) enabled physical reverse flow from Great Britain to the Netherlands, BBLC Shippers had to face the uncertainty of such capacity being scaled back, as opposed to IUK Shippers who had access to firm obligated capacity at Bacton (IUK). There will be further differences from 1 October 2021 when BBLC Shippers will not be able to take advantage of the short-haul discount.

4.11. We therefore consider that the current NGG Exit Capacity baseline of 0 GWh/day for BBLC is not facilitating fair access for BBLC users, when compared to IUK users. Option 1 does not facilitate effective competition in the UK wholesale market, particularly between different interconnector users. And also taking into consideration our principal objective and recent changes in market conditions (decarbonisation targets mean that the role of gas is in decline, users demand more flexibility, however still request firm products to provide certainty etc).

Option 2: Aggregating the two exit Bacton ASEPs (one serving the BBL interconnector, the other the IUK interconnector)

4.12. The two NTS exit points at Bacton (one for flows through the BBL interconnector, the other the IUK interconnector) would be combined to allow competitive access. BBL interconnector's maximum network exit point offtake rate as defined in the network code is 184.78[29] GWh/day (~17 mcm/day), which is different from ~168GWh/day that BBLC typically offers to the market and from what we had previously considered in the CfE and the Initial IA.

[29] 184.780632 GWh/day.

4.13. Seven out of 12 respondents were supportive of Option 2 and agreed that it would maximise cross-border trade and benefit to GB consumers. The remaining respondents raised objections to the Option 2 and recommended keeping the status quo and considering alternative solutions which we discuss in this section.

4.14. The main objections to the recommended Option 2 are related to Ofgem intervening to change access arrangements without sufficient economic signals, which in the respondents' view would be in contravention of both European and national obligations (EU CAM, ECRMS, ExCS, EU SoS Reg), as well as in contravention of other existing legislation. Option 2, they consider, would introduce a mismatch of technical capacities at either side of the IUK interconnector and would not significantly further competition as the benefits from competition and cross-border trade have already been brought about. Two respondents argued that there is still peaking utilisation that necessitates maintaining the status quo. We outline the specific concerns in more detail and provide our view on them elsewhere in this document (eg in Section 3, 5 and 6).

4.15. One respondent who opposed Option 2 also raised implementation issues associated with Option 2, as the introduction of competing capacities on exit at Bacton in their view requires the approval of adjacent TSOs.

4.16. Proceeding with Option 2 to give BBLC access to Licence Baseline Exit Capacity would entail changes to NGG's Licence (please see the Statutory consultation document, ie The Notice, on the proposed change for more detail), a process similar to aggregation of the entry Bacton IP point in 2015 that Ofgem led on. This option would bring arrangements on exit from NTS in line with those on entry.

4.17. 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 auction price. This is currently the approach used for entry capacity at Bacton IP which facilitates competition on entry.

4.18. Introducing competing auctions at Bacton would be an industry-led process and would entail changes to the Uniform Network Code ('UNC'). NGG as the transporter would raise these changes to clarify rules for the newly aggregated baseline in NGG's licence at an operational level.

4.19. However, the relevant TSOs may jointly agree on an alternative mechanism to allocating capacity on exit at Bacton. This would be in accordance with Articles 6 and 8 of EU CAM NC as retained in UK law. In addition, 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.

Option 3: Reallocating capacity

4.20. Under this option, some of the existing Licence Baseline Exit Capacity at Bacton (IUK), ie 651.68 GWh/day (~60 mcm/day), would be reallocated to Bacton (BBL). This would entail changes to NGG's Licence.

4.21. 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 demand forecasts, as well as peak utilisation rates at Bacton (IUK).

4.22. Seven out of 12 respondents were supportive of Option 2 and agreed, that it would maximise cross-border trade and benefit to GB consumers. Among these seven, two showed some support for Option 3 - ie reallocating existing Licence Baseline Exit Capacity from IUK to BBL – however they did not consider Option 3 to be ideal.

4.23. 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 access for IUK and BBLC users on the peak demand days. Such reallocation of capacity on exit at Bacton (IUK) could potentially lead to sterilisation of capacity at either side of the two interconnectors and would be inconsistent with the arrangements put in place for Bacton entry capacity.

Discounted Options

4.24. In our Initial IA we discounted the option of increasing the level of Licence Baseline Exit Capacity at Bacton through the IP PARCA process. We had already dismissed the IP PARCA option in the Initial IA phase, however some stakeholders considered our justification to be insufficient and unclear. Below we provide additional information related

to the IP PARCA process, including further explanation of why we consider IP PARCA unsuitable on this occasion.

IP PARCA - Offer firm obligated capacity products through increased Licence Baseline Exit Capacity at Bacton (BBL)

4.25. Four out of 12 respondents considered the IP PARCA process to increase Licence Baseline Exit capacity at Bacton (BBL) to be an alternative option to our recommended Option 2.

4.26. IP PARCA 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 EU CAM NC introduced a process for increasing the capacity above existing, baseline, level at IPs.

4.27. IP PARCA process is triggered on the basis of a market demand signal, ie when Shippers signal enough capacity to allow NGG to plan network developments economically and efficiently. Article 26 of EU CAM NC requires transmission system operators ('TSOs') to conduct market demand assessments by giving network users the opportunity to submit non-binding demand indications to quantify potential demand for incremental capacity on the respective systems either side of the interconnection point. In the case of BBLC and IUK, market demand assessments were carried out in 2017 and 2019 and concluded that no non-binding demand indications were received by the TSOs for firm capacity on either side of the two respective interconnection points. On this basis, and without an indication of demand for incremental capacity, NGG did not proceed to initiate a capacity project nor conclude technical studies for incremental capacity projects or substitution.

4.28. Therefore, the available capacity (ie technical capacity which is not yet booked in the long term) was considered sufficient to cover the future capacity need for the review period (ie next 2 years). No economic test to show viability of the project was performed.

4.29. We deem IP PARCA process to be inapplicable, as there is sufficient capacity available to facilitate exit flows through both interconnectors, via a single aggregated exit IP in NGG's Licence. We note that the same arrangements (ie a single IP point with Licence Baseline capacity) exist in the licence at Moffat IP and Bacton (entry) IP.[30] We further note

[30] See Section 6 where we discuss this further. In addition, flows exit or enter the NTS at one point at Moffat and Bacton respectively, and we thus consider similar arrangements on exit to be appropriate. One of the key reasons why there have historically been two points at Bacton exit is that BBL was until recently unidirectional and our decision to change the existing arrangements will align the approach with other IPs.

the evidence submitted in the consultation phase, ie that incremental capacity release at Bacton (BBL) could result in investment in the network which would incur a cost to the consumer (estimated by NGG to be approximately £50 million due to the required reinforcement work), and that capacity substitution is not possible[31,32]. We considered this to be inappropriate in situations where there is enough spare capacity and utilisation is falling, and in particular in a network with expected declining demand.

4.30. As discussed previously, lower utilisation of IUK compared to previous years suggests there should be an opportunity to meet BBLC's request to compete for capacity on exit at Bacton throughout the year without significantly impacting the exit capacity needs of IUK Shippers.

4.31. Had there been sufficient evidence and support for incremental capacity and IP PARCA been followed, NGG would have likely requested funding as part of the price control, ie under the Funded Incremental Obligated Capacity (FIOC) Re-opener. The request would then be subject to evaluation by Ofgem.

4.32. There are several criteria against which such requests are evaluated, including the estimated cost for consumers of approx. £50m (estimated by NGG in their consultation response), falling utilisation of existing infrastructure, and the lack of user commitment (among other factors). Considerations related to the impact of such a project on decarbonisation and Net Zero Objectives would also have to be taken into account.

4.33. Based on the above, we consider that investing in increased capacity at Bacton cannot be justified, and that BBLC's problem is best responded to via economic and efficient use of the existing exit capacity. Several respondents agreed with our view, one of them argued that PARCA is only appropriate when expanding existing capacity, which is not the case on exit at Bacton. National Grid said that they would not support any net increase to exit capacity without appropriate user commitment, as it would result in investment costs being 'unduly socialised'. Another respondent agreed that the case for expanding capacity at Bacton exit was poor and unsupported by prevailing trends. It is for these reasons that we discounted IP PARCA as an option.

Additional alternative options to the Options Considered

[31] The rules and circumstances that are unique to IPs prevent substitution of capacity on exit at Bacton.
[32] We note that one respondent has suggested ways in which capacity rights can be substituted and/or traded. We note that UNC705R Workgroup ('WG') is considering preliminary proposals around substitution and that no such proposal has so far been raised, nor properly examined by the WG.

4.34. During the consultation period, one respondent who opposed our recommended Option 2 suggested that other, alternative options to those proposed in our MTC and accompanying Initial IA, are given consideration in conjunction with preserving the status quo. Each of the options has been listed below, accompanied by our evaluation as to its suitability. We have fully considered each of the options proposed.

Expand the offer of firm non-obligated capacity products

4.35. Non-obligated firm capacity can be released at National Grid's discretion when a shorter-term demand for firm capacity is received and does not create an obligation to release that same level of firm capacity in the future. As such, it is not the same as Licence Baseline Exit Capacity.

4.36. We note that NGG are currently incentivised to release non-obligated capacity on a risk/reward basis. In the case of Bacton (BBL), firm, non-obligated, products could be released in the summer months, however as these products are firm, NGG may consider them higher risk and less favoured by NGG than interruptible capacity (which can be scaled back). In June 2021, NGG initiated a release of non-obligated capacity for the first time since 2019 when physical reverse flow was enabled.

Dynamic recalculation of available NTS capacity

4.37. Dynamic recalculation refers to a method of calculating technical capacity not as 'flat line' (conservative maximum capacity levels that can be guaranteed throughout a year based on the possible minimum level that can be warranted in a year), but rather on a quarterly/monthly/daily basis, taking into account eg temperatures & gas quality (forecasts). This way, technical capacity will vary over the year, always providing the maximum capacity levels at an IP.

4.38. Dynamic calculation of available/additional capacity is already in place in GB as required by Article 6.4 of the EU CAM NC and dynamic recalculations of additional capacity at IPs (eg from oversubscription) are performed daily.

4.39. Although there may be scope to improve the dynamic recalculation method to consider seasonal variations in capacity at the relevant IPs, the outcome of this is unlikely

to be an increase of firm, longer-term, capacity at Bacton (BBL).[33] This is because NGG can determine non-obligated firm capacity dynamically and can exercise discretion about its release, but there is no provision for such changes to Licence Baseline Exit Capacity.

