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SOUTH HOOK LNG TERMINAL COMPANY LTD.

IN THE MATTER OF THE GAS ACT 1986 SS 19C (AS AMENDED)

**APPLICATION FOR AN EXEMPTION FROM REGULATED
THIRD PARTY ACCESS TO UK LNG TERMINAL FACILITIES**

DATED 9th October 2018

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IN THE MATTER OF THE GAS ACT 1986 SS 19C

**APPLICATION FOR EXEMPTION FROM REGULATED THIRD PARTY ACCESS
TO UK SOUTH HOOK LNG TERMINAL FACILITIES**

BY

South Hook LNG Terminal Company Ltd., a company organised and existing under the laws of England and Wales, with company number 04982132 and registered office at Dale Road, Herbrandston, Milford Haven, Pembrokeshire, Wales, SA73 3SU (“**SHT**”).

WHEREAS, SHT is a participant in the Qatargas II LNG project (the “**QGII Project**”), a vertically integrated project supplying gas to the United Kingdom; and

WHEREAS, as part of the QGII Project, SHT has constructed in two phases, owns and operates an LNG Terminal at South Hook, Milford Haven (the “**Terminal**”) with an annual average LNG processing throughput (“**Base Capacity**”) of ~15.6 million tons per year (“**MTA**”), equating to ~650 Gigawatt Hour per day (“**GWh/day**”); and

WHEREAS, SHT successfully applied for and received an exemption from regulated third party access (“**RTPA**”) which was awarded on 29 November 2004 (“**First Exemption**”); and

WHEREAS, SHT now wishes to make available to South Hook Gas Company Ltd. (“**SHG**”) incremental LNG processing capacity (“**Incremental Capacity**”) at the Terminal currently estimated to be ~3.9 MTA, equating to ~162.5 GWh/day, and apply for it to be exempted from RTPA for at least 25 years.

NOW, THEREFORE, consistent with s. 19C (2) of the Gas Act 1986 (as amended) (the “**Gas Act**”) SHT hereby applies to the Office of Gas and Electricity Markets (“**Ofgem**”) for an exemption from RTPA in respect of the Incremental Capacity.

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EXEMPTION APPLICATION FOR THE TERMINAL

1. EXECUTIVE SUMMARY

This RTPA exemption application demonstrates that each of the conditions set out in sections 19C(2B) and 19C(7) of the Gas Act 1986 are satisfied.

In accordance with section 19C(2) of the Gas Act, SHT is requesting an exemption from section 19D of the Gas Act for the Incremental Capacity, which corresponds to ~3.9 MTA of the ~19.5 MTA Terminal peak rate capacity (“**Peak Capacity**”), above the Base Capacity of ~15.6 MTA. The Terminal facilities associated with the Incremental Capacity provide back-up to the Base Capacity enabling an availability >99%, as well as delivering periodic sendout up to the Peak Capacity for within-day operational purposes. As a consequence, the Incremental Capacity has significantly reduced availability as compared to the Base Capacity. Some reinforcement of the associated Terminal facilities will be carried out with the aim of making the Incremental Capacity available for commercial use though, even after reinforcement, it will remain with reduced availability compared to the Base Capacity and be subject to interruption if the Base Capacity requires back-up or the use of Peak Capacity. There would be no increase in Peak Capacity.

The Incremental Capacity would enable the import of additional LNG to the UK through the development of the Golden Pass LNG Project, and/or alternative new sources of supply (“**Project**”), and would be assigned to the existing Base Capacity holder, SHG. There is a high investment cost and risk associated with developing the Project. Without the granting of an RTPA exemption, the investment in the Terminal would not take place and would jeopardize the upstream investment itself which needs to secure significant long term supply arrangements to proceed. The RTPA exemption should cover 25 years from the dispatch of the first commercial cargo from the new source of supply (currently expected to be in 2023), aligned with the duration of the expected upstream supply project.

In the event that the Incremental Capacity is available prior to the dispatch of commercial cargoes from the upstream project, SHG will endeavor to source LNG in order to utilize the Incremental Capacity, or make an appropriate amount of capacity available to third parties through the existing secondary capacity allocation procedures detailed in Annex 3.

LNG imports will continue to play an increasingly vital role in enhancing the UK’s security of gas supplies. Providing Incremental Capacity for a new source of gas supply will further enable gas to continue to contribute to the UK energy needs whilst enhancing competition. As such, SHT believes that, provided an exemption is granted, the Incremental Capacity will further enhance both UK and European security of supply.

The market analysis shown in this application illustrates that there would be no detrimental impact on competition at any level of the gas supply chain as a result of the grant of an exemption for the Incremental Capacity, nor would there be any detriment to the efficient functioning of the internal gas market. SHT has demonstrated that there is effective competition at every level of the market, whether assessed on a global, regional or national basis.

SHT has also provided detailed information demonstrating how the increased capacity relates

to the requirements set out in section 19DB of the Gas Act, and demonstrated that:

- A market test in the form of an open season is not necessary nor constructive for own use terminals. As the Terminal project is solely for the purposes of securing access for a competitive new source of LNG supply and the Incremental Capacity is a fixed quantity and will continue to have reduced availability compared to the existing Base Capacity, an open season would be an artificial process in these circumstances. To address the need for a market test, market participants were invited to register their interest in the Incremental Capacity with the objective of providing both Ofgem and SHT with useful information relating to the level of interest in additional LNG regasification capacity in GB. Further details are included in Annex 13, though no enquiries were received.
- The existing mechanisms for third parties to access Terminal capacity are well established and clearly structured. Key features include the secondary capacity offered by existing users and use-it-or-lose-it (“**UIOLI**”) provisions. These mechanisms would be extended to cover the Incremental Capacity. Further details are included in Annex 3.
- There is a competitive, bi-lateral trading procedure detailed in the Terminal Access Code (“**TAC**”) ensuring that right to use the exempt infrastructure can be traded.

