Storengy UK Ltd's application for a minor facilities exemption for Stublach phase 2

Consultation

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Overview:

In GB, the default access arrangements for gas storage are negotiated third party access (nTPA). This defines the terms under which gas storage operators must sell capacity. Under the Gas Act 1986, storage operators can apply to us for an exemption from these requirements. We can grant a minor facility exemption (MFE) if nTPA at the facility is not technically or economically necessary for the operation of an efficient gas market.

Storengy is developing the Stublach gas storage facility in Cheshire. Phase 1 of this development has an MFE. Storengy has applied for an MFE for phase 2 of the Stublach gas storage development. We assess whether an MFE should be granted using a range of tests.

This consultation sets out our initial view on the application and summarises the analysis that has led us to this view. We are consulting on our initial view to grant the MFE.

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Context

Stublach is in Cheshire, north-west England. Storengy is responsible for the design, construction, operation and maintenance of the Stublach gas storage facility until 2037, when the ownership will be transferred to the landowner, INEOS Enterprises Limited. Phase 1 of Stublach (ten caverns) is currently under development. Phase 2 would double the capacity of the facility, with ten more caverns. Phase 1 is expected to be completed by winter 2015. The combined facility (phases 1 and 2) is expected to be completed in 2018. On completion, the expanded facility would have total storage space of 4400 GWh and maximum deliverability (the daily amount that can be withdrawn from the facility) of 320 GWh/d.

In 2009, we granted an MFE for phase 1. In 2013 we amended this exemption to take account of an increase in the working volume of gas (ie, space – but not deliverability) available under phase 1 of the development.

Associated documents

Storengy UK Ltd – application for an exemption (7 March 2014)
https://www.ofgem.gov.uk/ofgem-publications/86469/stublachphase2mfeapplication-forpublication.pdf

Final Decision on Storengy UK Limited's application for an exemption from section 19B of the Gas Act 1986 (18 December 2009):
https://www.ofgem.gov.uk/publications-and-updates/final-decision-storengy-uk-limited%E2%80%99s-application-exemption-section-19b-gas-act-1986

Open letter: Amendment to the working volume at Stublach storage facility exemption order (15 March 2013):
https://www.ofgem.gov.uk/ofgem-publications/41169/open-letter-amendment-working-volume-stublach-storage-facility-exemption-order.pdf

Storengy application for an exemption from section 19B of the Gas Act 1986 (1 October 2009):
https://www.ofgem.gov.uk/publications-and-updates/storengy-application-exemption-section-19b-gas-act-1986

Gas Storage Minor Facility Exemptions Open Letter (16 June 2009):
https://www.ofgem.gov.uk/publications-and-updates/gas-storage-minor-facility-exemptions-open-letter

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Executive Summary

Storengy UK Ltd (a subsidiary of GDF Suez) has applied for a minor facility exemption (MFE) for phase 2 of its Stublach gas storage facility. This exemption would remove the requirement to offer negotiated third party access (nTPA). We have assessed whether the application meets the requirements to be granted an MFE. We are minded to approve this application, and are consulting on this initial view. This document sets out the analysis we have carried out in reaching this position, and invites views on our assessment.

Third party access and minor facility exemptions

An MFE can be granted if we think nTPA at the facility isn't technically or economically necessary for the operation of an efficient gas market. In June 2009, we set out the basis for our approach in an open letter.[1]

We determine technical necessity by looking at the availability of gas supply capacity to meet peak demand. We assess economic necessity by considering whether the exemption would adversely affect competition in the market. We look at various indicators of market power to determine the potential impact an exemption would have on competition. We also look at the likely effect on market signals and the economic use of storage capacity.

Our assessment

Technically necessary

We have assessed whether nTPA at Stublach is technically necessary for a peak day and a cold winter. First, we compare a peak-day demand forecast with the expected peak supply capability. Second, we compare an aggregated cold winter demand profile with expected supply capability over winter.

For both a peak day and cold winter in all years assessed, the headroom between supply and demand is significantly greater than the maximum deliverability of Stublach when fully operational. As a result, we conclude that nTPA at Stublach is not technically necessary.

Economically necessary

We don't think nTPA at Stublach is economically necessary. We've reached this conclusion after considering a range of indicators. We consider whether granting the MFE could give GDF Suez market power. We focus our analysis on GDF Suez as a group rather than just their subsidiary Storengy. We use gas flexibility in GB as the relevant market. This is because the main service provided by gas storage is the

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[1] https://www.ofgem.gov.uk/publications-and-updates/gas-storage-minor-facility-exemptions-open-letter

ability for shippers to vary supply levels in response to changes in prices or demand. Other sources of supply can also provide flexibility, so we do not limit our focus to the storage market. This is consistent with our approach to previous MFEs and the Competition Commission’s work on the Rough undertakings.

To assess which supply sources are substitutes for gas storage, we have analysed responsiveness to changes in price and demand. There is some uncertainty about the future behaviour of flexible gas sources. Given this, it is difficult to determine a single market definition. As a result, we specify three possible market definitions to account for different future scenarios.

We consider whether GDF Suez could have market power under these definitions by calculating its market share of flexibility. These market shares are generally below ten per cent in most cases. This indicates that it is unlikely that GDF Suez would hold market power in the gas flexibility market if Storengy is granted an MFE for Stublach phase 2.

We also consider the impact of Stublach on concentration in the storage market by calculating the Herfindahl–Hirschman Index (HHI). We do this for both space and deliverability. Our results suggest the storage market is not highly concentrated. This indicates a limited risk of market power. Further, the construction of Stublach results in a marginal reduction in storage market concentration.

We also assess market power by assessing whether GDF Suez would be ‘pivotal’ if the exemption is granted. A player is pivotal if total demand cannot be met from all available sources of supply controlled by other players. We use our pivotality model to assess this. Using our base assumptions, our analysis shows that GDF Suez is not pivotal. A combination of very high demand and a significant supply outage is required before the model begins to show pivotality for GDF Suez.

We consider GDF Suez’s position in vertically linked markets to assess whether this could give rise to it having market power in gas flexibility. Our assessment shows this to be unlikely.

We assess the impact of the exemption on market operation. We consider demand for access to storage and the impact an exemption would have on transparency, market signals and efficient use of capacity. We also welcome Storengy’s commitment to introduce a use-it-or-lose-it (UIOLI) mechanism to ensure that capacity can be used by those who value it most. Given this, we do not have concerns that the exemption will have a detrimental impact on market operation.

In conclusion we consider that phase 2 of Stublach is not ‘technically’ or ‘economically’ necessary to the GB system. Therefore we are minded to grant Storengy an MFE for phase 2 of Stublach, subject to responses to this consultation.

Next steps

We are consulting on our minded to position to approve the application. We welcome views on this conclusion and our analysis. This consultation closes on 2 May 2014. After considering responses to our consultation, we expect to issue our final decision on the exemption application in summer 2014.

1. Introduction

GB storage regulatory regime

1.1. Access arrangements for gas storage facilities are set out in the EU Third Internal Energy Market Package (Third Package), which for the purposes of this document means the Gas Directive[2] and the Gas Regulation[3]. This requires member states to choose either negotiated third party access (nTPA) or regulated third party access (rTPA) for access to storage facilities. In GB the default regime is nTPA, as set out in the Gas Act 1986 (Gas Act). This means that arrangements must enable storage users to negotiate access to storage when technically or economically necessary for efficient access to the system. In 2011, we published guidance describing our views on the measures that storage operators should consider in meeting the nTPA requirements of the Third Package.[4]

1.2. We must apply domestic legislation to achieve the results envisaged by the relevant European legislation. When assessing an exemption application under section 8S of the Gas Act, we consider, as set out in Article 33 of the Gas Directive, whether nTPA is technically or economically necessary to provide efficient access to the system for the supply of customers as well as for the organisation of access to ancillary services. A storage operator will not have to offer nTPA at a facility where access is not technically or economically necessary for the operation of an efficient gas market.

1.3. To provide transparency to the market on when nTPA has to be offered at a storage facility, the Gas Act and Petroleum Act 1998 (Petroleum Act) require that an assessment be made and a facility be specifically excluded from the requirement to provide nTPA. In other words, in those circumstances we must grant an exemption.

Open letter on MFEs

1.4. On 16 June 2009, we published an open letter on exemptions granted to minor facilities under the Gas Act or the Petroleum Act. Our open letter tells

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[2] Directive 2009/73/EC of the European Parliament and of the Council of 13 July 2009 concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC (“Gas Directive”).

[3] Regulation (EC) No 715/2009 of the European Parliament and of the Council of 13 July 2009 on conditions for access to the natural gas transmission networks and repealing Regulation (EC) No 1775/2005 (“Gas Regulation”).

[4] https://www.ofgem.gov.uk/publications-and-updates/guidance-regulatory-regime-gas-storage-facilities-great-britain

the market about the criteria we would generally expect to use when considering applications for MFEs.

Stublach gas storage

The facility

1.5. Storengy UK Limited, a wholly-owned subsidiary of GDF Suez, is the owner and operator of the Stublach gas storage facility in Cheshire. Phase 1 of Stublach is currently under development. It will provide 2200 GWh of capacity with 175 GWh/d deliverability and injectability from ten salt caverns when fully operational. This is expected by winter 2015. The facility can fill and empty several times over the course of a year.

1.6. Phase 2 would double the capacity of the facility, with ten additional caverns. The expanded facility would have total space of 4400 GWh and deliverability and injectability rates of 320 GWh/d. This work is expected to be completed by winter 2018. It would remain classified as medium range storage (MRS).

Stublach's existing exemption

1.7. In 2009 we granted an MFE for phase 1. In March 2013 we amended this exemption to account for an increase in the working volume of gas (and hence space, but not deliverability) available under phase 1.

Storengy's current MFE application

1.8. Storengy has applied for an exemption under section 8S of the Gas Act for phase 2 of the facility. Storengy's application is published alongside this consultation document. It has been redacted to protect commercially sensitive information.

Our approach to assessing the application

1.9. To determine whether an MFE should be granted, we assess whether nTPA at the facility is technically or economically necessary. The basis for our assessment approach is our 2009 open letter. We use a range of indicators to reach our conclusion.

1.10. As explained in our open letter, we assess technical necessity by considering the availability of capacity to supply gas from various sources to meet peak demand – for a peak day and cold winter.

1.11. We assess economic necessity by considering whether the exemption would adversely affect competition or distort the market, and provide a materially worse outcome than if the exemption is not granted. We look at various indicators of market power to determine the potential impact an exemption would have on competition. We also look at the likely impact on market signals and the economic use of storage capacity.

1.12. Since we published our 2009 open letter, we have developed a pivotality model. We published this model alongside our 2011 guidance on nTPA at storage facilities.[5] We use this model as part of our assessment of market power, which is set out in chapter 3.

1.13. The focus of our analysis is the market for gas flexibility. The gas system needs to balance. Because of this, shippers require flexibility. Storage is important to the gas market because of the flexibility it provides. Other sources of supply can also provide flexibility.

1.14. In carrying out our analysis, we generally make conservative assumptions. This means our tests are relatively strict. Therefore, if they are passed, then they would be passed under less strict assumptions.

Our position for consultation

1.15. As a result of our analysis, our initial view is to grant an MFE for phase 2 of the Stublach development. We're consulting on this position; please send any responses to wholesale.markets@ofgem.gov.uk by 2 May 2014. The remainder of this document sets out the analysis we have carried out in reaching our minded-to position on Storengy's application.

[5] https://www.ofgem.gov.uk/publications-and-updates/guidance-regulatory-regime-gas-storage-facilities-great-britain

2. Assessment of technically necessary

Chapter summary

Based on our analysis of peak demand and supply capability, our initial conclusion is that nTPA at Stublach is not technically necessary.