4.40. Seasonal technical increase in baseline capacity was mentioned as a possible solution on exit at Bacton. We note that seasonal baseline would still require an increase in existing capacity and thus, would not help improve the efficiency of the existing capacity arrangements on exit at Bacton. In addition to this, seasonal baselines, a concept currently unknown in NGG's licence, would require system-wide changes. Licence Baseline Capacities are set (or re-set) as part of the price control and any change to consider seasonal baselines would have a potential impact on the overall price control agreement. No such proposal was put forward in NGG's business plan for RIIO-GT2.

Oversubscription and buy-back (OSBB)

4.41. Another solution proposed was the use of an oversubscription and buy-back ('OSBB') mechanism. Such a mechanism enables the offer of longer-term products and buy back capacity where the TSO cannot provide the allocated capacities. In GB, the OSBB mechanism to manage physical constraints is already in place, ie NGG are incentivised – through the RIIO-GT2 price control - to minimise the cost of constraint management through the capacity and constraint management incentive.

4.42. We do not consider this to be an enduring solution to the problem at hand. The UK already implements an OSBB mechanism, alongside other congestion management mechanisms. Given this, any potential increase in capacity offered to BBL is likely to be small. Aside from this, the nature of OSBB mechanisms mean that capacity availability is inconsistent.

4.43. The key issue with all of these proposed alternatives is that they do not offer guaranteed access to capacity. NGG can only release non-obligated firm capacity on a risk versus reward basis. NGG need to consider whether they can expect to be able to accommodate any resulting additional flows and continue to meet their licence and UNC obligations at all other relevant points. Longer-term products carry much greater risk and so are less likely to be offered.

[33] Firm, long-term capacity release carries a much higher risk for the SO than non-firm day ahead or within-day capacity, which can be scaled back. At best, the result would be an increased offer of short-term capacity products.

4.44. Even if further access to firm non-obligated capacity could be offered to Shippers at Bacton (BBL), this would not be a solution to the problem under consideration, as non-obligated capacity too can be offered at NGG's discretion, and does not fundamentally alter arrangements at Bacton Exit. The policy aim here is to ensure a well-functioning market on an enduring basis by supporting competition and providing a level playing field. Further, the consultation responses highlighted the value of certainty and guaranteed capacity to Shippers. These conditions cannot be met through the provision of firm non-obligated capacity alone, on a short-term basis.

5. Monetised benefits

Section summary

This section highlights the monetised benefits of each option and expands upon the analysis from the Initial IA to provide further insights.

Introduction

5.1. In our consultation on the Initial Impact Assessment we requested evidence of costs and benefits, which would help monetise the impact of the proposed change, including any underlying data and analysis behind the calculations and the key assumptions made. Although we have received further information from stakeholders, no new evidence of monetised costs and benefits of the three options was submitted in addition to what we consulted on in our MTC.[34]

5.2. In this section we expand on our analysis from the Initial IA and consider, on the basis of traded volumes, gas flows and price spreads, what benefits from Option 2 could be delivered to GB and/or European consumers. This is in response to the stakeholders' views we received during the Initial IA consultation phase.[35] Whilst we considered the interest of all stakeholders, our main duty is to GB consumers to ensure a secure supply of energy at an affordable price. Our policy is to discharge this duty by ensuring maximum level of competition on energy markets, whilst guaranteeing security of supply.[36]

5.3. We recognise there are limitations from assessing additional benefits from competition that could be realised if BBLC Shippers had access to Licence Baseline Exit Capacity at Bacton, compared to the status quo (ie when BBLC Shippers can access interruptible (off-peak) and occasionally, non-obligated firm exit capacity). These limitations arise from the difficulty in predicting the market response to Option 2, which will largely depend on Shipper behaviour and the individual businesses' risk assessment strategies. Due to this we have not added these estimates to the overall monetised benefits

[34] This section has been updated to include new data series and information received from stakeholders. Where relevant, we considered the impact of the recent changes in regulatory regime (ie the impact of the new charging regime, short-haul decision, changes to NGG Licence at the start of the RIIO-GT2 price control period etc) on the monetised benefits and costs outlined in this IA.
[35] One respondent commissioned CEPA to provide an economic study, ie an independent review and economic perspective on the options and analysis outlined in Ofgem's Initial IA. CEPA's economic analysis suggested that social welfare assessment is included in Ofgem's analysis and provided other suggestions to improve this IA
[36] See paragraph 3.2 with Ofgem's principal objective to protect the current and the future GB consumers.

from implementing Option 2. Our approach to assessing the monetised benefits is cautious and conservative; we only indicate what the potential values could be based on the assumptions we have made in our analysis.

5.4. We carried out economic analysis relying on best practice and accepted economic theory, considered quantitative and qualitative information, stakeholder evidence, the interests of consumers and stakeholders, and availability of regulatory tools to monitor and adjust our decision in the future, should such a need arise. Where it has not been possible to monetise a cost or benefit, a qualitative description of the cost or benefit and its magnitude has been provided.

5.5. We considered it important that our decision seeks to ensure the lowering of entry barriers and fostering new competitive business activities and growth in general.

5.6. In our analysis we have considered the following three options:

- Policy Option 1: 'Do nothing' and maintain the status quo. NGG is obliged to offer 651.68 GWh/day of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL).

- Policy Option 2: Aggregating Bacton (IUK) and Bacton (BBL) IPs into a single exit point in NGG's Licence.

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

5.7. In line with our Impact Assessment guidance, we have considered the additional costs and benefits of the three options as follows:

- impacts on competition,
- trading opportunities and flexibility,
- impacts on existing and future GB and European consumers, and
- other factors including security of supply and Net Zero 2050 targets.

Additional costs of all the options considered

5.8. We consider that both options will impose zero or negligible additional costs 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.

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

Additional benefits of the options considered

5.10. Since the 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, which meant that except on rare peak days, Licence Baseline Exit Capacity at Bacton (IUK) has largely been unsold.[37] As shown in Section 3, instances of peak utilisation have also reduced, and historical data suggests that the current Licence Baseline exit capacity allocated to the Bacton (IUK) ASEP would be sufficient to accommodate the exit flows in the direction of IUK and BBL.

5.11. Whilst there are flows from GB to the Netherlands via BBL interconnector, such flows can only be facilitated if NGG releases, at its discretion, interruptible (off-peak) or non-obligated firm capacity at Bacton (BBL) to BBLC Shippers, whilst a significant proportion of Licence Baseline Exit Capacity remains unsold on exit at Bacton (IUK). This is not only operationally, but also financially inefficient, as Licence Baseline Exit Capacity at Bacton (IUK) remains unutilised, and NGG need to release interruptible (off-peak) or non-obligated firm capacity at Bacton (BBL).[38]

5.12. There is therefore – in our view – a need to make a better use of the existing physical network and pipeline capabilities in a way that would further competition and deliver more benefits to GB consumers. This is in line with our Strategic Narrative 2019-23[39] and with our strategic objectives set out in Ofgem's Strategic Framework 2020. In

[37] Further information related to utilisation of IUK and BBL interconnectors from GB to mainland Europe can be found in Section 3 (Figure 1).
[38] Under the capacity constraint management incentive NGG are incentivised to sell such capacity to relieve congestion, and for doing so, NGG retain 39.09% of revenue from interruptible (off-peak) and non-obligated firm capacity sales at Bacton (BBL).
[39] Ofgem strategic narrative: 2019-23 | Ofgem. Our priorities set out in the Strategic narrative are: Protecting consumers, especially the vulnerable, stamping out sharp practice and ensuring fair treatment; Decarbonising to deliver a net-zero economy at the lowest cost; Enabling competition and innovation, which drives down prices and results in new products and services.

particular with Ofgem's Full Chain Flexibility Strategic Change programme to deliver 'a secure, affordable, Net Zero system where all connected resources can contribute their full efficient potential to meeting system needs, by flexibly responding to available energy and network resources'. It will also contribute to Britain's Net Zero 2050 targets by improving utilisation of existing assets and avoiding risk of further investment and stranded assets in methane networks.

5.13. A large majority of stakeholders 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 a new trading possibility for Shippers.

5.14. The qualitative responses from the CfE suggest a significant additional benefit as a result of competition and liquidity, however we acknowledge the points raised by some of the stakeholders who responded to our Initial IA that interruptible (off-peak) capacity released so far has already increased interconnectivity and delivered a considerable share of the expected additional benefits from competition and liquidity. Please see paragraphs 4.7, 4.10 and 5.21 where we provide our view why access to interruptible and non-obligated firm capacity does not provide a level playing field between BBLC and IUK at Bacton.

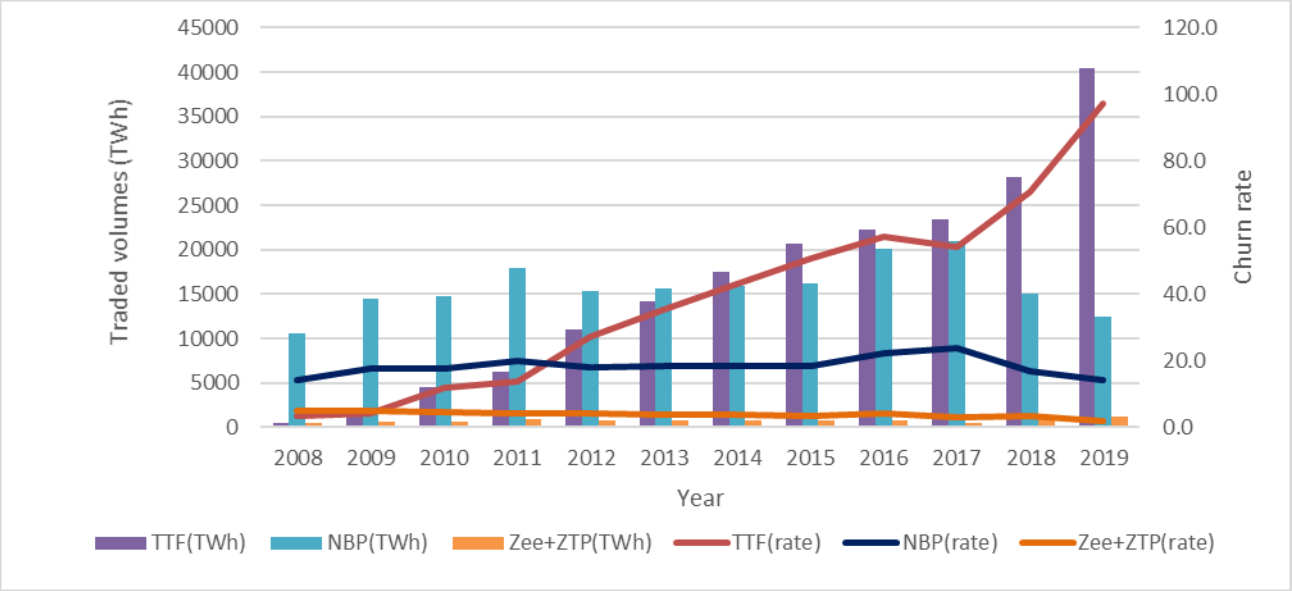
Impact on competition

5.15. One of the key underlying assumptions in this IA is that there will be favourable spreads between TTF and Zeebrugge that will determine flows to the Netherlands via BBL.