Through the use of a well-tested TAC, Network Entry Agreement and associated procedures, there is efficient day to day communication between SHT and the appropriate operations teams, including National Grid Gas plc. (“**National Grid**”). Access to the gas National Transmission System (“**NTS**”) will be through standard regulated arrangements, unchanged as a result of any terminal capacity investment. Any updates to the pipeline system will be consistent with the existing regulatory regime and addressed through the National Grid Planning and Advanced Reservation of Capacity Agreement (“**PARCA**”) ¹ framework. Consequently there will be no detrimental effect on operations of the pipeline systems to which the Terminal is connected.

SHT is a separate legal entity from the gas transmission system operator, National Grid. In addition, SHT has stated that charges will be levied on users of the Terminal, as they are today.

In conclusion, SHT believes it has demonstrated that it satisfies the criteria for an exemption pursuant to the Gas Act, and the Third EU Gas Directive requirements. SHT therefore believes an exemption of requested capacity and duration should be granted to support the investment in Incremental Capacity, the Project, and new sources of supply.

2. NEW LNG PROJECTS FOR SUPPLY OF GAS

2.1 Project Sponsors and New Projects

Qatar Petroleum LNG Services (QGII) Limited and ExxonMobil Qatargas (II) Terminal Company Limited (together, where the context so admits, with other members of the Qatar Petroleum (“**QP**”) and ExxonMobil corporate groups that have jointly invested in LNG-related projects hereinafter collectively called the “**Sponsors**”) are considering conducting a

¹ <http://www2.nationalgrid.com/UK/Services/Gas-transmission-connections/PARCA-Framework/>

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feasibility study and entering into negotiations to develop the agreements necessary to implement a project for the supply of additional LNG sourced from a variety of potential locations, including the Golden Pass LNG Project, to the United Kingdom via the Terminal.

The Sponsors have a long established working relationship in relation to LNG projects and continuously assess new opportunities to optimize their existing portfolio. The Sponsors are currently considering a Final Investment Decision (“**FID**”) in relation to the Golden Pass LNG Project. In addition to the Golden Pass LNG Project, QP is also assessing the opportunities to develop new non-QG II Project sources of supply which would be included in the LNG supply chain to utilize the Incremental Capacity. References to the “**Project**” in this document mean the Golden Pass LNG Project and/or, where the context so admits, alternative new sources of supply.

2.2 Incremental Terminal Capacity

The existing Qatargas II Project is a vertically integrated project which supplies gas to Great Britain (“**GB**”) via the Terminal. The First Exemption from RTPA issued to SHT by Ofgem in November 2004 provides for ~15.6 MTA LNG throughput, equating to ~650 GWh/day Base Capacity. However, the Terminal facilities have a Peak Capacity of ~812.5 GWh/day that is currently only used on occasion for within-day operational purposes. Furthermore, the same Terminal facilities provide back-up to the Base Capacity. Consequently the Incremental Capacity above the Base Capacity that makes up the Peak Capacity is subject to technical constraints which result in a significantly reduced availability compared to the Base Capacity. The Sponsors wish to utilize the Incremental Capacity under new commercial arrangements that would facilitate FID of the Project and would result in an increase in LNG supply. As explained further below, the Terminal would need to invest in additional reinforcing hardware and/or operating procedures to improve the availability of the Incremental Capacity, though it would continue to have a significantly reduced availability compared to the Base Capacity.

To confirm the feasibility of operating the Terminal at higher rates, a short duration flow test was performed on the 10th May 2016, which proved that the Terminal is capable of operating at ~812.5 GWh/day with the current installed hardware. Details of the flow test are included in Annex 5.

2.3 Supply Duration

Initial LNG and gas supply contracts are yet to be negotiated, but are anticipated to be for 25 years aligned with the start-up of the new source of supply from the Project and consistent with the long term investment required by the Project. However the Project will have the potential to supply gas to the UK via the Terminal for much longer periods.

3. SIGNIFICANCE OF THE TERMINAL TO THE PROJECT

3.1 Options Considered

While the majority of the investment costs for the Project are associated with the upstream/midstream elements (for example, transportation of natural gas to the Golden Pass liquefaction terminal, or onshore/offshore gas production for other projects, liquefaction facilities and new LNG tankers etc.), the viability of the Project relies on finding assured

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market outlets with suitable locations to deliver and regasify the LNG. The Sponsors have considered several alternatives, including merchant terminals, to ascertain whether they provide sufficient secure, economically attractive capacity to match the intended LNG supply. Currently there is very little long term LNG regasification capacity available in Europe and the Sponsors are of the view that leveraging their existing investments in their own use Terminal at South Hook represents the lowest risk and is the most cost efficient option to underpin their investment decision in respect of the Project and provide a suitable outlet for a proportion of the new LNG supply expected to come from the Project.

3.2 Peak Capacity Availability

The Terminal has proven to be a highly reliable installation and capable of meeting its planned daily send out linked to the Base Capacity. As the Terminal facilities used to provide the Peak Capacity are the same as those that provide back-up to the Base Capacity, the Peak Capacity of the Terminal inherently has significantly reduced availability compared to the Base Capacity and, it is currently unsuitable as Incremental Capacity for commercial use. The Sponsors plan to invest in the Terminal facilities to increase the availability of the Incremental Capacity, but its availability will remain significantly below that of the Base Capacity. The Sponsors will aim to balance investment costs with the risk of operational disruption that they will be exposed to. It is due to their willingness to accept the consequences of balancing these costs and risks, that the Sponsors do not currently envisage making the significant investments required to increase the availability of the Incremental Capacity to the same level as the Base Capacity. Consequently the Incremental Capacity will have very different characteristics compared to the Base Capacity, with the Base Capacity taking operational priority. Due to the risk of supply disruption associated with the Incremental Capacity, the Sponsors do not believe such capacity is suitable for third party use.