Question box

Question 1: Do you agree with our approach to considering whether nTPA is technically necessary for the operation of an efficient gas market? If not, please explain why.

Question 2: Would you suggest any additional analysis to assess whether nTPA is technically necessary? If so, what?

Question 3: Do you agree with our overall assessment that nTPA at Stublach is not technically necessary? If not, please explain why.

2.1. In our 2009 open letter, we set out how we assess applications for an MFE. We consider, among other things, whether nTPA is technically necessary for the operation of an efficient gas market.

2.2. The market may have a technical requirement for flexible gas sources to meet fluctuations in demand. However, this does not imply that nTPA is "technically necessary" at a particular storage facility, or for gas storage in general. Shippers have a variety of ways to meet requirements for flexibility. As set out in our 2009 open letter, we do not think nTPA is likely to be technically necessary in the GB market – except at very large or strategically important facilities. At present, the GB market has a diverse range of supply sources and capacity well in excess of peak demand. This analysis is concerned with meeting whole-system demand from across the market.

2.3. In considering Storengy's application for an MFE, we have considered the availability of supply capacity to meet forecast demand. We look across the market at different sources of supply, including other exempt storage facilities. We then consider the role of Stublach and the impact of any exemption in meeting demand from a technical capacity perspective.

Analysis

Peak day

Storengy view

2.4. In its application, Storengy assesses technical necessity by comparing forecast peak supply capability with peak day demand using data from National Grid's Ten Year Statement. It calculates capacity 'headroom' for a peak day in each year from 2013/14 to 2023/24 – and excludes Stublach's total capacity. This calculates the estimated additional supply capability in excess of peak demand. Storengy's analysis for all years shows significant capacity headroom.

2.5. Storengy argues that this implies that a significant supply loss would be required for nTPA at Stublach to be necessary to meet peak demand. Storengy concludes that the use of the Stublach facility is not technically necessary for the operation of an efficient gas market.

Our view

2.6. In assessing whether access to Stublach is technically necessary on a peak day, we take a similar approach to that taken by Storengy. We too compare forecast peak supply capability and peak day demand. We base forecast peak capability on National Grid's Future Energy Scenarios – but make adjustments to assume no further new supply capacity is constructed beyond that currently under construction. This is a conservative assumption, though if access to Stublach is not technically necessary under this test then it would also not be so if additional new capacity is built. We use diversified peak demand[6] from National Grid's Gone Green and Slow Progression scenarios – based on Future Energy Scenarios[7]. Our analysis is carried out for the years 2013/14 to 2023/24.

2.7. From these projections, we assess the headroom between peak supply capability and peak demand. If this is greater than the deliverability of Stublach, it means Stublach wouldn't be needed in order to meet peak demand unless there was a significant loss of supply. The results of this analysis are summarised in Table 1 and Figure 1 below.

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[6] Diversified peak demand is the highest total daily demand expected in a given year. This will be less than the sum of every individual consumer's peak demand, as not all individual peaks will occur on the same day.

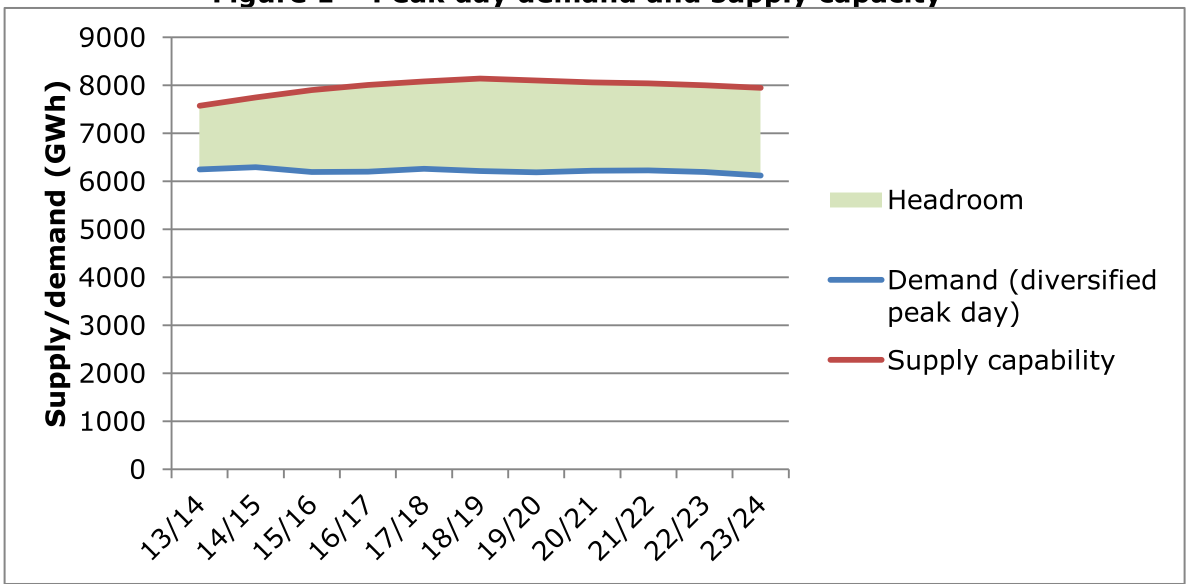
[7] We use 2012 FES projections for demand, as this provides a higher demand forecast and so a more strict test.

Table 1 – Peak day demand and supply capacity (GWh/d)

GWh/d	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Peak day demand	6251	6294	6195	6204	6262	6216	6190	6221	6228	6194	6119
Supply capability	7574	7751	7904	8006	8080	8141	8104	8062	8039	7999	7949
Headroom	1324	1457	1709	1802	1818	1924	1915	1841	1811	1805	1830

Source: Ofgem analysis of National Grid Gas (NGG) data (Future Energy Scenarios 2012 & 2013)

Figure 1 – Peak day demand and supply capacity



Source: Ofgem analysis of NGG data (Future Energy Scenarios 2012 & 2013)

2.8. In all years and demand scenarios assessed, headroom is significantly in excess of Stublach's peak deliverability when fully operational (320 GWh/d). This implies it would take a significant loss of supply before the Stublach facility is needed to meet peak day demand.

Winter period

Storengy view

2.9. Storengy did not provide a view of whether nTPA at Stublach is technically necessary over a winter period.

Our view

2.10. In addition to considering a peak day, we look at a winter period to determine whether access to Stublach is technically necessary. We take NGG's forecast "cold" demand profile for 2013/14 and project this forward using forecast annual demand growth under NGG's Slow Progression scenario. We aggregate this demand profile over a winter period to derive the total demand which needs to be met.

2.11. We build the supply-side by starting with aggregated non-storage supply capability over the six month winter period. To this we add storage capacity (ie, space). We assume that storage begins the period full, and ends it empty – with no injections taking place over winter. We compare these projections of supply and demand over the winter period and adjust to take account of daily storage deliverability.

2.12. This analysis derives a per-day supply headroom. If this is greater than the maximum deliverability of Stublach, then we can say that Stublach is not expected to be needed to meet demand over a cold winter period. The results of this analysis are summarised in Table 2 below.

Table 2 – Winter period average excess supply capacity (GWh/d)

GWh/d	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Average daily supply headroom	1894	2010	2098	2143	2129	2140	2103	2075	2103	2137	2070

Source: Ofgem analysis of NGG data (Future Energy Scenarios 2012 & 2013)

2.13. In all years and demand scenarios assessed, daily headroom is significantly in excess of Stublach's peak deliverability when fully operational (320 GWh/d). On average there is significant headroom. This implies it would take a significant loss of supply (far in excess of the single largest possible loss) before the Stublach facility is needed to meet demand over winter.

Conclusions

2.14. Our analysis shows that under normal market conditions, Stublach is not required to meet demand. A substantial supply loss (far in excess of N-1) would be required for Stublach to be needed. This is true for both a peak day and the winter period.

2.15. This result is aligned with our view of the GB market. GB is supplied by a diverse range of sources. Price signals in the GB market are designed to encourage gas to be made available in the short term and investment to meet peak and winter demand and demand for flexibility. The GB market is supplied by a diverse range of sources, and has supply capability well in excess of peak demand.

2.16. As a result, we conclude that nTPA at Stublach is not technically necessary for the operation of an efficient gas market.

3. Assessment of "economically necessary"

Chapter Summary

We have considered the potential impact of an exemption on market power and market operation. Based on this analysis, our initial conclusion is that nTPA at Stublach is not economically necessary.

Question box

Question 1: Do you think our definition of the relevant market for gas storage is appropriate? If not, please explain why.

Question 2: In particular, do you consider that our three potential market definition scenarios are appropriate? If not, please explain why.

Question 3: Do you agree with our approach to considering whether nTPA is economically necessary for the operation of an efficient gas market? If not, please explain why.

Question 4: Would you suggest any additional analysis to assess whether nTPA is economically necessary? If so, what?

Question 5: Do you agree with our overall assessment that nTPA at Stublach is not economically necessary? If not, please explain why.

Question 6: Do you think the implementation of UIOLI and facilitation of secondary capacity trading at Stublach should be a formal condition of the exemption? Please explain why.

3.1. In line with our 2009 open letter, we have considered whether access to Stublach is economically necessary for the operation of an efficient gas market. In doing this, we have examined whether the exemption is likely to adversely affect competition in the market and provide a materially worse outcome than if the exemption is not granted.

3.2. Specifically, we have assessed whether a lack of nTPA at Stublach could give GDF Suez market power, or cause weak competition, in the GB flexibility market. We also considered the qualitative impact an exemption would have on the GB gas market, including transparency, market signals and efficient use of storage capacity.

3.3. In assessing the impact of the exemption, we consider the facility as if all of the capacity is assigned to Storengy (given that the safeguards provided by nTPA are proposed to be removed). We also consider the information Storengy has provided on the sale of capacity to third parties and the impact of this on our analysis. There is no single test, and we rely on a range of indicators of potential market power and impacts on market signals.

3.4. We begin by defining the relevant market for our analysis. We then use this definition to test for market power. We consider four potential indicators:

- market shares
- market concentration
- pivotality
- vertically related markets.

3.5. Secondly, we consider the impact of the exemption on market signals – including transparency, anti-hoarding, secondary capacity and demand for access to storage.

Relevant market

3.6. To analyse whether nTPA is economically necessary, our first step is to define the relevant market in which Stublach operates. This allows us to calculate indicators of market power, and so assess whether a lack of nTPA at Stublach could lead to distortions in the market.

3.7. Our starting point for the relevant market builds on previous MFE decisions, and the Competition Commission’s work on the statutory undertakings (the Rough Undertakings) that were set down by the Competition Commission when Centrica acquired the facility from Dynegy Ltd in 2002.[8]

3.8. This previous work has regarded the relevant market as the market for gas flexibility in GB. This is because the service provided by gas storage is flexibility, in allowing shippers to inject gas in periods of low demand or prices, and withdraw it when demand or prices are high. The value of gas storage is effectively the arbitrage between two time periods.

Flexibility

3.9. The characteristics of Stublach make it a medium range storage (MRS) facility. We define MRS as storage facilities with the capability to deliver gas from its

[8] The Rough Undertakings place a range of additional requirements on Centrica in addition to those required under the existing nTPA legislated requirements.

maximum stock at full capacity for several days or weeks. We build our market definition starting with all MRS facilities in the GB market – as any one MRS facility is likely to be a very close substitute for Stublach. We also include long range storage (LRS) facilities – as these too provide very similar flexibility services – albeit typically with a longer duration.

3.10. We then consider other sources of flexibility in the GB gas market, which could act as substitutes for Stublach. A description of each is set out below.