5.16. Until BBLC completed the technical upgrade in summer 2019, IUK was the only interconnector providing physical flows of gas from GB to mainland Europe. Since summer 2019, BBLC can physically export gas from GB to the most liquid European hub TTF (See Figure 3 below and updated OEIS report 2020[40] which concluded that TTF is the largest and the most liquid gas hub in Europe).

[40] European-Traded-gas-hubs-the-supremacy-of-TTF.pdf (oxfordenergy.org)

Figure 3: Traded volumes and churn rates at European hubs



Source: P Heather, 'European Traded Gas Hubs: supremacy of TTF', May 2020, and 'European traded gas hubs: a decade of change', July 2019, The Oxford Institute of Energy Studies

Notes: Figure 3 compares churn rates[41] and traded volumes since 2008 of three adjacent hubs: TTF, NBP and Zee+ZTP.

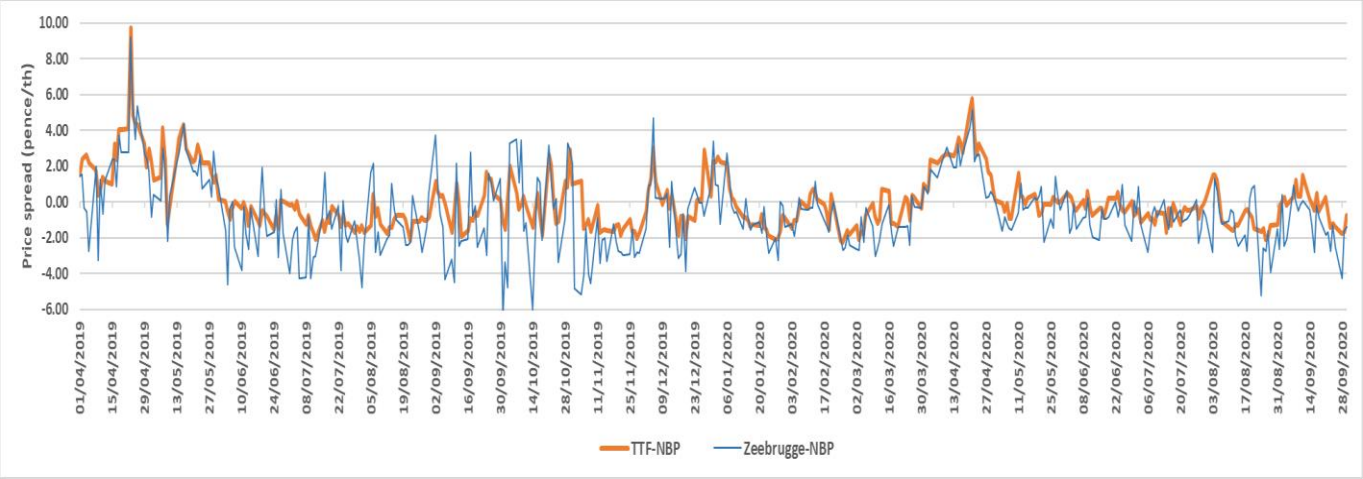
5.17. Connecting NBP with the most liquid hub in Europe brings arbitrage opportunities to the GB gas exporters. Since June 2019 when physical reverse flow on BBL was introduced, on most summer days, the TTF – NBP price spread was greater than the Zeebrugge – NBP spread[42] (see Figure 4 below). In summer 2020, on average, TTF-NBP was by 0.58p/th more favourable. This difference represented 3.4% of the average NBP price of 17.1p/th. While the data and the spreads may vary year to year, it is reasonable to assume that the price spreads between TTF and Zeebrugge will continue to be positive, especially once the Groningen gas field is phased out. Thus, our decision will help with further development of NBP as a hub more integrated with the European market after the Groningen field closure. We expect that this will bring about significant trading and liquidity benefits for the UK.

[41] The churn rate (ie the number of times electricity/gas generated in a market is subsequently traded). The churn rate is also calculated as the ratio between the volume of all trades in all timeframes executed in a given market and its total demand. Source: ACER/CEER Annual Report on the Results of Monitoring the Internal Electricity Market in 2015, September 2016, p. 34.

[42] Wider price spreads (ie greater the difference in price between the hubs) present better trading opportunities for shippers, who can buy at a lower price and sell at the hub with the highest price.

5.18. One respondent to our consultation on the Initial IA stated that direct access to TTF would increase the efficiency of the North-West European market, as further integration would lead to reduced costs and increased benefits to consumers in both UK and the EU.

Figure 4: TTF-NBP and Zeebrugge-NBP price spread



Source: Ofgem analysis of the data on Transparency platform

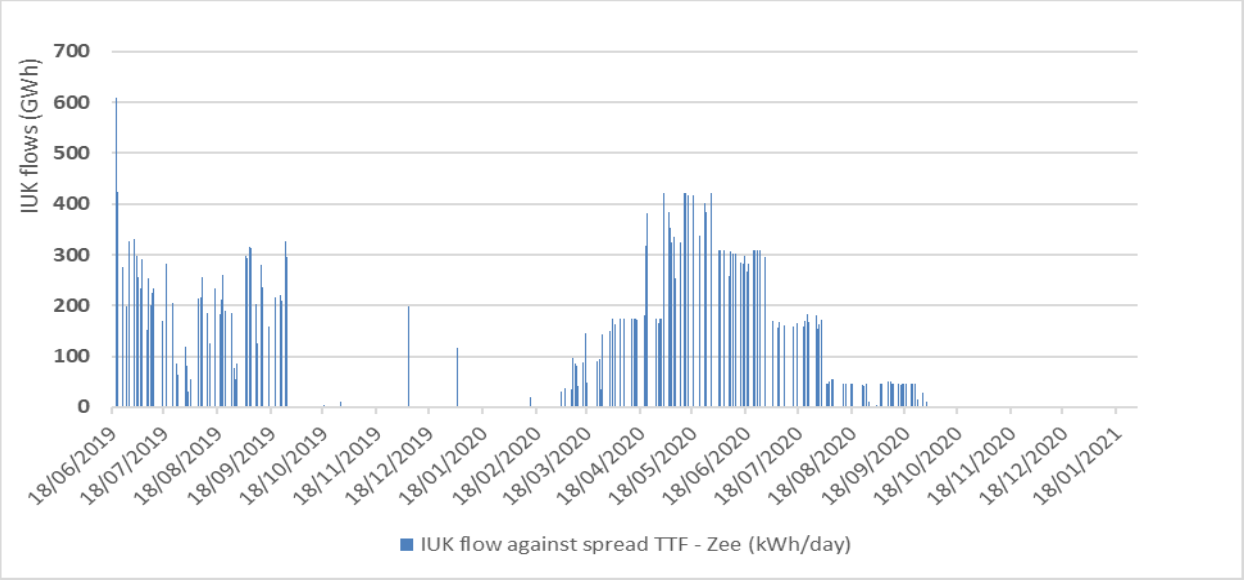
5.19. At present, BBLC Shippers cannot take full advantage of the arbitrage opportunities between the two hubs, as BBLC is unable to sell bundled capacity (ie transmission capacity bundled with Licence Baseline Exit Capacity). Instead, BBLC Shippers can access interruptible (off-peak) and/or non-obligated capacity on exit at Bacton (BBL). Interruptible capacity is not a firm product and is released by NGG under the caveat that it can be curtailed for a variety of reasons, allowing NGG to manage its risk efficiently whilst releasing more capacity to the market. This may be due to technical and/or commercial reasons, if there are capacity constraints etc.[43]

5.20. This lack of certainty may deter Shippers from purchasing interruptible capacity despite a favourable TTF-NBP price spread compared to Zeebrugge-NBP spread. This is an unequal position of the two interconnectors regarding the reliability of service/capacity that BBL is able to offer to its Shippers and has been raised specifically by respondents to our consultation. One respondent stated that users had previously communicated that had firm capacity been available via BBLC, they would have booked capacity. They stated that the commercial trading risk associated with capacity interruption was an effective barrier to further purchases.

[43] NGG is obliged to offer 651.68 GWh/day (~60 mcm/day) of Licence Baseline Exit Capacity at Bacton (IUK) and 0 GWh/day at Bacton (BBL), which means that whilst NGG can make non-obligated and interruptible capacity available to BBLC shippers, NGG offer such capacity at its discretion and can scale back interruptible capacity.

5.21. Although it is difficult to monetise the benefits that competition between IUK and BBLC on equal footing would bring compared to the status quo, historic flows from GB to Zeebrugge on the days when the prices at TTF were more favourable (see Figure 5) could provide some indication. Figure 5 shows that despite a more favourable TTF-NBP price spread and spare capacity on BBLC, gas was still flowing to Zeebrugge, ie against market price signals. A proportion of these flows could be because the Shippers assessed the risk of interruption of capacity on exit at Bacton to be higher than the arbitrage benefit they could take advantage of. If BBL and IUK both had licence capacity (firm), gas would have more easily found its route to the market. Option 2 in particular (and partially Option 3) would give BBLC Shippers certainty that capacity on exit would not be scaled back and would help realise further benefits from competition to GB and European consumers when compared to Option 1. We provide an indicative figure of the range of such benefits in monetised terms, ie up to £0.9m-£1.4m a year, in the subsection below - Benefits to GB and European consumers, shippers and other parties.

Figure 5: IUK flows against positive TTF - Zee spread when there is spare capacity on BBL interconnector



Source: OFGEM calculations based on ICIS and NGG data

5.22. Further, Options 2 and 3 would allow BBLC's eligible Shippers to take advantage of the short-haul discount[44] on the exit tariff for eligible short-haul routes,[45] as the discount can only be claimed when NGG release firm (obligated or non-obligated) capacity. The inability of BBLC Shippers to claim it can significantly hamper BBLC's ability to compete with IUK as it is estimated that up to 90% of BBLC's capacity could be eligible for a discount from 1 October 2021 if firm capacity was released. The exact capacity that could be affected is unknown and difficult to estimate without surveying all the Shippers in question. However a very conservative estimate of BBLC's Shippers being unable to take advantage of a short-haul discount on eligible routes on half the capacity would – based on 2020 data and Shipper estimates – mean that BBLC shippers would pay approximately £6.9m a year[46] more for capacity-based transmission tariffs than IUK shippers flowing gas on the same, eligible, routes. This, in our view, further disadvantages BBLC when competing with IUK on exit at Bacton.