4. REASONS FOR AN EXEMPTION APPLICATION

In order to utilize the Peak Capacity for sustained LNG processing required for new commercial arrangements, SHT will need to invest in new hardware and/or operating procedures to improve Incremental Capacity availability, and will require a review of the system requirements at the Terminal that are detailed in Annex 4. Similarly, the Terminal or another entity will work with National Grid through their PARCA framework, and incur the associated costs to evaluate what works need to be done to reinforce the relevant section of the GB NTS and, to understand likely impacts on the related NTS entry tariff. Details of the existing pipeline are shown in Annex 10. SHT would like to be in a position to confirm Terminal investment as soon as possible. Viability of the investment in the Terminal is a necessary pre-cursor to the Sponsors making a FID on the Project. However, Project FID may not proceed, and expenditure on the Terminal and associated PARCA costs will not proceed unless SHT is granted an exemption on the terms currently requested. In the current challenging investment climate, the Sponsors need confidence that the Incremental Capacity subject to this new exemption application will be exempted from RTPA for at least a 25 year duration.

Throughout 2016-2018, SHT has been in constructive discussions with Ofgem, the former Department of Energy & Climate Change, and subsequently the Department for Business, Energy & Industry Strategy (“**BEIS**”), and the European Commission Directorate-General

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for Energy regarding the drafting of this exemption application from RTPA for the Terminal. SHT would like to thank those authorities for their guidance and assistance.

As we will demonstrate in this application, there will be multiple benefits to GB and Europe with respect to both security of natural gas supply and competition arising from the grant of the proposed exemption for own use purposes.

5. APPROPRIATE REGULATION FOR THIRD PARTY ACCESS

5.1 RTPA Exemption Provisions

The second EU Gas Directive (Directive 2003/55/EC) and third EU Gas Directive (2009/73/EC) were transposed into UK law by the amended Gas Act, Section 19C of which sets out the right of the owners of LNG facilities to apply for exemptions from the requirements of RTPA, and for an exemption to be granted subject to certain conditions being satisfied. Furthermore, pursuant to sections 192A and 192B of the Gas Act, in the case of an LNG terminal undergoing a modification, or proposed modification, an exemption application must relate to either:

- (i) a significant increase in the capacity of the facility; or
- (ii) the modification would enable the development of new sources of gas supply.

In the case of this exemption application, both criteria (i) and (ii) are satisfied, as is demonstrated below.

Section 19DB (Allocation of capacity in exempt new and modified facilities) of the Gas Act also includes the following three conditions:

1. Before a right to use the exempt infrastructure is granted to the owner of the facility or to any other person –
 - a) the intention to grant a right to use the exempt infrastructure must be published in a way that the Authority considers appropriate for the purpose of bringing it to the attention of persons likely to be interested in using the infrastructure; and
 - b) such persons must be able to register an interest in using the exempt infrastructure.
2. The mechanism must require that any unused capacity in the exempt infrastructure be made available to other users or potential users.
3. The mechanism must not prevent, and must not be capable of being used to prevent, subsequent trading of rights to use the exempt infrastructure.

Condition 1 relates to conducting a market test, typically through an open season. As we will explain below, SHT does not believe an open season is practical for the Incremental Capacity, particularly considering that the investment would only be made to support the Project and that the Incremental Capacity will have reduced availability compared to the Base Capacity. The Commission staff working document on Article 22 of Directive 2003/55/EC concerning common rules for the internal market in natural gas (“**Commission Staff Working Paper**”)² highlights in Box 3 under para. 28.3 that “*Market demand is*

² https://ec.europa.eu/energy/sites/ener/files/documents/sec_2009-642.pdf

usually tested via so-called Open Season procedures, but other methods may be acceptable as well". Consequently, to acknowledge Condition 1 in an efficient and appropriate way without the issues associated with a full open season, a non-binding market test similar to the first stage of an open season was conducted. The market test invited third parties to express an interest in the Incremental Capacity, with the intention that such information would give both Ofgem and SHT a useful indication of the interest in additional LNG regasification capacity in GB. This was not an open season and SHT was under no obligation to enter into any discussion regarding the allocation of the Incremental Capacity. Further details can be found in Annex 13, though no enquiries were received.

Condition 2 relates to the mechanisms in place for third parties to access capacity which, in the case of SHT and SHG, are well established and detailed in Annex 3.

Condition 3 is satisfied through the Capacity Transfer mechanism between the users of the Terminal, as detailed in the SHT TAC.

5.2 Significant Increase in Capacity and New Sources of Supply

Despite its reduced availability compared to the Base Capacity, the Incremental Capacity is significant, currently expected to be ~3.9 MTA which is ~25% of the existing Base Capacity. Based on the current GIE LNG Map Dataset³, the scale of this Incremental Capacity at the Terminal could be compared approximately to the typical throughput of an additional Floating Storage and Regasification Unit.

In addition, the Incremental Capacity is intended for new sources of supply that the Sponsors are currently evaluating.

5.3 Market Test Considerations

A number of merchant regasification terminals have now been constructed in Europe, many of which are currently under-utilized. Some terminals that have recently carried out market tests to size a project or gauge market demand have not received sufficient interest to proceed to FID. In the case of GB, there are multiple supply sources capable of satisfying gas demand, potentially reducing the interest in LNG regasification capacity. This is further supported by the relatively low levels of utilization at GB terminals other than SHT. In view of this, and the fact that the Incremental Capacity is of a fixed amount and will not be fully reliable capacity, SHT submit that an offer of such incremental capacity to the market would not be meaningful and should not be required as a pre-condition to the grant of the proposed exemption. The Sponsors' current interest in investing in incremental capacity arises as a consequence of the Terminal being an existing asset capable of flexible use as part of their integrated supply chains. Further investment in such an "own use" terminal provides a positive reflection of its current and expected utilization.