- *Short range storage (SRS):* SRS facilities have the capability to deliver gas from its maximum stock at full capacity for only a few days. They typically take much longer to refill than withdraw (eg, LNG storage). SRS is typically used to withdraw in response to peak market conditions. Previously, we have not regarded SRS as part of the flexibility market due to its very short deliverability period and the long time taken to refill. As such, we have considered that SRS is unlikely to provide a meaningful competitive constraint on other storage facilities.

- *UKCS ("Beach Flex"):* Much domestic gas production on the UKCS operates as baseload – particularly associated gas production in the Northern North Sea. Some "dry gas" production in the Southern North Sea and Irish Sea can operate more flexibly. We have limited information on the scale of this flexibility. When estimating this, we have previously used the Morecambe and Sean fields as a proxy for the overall level of beach flex.

- *Norway:* The Langeled and Vesterled pipelines, and the Tampen link, import gas from Norway to GB. Historically, this gas has generally operated as baseload supplies to GB. The Norwegian offshore transmission system can provide for flexibility in delivery of gas. Variability in Norwegian flows to GB is driven by market conditions at both NBP and in continental Europe.

- *Interconnector UK (IUK):* This interconnector runs from Zeebrugge in Belgium to Bacton. It has the capability to both import and export gas, though at different rates. Flows are dependent on price differentials between GB and Belgium. Previously, we have only regarded a proportion of IUK as flexible, based on historical peak flows which were typically well below peak capacity. We have recently seen increased flows from IUK at times of high demand, indicating increasing flexibility.

- *Bacton-Balgzand Line (BBL):* This interconnector runs from Balgzand in the Netherlands to Bacton. At present, it can only physically flow gas into GB, though a virtual reverse flow product is also available. BBL flows have historically operated as baseload on the basis of long term contracts. Previously we have not regarded BBL as flexible, as it had not shown significant responsiveness to price signals. There is potential for BBL to operate more flexibly in the future.

- *Liquefied Natural Gas (LNG):* LNG is imported into GB through four terminals: South Hook, Dragon, Isle of Grain and Teesside GasPort. All LNG facilities are exempt from rTPA arrangements. Levels of LNG imports are largely dependent on price differentials between NBP and alternative destinations. LNG terminals have some storage to facilitate the unloading of ships and subsequent injection of gas into the system. This storage could allow for some flexibility by varying send-out rates, but this may be dependent on the level of gas in tanks and the expected arrival of the next cargo. Previous MFE analysis was conducted as major LNG terminals were being commissioned or expanded, and so there was significant uncertainty around the availability of flexibility from LNG. As a result, we produced three market definition scenarios, with flexibility from LNG set at zero per cent, 50 per cent and 100 per cent respectively.

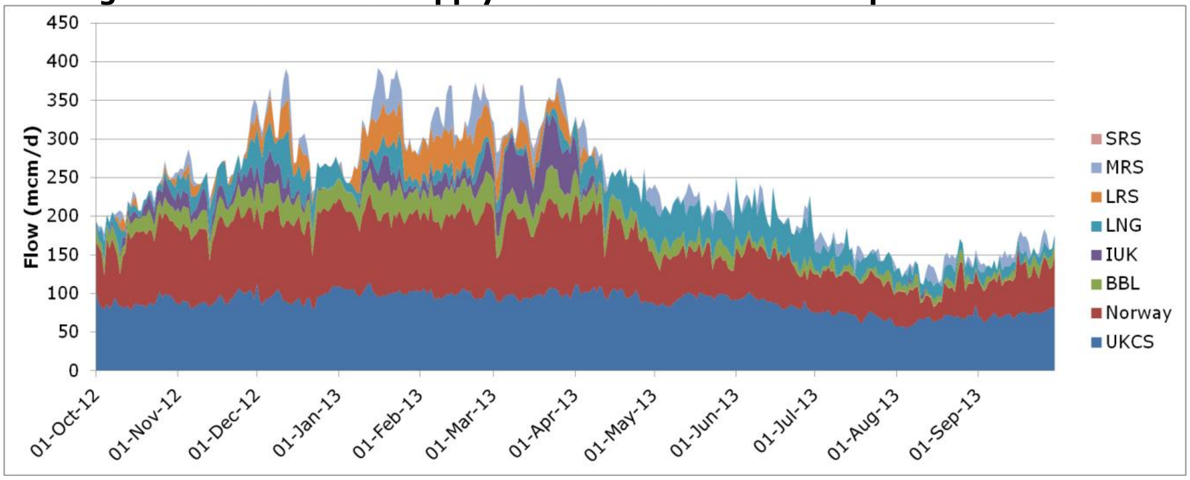
- *Demand-Side Response (DSR):* DSR occurs where consumers reduce their consumption, most likely in response to rising prices. Gas-fired generators and large industrial and commercial (I&C) consumers are most likely to provide DSR. Previously, we have not included flexibility from DSR as it is likely to operate in a different price range from storage, and it is difficult to anticipate the availability of DSR on a given day.

3.11. To help inform our decision on the relevant market, we have analysed the historical behaviour of these different sources of gas flexibility. We did this by looking at the responsiveness of supply sources to changes in market fundamentals. We focussed on supply sources only, as we have limited data on the historical availability of DSR. We examined:

- Flow profiles of different supply sources.
- Flexibility range, which measures the difference between the highest and lowest levels of flow for different supply sources.
- Flows on high demand days, and how different sources of supply respond to changes in prices.
- Correlation of flows with prices and demand, and of changes in flows with changes in prices and demand.

3.12. Figure 2 below illustrates the different sources of supply to GB and how they vary over time.

Figure 2 – Sources of supply to GB October 2012 - September 2013



Source: Ofgem analysis of NGG data

3.13. Our market definitions need to be forward looking to assess the impact on the market of Stublach once it is operational. Past behaviour may not necessarily be a good predictor of future behaviour. As a result, we do not rely exclusively on our quantitative analysis of flexibility. We also use expectation of future developments in the market and the impact this may have on different sources of flexibility.

3.14. In general, we would expect developments in European markets to result in greater flexibility. The implementation of European network codes should improve access to cross-border capacity and so make it easier for shippers to access the capacity they need to respond to price differentials. A potential move away from oil-indexation in contracts may also make flows more responsive to hub prices.

Market definitions

3.15. As our analysis is forward looking, there is uncertainty in setting any single definition of the relevant market for flexibility. As a result, we adopt three definitions, designed to represent a range of possible scenarios for the future development of the GB flexibility market. The proportions of capacity included in each definition are based on our analysis of historical flows and our view on the likely future behaviour of supply flexibility. We have taken a generally conservative approach, and a wider view of the flexibility market could also be valid. In general, we would expect a wider definition to show reduced market share of any one player; though this would be dependent on the player in question.

3.16. Our three market definitions are:

Definition 1) *MRS + LRS + Beach Flex + 50% IUK + 25% LNG*

Definition 2) *MRS + LRS + Beach Flex + 15% Norway + 70% IUK + 25% BBL + 50% LNG*

Definition 3) *MRS + LRS + Beach Flex + 30% Norway + 100% IUK + 50% BBL + 50% LNG*

3.17. The basis of the first definition is all MRS and LRS deliverability, as these are close substitutes for the flexibility services provided by Stublach. We have also included the flexible element of UKCS production ('beach flex'). In addition, in definition 1 we have included 50 per cent of IUK deliverability. This represents a conservative assumption of the level of flexibility available over IUK – and is in line with long-term historical trends in peak IUK flows (representing around 35 mcm/d). There is significant variation in the flexibility of LNG – driven by the availability and timing of cargos. As a result, in definition 1, we make a conservative assumption that only 25 per cent of LNG capacity is able to provide flexibility. This approximates to the average size of one LNG terminal in GB.

3.18. Definition 2 builds on definition 1. We include 15 per cent of Norwegian gas deliverability to GB on the basis that Norwegian flows have some technical flexibility between destination markets. Historically we have regarded variability in Norwegian flows as driven by flexibility in contracts with continental Europe – with GB typically receiving the remainder. With increasing market liberalisation, continental Europe may move away from long-term contracts, and this may lead to greater flexibility in Norwegian flows by increasing arbitrage opportunities between NBP and continental European hubs.

3.19. Definition 2 also includes a greater share of IUK capacity (70 per cent). This reflects evidence that IUK flows reached high levels on several days (in March 2013) where price differentials between NBP and Zeebrugge were substantial. Definition 2 contains 25 per cent of BBL deliverability. We have historically regarded BBL as generally providing 'baseload' supplies, though the flexibility of BBL could increase in the future.

3.20. In definition 2 we expand the proportion of LNG capacity included to 50 per cent, representing an expectation that LNG will play an increasing role in the GB gas supply mix in the future. It also reflects the flexibility of LNG we have observed in some years of our historical analysis.

3.21. Definition 3 builds on definition 2 by increasing the included proportion of Norwegian gas and interconnector flows. The increase in Norwegian flows to 30 per cent represents potential upside in flexibility owing to increasing movement away from long-term oil-indexed contracts in continental Europe. The increases in proportions of IUK (to 100 per cent) and BBL (to 50 per cent) represent upside in the flexibility that may become available.

3.22. In all market definitions we exclude SRS and DSR. We exclude SRS (which is effectively LNG storage) because its limited duration and long refill times mean it is unlikely to operate as a competitive constraint on other forms of flexibility. Also, LNG storage capacity is in decline as facilities have closed in recent years. We exclude DSR as we have limited information on its likely scale. We also expect it is more likely that DSR would occur in an exceptionally tight market, rather than as a day-to-day source of flexibility.

Assumptions

3.23. We have derived flexible capability by using a proportion of the capability of each supply source. These capabilities are taken from National Grid's Ten Year Statement 2012[9] and Future Energy Scenarios 2013[10] for all but "beach flex".

3.24. We previously used the Sean and Morecambe fields as a proxy for beach flex. However, these fields are declining both in absolute terms and in their role as flexible sources of gas. Moreover, other fields are coming online that may give a better indication of available UKCS flexibility. We do not think Sean and Morecambe are necessarily likely to provide good proxies of UKCS flexibility over the next decade. We have therefore chosen to use an alternative approach which entails a broader consideration of UKCS as a whole (see Appendix 3).

3.25. Storengy has made slightly different assumptions about the capability of different supply sources – though these do not have a material impact on the analysis. Figure 3 below summarises our assumed total capability and the three market definitions.