5.23. Due to this, we consider that BBLC and IUK currently do not compete on exit at Bacton on equal footing and that Option 2 and Option 3 would facilitate such competition. Respondents to our consultation widely supported this argument when they expressed a general view that Licence Baseline Exit Capacity (ie Firm Obligated capacity) at Bacton for BBLC Shippers would give Shippers greater choice and necessitate both IUK and BBL innovating on both products and prices.

5.24. An arbitrary reallocation of Licence Baseline Exit Capacity at Bacton between IUK and BBLC (ie Option 3) creates a risk of sterilisation and underutilisation of capacity at one (or both) points at times of peak demand, and thus continued underutilisation at either point.[47] We therefore estimate benefits from competition of Option 3 to be lower than Option 2.

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[44] On 27 April 2021, we decided on the modification proposal Uniform Network Code (UNC) 728/A/B/C/D (Urgent) - Introduction of a Conditional Discount for Avoiding Inefficient Bypass of the NTS and directed that modification UNC728B be made. From 1 October 2020, conditional discount for avoiding inefficient bypass of the NTS will apply for specific routes that are shorter than 28 kms. The discount will apply only to the capacity-based Transmission Services tariffs for firm capacity. The commodity-based non-transmission services tariffs won't receive a discount and neither does interruptible capacity (which receives a 10% discount). Please see our decision here: UNC728 Decision (ofgem.gov.uk).

[45] See the entry-exit point combinations (routes) for distances of up to 28 km that would be eligible for a discount under UNC728B here: UNC728B FMR, pages 30-32. Bacton UKCS, Bacton IP, Bacton (BBL) and Bacton (IUK) are included.

[46] This estimate considers the following: total historical physical exit flow at Bacton (BBL) in 2020, ie 24,182 GWh and Gas Year 2020/21 transmission services entry tariff of 0.0717p/kWh. We calculated the difference between the price paid by shippers if interruptible capacity was released at Bacton (BBL), 0.0645p/kWh, and that paid by Shippers if firm capacity was released at Bacton (BBL), ie 0.0072p/kWh. Our conservative estimate based on the information we received from Shippers is that approximately 50% of total physical exit flow at Bacton (BBL) would be affected and this firm capacity would receive a 90% discount under UNC728B.

[47] Due to this, for example, less capacity at one point may result in the auction price being pushed higher than it otherwise would due to the scarcity of capacity.

Trading opportunities/ flexibility

5.25. Not only will implementation of Option 2 and Option 3 connect NBP with the most liquid European hub (TTF) (see Figure 3 above) and improve trading opportunities for Shippers, who will have the choice of purchasing bundled products at all timeframes between NBP and TTF, Option 2 and Option 3 will also provide additional flexibility to the GB gas market during summer.

Balancing the UK gas market during the summer

5.26. As highlighted in our Initial IA, Option 2 and Option 3 would provide a reliable alternative for the UK to balance its gas market during the summer months when the UK is generally a net exporter. Both options, relative to the do-nothing option, will help channel excess gas from the UK during the summer, which cannot be absorbed due to the lack of seasonal storage capacity.

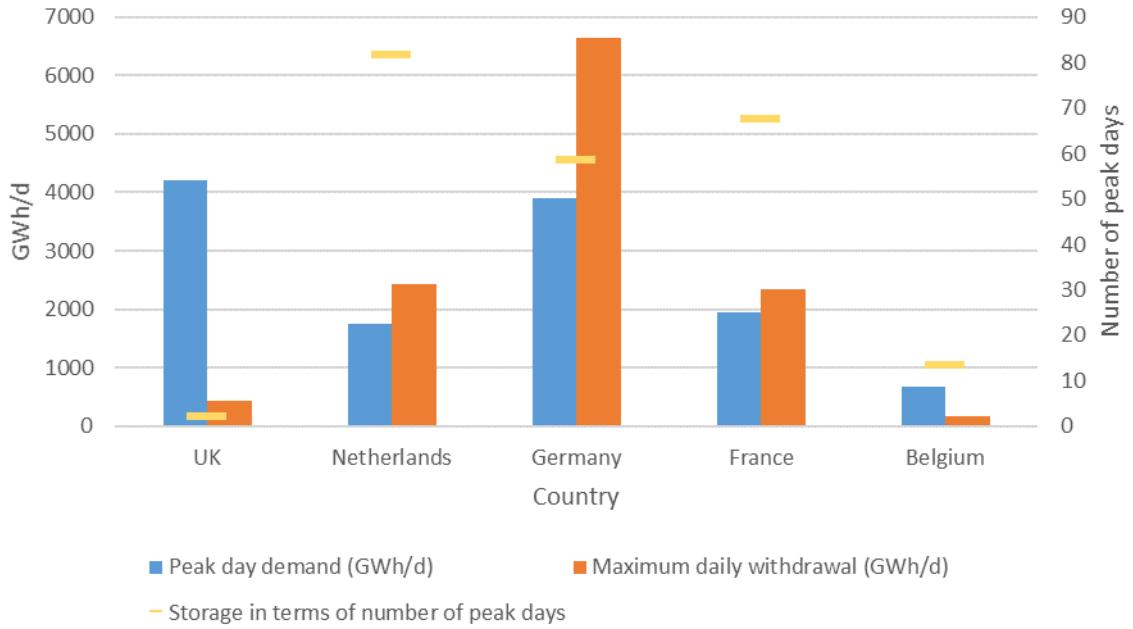
5.27. UK storage capacity has fallen following the closure of Centrica's Rough facility on 20 June 2017. Therefore, GB has been relying more heavily on seasonal flows to and from mainland Europe to offload length in summer and cover peaks of demand in winter.

5.28. There is much higher gas storage capacity in the Netherlands than in GB. The Netherlands has ~144 TWh of storage capacity compared to ~9.6 TWh in the UK.[48] This creates demand for gas exports from GB to mainland Europe during the summer for injection to gas storage facilities. This is a part of the UK's energy security arrangements to ensure availability of gas in the UK during peak times.

5.29. As shown in Figure 6, maximum daily withdrawal of storage in Germany, the Netherlands and France is considerably higher than in the UK. In comparison to the Netherlands, Belgium has very limited storage facilities, but may rely on peak deliveries from Germany and France. Thus, enabling flexible and economically efficient gas transmission arrangements between GB and the Netherlands is in the UK's energy security interest.

[48] Gas Infrastructure Europe, AGSI.

Figure 6: Gas storage and daily deliverable gas from storage



Source: Gas Infrastructure Europe, AGSI.

5.30. Further to the views received during the initial (BBLC consultation and CfE) consultative phases, one respondent to the Initial IA considered that greater alignment with the Netherlands could give Shippers access to their vast gas storage facilities, further increasing flexibility and security of supply in the UK. This reaffirms our position from the Initial IA that there is going to be a moderate additional benefit from additional access to storage facilities.

5.31. Two respondents argued that capacity on the IUK pipeline is regularly fully booked at peak times. And so, giving BBL access to firm obligated capacity would mean a loss of business for IUK and inefficiencies in the market. This was also used as a justification for a potential expansion of technical capacity (ie IP PARCA). Historic data shows that the level of booked capacity at Bacton (IUK) has fallen considerably, even though it does still occasionally peak. As argued above however, utilisation rarely reached maximum technical levels and as such, bookings cannot be considered a reliable measure of physical flow, especially under the previous charging regime when Shippers often overbooked to guarantee capacity on the day. Stakeholders supported this view and argued that IUK rarely reached anything approaching full capacity, particularly since long term contracts have expired. If there is no change to the status quo, not only will there continue to be underutilised capacity on exit at Bacton (IUK), but, in the long-term, there will be lower benefits to GB consumers from full competition of gas flows from GB to mainland Europe.

5.32. Due to the limited evidence base, we have been unable to monetise the above benefits from Option 2 and 3. However, the qualitative responses received so far agree that Option 2 would further incentivise balancing services in the UK, which would result in additional benefit to GB consumers.

Attracting gas supplies to the UK eg Liquified Natural Gas ('LNG')

5.33. We said in our Initial IA that greater physical capacity for gas traders to export gas to continental markets will make the UK a relatively more attractive destination for gas supplies eg LNG. In our view, both Option 2 and Option 3 will further facilitate entry and trade of LNG in the UK and European market. These 'do something' options provide higher flexibility and optionality allowing Shippers and traders to optimise their positions.

5.34. Not many respondents commented on the benefits related to the role of LNG in GB. Two respondents claimed however, that the benefits that would arise from increased competition had been overstated in our Initial IA, as well as the increased access to LNG that could result from the aggregation of the Bacton exit IPs. Respondents said that there was no quantitative evidence to support this position – however, they did not submit evidence to the contrary.

5.35. Due to the limited evidence base, we have been unable to monetise the above benefits. However, the qualitative responses received so far suggest that Option 2 and 3 would incentivise increased LNG deliveries to GB, which would result in a marginal additional benefit.

Benefits for GB and European consumers

5.36. In our initial Impact Assessment, we indicated that additional revenue due to higher utilisation and expected higher sales of capacity would result in the requirement for NGG to reduce the tariffs which 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, the magnitude of which would be dependent on a marginal increase in utilisation compared to Option 1. BBLC have previously estimated that this additional revenue could reach approximately £2.1m a year.

5.37. One respondent to our Initial IA questioned the calculations made in this respect. The respondent stated that, given there is physical flow to the Netherlands, most of this benefit through charges has already been realised. We acknowledge this. We attempted to assess what additional benefit from further increased revenue from tariffs could be materialised if Option 2 or Option 3 were implemented, but our efforts were hampered by – among other things - the incomparability of assessments due to the change in the gas charging regime. As a result we were unable to monetise additional benefits from a reduction in tariffs as a result of implementation of Option 2 or Option 3 compared to the status quo.

5.38. We did however consider the impact of Option 2 compared to Option 1 in relation to Direct arbitrage benefits[49] for GB and European consumers. Our assessment was based on assumptions that, on days when there was a positive price spread between TTF and ZTP but GB Shippers decided to flow gas to Belgium, further benefits to GB and European consumers[50] could have been realised. Based on 2020 data, we estimated the potential Direct arbitrage benefits that could be passed down to GB and European consumers, shippers and other parties to be in the range of approx. £0.9m[51] to approx. £1.4m[52] per year.