Other considerations that support not conducting an open season for the current exemption application include:

- (i) open seasons can work well for merchant terminals and consequently have the purpose of allowing the project developer to decide the optimum size of their

³ <http://www.gie.eu/index.php/maps-data/lng-map>

project (or any modification thereto). If there is very little interest shown in the open season then the project may not progress or may be downsized. Conversely, if there is a lot of interest in the project then the developer may decide to increase its scale. The Commission Staff Working Paper provides information on the European Commission's assessment of exemption decisions taken by national authorities. Section 2.2, para. 28.3 of the Commission Staff Working Paper is consistent with this view on open seasons and states “A *justification for the project dimension (in terms of the total capacity) based on the supply and demand balance provided under point 28.2 above and on an assessment of capacity on existing supply routes including information on how the project ensures the meeting of effective demand of transport capacity to the (national or regional) markets intended to be supplied (e.g. via an open season procedure).*” However, para. 29.1 of the same document illustrates the sizing intent of the open season in that it permits the national authority to impose a condition on the proposed terminal to increase the total capacity offered adjusted to the demand indicated. In the case of the Terminal and this application, there is no discretion on the scope of the Incremental Capacity, it will be capped at the Peak Capacity. A major expansion of the Terminal would be a significant undertaking and is not currently envisaged; and

- (ii) the Incremental Capacity will have reduced availability compared to the Base Capacity, with the Base Capacity taking precedence with respect to send out nominations. This could impact on the whole supply chain related to the commercial contracts using the Incremental Capacity and hence the Sponsors are best placed to manage this risk.

In any event, given the level of project risk and the need to control and optimize terminal costs to ensure overall economic viability of the Project, the Sponsors cannot justify the risk of investing in capacity that could be allocated to third parties as a result of an open season.

5.4 Market Test Results

As noted earlier, as an efficient and appropriate alternative to an open season, third parties were able to express an interest in the Incremental Capacity during a market test with the intent of providing both Ofgem and SHT with useful information relating to level of interest in additional LNG regasification capacity in GB.

The market test was launched with a press release to ICIS Heren and Argus Media on 21st March 2018, with ICIC Heren and Platts subsequently running new articles on the market test and directing interested parties to the relevant SHT website. The website detailed all the information relating to project and how interested parties should respond (see Annex 13). The market test concluded four weeks after launch on 18th April 2018, at which point no market interest had been received.

5.5 Third Party Access Provisions

What is important is that available capacity is appropriately utilized, and therefore both merchant and own use terminal owners should provide a commitment to provide for arrangements that enable the trade of unused capacity rights and ensure that spare capacity can be offered to the potential users. This is consistent with Box 5 of the Commission Staff

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Working Paper notes which relates to long term contracts and states “*Where exemption requests include long term capacity reservation it is likely to be necessary to mitigate the foreclosure effect of such contracts in order to ensure that competition and security of supply are enhanced. In particular, it may be necessary to apply use-it-or-lose-it rules and to facilitate capacity trading on the secondary market.*”

Both SHG and SHT have long established rules and procedures that promote secondary trading of capacity to third parties, including an appropriate UIOLI mechanism. Further details of the capacity allocation mechanisms in place can be found in Annex 3. Provisions for the appropriate use of the Incremental Capacity by third parties will be incorporated into these existing rules and procedures but will need to recognize the nature of its reduced availability compared to the Base Capacity.

It should be noted that the third party data illustrated in Annex 9 suggests that regulated regasification capacity at other GB LNG terminals may start to become available due to the expiry of existing capacity contracts around the same time as the Project starts up. Consequently parties interested in securing regasification capacity in GB around the same time period should have other options available to them other than SHT.

5.6 Existing Supply Routes

As noted earlier, Section 2.2, para. 28.3 of the Commission Staff Working Paper states “*A justification for the project dimension (in terms of the total capacity) based on the supply and demand balance provided under point 28.2 above and on an assessment of capacity on existing supply routes including information on how the project ensures the meeting of effective demand of transport capacity to the (national or regional) markets intended to be supplied...*” The UK is well placed with respect to having multiple sources of gas supply, some of which can provide supply flexibility, while further balancing of supply and demand can be achieved through flexible export routes. As illustrated in Appendix 12, the main sources of gas supply are multiple North Sea production lines landing on the East Coast of GB at St. Fergus, Teesside, Easington, Theddlethorpe and Bacton. The Interconnector can also deliver significant volumes to GB. Additional gas volumes from regasified LNG can be provided by Grain LNG in Medway, Kent, along with Dragon LNG and South Hook LNG at Milford Haven. Export lines include BBL to the Netherlands, SNIP to Northern Ireland, Interconnectors 1&2 to the Republic of Ireland, as well as the bidirectional Interconnector to Belgium. This diversity of gas supply ensures a high degree of competition in GB and further afield.

6. EXEMPTION REQUESTED

6.1 Scope of Exemption

The Sponsors are currently evaluating a number of potential new large LNG supply initiatives including the Golden Pass LNG Project, details of which are included in Annex 6, as well as continuously assessing opportunities to optimize their existing portfolio. The Golden Pass LNG Project should be capable of liquefying ~15.6 MTA of new LNG production. In order to underpin their FID in respect of the Project and provide a suitable outlet for a proportion of the new LNG supply expected to come from the Project, SHT is seeking an exemption for the total Incremental Capacity, currently estimated to be ~3.9

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MTA. The new exemption would be needed until the expiry of 25 years from dispatch of the first commercial cargo from the Project (currently expected to be in 2023).

The Sponsors' FID decision on the Project will be heavily influenced by the outcome of this RTPA exemption application, which has the potential to jeopardize or delay the Project and, the investment in improving the availability of the Incremental Capacity at the Terminal will only be made if the FID for the Project is made. It should be noted that due to the relative scope and complexity of a new LNG production facility compared to the equipment installation and commissioning required at the Terminal, the completion timing of the two developments may not be aligned. As a consequence, the Incremental Capacity may be available in advance of commercial cargoes from the Project. As the Incremental Capacity already forms part of the Peak Capacity required for operational purposes, SHT will continue to utilize some or all of the Incremental Capacity on a day to day basis. However, SHT will not exceed the 15.6 MTA annual average reflected in the First Exemption, until the start of the new exemption.

Any capacity not required by either QGII or the Project would be made available to third parties consistent with the existing capacity allocation mechanisms detailed in Annex 3, recognizing the reduced availability of the Incremental Capacity compared to the Base Capacity.

6.2 Remaining Project Volumes

The Sponsors have not secured, at this stage, alternative outlets for all of the remaining new supply from the Project and will be exploring alternative outlets for the available supply volumes throughout the exemption period.

7. SATISFACTION OF GAS ACT 1986 ARTICLE 19C REQUIREMENTS

The exemption application provided here will demonstrate that each of the tests set out in sections 19C (2B) and 19C (7) of the Gas Act 1986 are satisfied.