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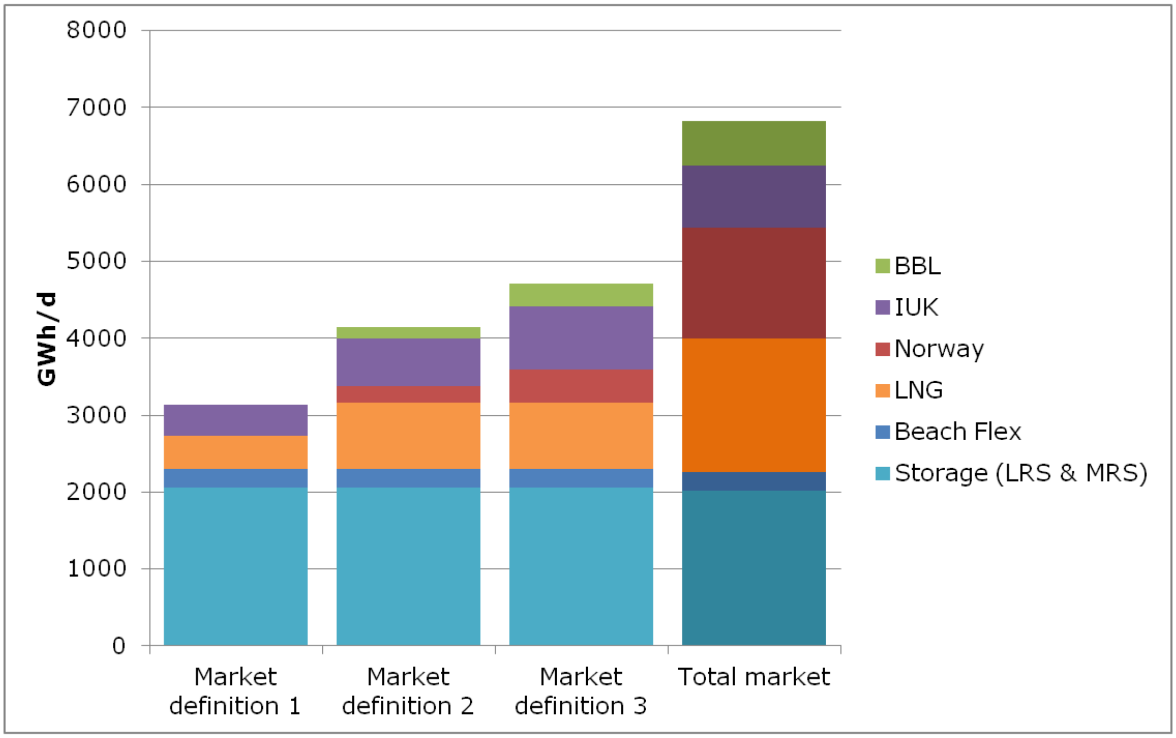
[9] http://www2.nationalgrid.com/UK/Industry-information/Future-of-Energy/FES/Documents-archive/

[10] http://www2.nationalgrid.com/uk/industry-information/future-of-energy/fes/Documents/

Figure 3 – Total deliverability under different market definitions (2018/19)



Source: Ofgem analysis of NGG data (Future Energy Scenarios 2012 & 2013)

Market power

Market shares

3.26. We examine market shares to illustrate GDF Suez’s position in the relevant market for gas flexibility, as defined above. Greater market shares could indicate a greater potential for market power. We calculate these market shares using information on the capacity of Stublach and GDF Suez’s capacity holdings in other sources of flexibility.

Storengy view

3.27. Storengy has calculated market shares on the basis of the market definitions and assumptions outlined above. In addition, it has assumed that Isle of Grain phase 4 is constructed and adds to LNG capacity. It also excludes the proportion of Stublach capacity which has been sold to a third party from GDF Suez’s market share.

3.28. Storengy calculates market shares of GDF Suez for two spot years: 2018/19 – the first year in which the full capacity of Stublach is planned to be in operation – and 2023/24 – as a point further out. The results of this analysis are summarised in Table 3 below:

Table 3 – GDF Suez market shares (% of relevant market)

Market definition	2018/19	2023/24
1	5-10	5-10
2	5-10	5-10
3	5-10	5-10

Source: Storengy UK

Our view

3.29. We have calculated GDF Suez's share of the gas flexibility market – based on the three market definition scenarios described in the previous section. We have also calculated its share of the storage capacity market. In all cases, we calculate market shares for two capacity allocation scenarios at Stublach.

1) Storengy retains all capacity for use within GDF Suez group.
2) Taking account of third party sales which Storengy has notified us of.

3.30. We calculate these market shares for all gas years from 2013/14 (when Stublach's first caverns are expected to come online) to 2023/24. These are shown below in Table 4 and Table 5.

Table 4 – GDF Suez market shares excluding 3rd party sales (% of relevant market)

Market Definition	2013/14	2014/15 – 2016/17	2017/18 – 2023/24
1	0-5	5-10	10-15
2	0-5	5-10	5-10
3	0-5	5-10	5-10

Table 5 – GDF Suez market shares incorporating 3rd party sales (% of relevant market)

Market Definition	2013/14	2014/15 – 2016/17	2017/18	2018/19 – 2023/24
1	0-5	5-10	10-15	5-10
2	0-5	5-10	5-10	5-10
3	0-5	5-10	5-10	5-10

Source: Ofgem analysis of NGG and Storengy data

3.31. GDF Suez's market shares of the flexibility market are generally under 10 percent, except in our most conservative market definition and where third party sales are not accounted for. This suggests that with the construction of Stublach, GDF Suez would hold a relatively modest share of the gas flexibility market. This indicates that it is unlikely that an MFE at Stublach phase 2 will give GDF Suez market power in the flexibility market.

Market concentration

Storengy view

3.32. As Storengy does not have information on the capacity holdings of other parties in the flexibility market, it has not been able to carry out a definitive analysis of market concentration. It considered a range of possible storage capacity ownership scenarios to calculate Herfindahl–Hirschman Indices (HHIs) for space and deliverability in the gas storage market. In this analysis, it found that the development of Stublach leads to a reduction in market concentration.

Our view

3.33. There are difficulties in obtaining information on the positions of each player within the whole flexibility market. Capacity holdings at nTPA storage facilities change year-on-year and information on ownership and control of flexible production is usually not readily available. As a result, we have focussed our market concentration analysis on the impact of Stublach on concentration in the storage market. We make assumptions about the future allocation of capacity at nTPA facilities. This is consistent with our approach in considering previous MFE applications.

3.34. We have looked at concentration in both space and deliverability. We measure concentration using the HHI[11]. We are interested in both the absolute value of the index and the change in the index caused by the introduction of Stublach to the market.

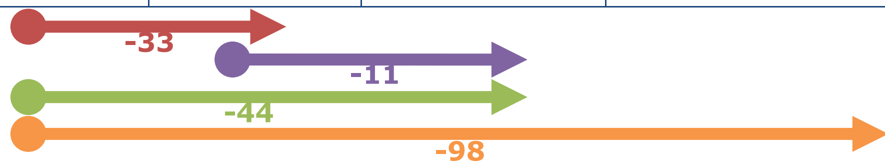
3.35. We calculate HHIs by assuming that current capacity holdings at existing storage facilities remain unchanged in the future. These are shown in Table 6 below. We calculate HHIs for four scenarios and assess the change between these scenarios. These are:

- excluding Stublach
- including phase 1 (accounting for sales to third parties)
- including phases 1 and 2 (accounting for sales to third parties)
- including both phases but excluding sales to third parties (ie, assuming all Stublach capacity is retained within the GDF Suez group).

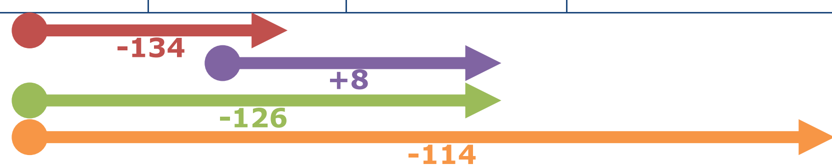
[11] This index measures concentration by summing the squares of the market share of each player. A HHI exceeding 1000 is regarded as concentrated, and above 2000 is regarded as highly concentrated (source: CC/OFT merger assessment guidelines 2010: http://www.oft.gov.uk/shared_oft/mergers/642749/OFT1254.pdf)

Table 6 – HHIs for the gas storage market

	No Stublach	Stublach phase 1	Stublach phases 1 & 2	Stublach phases 1 & 2 (excluding 3rd party sales)
Space	1045	1012	1001	947



	No Stublach	Stublach phase 1	Stublach phases 1 & 2	Stublach phases 1 & 2 (excluding 3rd party sales)
Deliverability	1288	1154	1162	1174



Source: Ofgem analysis

3.36. The HHIs for both space and deliverability are relatively low, suggesting that the storage market is not highly concentrated. The construction of Stublach leads to modest reductions in the concentration of both space and deliverability compared to the counterfactual where Stublach is not constructed – this holds whether or not third party sales are accounted for. The construction of phase 2 in addition to phase 1 leads to a negligible change in market concentration as measured by HHI.

Pivotality

3.37. Our 2011 guidance on third party access to storage stated that pivotality analysis was expected to form an integral part of our assessment of market power. Pivotality analysis identifies the market players that are 'pivotal' by using demand and supply data. When a market player is pivotal total demand cannot be met from all sources of supply controlled by other players. Therefore the market player will not face material competitive constraints for its pivotal volume of supply (ie, it is guaranteed a certain market share as a result of the lack of competing supplies).

3.38. A pivotal player and its related undertakings have the potential to significantly raise peak wholesale prices and/or reduce off-peak prices as gas demand is relatively price inelastic. The degree of a player's market power can be assessed by looking at the pivotal volume of supply as a percentage of total demand, over a range of timeframes.

Storengy view

3.39. Storengy has carried out analysis of pivotality using the model we published alongside our 2011 nTPA guidance. It bases its analysis on existing assumptions in the model as published. Storengy notes that any pivotality assessment is sensitive to assumptions, and that estimating available supply in the future is difficult.

Our view

3.40. We have assessed pivotality using a version of the model that was published alongside the 2011 guidance. The pivotality model explicitly addresses the issue of the substitutability of different sources of gas supply over differing timeframes. This is done by taking a series of snapshots of progressively longer exposure (one day, one week, one month, one quarter, one season) and assessing, within each period, the likely supply and demand for gas. For each gas year from 2011/12 up to 2023/24, the model estimates whether a market player's expected available gas supplies are necessary for demand to be met within the period. A detailed description of the way the model works and the steps that have been taken to update it can be found in Appendix 4.

3.41. Our key finding is that, using our base assumptions, we do not observe any pivotality in all modelled years. Our base assumptions cover:

- likely available supply over various time periods a range of demand profiles[12]
- an annual demand growth based on a conservative outlook for future growth[13]
- conservative assumptions regarding new supply infrastructure[14]
- that all capacity at Stublach is retained within the GDF Suez group.[15]

3.42. To further assess the potential for market power we looked at a range of market circumstances to see how stressed the market would need to be before GDF Suez began to exert any significant pivotality. Testing the model using a hypothetical 1-in-50 winter profile did not generate pivotality.

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[12] The coldest demand profile modelled was that from 2010/11. This year had the most cold days in 25 years (source: NGG Winter Outlook, 2012)
[13] Demand growth assumptions are based on NGG's 2012 Slow Progression scenario. This is NGG's highest demand scenario and is above their revised 2013 Slow Progression scenario.
[14] We assume that no new supply infrastructure is built other than that which is already under construction. If GDF Suez passes the pivotality test using conservative assumptions, it necessarily passes the pivotality test if more relaxed assumptions are made.
[15] This is a conservative approach, as accounting for third party sales would reduce the potential for GDF Suez to be pivotal.

Simulating two different N-1 outages[16] did result in GDF Suez becoming pivotal to meet demand on a seasonal, quarterly and monthly basis. Combining the N-1 outages with the 1-in-50 winter profile resulted in GDF Suez becoming pivotal to meet demand on a seasonal, quarterly weekly and even daily basis. A summary of the results can be found in Table 7 below. The key below explains what these mean.

Table 7 – Summary of pivotality analysis

Key	Demand assumptions ↓		
Supply assumptions →	*Range of periods in which pivotality was observed.* This refers to the different lengths of time period assessed in the model (eg, 'daily', 'weekly', 'none' etc.)	*Number of years in which pivotality was observed.* The analysis covered 13 years from 2011/12 to 2023/24, so a number 4 next to 'weekly' indicates that pivotality was observed on a weekly basis in 4 out of 13 years.	*Largest % of GB demand that GDF Suez supplies were pivotal to meeting.* A 0-5% next to 'monthly' means over all years modelled, the most severe monthly pivotality involved GDF Suez being needed to meet 0-5% of demand.