5.39. We have assumed that the trickle-down effect in GB will be a result of competition amongst Shippers, who by selling higher volumes will charge comparatively lower prices per unit to GB consumers. European consumers too will benefit from the reduction of gas prices delivered from GB, which will be a result of gas deliveries from GB being more competitive. Such reduction is likely to be material for European consumers through downward pressure on gas prices, especially during peak times[53].

[49] Direct arbitrage benefits are defined as maximum expected benefits which shippers would have realised in 2020, had they used all technical capacity of the BBL interconnector at the time when the TTF-NBP price spread was more favourable than the Zeebrugge-NBP price spread. This is calculated on the basis of 2020 data.
[50] Some respondents felt that Ofgem should consider the impact that the proposed changes would have on Belgian and other EU customers. Even though our primary objective is to protect the interest of GB gas consumers, we have however expanded our analysis to include an indication of a maximum potential benefit to GB and European consumers. We note that the proposed aggregation of the two ASEPs in NGG's Licence is intended to promote competition and overall social welfare, not to promote one country or group of consumers over others. We further note that benefits to European consumers from the direct arbitrage benefits could also have an effect of putting a downward pressure on gas prices in Europe in general and especially during sudden peak demand periods. Our estimate doesn't include this additional effect, neither does it specify the impact on Belgian, Dutch, British etc. consumers in particular as further information related to shipper commercial practices and operation would need to be known.
[51] Multiplies the value of the TTF-Zeebrugge spread, if higher than 2p/th, by the amount of spare capacity on BBL on that day.
[52] Multiplies the value of the TTF-Zeebrugge spread, if higher than 0.6p/th, by the amount of spare capacity on BBL on that day. 0.6p/th is the average TTF-Zeebrugge spread in Summer 2020.
[53] We have assumed that the summer GB gas supply curve is elastic. Any increase in BBLC's exit flows as a result of implementation of Option 2 is therefore not expected to lead to gas wholesale price increases.

5.40. In addition, we estimate the monetised benefits to BBLC Shippers due to the short-haul discount to be approx. £6.9m annually (see footnote 46 which details key assumptions we have made in our calculations).

5.41. Finally, we consider that Option 3 could, at best, produce the same economic effect as Option 2. That is if an arbitrary allocation of capacities between IUK and BBLC was maximised in terms of economic efficiency, it would produce the same outcome as Option 2, ie an allocation of capacities decided by competitive process between gas transmission suppliers of IUK and BBLC. However, there would be costs for managing such allocation. Therefore, Option 3, compared to Option 2, will have limited scope for commercial innovation and competition between IUK and BBLC. Furthermore, once allocated, any unused capacity would be unavailable to Shippers wanting to use the other path. It is highly improbable that the administrative allocation of capacities between IUK and BBLC could be maximised in terms of economic efficiency, even more so when market dynamics are taken into account.

Achieving Net Zero in GB and in decarbonising Europe, and extending the lifetime of the existing assets

5.42. The UK was the first major economy in the world to pass laws to end its contribution to global warming by 2050. The target requires 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 (eg through the operation of the network to export greater volumes) would be exceptionally small and of no meaningful significance for option selection.

5.43. Option 2 would significantly increase efficient use of existing capacity on exit at Bacton and – given expected declining utilisation of the natural gas network – help deliver GB's Net Zero 2050 targets by reducing the risk of additional investment in methane networks and risk of stranded assets.

Security of supply

5.44. Creating a larger gas market in the UK, more trading opportunities, and attracting more LNG to the UK, is undoubtedly positive and would go some way to addressing the lack of inter-seasonal storage. Therefore, both Option 2 and 3 would have some security of supply benefits compared to the baseline.

5.45. 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 (see Figure 8 in Appendix 2 for more detail on import and export flows at Bacton), domestic production, and LNG terminals to bring in gas from around the world.

5.46. With decreasing domestic UK production, it is possible that more of GB's gas demand will be satisfied by LNG. Option 2 would contribute to attracting new LNG supplies to GB, as well as improve the liquidity of NBP, which in turn could lead to a more flexible and secure GB gas market.

6. Compliance with relevant EU and national legislation

Section summary

In this section, each option has been analysed to identify its compliance with EU and national legislation.

6.1. Some stakeholders expressed concerns that implementation of the 'do something' options (ie Option 2 and 3) could be in contravention of some European and national legislation. They expressed concerns that the 'do something' options would mean that Ofgem would not abide by regulations, which would negatively impact on business and future investment. Concerns were raised that Ofgem's decision to proceed with Option 2 would set a precedent for how regulation could circumvent the existing processes in place.

6.2. In this section we discuss how implementation of each of the proposed options would comply with the relevant EU legislation that is now retained in UK law, including the Security of Supply Regulations,[54] Entry and Exit Capacity Release Methodology Statements, and other national legislation (eg the Gas Act).

Option 1: Do nothing

6.3. Do nothing and maintain the status quo (Option 1) is one of the options raised. We show above that Option 1 does not allow for competition on equal footing. Two stakeholders argued that Option 1 provides IUK with an unfair access in relation to firm exit capacity.

6.4. This is not in the spirit of European and/or national legislation, including EU CAM NC. In furtherance of our principle objectives, under S.4AA (1B) Gas Act 1986 the Authority is required, wherever appropriate, to promote effective competition. In parallel, one of the principal objectives of EU CAM NC is to bring about effective competition between suppliers by ensuring that they are able to flexibly use the existing transmission systems to ship

[54] The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019. The Gas (Security of Supply and Network Codes) (Amendment) (EU Exit) Regulations 2019 (legislation.gov.uk)

their gas according to price signals, which in turn requires a network of interconnected transmission grids offering equal access to all (see Recital 4).

6.5. EU CAM NC applies to all interconnection points (see Article 2). Bacton (IUK) IP and Bacton (BBL) IP are both "interconnection points" within the meaning of the EU CAM NC.[55] Making technical capacity available at each point is in our view consistent with the EU CAM NC. There would need to be a good reason, consistent with the EU CAM NC, *not* to make such capacity available at each point. For reasons which we have explained above, we do not consider that there is a good reason in this case.

6.6. Article 6 of EU CAM NC also takes into consideration maximisation of bundled capacity, which is relevant for both adjacent TSOs, but bundled capacity cannot currently be offered under Option 1 by BBLC.

Option 2: Aggregate the two points in NGG's Licence

6.7. Option 2 would improve cross-border competition, as well as efficient use of and limited access to the high-pressure gas pipelines in Europe. As such, aggregation of the two exit ASEPs at Bacton into one in the Licence would be fully aligned with the intention of the EU CAM NC (see recitals 3 and 4[56]) and would help maximise cross-border trade and improve Security of Supply (see Section 5).

6.8. Three stakeholders however expressed concerns related to the change in status quo and have argued, specifically, that Options 2 and 3 would be in contravention of the European obligations in EU CAM NC, and existing derived processes in national legislation (eg IP PARCA). If BBLC require firm exit capacity at Bacton, one of the respondents said, IP PARCA should be used.

6.9. Five respondents however noted that the IP PARCA process is only suitable when expansion of existing capacity is desired – that is not the case here. They agreed with Ofgem's position that, given market conditions – ie expected decreasing utilisation of gas

[55] We note that elsewhere in this document we say that our intention is to "aggregate" these two IPs, and in that context we refer to the proposed aggregated unit as a single IP. That is a convenient way of describing matters from the point of view of the licence amendment. However, strictly speaking under the rubric of the EU CAM NC we consider that the two points will remain separate IPs.

[56] Inefficient use of and limited access to the Union's high-pressure gas pipelines lead to suboptimal market conditions. A more transparent, efficient, and non-discriminatory system of allocation of scarce transmission capacities needs to be implemented for the Union's gas transmission systems, so that cross-border competition can further develop, and market integration can progress. Developing such rules has been consistently supported by stakeholders.

system – investment in increased NTS exit capacity at Bacton is not required. Some respondents felt that more evidence was required to justify this position.

6.10. We have carefully considered and dismissed the option of IP PARCA at Bacton (BBL) ASEP and have expanded on our reasoning why, in our view, the process, which NGG believe would result in incremental capacity release at Bacton (BBL), is unsuitable on this occasion (see Section 4 for further detail). Option 2, as opposed to IP PARCA, would not require 'investment in physical infrastructure or long-term capacity optimisation'.

6.11. Further to that we note that EU CAM NC aims to set the rules for efficient allocation and maximisation of existing capacity (ie all technical and interruptible capacity) at interconnection points as well as incremental capacity, and gas has no process in place for negative incremental capacity allocation. There is no defined process for adjusting baselines downwards where the future capacity need is not supported by market signals. EU CAM NC also remains silent on other ways of ensuring that cross-border capacity is made available at interconnection points. We also note that there is no suggestion in the code that any changes to cross-border capacity levels must be as a result of an incremental capacity release process. We note ACER's and ENTSOG's consultation to update EU CAM NC to reflect the changed environment in relation to gas and to provide more flexibility to all relevant parties[57] (see footnote 59).

6.12. Some respondents highlighted a concern about the matching of technical capacities at each end of a pipeline. In particular, it was said that under the current arrangements, technical entry and exit capacities are fully matched on both sides of the IUK pipeline. It was also said, to similar effect, that the technical entry capacity for the BBL pipeline is matched by the technical exit capacity at the Netherlands end of that pipeline. By contrast, under Option 2, the technical exit capacity available at the aggregated ASEP would be less than the sum of the technical entry capacity available at the Dutch and Belgian ends of the two pipelines. There would no longer be 'matched' technical capacity at both ends.

6.13. We make two points in response to this concern. Firstly, there is not any legal obligation to ensure that technical capacity is precisely matched at both sides of an IP. Rather, the obligation, at Article 6 EU CAM NC, is to *optimise* technical capacity. Secondly, in any event the position at the moment is that capacities are not matched, because the technical capacities at the Dutch and Belgian ends of the pipelines already exceed the

[57] EUSurvey - Survey (gasncfunc.eu)

technical exit capacity at the UK end. So this issue, even if it were a valid concern, exists anyway and is not the product of Option 2.