7.1 (a) The facility or (as the case may be) the modification will promote security of supply

The Sponsors expect that the Project and proposed Terminal modifications will promote security of supply in the same way as the original QGII Project did so. The First Exemption facilitated the entry of QP as a valuable new market participant and assured that natural gas could be delivered to Europe from the large-scale QGII Project. Furthermore, following the successful implementation of the QGII Project, QP continued to invest in other projects that have brought additional LNG supplies to European facilities from different upstream production trains. These investments have significantly reduced Europe's reliance on Russian natural gas, reduced the risk of supply shortages and price volatility as European indigenous production declines and, have facilitated global flexibility allowing natural gas to flow from remote supply sources to those regions with the strongest demand. The Incremental Capacity at SHT will further increase Europe's ability to import LNG as an alternative to pipeline natural gas, further enhancing security of supply.

The Sponsors have proven to be highly reliable suppliers of LNG. The Terminal itself has

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been one of the most utilized LNG regasification facilities in Europe since its start-up and is currently the most utilized LNG regasification terminal in the UK, as illustrated in Annex 9. European consumers have benefited significantly from the QGII Project supply arrangements operating under the First Exemption. It is on the strength of this success that the Sponsors are considering further investment at the Terminal.

Through its interests in the QGII Project, SHT and SHG, QP has provided GB and Europe with access to the world class North Field, with proven non associated gas reserves in excess of 25,000 BCM. The delivery record of cargoes made under existing Qatari projects has been exemplary placing Qatari LNG amongst the most reliable energy supply sources in the world. Over 10,000 cargoes⁴ have been loaded to date at the Ras Laffan terminal in Qatar since the commencement of operations in 1996. The Sponsors aim to provide the same level of reliability with future LNG production projects, including the Project.

As the holder of the Base Capacity, SHG sells natural gas to ExxonMobil Gas Marketing Europe Limited (“EMGME”) at the outlet of the Terminal under sales agreements which provide SHG with the flexibility to source QGII or alternative supplies of LNG to optimize Terminal utilization, and to redirect its planned cargoes of LNG to other regasification locations to meet supply shortages elsewhere. Similar terms are expected to be incorporated into the new contractual arrangements which will be entered into in support of the Project. To the extent that these cargo diversion rights are exercised, the resulting spare capacity in the Terminal would be made available promptly to third parties on non-discriminatory terms, consistent with those detailed in Annex 3. These mechanisms provide efficient flexibility mechanisms and can be expected to do so in the future.

7.2 (b) The level of risk is such that the investment to construct the facility or (as the case may be) to modify the facility would not be or would not have been made without the exemption.

The range and level of risk faced by the Sponsors in relation to the Terminal and Project investments will be considerable and diverse including, but not limited to, technology and construction costs, operational risks, and political / regulatory risk, credit and price risks in a competitive market. The individual and combined magnitude of these risks is significant and should be considered appropriately when considering Gas Act Article 19C(7)(b) requirements.

The risk to the Sponsors of operating the Incremental Capacity under a RTPA regime or an open season derived allocation mechanism is that there is no guarantee that the Incremental Capacity would be awarded to SHG⁵ or other designated capacity holder, guaranteeing an outlet for a significant proportion of the Project volumes. Consequently securing the RTPA exemption is an important, possibly vital factor in the FID decision of the Project. Without the RTPA exemption there would be great uncertainty around the Project taking FID, potentially facing significant delays, which in turn could impact or eliminate the improved security of supply and enhanced competition that GB and European Economic Area (“EEA”) would benefit from.

The risk of not recovering the Incremental Capacity investment costs from third parties has

⁴ Ras Laffan commemorated the 10,000th LNG loading on May 9th 2016

⁵ As per Annex 2

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not been a relevant consideration as the Sponsors would not invest in capacity if it were not in support of Project volumes. By allocating all of the Incremental Capacity to SHG, who will pay SHT an appropriate tariff, the investment risk of the Terminal modifications will be mitigated.

As discussed earlier, LNG projects rely on long term contracts to underpin investment decisions. Short to mid-term sales of LNG also occur, but they are still incidental to long term sales which continue to be the overriding driver to support investment. World trade in short term / spot LNG sales is at present still developing and the future emergence of reliable, liquid LNG spot markets cannot be predicted with any certainty. Terminal and shipping capacity cannot be secured at short notice in sufficient quantities and with sufficient reliability to underpin investment in infrastructure of the size of the Project. The investment risks of such a supply chain would become too high to justify financing.

LNG production projects continue to be very expensive and investors require certainty at each level of the supply chain to justify and manage the costs and risks involved. Such projects often include investment in field development, transportation, liquefaction, shipping and regasification facilities. Consequently, the shareholders, ship owners and external lenders require guaranteed access rights throughout the entire supply chain, from source to market, and for the whole of the planned project life. Such access therefore needs to be in place before FID is taken. While the Golden Pass LNG Project does not involve field development (as natural gas will be sourced from the U.S. gas grid), the investment remains huge and currently expected to involve in the region of \$10B and so, for the Project to be viable, it is essential that lenders are certain that the Sponsors can secure, in advance, guaranteed long term terminal access in a suitable market environment.

The term over which the Project is required to liquefy and sell gas to make an acceptable economic return is at least twenty five years. Firm rights to regasification capacity in the Terminal are one of the elements essential to allow for the repayment of external debt and an acceptable return to the equity investors involved in the Project. Lenders typically require the period of guaranteed access to exceed the length of any debt finance by several years so that, if Project cash flows in the early years fall short of debt service needs, they can recoup losses towards the end of the project life. Any shortening of the period of exemption would introduce unnecessary uncertainty and risks and undermine the Project as a whole. The proposed exemption should run until the expiry of 25 years from dispatch date of the first commercial cargo from the Project (currently expected to be in 2023).

The original Terminal investment, which is in the order of \$1.8B, is an important element of the QGII Project which forms the basis for the development of the Incremental Capacity which, subject to further investment, will enable a significant new upstream gas supply to access and compete for gas sales in Europe. Any investment in Incremental Capacity at the Terminal would be made solely for this purpose.