Supply	**Demand[17]**											
	Mild			**Cold, prolonged**			**Cold, peaky**			**1 in 50**		
Base Case	None	0	0%	None	0	0%	None	0	0%	None	0	0%
N-1 IUK	None	0	0%	None	0	0%	Monthly Seasonal	4 4	0-5% 0-5%	Daily Weekly Monthly Quarterly Seasonal	4 9 1 4 4	0-5% 5-10% 0-5% 0-5% 0-5%
N-1 Milford Haven	None	0	0%	None	0	0%	Monthly Quarterly Seasonal	13 4 13	5-10% 0-5% 10-15%	Daily Weekly Monthly Quarterly Seasonal	5 13 4 13 13	0-5% 5-10% 0-5% 5-10% 10-15%

Source: Ofgem analysis of NGG and Storengy data

3.43. The key conclusion from these results is that under normal circumstances it is difficult to consider GDF Suez 'pivotal' to meeting GB demand. This is the case both before and after the proposed expansion of the Stublach storage facility.

[16] The outages examined were the loss of IUK and of Milford Haven (both South Hook and Dragon LNG terminals). These are GBs two largest single pieces of infrastructure.
[17] 'Cold, peaky' = 2010/11 profile. 'Mild' = 2011/12 profile. 'Cold, prolonged' = 2012/13 profile.

3.44. In extreme supply or demand situations where the market is under stress, GDF Suez is more likely to become pivotal. However, we would note that under the extreme market situations other market players would likely also become pivotal, so this is not something unique to GDF Suez. Importantly, any consideration of pivotality should be primarily based on a market player's ability to exert market power under normal market circumstances. As such we consider GDF Suez passes the pivotality test with respect to the proposed expansion of the Stublach storage facility.

3.45. The model is not without its limitations. In particular, the model is designed to account for the *ability* for a given market player to have a significant impact on prices when demand cannot be met without that player's capacity. It does not take into account that non-pivotal players might also have *incentives* to withhold and raise prices.[18] So, whilst the results of the pivotality model suggest that the expansion of the Stublach storage facility is unlikely to allow GDF Suez to exert market power, this is just one of a range of tests that must be considered in the round when determining whether nTPA at the facility is economically necessary.

Vertically linked markets

3.46. When examining market power in the flexibility market, it is also important to consider the impacts of market power in related markets (eg, downstream retail). If a facility owner/capacity holder has market power in one of the vertically related markets then it may be possible to use this market power to influence the market outcome in the flexibility market. One motivation for this could be to protect its position in the vertically related market by foreclosing the flexibility market, that is, by raising barriers to entry or expansion.

Storengy view

3.47. Storengy provided information on GDF Suez's current and projected market shares in the gas retail market. The examined both the I&C sector and the total retail market. These are shown below in Table 8.

Table 8 – GDF Suez's retail market position (% of relevant market)

Market	2013/14 to 2023/24
I&C	8-13
Total retail	0-5

Source: Storengy UK

[18] By this it is meant that a market player need not be critical to meeting supplies in a given period to be able to increase prices during that period and thus exert market power.

3.48. Storengy considered that GDF Suez's position in the retail gas market (or the I&C segment) does not provide evidence of market power in vertically related markets.

Our view

3.49. GDF Suez holds positions in the retail market, as well as the wholesale market. A summary of its retail position as of November 2013 is shown in Table 9 below.

Table 9 – GDF Suez's retail market position (% of relevant market)

Consumer type	Share in 2013
Non-domestic	5-10
Domestic	0-5

Source: Datamonitor

3.50. These figures suggest that GDF Suez is unlikely to hold market power as a result of its position in the retail market.

3.51. We have also considered GDF Suez's position in the electricity generation market, as this could have links to the gas flexibility market due to the prevalence of gas-fired generation. Its position in the electricity generation market is relatively small.

Table 10 – GDF Suez's electricity generation position (% of total market)

Indicator	Share in 2012
Generated volumes	0-5
Installed capacity	0-5

Source: Ofgem analysis for 2013 National Report

3.52. Therefore, given that vertical market power considerations are not likely unless a player has market power in at least one related market, we do not consider it likely that GDF Suez would be able to adversely influence the flexibility market via its retail or generation market positions.

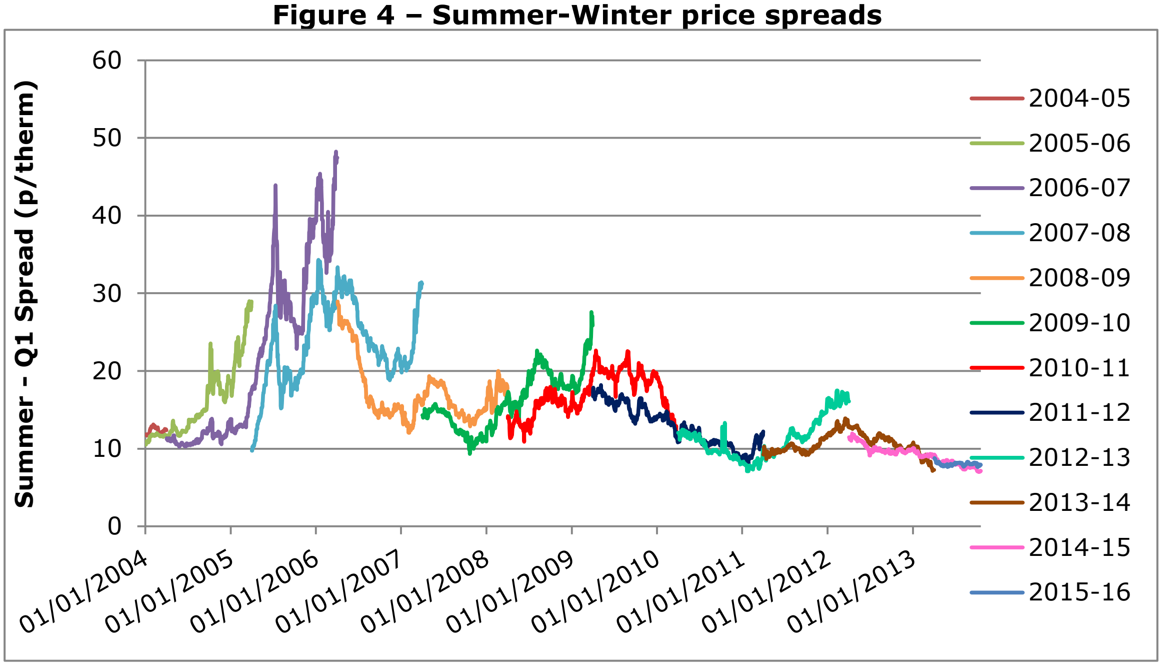
Market operation

Demand for access to storage and flexibility

3.53. In considering whether access to storage is economically necessary for the operation of an efficient gas market, we have looked at the market for flexibility. Where there is a potential shortage of flexible capacity in the market, ensuring open access to storage may be more important for the operation of an efficient overall market. Conversely, where there is ample flexible capacity in the market, nTPA at an individual storage facility may be less important for the operation of an efficient overall market.

3.54. We have considered the summer-winter price spread as an indicator of the market demand for flexibility. The summer-winter price spread is the difference in gas wholesale prices between the summer and the following winter. It is generally considered to be a good measure of the value of seasonal gas storage. It is equivalent to the simple arbitrage of buying gas in summer and selling the following winter. We measure this by calculating the difference between the average price of the Q2 and Q3 contracts and the price of the Q1 contract for the following year. Figure 4 below shows trends in summer-winter spreads over the past decade.

Figure 4 – Summer-Winter price spreads



Source: Ofgem analysis of Heren data

3.55. We have also considered market demand for short-term flexibility. Price volatility can provide short-term arbitrage opportunities. These are where shippers can use flexibility to vary their flows in response to short-term price signals. Generally, NBP price volatility has declined in recent years.

3.56. Our assessment is that the GB market currently appears well supplied in flexibility. Changes in market conditions may change the level of demand for flexibility. For example, greater penetration of intermittent electricity generation may increase the volatility of demand from gas-fired power generation.

Impact on transparency

3.57. We have considered whether granting an MFE could have an impact on transparency. The transparency requirements of the third package with regard to gas storage[19] apply to a facility regardless of whether it is subject to nTPA. This means that Storengy will be required to publish daily information on the amount of gas in the facility, inflows and outflows and the available storage capacity. In addition, the peak deliverability of the facility will be large enough that real time flow information will be published on NGG's website. Storengy noted these requirements in its application. As a result, we do not consider that an exemption would be likely to have a detrimental impact on transparency.

Commercially sensitive information

3.58. In summary, provisions in section 11C of the Gas Act (which apply to all storage owners) state that:

- The owner of a storage facility must take all reasonable steps to ensure that commercially sensitive information relating to the operation of the facility is not disclosed in a discriminatory way or to an associated undertaking unless disclosure is necessary in order to enable a transaction with that associated undertaking to take place.
- Information which is obtained by the owner when transacting with an associated undertaking must not be used by the owner for any other purpose.

3.59. Exempt facilities are not required to put in place the same measures to ensure independence as those subject to nTPA. However, we still expect them to:

- have appropriate information management systems in place to ensure that no commercially sensitive information is inadvertently shared with other customers or affiliates
- share legitimate information via a non-discriminatory, transparent manner, such as through a public bulletin board
- set out their confidentiality provisions as part of their main commercial conditions.

Efficient use of capacity

3.60. In considering the MFE application, we look at how the facility is expected to be used in practice. In general, where a facility is granted an MFE, we still

[19] Article 19(4) of Regulation (EC) 715/2009

anticipate that the capacity is used efficiently – ie, in response to price signals in the wholesale market. However, the nTPA regime provides additional safeguards. These include:

- the publication by the storage operator of the main commercial conditions
- the provision of non-discriminatory access
- requirements to negotiate in good faith
- the ability of the Authority to issue ex-post determinations when disputes arise over access.

3.61. Therefore, the measures that storage operators put in place to ensure capacity is effectively used in the absence of nTPA may be relevant to our consideration of the impact of the exemption. For example, any potential market distortion may be limited or eliminated by the availability of a secondary market and/or UIOLI.

3.62. Storengy has stated that it intends to commercially optimise operation of the facility. This could mean selling capacity to both GDF Suez subsidiaries and third parties. Storengy has committed to introducing UIOLI arrangements for phase 1 of Stublach. It has made the same commitment for phase 2. It intends to introduce these arrangements for all customers who have entered a storage agreement and signed the general terms and conditions. Secondary trading of capacity and gas will also be available for these customers.

3.63. We welcome these commitments from Storengy. These should act as additional safeguards to ensure capacity at Stublach is used efficiently. We have assessed the MFE application under the presumption that these arrangements will be put in place. We are considering whether the implementation of these arrangements should be made a formal condition of the exemption – and welcome views on this.

4. Conclusions

4.1. Based on the analysis set out in Chapters 2 and 3, our initial view is that nTPA at the Stublach facility is neither technically nor economically necessary for the operation of an efficient gas market.

4.2. We're therefore minded to grant an exemption to Storengy for phase 2 of the Stublach development subject to responses to this consultation. This would relieve Storengy of the obligation to offer access to third parties on a negotiated basis under section 19B of the Gas Act. A draft of the exemption order is presented in Appendix 2. We welcome any comments on this drafting.

4.3. We can review and revoke an exemption if there is a material change that makes nTPA at the facility technically or economically necessary. Further information on when we could revoke the exemption is in section E of the draft exemption order. If anything happens that requires us to withdraw the exemption, we would be likely to issue a consultation document explaining why.

4.4. The exemption would be granted on the basis of the information provided by Storengy in its application and our further analysis. If Storengy changed any of the commitments it made in its application, or altered any of the data behind its application for an exemption, this could be grounds for us to review and possibly revoke the exemption.