6.14. As already stated elsewhere in this document, we consider Option 2 to be compliant with the EU legislation. Article 6.1 of the EU CAM NC states 'The maximum technical capacity shall be made available to network users, taking into account system integrity, safety and efficient network operation'. When NGG's technical capacity (of 651.68 GWh/d) is used at one of the IPs (i.e. Bacton (IUK) IP or Bacton (BBL) IP), it will not be available at the other point. The EU CAM NC caters for precisely that situation: they are 'competing capacities' within the meaning of Article 3.14 EU CAM NC, ie, 'capacities for which the available capacity at one point of the network cannot be allocated without fully or partly reducing the available capacity at another point of the network'. The EU CAM NC goes into further detail (Article 6.1(a)) to discuss the measure needed to maximise the offer of bundled capacity by optimising the technical capacity, by requiring the TSOs to establish and apply a joint method setting out the specific steps to be taken by the respective transmission system operators to achieve the required optimisation. EU CAM NC anticipates that, where competing capacities are concerned, specific methodologies may be required to allocate capacity by TSOs.

6.15. One respondent raised questions around the extent to which Option 2 would require the 'agreement' of relevant transmission system operators under Article 8(2) EU CAM NC (as retained EU law). Our view on this issue is as follows:

6.15.1. Article 8.2 takes as its starting point a situation in which there *is* competing capacity. The Article is concerned with the *allocation* of that competing capacity to Shippers. Article 8.2 is not intended to, and does not, give any person a right to prevent the creation of competing capacity in the first place. The existence of competing capacity is simply the result of there being two interconnection points whose available capacities cannot be allocated without fully or partly reducing the available capacity at the other point. For the avoidance of doubt, therefore, we do not consider that Article 8.2 could be used by a TSO to block the proposed licence amendment. We would also comment in this connection that all TSOs must act in accordance with the general rules of competition law, and we consider that if an operator were (without good reason) to use its position to prevent another operator's Shippers from having access to capacity then that may require scrutiny under competition law.

6.15.2. We also do not accept that, where there *is* competing capacity, one TSO could simply withhold its agreement to that capacity being allocated to *another* TSO's shippers, instead insisting that it must be either allocated to its own shippers or otherwise left unallocated. We do not think that is envisaged by Article 8.2 either. There would in our view be no sensible justification for such a rule, and we do not at present see why it would ever be in any party's interests to prevent capacity from being allocated at all.

6.15.3. What Article 8.2 does in our view mean is that, where *there is competing capacity, it must be allocated by an independent auction process or, subject to the agreement of the relevant TSOs, by a competing auction*. This makes good sense because competing auctions do require cooperation between TSOs, hence their agreement is required. We note for the avoidance of doubt that our assessment of Option 2 does assume that, if we make the proposed licence change, the relevant TSOs will indeed agree to allocate capacity via a competing auction or by another solution which facilitates competition at Bacton exit point at least to the same extent as competing auctions would (see paragraph 4.19 above). There are several reasons for that assumption. The parties have agreed to competing auctions in other similar contexts. It is the standard industry approach. A competing auction would be necessary to bundle capacity, and indeed we understand that if a competing auction was not used then the alternatives would be to allocate capacity on a first come first served basis, which would plainly not be in any TSO's interests. We also consider that, if a TSO were to withhold agreement to a competing auction, it would be at risk of breaching its own obligations under competition law and under the EU CAM NC. For all of these reasons we think that, once the proposed licence change is made, the prospect that a relevant TSO might withhold its agreement to the use of a competing auction is remote.

6.16. One respondent stated that acting without proper justification would be discriminatory against other network users, and as such Ofgem's intervention could be considered a violation of Section 4AA of the Gas Act 1986, which stipulates regulatory activity must be 'proportionate and consistent'. However, some of those supportive of changes highlighted the fact that IUK currently had a monopoly on Firm Obligated Exit Capacity at Bacton, which could also be considered discriminatory.

6.17. Option 2 may affect IUK's business, however we consider our proposal to be in accordance with the law and is intended to promote non-discriminatory competition and

ultimately consumer benefit, without it involving unjustified expropriation of anyone's property. It is clear in our view that currently, IUK does not use a substantial part of the exit capacity, which also limits the extent to which the proposal can be said to deprive IUK of its possible future contracts or income.[58]

6.18. Further to this point, one respondent argued that exit capacity at Bacton could be considered a valuable economic right. They said that Ofgem's proposed changes would amount to an unjustified expropriation of or interference with property and was therefore in contravention of A1P1 of the European Convention on Human Rights.

6.19. We disagree with the respondent's view that Option 2 would result in an A1P1 breach. Ofgem has never represented to IUK that it will continue to be the sole beneficiary of exit capacity at Bacton; Option 2 will not deprive IUK of, or interfere with its use of, its physical assets, as it will still be able to use its pipeline in the same way as it can now; and Option 2 will also not deprive IUK of the benefit of any of its existing contracts. The underlying concern appears to be with the loss of some possible future contracts which do not constitute an A1P1 possession. Having also considered the alternatives, in any event if Option 2 did constitute an interference with an A1P1 possession then we consider that action to be justified and proportionate as Option 2 promotes non-discriminatory competition and ultimately consumer benefits.

6.20. There was also a concern among some respondents that implementing either Option 2 or 3 would set a precedent whereby correct procedures for requesting increased capacity via an IP PARCA could be ignored. Please see Section 2, where we explain why we consider the proposed changes to the existing arrangements on exit at Bacton to be related to efficient utilisation of existing capacity, not to increasing the existing capacity levels.

Option 3: Reallocate capacity

6.21. Under this option, some of the existing Licence Baseline Exit Capacity at Bacton (IUK) would be reallocated to Bacton (BBL). This would require changes to NGG's Licence.

6.22. When considering this option, the baseline capacity level will need to be accessed at each exit point (Bacton (IUK) and Bacton (BBL)) to facilitate fair access for IUK and BBL

[58] One stakeholder drew a parallel with arrangements on exit at Moffat, where there is spare capacity available, however where there are no plans to aggregate the IP in NGG's Licence. Firstly, there is no request from Shippers or transporters to change the existing arrangements at Moffat. Further, over the past two winters, utilisation at Moffat has increased, as opposed to decreased. Finally, Moffat ASEP is already an aggregated exit point in NGG's Licence, where shippers may compete for capacity along different paths.

users. Suppose capacity on exit between Bacton (IUK) and Bacton (BBL) is divided. In that case, it will 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.

6.23. Concerning EU legislation, for reasons explained above we consider that Option 3 does not comply with Article 6.1 EU CAM NC ('The maximum technical capacity shall be made available to network users, taking into account system integrity, safety and efficient network operation'). Arrangements under Option 3 may also affect the security of supply and reduce the efficient use of the Bacton IP.

7. Risk assessment

Section summary

In this section we consider legal, regulatory and implementation risks associated with the three options.

Introduction

7.1. We have assessed the risks associated with the options under consideration in the context of broader, long-term and mid-term effects of our decision on the development of the future energy market at the time of transition to Net Zero emissions target, Security of Supply and energy system flexibility, as well as in the context of the benefits for GB consumers, and short-term effects on the GB and European gas market. We have also considered and assessed additional risks highlighted by stakeholders during our Initial IA consultation process.

Risks associated with Option 1

7.2. The key risk of Option 1 is that there is limited consumer benefit due to absence of competition on equal footing between the two interconnectors. As discussed in Section 3, since June 2019, BBLC Shippers were able to access only interruptible (off-peak) and/or non-obligated firm capacity at Bacton (BBL). Due to this, BBLC were unable to offer bundled capacity on exit at Bacton and that the potential of other benefits that the changed arrangements for accessing Licence Baseline Exit Capacity at Bacton (BBL) would bring, could not be materialised.

7.3. Further, without access to firm capacity and contrary to IUK Shippers, BBLC Shippers will be unable to take advantage of the short-haul discount, which provides further competitive advantage to IUK.

7.4. In addition, in the context of the 2050 Net Zero targets set by the Government, with the uncertainty regarding the role for hydrogen in heat, and given expected declining network use, spare and underutilised capacity at Bacton (IUK), Option 1 would not be an effective option. It would also continue to require assessments by NGG and decisions to

release interruptible (off-peak) capacity to BBLC Shippers on a case by case basis and may lead to additional costs and risks from this process.

Risks associated with Option 2

7.5. Currently, all the existing Licence Baseline Exit Capacity is allocated at Bacton (IUK), and no capacity is allocated at Bacton (BBL). Aggregation of the two points in the Licence could result in less capacity being guaranteed in the IUK flow direction. Consequently, less gas may flow to the Belgium network from IUK when direct flows to TTF are more beneficial and there is a risk that there will be insufficient Licence Baseline capacity on exit at Bacton for Shippers wishing to flow in the IUK and BBL direction. However, based on past data, we consider such risk to be low and offset by the benefits at a European level due to gas finding its way to the market where it is valued the most.

7.6. Physical capacity of the BBL pipeline represents approximately a third of the existing Licence Baseline Exit Capacity, which is currently allocated to Bacton (IUK). A large part of the existing Licence Baseline Exit Capacity would therefore still be made available exclusively to IUK and as such, would be uncontested by BBLC Shippers.

7.7. Data in Section 3 suggests that IUK is not currently fully utilised and that Licence Baseline Exit Capacity of max 184.78 GWh/d (~17 mcm/day) could be offered to BBLC Shippers with little or no impact on flows via IUK. Although the risk of congestion at the new Bacton exit (IP) ASEP is deemed unlikely, if it did materialise, we would expect NGG to mitigate such risk by using the mechanisms that are available to them and are already in place at any ASEP where there is congestion, eg over-subscription and buy-back mechanism (OSBB), dynamic recalculation, non-obligated capacity release etc. We further note that NGG is incentivised to use the interruptible and non-obligated capacity release mechanism in response to market demand, and when used, such a mechanism would help reduce the likelihood of any such commercial congestion arising.

7.8. One of the respondents to our consultation considers there to be a risk from BBLC undertaking further unilateral investment decisions in the future without user commitments on its side to expand its export capability further. We note that BBLC consider such an expansion unlikely for the foreseeable future as it would be technically challenging. Further, any increases in technical capacity would, if they did occur, as a minimum, require a change to the Interconnector Agreement (IA) between BBLC and NGG. Changes to IAs are subject to a consultation and approval of the directly connected parties, including relevant Shippers and transporters, and are typically discussed as self-governance UNC modification

proposals at the industry Transmission Work Group (Transmission WG) meetings. Further, any changes to IAs must be submitted to Ofgem for decision, in accordance with Licence condition 3 of the interconnector licence, before modifications apply.

7.9. One of the respondents expressed concerns related to compliance of Option 2 and 3 with EU CAM NC. They stated that Option 2 would create a mismatch in technical capacities at either sides of interconnectors, which would mean that Shippers would be unable to book bundled capacity, which may deter some of them from booking capacity in the first place. Further, the respondent believed that introducing competing auctions at the aggregated NGG's Bacton exit (IP) would require an agreement from all the involved TSOs.