It should also be noted that any investment in the Project and the Terminal will be a private investment in which the Sponsors will take all the financial risk. There will be no subsidies (unlike EU Projects of Common Interest for example) or other support mechanisms.

If the exemption from RTPA is not granted, the risk profile of the Project will increase to a level where the Sponsors would not be willing to take the financial risk of investment. This would obviously remove a source of potential incremental supply to Europe. The

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Commission Staff Working Paper highlights in section 1.2, para 6 that *“This document is not intended to restrict or change the criteria for awarding exemptions. Nor is this document intended to give an exhaustive interpretation of the various assessment criteria that are applied in the light of the facts and circumstances of each individual case.”* recognizing that each project will be different and one size does not fit all, each project needs to be evaluated on the case by case basis (also highlighted in para 7). Section 1.3, para. 9 goes on to note that *“New infrastructure is essential to complete the internal energy market and to ensure effective competition.”* with para. 12 stating *“When assessing an exemption request, the national authority needs to investigate in detail the impact of the specific exemption on competition, security of supply and the functioning of the internal market.”* We believe we have demonstrated compliance with these requirements and that granting a RTPA exemption for the Incremental Capacity would benefit both GB and Europe through enhanced security of supply and competition. Furthermore, failure to grant an exemption would deliver a negative signal to the wider LNG market that would be seen as inconsistent with the usual regulatory objectives of promoting innovation and cost efficiency, in the interests of encouraging competition and value for the consumer.

7.3 (c) The facility is or is to be owned by a person other than the gas transporter who operates the pipeline system connected to the facility.

SHT is an incorporated legal entity whose shares are held by affiliates of Qatar Petroleum (67.5%), Exxon Mobil Corporation (24.15%) and Total (8.35%).

SHT is a separate legal entity from National Grid, the principal public gas transporter in GB.

7.4 (d) Charges will be levied on users of the facility or (as the case may be) the increase in its capacity.

Tariffs will be applied to SHG for Incremental Capacity under a throughput agreement to be entered with SHT.

Consistent with arrangements for the Base Capacity, any capacity that is not required by SHG or not traded through the secondary market by SHG, will be offered for third party access on non-discriminatory terms by SHT as it is today.

7.5 (e) The exemption will not be detrimental to competition, the operation of an economically efficient gas market, or the efficient functioning of the pipeline system connected or to be connected to the facility.

SHT believes that the grant of an exemption for the Incremental Capacity will be pro-competitive and will facilitate the economically efficient operation of the relevant markets. This is the case whether one assesses the gas market on a global, regional or national level. SHT believes that the correct analysis is to assess the impact of the exemption on the global natural gas market. However, even if the exemption was assessed on a regional or national basis, no detrimental effect would arise from the grant of the exemption.

Global Gas Flows

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SHT considers that the most reliable measure of market position is to assess global natural gas production as can be seen in Annex 11, where QP is estimated to account for ~3.0% of global natural gas production while the ExxonMobil group accounts for ~3.5%.

Natural gas can be transported in pipelines in a gaseous state or by ship in liquid form, as LNG. It remains essentially the same product at the point of production and consumption, regardless of the method of transportation used. Shipment of natural gas as LNG has connected previously separate and distinct pipeline-based regional gas markets and previously distinct wholesale markets are also now inter-connected and operate as subsidiary parts (or sub-markets) of the global gas market.

The delivery of LNG from its source by ship provides considerable flexibility to potential suppliers in their choice of regasification terminal. Furthermore, in addition to the ability to access regasification facilities in various locations, the interconnections of European countries means that gas delivered to a terminal in one Member State can flow to other Member States through the integrated European gas transmission network.

The reality of a global market for natural gas has been evidenced by LNG switching from one region to another in response to price movements. Examples include:

- Cargoes originally planned for Europe diverted to Asia Pacific after prices increased following a rise in demand caused by the Fukushima disaster
- Cargoes originally planned for Asia Pacific diverted to Europe after prices decreased following the financial slow down and consequent reduction in Asia Pacific demand
- Cargoes originally planned for the US diverted to Europe and Asia Pacific after prices in the US fell following the shale gas boom

In the long term, demand for natural gas delivered as LNG is expected to increase significantly, particularly driven by demand growth in the Asia Pacific region. However, in the short term, there is global over-supply making investments in natural gas, including LNG much more risky. Whether the market is characterized by over- or under-supply, LNG provides the flexibility for supplies to flow to the regions with the strongest demands.

Regional Gas Supplies

To aid assessment of the requested exemption, SHT has analyzed potential impacts on the EEA. For this purpose, account has been taken of EEA indigenous production as well expected natural gas supplies to be delivered by pipeline from Russia, Algeria, Azerbaijan, Iran, Iraq and Libya⁶, plus deliveries of LNG.

Through the contract structures envisaged in Annex 2, EMGME, and/or multiple traders, will resell the re-gasified LNG under new supply arrangements. For simplicity, ExxonMobil's activities have been used to form the basis of the forward looking market share analysis at both the regional and national level (note that Annex 7 is confidential to ExxonMobil) Details of historic supplies from Qatar at a regional and national basis are shown in Annex 8.

⁶ Analysis period up to 2033 based on available data

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It can be seen that sales to EMGME via SHG have formed a significant portion of those supplies.

ExxonMobil directly produces and sells natural gas from the UK, Norway and Germany⁷. Forecast supply volumes are shown in Annex 7, taken from the ExxonMobil internal plan. It should be noted that although ExxonMobil resells regasified LNG, it has no control over the timing or quantity of volumes to be delivered to it. Consequently it is reasonable to exclude those volumes from the analysis of upstream supply of natural gas. However, for completeness, we have illustrated both scenarios, i.e. with and without regasified LNG.

In order to assess potential market impacts of the incremental supplies at a regional level, proprietary third party data has been employed.