4.5. Our analysis has been carried out against the criteria in our 2009 open letter and is specific to this application. Our decision does not preclude or affect in any way the operation of the Competition Act 1998 or the Enterprise Act 2002. Further, as the analysis in this document has been carried out for a specific situation, it may or may not be relevant to a consideration of any related issue, for example, under the Gas Act 1986, the Competition Act 1998 or the Enterprise Act 2002.

Next steps

4.6. We invite responses to the questions in this document or any other issues it raises. Responses should be sent to wholesale.markets@ofgem.gov.uk by 2 May 2014.

4.7. Following this consultation, we will consider responses and make a final decision on the MFE application for Stublach phase 2. We will publish this, together with an exemption order if we decide to grant the MFE. We aim to reach this decision by summer 2014.

Appendices

Index

Appendix 1 – Consultation response and questions

1.1. We'd like to hear your views about any of the issues in this document. We especially welcome responses to the specific questions at the beginning of each chapter. These are replicated below.

1.2. It would be helpful if you could submit your response both electronically and in writing. Responses should be received by 2 May 2014 and should be sent to:

Thomas Farmer/Andrew Pester
Wholesale Markets
Ofgem
9 Millbank
London
SW1P 3GE
020 7901 7000
wholesale.markets@ofgem.gov.uk

1.3. Unless marked confidential, all responses will be published in our library and on our website, www.ofgem.gov.uk. You may ask us to keep your response confidential. We'll respect this request subject to any obligations to disclose information, for example under the Freedom of Information Act 2000 or the Environmental Information Regulations 2004.

1.4. If you'd like your response to remain confidential, mark it clearly to that effect and include your reasons. Please restrict any confidential material to the appendices to your response.

1.5. Having considered the responses to this consultation, we intend to make a final decision on the exemption application in summer 2014. Please direct any questions about this document to:

Thomas Farmer/Andrew Pester
Wholesale Markets
Ofgem
9 Millbank
London
SW1P 3GE
020 7901 7000
wholesale.markets@ofgem.gov.uk

CHAPTER: Two

Question 1: Do you agree with our approach to considering whether nTPA is technically necessary for the operation of an efficient gas market? If not, please explain why.

Question 2: Would you suggest any additional analysis to assess whether nTPA is technically necessary? If so, what?

Question 3: Do you agree with our overall assessment that nTPA at Stublach is not technically necessary? If not, please explain why.

CHAPTER: Three

Question 1: Do you consider that our definition of the relevant market for gas storage is appropriate? If not, please explain why.

Question 2: In particular, do you consider that our three potential market definition scenarios are appropriate? If not, please explain why.

Question 3: Do you agree with our approach to considering whether nTPA is economically necessary for the operation of an efficient gas market? If not, please explain why.

Question 4: Would you suggest any additional analysis to assess whether nTPA is economically necessary? If so, what?

Question 5: Do you agree with our overall assessment that nTPA at Stublach is not economically necessary? If not, please explain why.

Question 6: Do you think that the implementation of use-it-or-lose-it (UIOLI) and facilitation of secondary capacity trading at Stublach should be a formal condition of the exemption? Please explain why.

CHAPTER: Appendix 2

Question 1: Do you have any comments on this draft exemption order?

Appendix 2 – Draft exemption order

Question box

Question 1: Do you have any comments on this draft exemption order?

GAS ACT 1986

SECTION 8S

EXEMPTION

Pursuant to section 8S of the Gas Act 1986 (the "Act"), the Gas and Electricity Markets Authority hereby gives to Storengy UK Limited, as a person who expects to be an owner of a storage facility, an exemption from the application of section 19B of the Act, in respect of phase 2 of the Stublach storage facility located in Cheshire, North-West England, subject to the attached Schedule.

Rachel Fletcher
Interim Senior Partner, Markets
Authorised in that behalf by the
Gas and Electricity Markets Authority
[date]

SCHEDULE
PERIOD, CONDITIONS, AND REVOCATION OF EXEMPTION

A. Interpretation and Definitions

In this exemption:

"the Authority"	means the Gas and Electricity Markets Authority established by section 1(1) of the Utilities Act 2000, as amended from time to time
"the Act"	means the Gas Act 1986, as amended from time to time
"the facility"	means the Stublach gas storage facility located in Cheshire, North-West England, which the facility owner intends to construct in two phases
"facility owner"	means Storengy UK Limited in its capacity as owner of the facility
"facility operator"	means Storengy UK Limited in its capacity as operator of the facility

B. Full description of the storage facility to which this exemption relates

Phase 1 of the facility was granted an exemption from the application of section 19B of the Act on 18 December 2009, and the exemption was amended on 15 March 2013. The phase 1 exemption and the amendment thereto are published on Ofgem's website.

This exemption relates to phase 2 of the facility, which will provide an additional 2,200 GWh of space and an increase of 145 GWh/day in maximum injectability and an increase of 145 GWh/day in maximum deliverability. On completion of phases 1 and 2, the facility will provide a total of 4,400 GWh of space, a maximum injection rate of 320 GWh/day and 320 GWh/day of deliverability. This deliverability rate is the maximum which can be achieved when the facility is full.

C. Period

Subject to section E below, and pursuant to sub-section 8S(3)(b)(i) of the Act, this exemption shall come into effect on the date that it is issued and will continue until it is revoked in accordance with section E.

D. Conditions

Pursuant to sub-section 8S(3)(b)(ii) of the Act, this exemption is made subject to the following conditions:

1. The material provided by the facility owner to the Authority in respect of this exemption is accurate in all material respects.

2. The facility owner furnishes the Authority in such manner and at such times as the Authority may reasonably require, with such information as the Authority may reasonably require, or as may be necessary, for the purpose of:

(a) performing the functions assigned to it by or under the Act, the Utilities Act 2000, or the Energy Act 2004, each as amended from time to time; or

(b) monitoring the operation of this exemption.

3. The facility owner complies with any direction given by the Authority (after the Authority has consulted the relevant gas transporter and, where relevant, the Health and Safety Executive) to supply to the relevant gas transporter such information as may be specified or described in the direction -

(a) at such times, in such form and such manner; and

(b) in respect of such periods,

as may be so specified or described.

Where the facility owner is prevented from complying with such a direction by a matter beyond its control, it shall not be treated as having contravened the condition specified in this paragraph.

In this condition:

“information”	means information relating to the operation of the pipe-line system which is operated by a relevant gas transporter
“relevant gas transporter”	means any holder of a gas transporter licence under section 7 of the Act owning a transportation system within Great Britain to which the facility is connected or with whom the facility operator interfaces with as a system operator

4. Should any of the grounds for revocation arise under section E of this exemption, the Authority may, with the consent of the facility owner, amend this exemption rather than revoke the exemption.

5. The Authority may, with the consent of the facility owner, amend this exemption.

6. This exemption is transferable to another facility owner where the Authority has given its written consent to such a transfer. For the avoidance of doubt, all of the conditions contained in this exemption order continue unaffected in respect of any facility owner to whom this exemption order may be transferred (and as if the transferee was substituted in the definition of "facility owner").

E. Revocation

Pursuant to sub-section 8S(5) of the Act, this exemption may be revoked in the following circumstances:

1. This exemption may be revoked by the Authority by giving a notice of revocation to the facility owner not less than four months before the coming into force of the revocation in any of the following circumstances:

(a) where:

(i) the Authority considers that the use of the facility is necessary for the operation of an economically efficient gas market;

(ii) the facility owner has a receiver (which expression shall include an administrative receiver within the meaning of section 251 of the Insolvency Act 1986, as amended from time to time) of the whole or any material part of its assets or undertaking appointed;

(iii) the facility owner has entered administration under section 8 of and Schedule B1 to the Insolvency Act 1986;

(iv) the facility owner is found to be in breach of any national or European competition laws, such breach relating to the facility; or

(b) the facility owner has failed to comply with a request for information issued by the Authority under paragraph D2 above and the Authority has written to the facility owner stating that the request has not been complied with and giving the facility owner notice that if the request for information remains outstanding past the period specified in the notice, the exemption may be revoked; or

(c) the facility owner has failed to comply with a direction issued by the Authority under paragraph D3 above and the Authority has written to the facility owner stating that the direction has not been complied with and giving the facility owner notice that if the direction remains outstanding past the period specified in the notice, the exemption may be revoked.

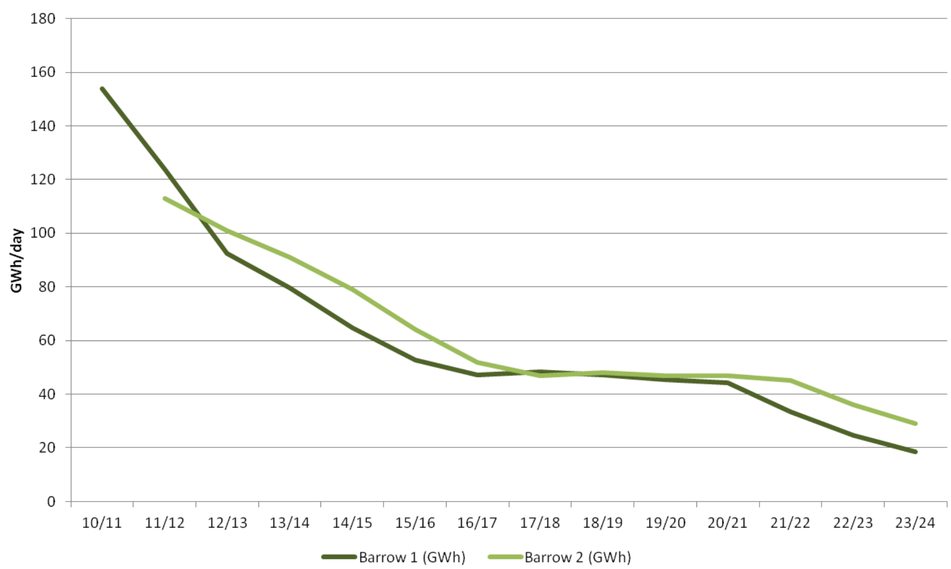
2. This exemption may be revoked by the Authority with the consent of the facility owner.

Appendix 3 – UKCS flexibility

Past approach

1.1. In analysis undertaken for previous exemptions we have examined which UKCS fields provide flexibility by changing their rate of production. We do this to incorporate an element of UKCS production into our flexibility market definition. We have looked at fields that have historically provided considerable "swing" (eg, Morecambe and Sean) and used the projections of their future capacity to determine the extent of UKCS flexibility. For instance, gas from the Morecambe field lands at Barrow. NGG issues projections for future peak capability at Barrow in its Ten Year Statement. Figure 5 below shows the projections for Barrow:[20]

Figure 5 – Forecast Barrow peak capability, 2010/11 - 2023/24



1.2. However, Figure 5 shows that the Morecambe field is expected to decline over the coming decade, both in absolute terms and in its role as a flexible source of gas. Moreover, other fields are coming online and their contribution to the flexibility of GB's domestic supplies remains uncertain. We therefore think it is necessary to employ a different approach to formulating assumptions of UKCS flexibility.

[20] There are two different projections given in the 2012 NGG Ten Year Statement.

Updated approach

1.3. An alternative proxy for UKCS flexibility can be created using information in NGG's 2013/14 Winter Outlook Report (WOR) and their 2013 Future Energy Scenarios (FES).