7.10. Due to the reasons explained elsewhere in this document (in particular in Section 5 and 6), and in particular due to the current underutilisation of capacity at Bacton (IUK), we consider the risk of Shippers being unable to book bundled capacity through PRISMA at both ends to be minimal. We further note that the two interconnectors, in addition to offering bundled capacity to Shippers via PRISMA, offer products via Implicit Allocation Mechanism (bundled and unbundled) with the existing NGG capacity bookings. This we understand has been offered due to Shippers' interest in more flexibility provided by the two interconnectors.

7.11. We take note of the proposal by the European Federation of Energy Traders (EFET) for greater flexibility[59] to book firm capacity at IPs and the ongoing discussions in Europe to that effect, which if they materialise, could provide additional mechanism for TSOs to sell capacity outside the EU CAM NC auction timetable dates. The purpose of these discussions is to modernise EU CAM NC to improve auction arrangements, including the frequency and usability of auctions at IPs, by introducing a possibility for TSOs to offer IP capacity for sale in Uniform Price Allocation (UPA) auctions.[60]

7.12. During the consultation period, some respondents expressed their concerns that adopting the solution laid out in Option 2 would set a precedent whereby a user could access capacity above that currently allowed, without following incremental capacity release

[59] EFET highlighted that the standard auction timetable in the EU CAM NC still limits opportunities for arbitrage to be fully exploited, particularly across the forward curve. This is detrimental to market efficiency and reduces the amount of capacity TSOs sell. ACER's latest gas market monitoring report (paragraph 36) suggested that consideration should be given to increasing the frequency of CAM auctions with a standardised timing to make them even more useful for network users. EFET suggested that where amendments to the implementation are not sufficient, a change to the CAM NC legal text as part of the 2021 EU Gas Legislative Package should be pursued. In order to get a better understanding of the needs of the market, ACER and ENTSOG have launched a public consultation to collect stakeholder input.

[60] Supplementary UPA auctions for yearly, quarterly and monthly IP capacity would be held for any capacity remaining unsold after the first relevant CAM NC (ascending clock) auction, up to the point where it becomes usable.

processes (ie IP PARCA). It is our position that BBLC's request does not qualify as incremental capacity, and therefore does not set such a precedent.

Risks associated with Option 3

7.13. Risks associated with Option 3 are similar to those associated with Option 2. With reallocation of the baseline capacity from Bacton (IUK) to Bacton (BBL) there is the risk of IUK and/or BBLC Shippers not being able to access Licence Baseline Exit Capacity in the summer months when export capacity traditionally peaks. In addition, any allocation of the Bacton Exit capacity between IUK and BBLC would lead to less efficient economic outcomes than Option 2 (ie a dynamic method of allocation decided by competitive market).

7.14. We consider a further risk of underutilisation and sterilisation of capacity allocated to either of the two exit points at times when capacity is required to potentially lead to similar situations as Option 1, when NGG is obliged to make firm capacity available at one point, where capacity is not required, but release interruptible capacity at the other point, where Licence Baseline Exit Capacity is insufficient.

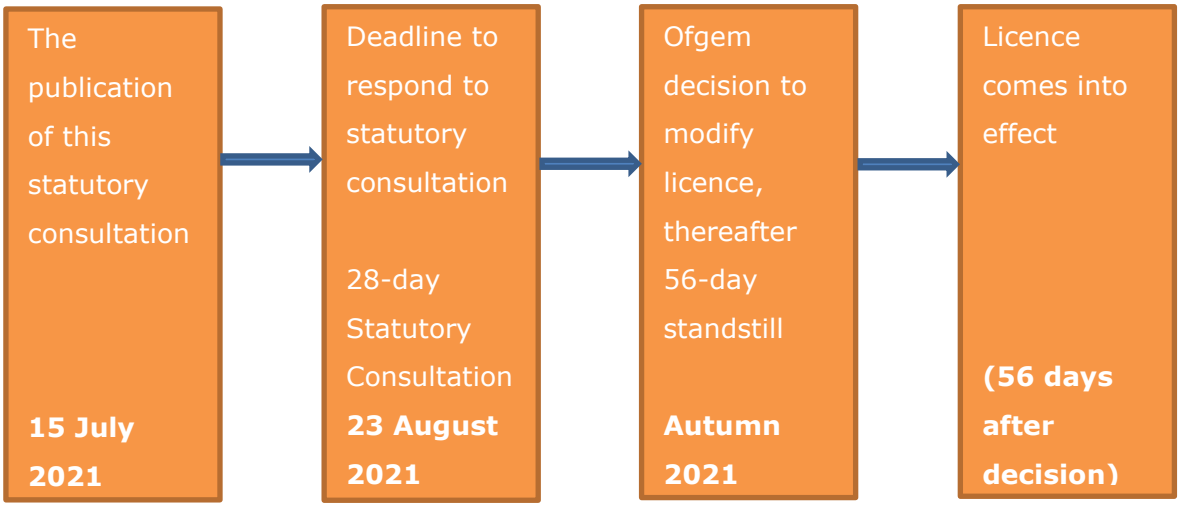
8. Next steps, monitoring, evaluation and feedback

Next Steps

8.1. This Final IA is accompanied by a Statutory Consultation on the necessary changes to NGG's Licence. We welcome views on the accompanying Statutory Consultation documents ie The Notice and The Letter.

8.2. This consultation will remain open until 23 August 2021. 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.

8.3. Following the Statutory Consultation period, we will consider responses and will take these into account in reaching our final decision on whether to change the existing arrangement in line with the changes to SLC 9.13, Annex 2, as outlined in the Statutory Consultation. Subject to the number and content of the responses, we are aiming to reach a final decision in autumn 2021.



8.4. We note that changes to the UNC will be required to implement our decision. We foresee that these changes will be industry-led. Please see Section 4, Option 2 for further detail.

Monitoring and Policy review

8.5. We will continue to engage with stakeholders and envisage reviewing our policy in relation to Bacton exit in five years' time ie in 2026. In the meantime, we will continue to

engage with the relevant parties to understand the impact of the change we are consulting on. This should allow us to act as necessary to ensure that we are able to achieve our policy objectives.

Appendices

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Appendix 1 - Stakeholder views

Section summary

In this section we summarise the stakeholder views received during the Call for Evidence (CfE) and our Minded-to-Consultation (MTC) on the Initial IA. The Minded-to-consultation focused on the three options highlighted in the Initial IA.

1.1. This section provides an overall summary of responses received through previous stakeholder engagement and does not repeat the specific comments made by individual stakeholders which have been included in other sections (eg in Section 5, 6 and 7). The feedback received in response to the CfE and MTC has all been reviewed, considered, and taken into account when completing this Final IA.

Stakeholder evidence gathering exercise

Call for evidence (CfE)

1.2. On 26 July 2019 we launched a CfE, a pre-consultation evidence gathering process, to gather views from industry and other relevant stakeholders on whether arrangements for accessing Licence Baseline Exit Capacity on the NTS at Bacton IP should be changed.[61] The consultation period ended on 16 September 2019[62] and the summary of responses received was included in the Initial IA.[63]

1.3. The information requested in the CfE was to help us set the priorities in determining if and how the existing arrangements should be changed to maximise consumer benefits, while at the same time safeguarding competition and security of supply. The CfE responses

[61] https://www.ofgem.gov.uk/publications-and-updates/call-evidence-change-existing-arrangements-accessing-licence-baseline-exit-capacity-national-transmission-system-bacton-interconnection-point
[62] In total, we received 13 responses: seven from Shippers, five from transmission network operators and one from academia. One respondent provided a confidential and a non-confidential response. Three respondents requested their responses remain confidential. All ten non-confidential responses have been published on our website together with this Impact Assessment.
[63] Initial Impact Assessment on Arrangements at Bacton Exit (ofgem.gov.uk), page 16-17.

revealed that respondents have an appetite for accessing a wider range of products than can currently be offered. Several respondents revealed non-binding expressions of interest in purchasing obligated firm exit capacity at Bacton (BBL) ASEP, if made available to the market and the right price was indicated.

1.4. Four respondents expressed concerns related to potential changes to the current arrangements for accessing capacity on exit at Bacton.

Consultation on our Initial Impact Assessment

1.5. A public MTC on the Initial IA took place between 9th December 2019 and 10th February 2020. Our Initial Impact Assessment identified 3 potential solutions for BBLC's request:

- Option 1: 'Do nothing' to maintain the status quo. NGG is obliged to offer 651.68 GWh/day (~60 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 in NGG's Licence.

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

1.6. We shared our preferred choice to proceed with Option 2. Stakeholders broadly supported Ofgem's positions (seven out of 12 respondents were supportive), however there were a few notable exceptions.

1.7. Consultees were invited to submit additional evidence on the costs and benefits of the proposed options, and specifically, to submit quantitative evidence that should be factored into our decision making. Although we have received limited quantitative evidence on monetised benefits and costs as well as other evidence of the proposed options,[64] which we have considered in this IA, we did not receive any evidence that would cause us to change our minded-to-position.

[64] One stakeholder commissioned economic analysis, which was submitted alongside their non-confidential response.

1.8. 13 responses were received from 12 respondents – one provided both a confidential and non-confidential response. Of these 13, three were confidential and the remaining ten were non-confidential. All non-confidential responses have been published on our website alongside this IA.

1.9. Seven out of 12 respondents to our Initial IA were in favour of Ofgem's proposed change – aggregating the two NTS exits at Bacton (IUK and BBL) into one point in NGG's Licence. Among these seven, two showed some support for reallocating existing Licence Baseline Exit Capacity from IUK to BBL – however, they did not consider it ideal. Of the remaining five consultees, four opposed both proposed changes and favoured Option 1, with three respondents offering alternative solutions to complement Option 1 (see Section 4 with our view on the proposed alternative solutions).

1.10. Arguments in favour of aggregating exit points at Bacton largely focussed on the increased competition that would come from having firm capacity available via two pipelines, and the increased security of supply arising from greater access to the NW Europe market. Alongside this, increased competition could encourage innovation in products and services provided by TSOs. Respondents also highlighted the benefits to both UK and EU consumers that could follow closer correlation between NBP and TTF.