For the purpose of this analysis, we have calculated the historic ratio of LNG processed through each of the terminals currently operating in GB and assumed this continues for the foreseeable future as shown in Annex 9. This is consistent with proprietary third party data, which incorporates expected LNG terminal utilization throughout the region.⁸

While it is unrealistic to expect full utilization of the Incremental Capacity at all times, even on the assumption of full utilization, ExxonMobil's share of supply at a regional level would only increase from ~4% to ~5%, and would decline over time.

Excluding the regasified LNG ExxonMobil sells, ExxonMobil's share of supply at a regional level would be ~2.5% declining to ~0.5% over time.

SHT believes this analysis highlights that there would be no adverse impact on competition or on the operation of an economically efficient gas market at a regional level from the grant of an RTPA exemption for the Incremental Capacity.

GB Supply Analysis

Given the diversity of supply sources and extensive interconnectivity between the UK, Norway and Continental Europe, SHT considers that it is not realistic to look at the GB gas market or any sub-set of EEA separately. This is reinforced by the ACER Gas Target Model ("GTM") analysis which highlights that the United Kingdom fully complies with the GTM vision of market integration through the appropriate levels of infrastructure, which is utilized efficiently and enables gas to move freely between market areas to the locations where it is most highly valued by gas market participants. Similarly so, Ofgem's report on the State of the Energy Market in 2017 highlights that they "... expect that existing gas supply capacity can meet demand well into the future" and that "*The diverse nature of GB supplies means that GB is resilient to all but the most extreme circumstances. From day to day, the market generally promotes efficient balancing, even though within-day demand is becoming more variable.*" Ofgem's "*indicators suggest that the GB wholesale gas market remains a mature,*

⁷ In the Netherlands, ExxonMobil has minority interests in the Groningen Partnership and GasTerra and these volumes have accordingly been excluded.

⁸ The supply/demand considerations discussed have impacted regasification terminal utilization rates and can be expected to continue to do so. As new natural gas supplies come on line further optimization of gas flows can be expected, with LNG terminals continuing to receive varying amounts of LNG in reaction to market dynamics. Consequently it is unrealistic to expect any terminal to be fully utilized for extended periods of time. Bearing in mind that regasification terminals form only a part of the natural gas supply chain and taking account of the foregoing discussion of supply flexibility and utilization rates, it would be misleading to assess market power based on terminal throughput. This supply flexibility is also recognized in Ofgem's report on the State of the Wholesale Energy Market 2017 (https://www.ofgem.gov.uk/system/files/docs/2017/10/state_of_the_market_report_2017_web_1.pdf)

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liquid market with high levels of churn, narrow bid-offer spreads and a growing number of active participants.” Furthermore, “The GB market appears to be competitive and outperforms virtually all relevant European and US benchmarks with low levels of concentration, robust market entry and exit, and low levels of vertical integration.”

At a wholesale level, GB has a very healthy level of churn which Ofgem’s report on the State of the Energy Market 2017 indicates averages 22⁹. ExxonMobil has not speculated on gas market conditions and is not currently involved in financial derivative products related to natural gas; its broad objective is to dispose of its gas portfolio and be balanced in each relevant system by the end of each relevant day. In this respect, ExxonMobil is not a traditional gas trader and does not participate in GB’s wholesale churn to any meaningful degree.

However, even when assessing the GB wholesale market in isolation, the grant of an exemption for the Incremental Capacity would not have a detrimental effect. ExxonMobil’s share of the GB wholesale gas market would increase from only <2% to ~2%. Excluding the churn rate and comparing physical gas supply to market demand, would significantly overstate potential impacts on competition. This is because GB market prices are set by reference to indices and churn plays a key role in forming the index price. In this artificially narrow scenario, grant of the exemption for Incremental Capacity would increase ExxonMobil’s market share by approximately 5% from ~20-25% to ~25-29%.

As noted earlier, ExxonMobil has no control over the timing or quantity of the volumes of regasified LNG delivered to it and hence it is reasonable to exclude those volumes from the analysis. In this case ExxonMobil’s share of the GB wholesale gas market would be ~7% declining to <2% over time, and insignificant throughout the analysis period when taking into account churn.

Ofgem has requested an assessment of the Herfindahl–Hirschman Index (“**HHI**”) where an HHI exceeding 1000 is regarded as indicating a concentrated market and a HHI above 2000 is regarded as very concentrated.

Ofgem’s own HHI analysis highlights low levels of market concentration in the GB with an HHI for total upstream supplies of 819 for 2016/17¹⁰. We have extrapolated from Ofgem’s analysis to assess an HHI including the Incremental Capacity of 873. In this case the HHI is significantly below 1000 indicating that low levels of market concentration would continue to be maintained.

The HHI methodology can also be used over differing time periods to determine the extent of market concentration over a range of situations which Ofgem refers to as the “flexibility market”. As the data required to carry out a meaningful analysis of this kind is not available in the public domain it not been included in this exemption application.

It is worth noting that although LNG terminal users holding LNG will generally aim to respond to gas demand signals, the degree to which an LNG terminal can be flexible with regasification rates is subject to multiple factors that are predominantly driven by operational concerns. These factors include:

⁹ https://www.ofgem.gov.uk/system/files/docs/2017/10/state_of_the_market_report_2017_web_1.pdf

¹⁰ https://www.ofgem.gov.uk/system/files/docs/2017/10/state_of_the_market_report_2017_web_1.pdf

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- Due to shipping logistics there is little scope to accelerate or delay cargo arrivals for pre-approved carriers. In addition, not all LNG carriers are compatible with the Terminal and must be pre-approved on the basis of safety and operational assessments.
- Terminal send out may be restricted to preserve the tank heel(s) and prevent warming the storage tank(s), along with the mechanical and operational risks associated with such operation.
- Conversely, terminal send out may need to be maintained at a relatively high rate in order to reduce inventory and create ullage for a scheduled LNG cargo. Delaying the arrival of a cargo can result in punitive demurrage charges.
- The speed at which a terminal can ramp-up or ramp-down its send out rate within day is subject to a number of physical limitations of the installed hardware in order not to compromise system integrity.
- Peak Capacity availability on a particular day is also a factor as its availability is generally lower than that of the Base Capacity. This is the case at SHT and will continue to be the case after investment in the improved availability of the Incremental Capacity.
- Subject to the specification of the LNG, Wobbe Index correction capability may also limit send out. The Nitrogen generation facilities at the Terminal are required to bring regasified Qatar lean LNG into specification for the NTS. A richer LNG cargo could limit send out flexibility.