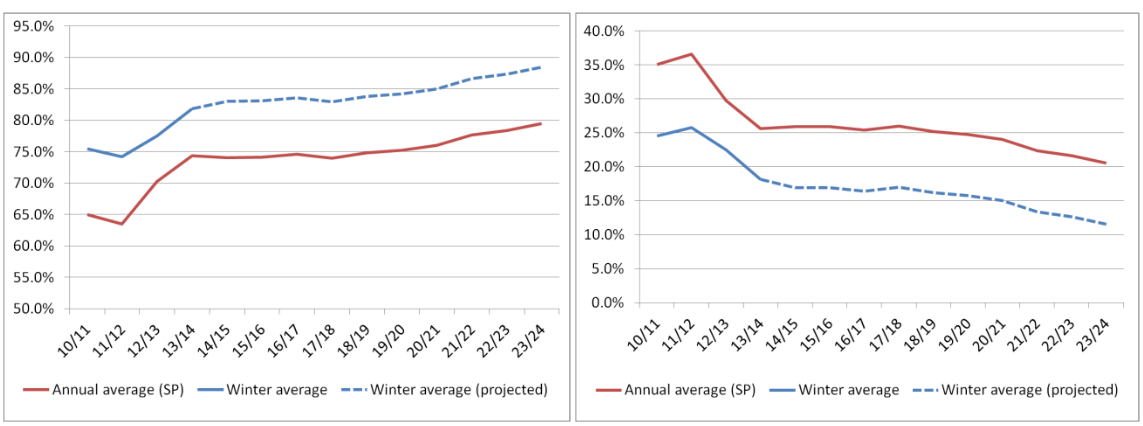
1.4. The WOR sets out average winter usage of UKCS and maximum UKCS capacity between 2010/11 and 2012/13. It also gives a projection for 2013/14. The difference between the average winter utilisation and the maximum capacity can be seen to give an estimate of the additional 'flexible' capacity that could be expected to be available to increase supplies during winter.

1.5. We use projections of average annual utilisation and total capability of UKCS in the FES documents to project the expected available flexibly out to 2023/24. We assume the difference between the percentage of UKCS used to meet annual demand and the percentage of UKCS used to meet average winter demand remains constant over time. We use this to estimate average winter utilisation of UKCS beyond 2013/14.

1.6. Between 2010/11 and 2013/14 UKCS capacity was used roughly 9 percentage points more to meet average winter demand compared to average annual demand. This is reflected by the gap between the solid red and blue lines in Figure 6 (left) between 2010/11 and 2013/14. Projecting this forward gives an estimated percentage of UKCS capacity utilised to meet average winter demand up to 2023/24. This is shown with the dashed blue line.

1.7. Subtracting these percentages from 100 per cent gives the additional 'flexible' UKCS capacity that could still ramp up to meet any demand over and above average winter levels (see Figure 6 (right)).

Figure 6 – % of capacity used to meet demand (left) and % of capacity available to meet additional demand (right)



1.8. Clearly the two approaches offer differing views on the levels of flexibility we can expect from UKCS in the future. The updated approach offers a more optimistic view of potential future flexibility of UKCS. This appears consistent with the fact that other fields are coming online and simply using the Morecambe and Sean fields as a proxy would not capture this.[21] Importantly though, the updated approach still means flexibility is assumed to fall over time, both in absolute terms and as a percentage of total remaining UKCS capacity. This seems to be consistent with our understanding of how UKCS will be used in the future as its role in meeting GB demand continues to decline.

1.9. Finally, it should be noted that uncertainty regarding UKCS flexibility is unlikely to have a significant impact on the analysis. This is because the levels of supply set out below in Table 11 remain very small compared with the capacity of other flexible sources (eg, storage, interconnectors, LNG etc.).

Table 11 – UKCS beach flex updated figures

GWh/d	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Beach flex	440	294	231	241	246	244	255	244	229	209	180	164	142

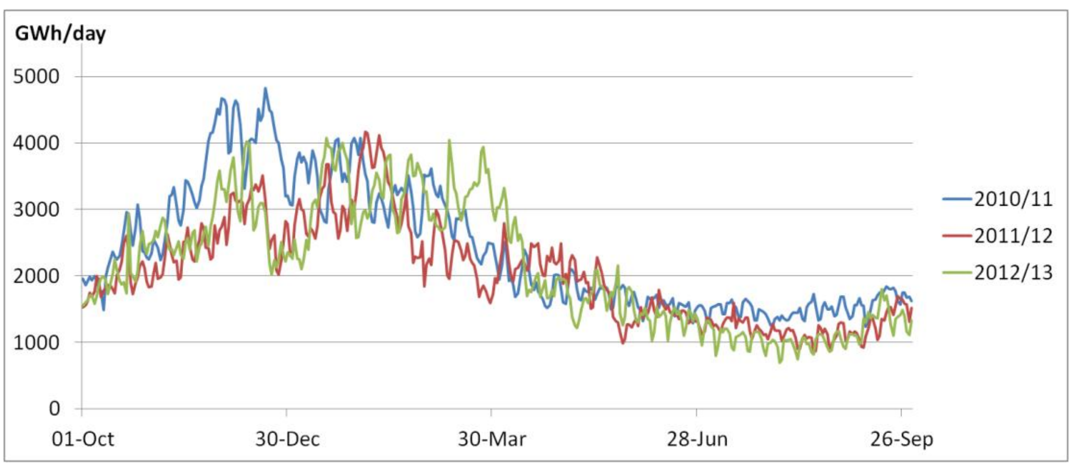
[21] Using Morecambe as a proxy effectively means assuming that it is fully flexible and that all other UKCS fields have zero flexibility.

Appendix 4 – Pivotality model

1.1. The pivotality model effectively takes a series of snapshots of progressively longer exposure (one day, one week, one month, one quarter, one season) and then assesses, within each period, the likely supply and demand for gas. For each gas year from 2011/12 up to 2023/24, the model estimates whether a market player's (eg, GDF Suez's) total gas supplies are necessary if demand is to be met in the period. It will therefore analyse, for each gas year, 365 days, 52 weeks, 12 months, 4 quarters and 2 seasons. This approach to modelling pivotality has the advantage of abstracting from the complexities of dynamic storage management, in that injections are not modelled. In that sense, the model is essentially static (ie, it examines each period in isolation, irrespective of previous periods' inflows and outflows).

1.2. Because the model is static it uses a fixed demand profile and projects this forwards using assumptions about demand growth. The first demand profile used for this analysis was the profile from gas year 2011/12 as this was also the first in the series of years we chose to model. However, 2011/12 was a relatively mild year. To get an idea of pivotality under more challenging demand conditions we also tested the demand profiles for 2010/11 and 2012/13 (see Figure 7).[22]

Figure 7 – Daily demand in 10/11, 11/12 and 12/13[23]



[22] In so doing we assumed that the fundamentals determining demand (economic activity, number and type of consumer, efficiency of boilers and other equipment, and so on) were virtually unchanged during these three years and that the principle factor affecting the differences in demand was the weather. This means that when varying the fixed demand profile year, the gas years modelled by the analysis would still be 2011/12 - 2023/24.

[23] Importantly, the demand the model aims to meet is always taken as demand net of exports and storage injections. This removes the need to account for the dynamic optimisation of storage injections or interconnector exports. Using 3 different demand profiles also ensures that a range of different storage injection and export levels are controlled for.

1.3. To look at pivotality in the future the fixed demand profiles are then assumed to increase or decrease according to projections of how average and peak demand will change between now and 2023/24. The assumptions for demand growth were taken from National Grid's 2012 Ten Year Statement and are shown below:[24]

NGG scenario	Annual rate of demand growth	
	Average	Peak
Gone Green	-1.4%	-1.5%
Slow Progression	0.4%	0.9%

Source: NGG

1.4. As with using a more severe winter demand profile (such as that from winter 2010/11), using a higher annual rate of demand growth provides a conservative view of potential pivotality. As such, our results use the Slow Progression growth figures. Notably, if these do not show significant pivotality it can safely be assumed that the Gone Green figures will not either.

1.5. Once we have a view of the demand the model must meet, we now make assumptions about supply. The model begins by taking peak physical capacities for both storage and non-storage supplies.[25]

1.6. It is unrealistic for the model to assume that all infrastructure can supply gas all year round at its full technical capacity. To account for this the model effectively de-rates the peak physical capacities of the various non-storage supply sources using so-called "capacity coefficients". [26] We have updated the capacity

[24] The demand projections in the 2012 FES are markedly higher than those in the 2013 FES due to some changes in methodology. We use the 2012 FES data because these are also used in the 2012 Gas Ten Year Statement (the latest at the time of writing) which in turn includes important information on the breakdown of demand that is not available in the 2013 FES document. Moreover, these higher demand projections provide a conservative assumption and so if pivotality is not observed with these assumptions, we can be certain that it would not be observed with the more aggressive 2013 assumptions regarding demand reductions.

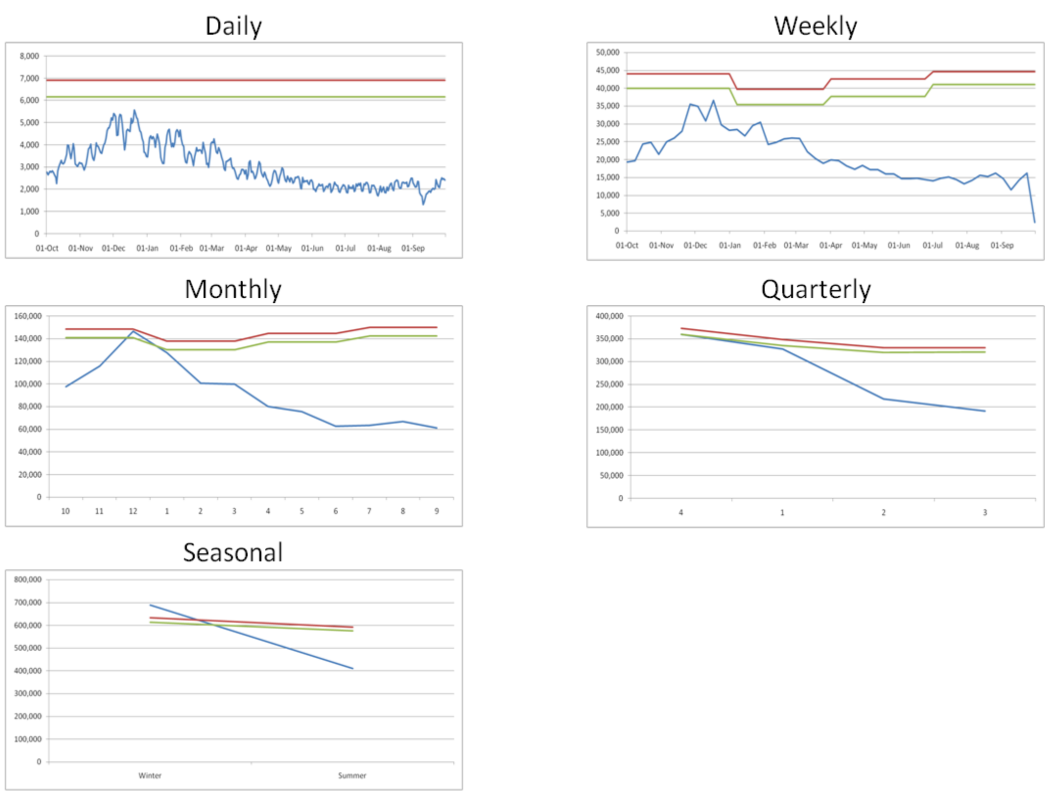
[25] As specified in our 2010 guidance, we have taken the view that a conservative approach to determining the physical capacity is appropriate. Therefore we only include sources of supply that NGG reports as being under construction. This means that peak supply projections for 2012 and 2013 FES essentially relate to the same infrastructure and only really differ regarding their views on UKCS and Norwegian supplies. Bearing this in mind we have used the 2013 figures. This does not result in any notable inconsistency with respect to our use of 2012 FES demand assumptions.