1.11. Four respondents raised concerns about the proposed changes. One such concern was that changes proposed in Options 2 and 3 could be in contravention of a range of European and national legislative and regulatory obligations. The lack of a clear economic signal or user commitment for firm capacity at Bacton (BBL) means that altering the exit arrangements could breach EU CAM Article 6 and NG Entry Capacity Release Methodology Statement. Some argued that there was a process in place – IP PARCA - to cover increases to technical capacity and considered Ofgem's intervention to be unnecessary and unjustified. Among the opposing respondents, there was general view that taking firm capacity away from IUK would be fundamentally unfair, and could potentially harm both UK and EU consumers, as well as IUK's business.

1.12. When asked to comment on the MTC and accompanying Initial IA, respondents requested greater detail concerning compliance of the options provided with the European and national legislation, the monetised benefits of Options 2 and 3, specifically in relation to the benefits from increased transmission charges, as well as concerning user commitment requirements related to firm NTS capacity and substitution. Two respondents asked for clarification of specific details to be included in the final assessment, while a further three requested a general increase in quantitative analysis. The need for a better explanation of

the reasoning behind the proposed change was mentioned by some, as well as a desire to explore solutions other than those presented. We have made an effort to address these concerns throughout the assessment.

Further respondents' comments which we address elsewhere

1.13. One argument against Options 2 and 3 expressed by four stakeholders was that the proposals have not been supported by user commitment. Three respondents argued that acting without sufficient economic signals would be in contravention of both European and national obligations (EU CAM, ECRMS, ExCS, EU SoS Reg). This argument is addressed in paragraph 4.266-4.33 where we discuss why the IP PARCA process is not required for this instance.

1.14. One respondent stated that users had previously communicated that had firm capacity been available via BBL, they would have booked capacity. They stated that the commercial trading risk associated with capacity interruption was an effective barrier to further purchases. We take note of this response in Section 5.

1.15. One respondent stated that acting without proper justification would be discriminatory against other network users, and as such Ofgem's intervention could be considered a violation of Section 4AA of the Gas Act 1986, which stipulates regulatory activity must be 'proportionate and consistent'. This point is addressed in Section 6.

1.16. Further to this point, one respondent argued that exit capacity at Bacton could be considered a valuable economic right. They said that Ofgem's proposed changes would amount to an unjustified expropriation of IUK's property and was therefore in contravention of A1P1 of the European Convention on Human Rights. This is also addressed in Section 6.

1.17. One respondent said that under EU CAM NC, adoption of competing auctions at IP would require the explicit consent of TSOs, which would mean that Option 2 would violate those regulations. This is addressed in Section 6.

1.18. One respondent noted that the IP PARCA process is only suitable when expansion of existing capacity is desired, which is not the case on exit at Bacton. Some other respondents felt that further evidence was required as to why Ofgem discounted IP PARCA as an option in the Initial IA. This evidence is highlighted in Section 6 and Section 4.

1.19. The respondent also highlighted the fact that technical exit and entry capacities are fully matched on both sides of the IUK pipeline - in Belgium and the UK - as obligated under CAM Article 6 and EU Security of Supply regulations. See Section 6 with our response.

1.20. There was also a concern among the two respondents that implementing either Option 2 or 3 would set a precedent whereby correct procedures for requesting increased capacity could be ignored. We don't believe it will set a precedent as highlighted in Section 6 and Section 7.

1.21. Two respondents felt that Ofgem should consider the impact that the proposed changes would have on Belgian and other EU customers. They argued that reduced access to NTS exit capacity would have security of supply risks for these consumers and reduce the liquidity of the Belgian market. However, another respondent pointed out that both IUK and BBL pipelines are primarily used for arbitrage purposes, and so security of supply risks would be limited. We consider the benefits for the GB and European consumers in Section 5 and elsewhere in this document.

1.22. There were claims that the benefits that would arise from increased competition had been overstated, as well as the increased access to LNG that could result from the aggregation of the Bacton exit IPs. Respondents said that there was no quantitative evidence to support this position - however, they did not submit evidence to the contrary. We address these comments in Section 5.

1.23. Six respondents agreed with Ofgem's arguments related to the benefits of competition. There was a general consensus that enabling BBLC Shipper access to Firm Obligated Exit Capacity would give Shippers greater choice and necessitate both IUK and BBLC to innovate on both products and prices.

1.24. One consultee also made the argument that access to the TTF hub - one of the most liquid in the world/most liquid in Europe - would increase the efficiency of the NW Europe market.

1.25. Two respondents argued that capacity on the IUK pipeline is regularly fully booked at peak times. And so, giving BBL access to firm obligated capacity would mean a loss of business for IUK and inefficiencies in the market. One respondent argued that utilisation figures shown in MTC do not accurately reflect the value of the capacity to the market. We provide our view on this in Section 3.

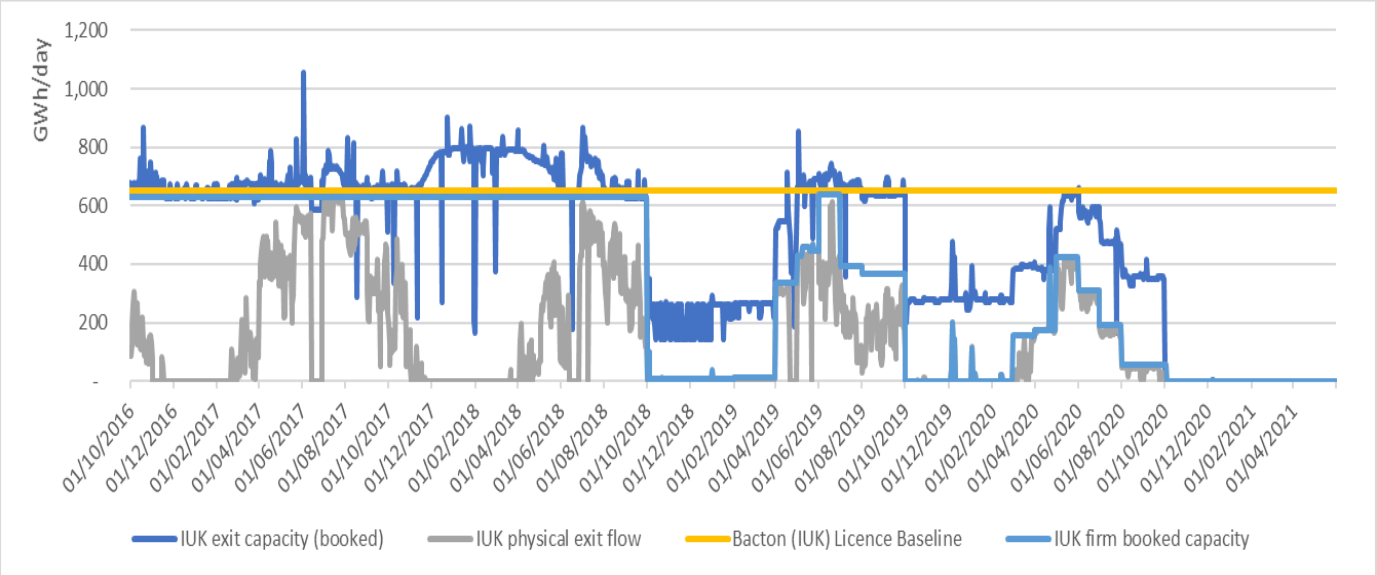
1.26. One respondent commissioned CEPA to provide an economic study, ie an independent review and economic perspective on the options and analysis outlined in Ofgem's Initial IA. We note that its economic study did not illustrate the points made with quantitative analysis or suggest relevant parameters that we should use to estimate precise welfare impacts in different countries. The economic study relied on an analysis of interconnector benefits in the electricity market[65]. This model was stylised. While we agree with the conceptual basis of welfare estimation for an interconnector we consider it potentially misleading for natural gas. For example, it assumes that exports would occur even if price was very low and visually suggests unitary supply elasticity. We do not consider these conditions hold for a gas summer market as there are costs associated with its transport and during the summer the supply curve is elastic (so small changes in price will bring forward large changes in supply). In addition, the study suggested that the baseline options should be compared against one in which BBLC have not undertaken the cost of investing in physical reverse flow capability. We consider that this would be an incorrect baseline as the past is water under the bridge and not relevant in economic appraisal, as the purpose of appraisal is to help make forward looking decisions.

1.27. We address the points made by CEPA in Section 5 and elsewhere in the document (Section 3, 4, 6 and 7).

[65] Pöyry (2017), 'Near-term interconnector cost-benefit analysis: independent report (cap & floor window 2)', available here.

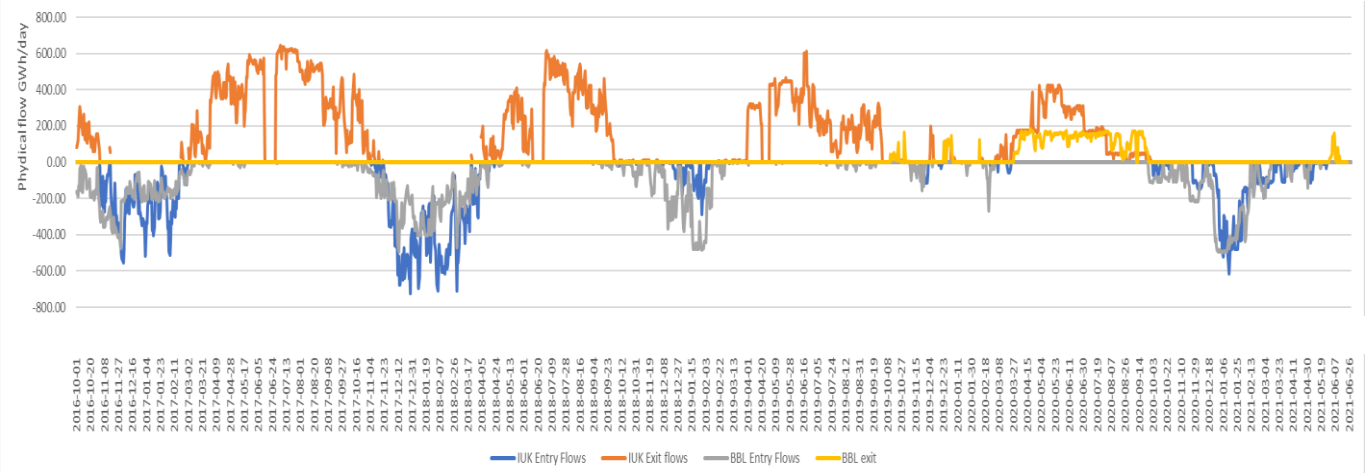
Appendix 2 – Additional charts

Figure 7: Booked capacity at Bacton (IUK) compared to physical flow



Source: Ofgem analysis based on NGG's data.

Figure 8: Physical flows at Bacton



Source: Ofgem analysis based on data from Transparency Platform (ENTSOG)