[26] The "capacity coefficients" look to account for differing degrees of substitutability of supply sources at different time scales by adjusting (effectively de-rating) the maximum technical capacities. For example, given the stocks of gas held in store at LNG import facilities, LNG may be able to provide flow at rates closer to their technical capacities over short timeframes (daily or weekly). However, as LNG can flow to a number of markets, the level of supplies over the winter period is likely to be less than the total physical capacity. Therefore a capacity coefficient of 90 per cent would mean that flows would be expected to be 90 per cent of the physical capacity for the period that the coefficient applies to.

coefficients in the model to account for changes to the market and additional data on historical utilisation rates. The updated coefficients are shown below and a fuller description of how they were formulated is given later:

Supply Source	Daily	Weekly	Monthly	Quarterly	Seasonal
UKCS	96%	93%	90%	87%	84%
Norway	98%	90%	83%	81%	77%
LNG	84%	78%	72%	65%	59%
Continent	90%	75%	60%	50%	40%

1.7. After de-rating the peak physical capacities using the above coefficients, the final step is to account for the market share of GDF Suez. Once this is done the model looks at whether the supply not controlled by GDF Suez is able to meet demand over the time periods considered. An example of this can be seen below:[27]



[27] The blue line represents demand in the relevant period. Note that the number of data points necessarily decreases as the period increases until there are only two for the seasonal analysis. The red line represents total capacity for all players after the capacity coefficients have been applied. The green line represents total capacity minus GDF Suez's market share (therefore the difference between the green and red lines is GDF Suez's capacity). Where the blue line falls between the green and red lines, GDF Suez's capacity is 'pivotal' as it is needed to meet demand for that period.

1.8. In this case we can see that GDF Suez is not pivotal in the daily, weekly or quarterly periods, but is pivotal in the monthly and seasonal periods. The outputs from the model are collated in the following table:[28]

Results	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24
Daily	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]
Weekly	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]
Monthly	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	1%, [1]	2%, [1]	3%, [1]	4%, [1]
Quarterly	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]	0%, [0]
Seasonal	6%, [1]	7%, [1]	6%, [1]	5%, [1]	5%, [1]	5%, [1]	4%, [1]	5%, [1]	6%, [1]	8%, [1]	9%, [1]	10%, [1]	11%, [1]

The capacity coefficients

1.9. The capacity coefficients are a key assumption in the pivotality model. The model uses a range of non-storage supply sources to meet demand on any given day over a number of years (in our case this is from 2011/12 to 2023/24). These supply sources are UKCS, Norway, LNG and Continent. As a starting point, the model uses the peak physical capacities of these four sources. However, it is unreasonable to assume that these supply sources could all operate at their peak physical capacities, particularly for extended periods of time. There are a number of reasons for this:

1) Infrastructure may undergo planned maintenance.

2) Infrastructure may experience an unplanned outage.

3) Infrastructure may not be technically capable of supplying gas even if it is online and operational (eg, LNG stocks may be fully depleted due to high global prices restricting cargo arrivals).

4) Supplies from a piece of infrastructure may not be able to fully respond to increased GB demand/prices for a range of reasons, even if it is technically able to do so:

   a. Supplies through IUK and BBL are influenced by prices on the Continent, as well as in GB.[29]

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[28] The per cent figure gives the market player's pivotal gas volume of supply as a percentage of GB gas demand. This is the amount of gas the market player must supply in order for total demand to be met, assuming the maximum available amounts of supply are being delivered from all other sources. This value is expressed as a percentage of total GB demand. The number in square brackets below this gives the number of periods in which the market player is pivotal.

b. Supplies from LNG terminals may be less responsive if stocks are low.[30]

c. Supplies may be inflexible due to the presence of long-term contracts (eg, LNG and Norway).

1.10. The capacity coefficients must therefore account for a wide range of factors in trying to determine the levels of supply that we can reasonably expect to be available compared to the levels that are technically available.

1.11. The coefficients published alongside the 2010 guidance were based on a combination of information provided in NGG's Winter Outlook Report and Ten Year Statement. Both give projections of the expected utilisation of various supply sources (eg, during winter, or to meet annual demand) and these can be compared to technical capacities to develop a view on what may be appropriate capacity coefficients. The old capacity coefficients are shown below:

Table 12 – Old capacity coefficients used for previous analysis

Supply Source	Daily	Weekly	Monthly	Quarterly	Seasonal
UKCS	90%	90%	90%	90%	90%
Norway	98%	98%	98%	81%	75%
LNG	99%	75%	75%	60%	42%
Continent	80%	80%	56%	32%	32%

1.12. Our approach to updating the capacity coefficients relied on a similar range of evidence: data on historical flows, National Grid's Future Energy Scenarios and National Grid's Winter Outlook Report. The final coefficients used are presented below.

[29] This should cause larger de-rates for seasonal vs daily coefficients because a high daily GB demand is less likely to be correlated with one on the continent, where as a high seasonal GB demand is likely to be correlated with one on the continent. This means increased imports are likely on a high price day, but over the course of weeks or months increased imports may be less likely.
[30] This is because a certain amount of gas must be kept in the terminal until there is certainty over the arrival of another LNG cargo (analogous to cushion gas in storage).

Table 13 – Updated capacity coefficients used for this analysis

Supply Source	Daily	Weekly	Monthly	Quarterly	Seasonal
UKCS	96%	93%	90%	87%	84%
Norway	98%	90%	83%	81%	77%
LNG	84%	78%	72%	65%	59%
Continent	90%	75%	60%	50%	40%

1.13. In general these coefficients are bounded at the top (daily) and bottom (seasonal) ends. In all cases the coefficients fall as the length of the period increases. This is because we are more likely to see a piece of infrastructure being used at 100 per cent for one day than for a week, or a month, etc. These falls occur in a generally linear fashion. The sources with the greatest de-rates are LNG and Continent, largely because there is greater uncertainty over the factors that determine whether these sources flow gas to GB. In general we have sought to provide a conservative view, particularly given uncertainties about planned and unplanned outages and the efficiency with which infrastructure is actually used.

1.14. These coefficients can never fully capture all the factors that may prevent supply capacity from reaching its technical maximum. As such they provide an informed best estimate. Where significant uncertainty exists we have erred on the conservative side. If GDF Suez passes the pivotality test with conservative assumptions, it will also pass with more optimistic assumptions.

Appendix 5 – Glossary

A

Anti-hoarding arrangements

Transparent mechanism(s) that allows unused capacity to be made available to the market so as to maximise the use of a facility.

B

Balgzand Bacton Line (BBL)

BBL is an interconnector that flows gas from Balgzand in the Netherlands to Bacton in the UK. It currently physically transports gas only one way: from the Netherlands to the UK.

Baseload

Part of the gas supply that is flowing on most days, and prone to only small variations.

C

Competitive constraints

Competitive constraints are factors that prevent a firm from profitably sustaining prices above competitive levels. Where there are no effective competitive constraints, market power can arise.

Cycling (storage)

Cycling is successive injection and withdrawal of gas within a season at a storage facility. Cycling usually refers to multiple successive refill and withdrawal cycles within the winter, as opposed to a single summer refill followed by winter withdrawal.

D

Daily Metered (DM) sites

Meters with data-loggers installed at NTS offtake points provide Gas Transporters with the volume of gas consumed each day. Supply points with such meters are called DM sites.

Deliverability

Deliverability refers to storage exit capacity, ie, the rate at which gas can be delivered from the storage facility to the transmission system.

Demand-side response (DSR)

DSR is achieved when electricity and gas users reduce a proportion of their demand – for example, in response to a high price or contract for demand reduction.

Duration

The time it takes to empty a storage facility from when it is full assuming maximum deliverability.

F

Flexible beach

That proportion of domestic gas production that offers more flexible supply.

G

Gas storage facility

Any facility designed to take gas (inject) from the NBP and release it (deliver) at a latter point in time. We may distinguish between Short, Medium and Long range storage facilities.

H

Herfindahl-Hirschman Index (HHI)

HHIs are a measure of market concentration. They assess the size of firms in relation to the industry.

I

Injectability

Injectability refers to storage entry capacity ie, the rate at which storage can be injected from the transmission system to the storage facility.

Interconnector

An interconnector is a pipeline linking two consumption markets, as opposed to pipelines linking a gas field and a consumption market.

Interconnector UK (IUK)

IUK is the commercial name of the interconnector linking Belgium and Great Britain.

L

Liquefied Natural Gas (LNG)

The fluid state of natural gas, it can be obtained industrially by cooling down natural gas. Used essentially in dedicated tanker ships to transport gas overseas in a much reduced volume.

LNG importation terminal

LNG importation terminals are the terminals where LNG vessels can be offloaded.

Long Range Storage (LRS)

LRS facilities tend to be able to deliver gas at full capacity for more than 70 days.

Langeled

Langeled is an undersea pipeline bringing gas from Norway (Sleipner) to the UK (Easington).

M

Medium Range Storage (MRS)

MRS facilities tend to be able to deliver gas at full capacity for between 5 and 70 days. Such facilities are typically able to cycle gas.

Minor facilities exemption

Exemptions granted on the basis that Article 19 of the Second Gas Directive does not apply as nTPA is not economically and/or technically necessary for providing efficient access to the system for the supply of customers.

N

National Balancing Point (NBP)

The NBP is the virtual unified trading point of the GB gas transmission network.

National Grid Gas (NGG)

NGG owns and operates the National Transmission System throughout Great Britain and owns and operates a significant Gas Distribution Network throughout part of England.

Negotiated Third Party Access (nTPA)

Negotiated Third Party Access (nTPA) refers to arranging supply contracts on the basis of voluntary commercial agreements negotiated in good faith.

Non-daily Metered (NDM) sites

Supply points with meters installed that are read at monthly, six monthly or at longer intervals are called NDM sites.

R

Regulated Third Party Access (rTPA)

Regulated Third Party Access (rTPA) refers to a system of access based on published tariffs and/or other terms and obligations, as determined by the relevant regulatory authority.

S

Secondary capacity allocation

Involves mechanism(s) by which unused capacity is offered to shippers on the secondary market.

Short Range Storage (SRS)

SRS facilities tend to be able to deliver gas at full capacity for up to 5 days. In GB these are normally LNG facilities that are able to flow gas at very short notice, but take a very long time to refill.

Small but Significant Non-transitory Increase in Price (SSNIP) test

A SSNIP test considers if a hypothetical monopolist on the considered market, defined as a couple of products and regions, could profitably increase prices by 5-10 percent.

T

Tampen

Underwater pipeline bringing gas from Norway (Stratfjord) to the North Sea UK pipeline system (FLAGS).

Ten Year Statement (TYS)

The TYS is published in line with Special Condition C2 of NGG’s Gas Transporters’ Licence and Section O of the Uniform Network Code. It is published annually and provides a ten-year forecast of transportation system usage and likely system developments.

Third Party Access (TPA)

TPA means access by third parties to transmission and distribution networks, and gas and LNG storage facilities.

U

United Kingdom Continental Shelf (UKCS)

The UKCS is the region of waters surrounding the UK, in which the UK claims the rights to minerals.

Use it or lose it (UIOLI) arrangements

Arrangements that ensure there are incentives to use capacity at a facility or otherwise lose capacity at a facility whereby any unused capacity is made available to the market.

V

Vesterled

Pipeline which runs from the Heimdal Riser platform in the North Sea to St. Fergus near Peterhead in Scotland.

Appendix 6 – Feedback questionnaire

1.1. Consultation is at the heart of good policy development. We're keen to consider any comments or complaints about the way we've conducted this consultation. In any case we would be keen to get your answers to these questions:

1. Do you have any comments about the overall process which was adopted for this consultation?
2. Do you have any comments about the overall tone and content of the report?
3. Was the report easy to read and understand? Could it have been better written?
4. To what extent did the report's conclusions provide a balanced view?
5. To what extent did the report make reasoned recommendations for improvement?

1.2. Please add any further comments and send your response to:

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