Although data for HHI analysis to assess the flexibility market is not available, the Ofgem pivotality model¹¹ (“**Pivotality Analysis**”) can give an indication of how critical a supply source may be at different periods throughout the year. Hence the Pivotality Analysis gives an indication of the impact of the flexibility market under different supply scenarios.

Ofgem deem that a market player with a pivotal volume in excess of 10% will generally have significant market power (“**SMP**”), however, they consider that such volume would need to be pivotal for a sustained period of time to be of concern. The Pivotality Analysis utilizes coefficients that allow the user to assess the impact of overall reductions in supply sources during various time periods. Ofgem highlight that the example coefficients in the Pivotality Analysis are for illustration purposes only and are not definitive, hence actual impacts may differ in response to changes in actual market conditions. As highlighted earlier, GB is very well connected with multiple supply sources that can quickly react to changes in market conditions, hence it should be expected that any variation in LNG supply will be balanced by alternative gas supplies. Furthermore, Ofgem goes on to highlight that due to the global nature of LNG, it difficult to forecast LNG supplies to GB. Their Pivotality Analysis assumes there will be close to 100% LNG capacity utilization on a peak day basis whereas a whole season has an assumed utilization rate of 33%.

The example coefficients used in the Pivotality Analysis are shown in the following table, but reflect a steady state and hence will continuously change:¹²

%	Daily	Weekly	Monthly	Quarterly	Seasonal
UKCS	90	90	90	90	90

¹¹ See Appendix 4 of https://www.ofgem.gov.uk/sites/default/files/docs/2014/03/stublach_phase_2_mfe_-_consultation.pdf

¹² https://www.ofgem.gov.uk/sites/default/files/docs/2015/09/guidance_on_the_regulatory_regime_for_gas_storage_facilities_in_great_britain_version_2_0.pdf

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Norway	98	98	98	81	81
LNG	99	75	75	60	33
Continent	80	80	56	32	18

Based on the example coefficients used, the Pivotality Analysis suggests ExxonMobil could, theoretically, have a degree of pivotality in one quarterly and one seasonal period. This is driven by the respectively lower coefficients in those periods which have the effect of reducing supply availability. As noted earlier this is an artificial situation as the GB market is highly liquid and the coefficients do not reflect likely market responses to changes in supply, easily cancelling the pivotality. The table below illustrates the impact of the LNG coefficients alone in the Pivotality Analysis, whereas it should be noted that the example coefficients of the continental supplies are markedly low in these periods and would likely increase in reaction to market demand in the event of a supply shortage, reducing the need for LNG supplies. Thus, this analysis overstates potential LNG pivotality.

%	Quarterly				Seasonal			
Coefficient	60*	74	93	100	33*	47	64	84
Pivotality	13	10	5	4	13	10	5	0

* Original example coefficients in the Pivotality Analysis

With only relatively minor changes to the LNG coefficients alone (60% to 74% for Quarterly and 33% to 47% for Seasonal), the percentage pivotality is markedly reduced to below the 10% guidance level for SMP. As explained above, in reality, the coefficients of the other sources of supply, i.e. Norway and the Continent, would also increase in the event of a supply shortage given their ability to redirect flows to GB and react to market signals, further reducing the pivotality percentage. Based on this we do not believe ExxonMobil would have SMP.

It should also be noted that the UK assessment of the EU N-1 standard considered a failure of the Milford Haven to Felindre pipeline (which has a capacity higher than the Peak Capacity). This confirmed that the loss of both South Hook and Dragon LNG terminals would be manageable and further supports the conclusion that gas supply from the Terminal should not be pivotal. The EU N-1¹³ standard addresses disruption of the largest national or regional infrastructure. The N-1 methodology would not be affected by an increase in Terminal capacity.

Vertical Integration (“VI”) is a further indicator used by Ofgem and refers to the ability of a supplier to the retail market to cover their respective consumer demands through their direct production assets. Any degree of VI should not facilitate cross subsidization between entities, ensuring that there is no competitive advantage to be gained. As illustrated in Annex 2, SHT and SHG are separate companies, based in separate offices in different locations, with different boards of directors and no individual director serving on both boards, producing separate accounts and having separate shareholders. In addition, EMGME is not owned jointly with QP but is a wholly owned subsidiary of Exxon Mobil Corporation. The commercial terms between SHG and EMGME are arms-length following extensive bilateral negotiations, taking into account market conditions and reflect a balance between the requirements of the buyer, (e.g. competitiveness with alternative fuels) and the seller (e.g. offtake assurance). Consequently this ensures that EMGME does not gain any competitive

¹³ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/318466/gas_risk_assessment.pdf

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advantage. Furthermore, neither QP nor ExxonMobil participate in the retail level of the market, with all gas being made available on the wholesale market. Based on the above considerations, vertical integration is not a relevant indicator to this application.

7.6 Exemption Will Enhance Competition in Gas Supply and Will Not Be Detrimental to Competition

As illustrated above, the grant of an exemption in respect of the Incremental Capacity will have no material effect on the relevant market, whether assessed at a global, regional or national level. Insofar as there is any effect on competition at all, the effect will be positive given the flexible nature of LNG supply and its ability to respond to supply demand imbalances and to act as a substitute for declining production from traditional sources of supply in GB and Europe.

As described above, any effect which the Incremental Capacity might have on competition in Europe or in GB would be a positive one. If the Project progresses, gas supply to GB will be increased, thereby reducing the risk of price increases that may otherwise arise from supply shortfalls. The increased supply of gas to GB is also likely to bring benefits elsewhere in Europe as gas flows that otherwise may have been destined for GB can be re-routed to Continental destinations via interconnecting pipelines, increasing supply in other European destinations.

SHT believes the exemption would satisfy the requirements of both conditions (a) and (b) of Directive 2009/73/EC.

7.7 Efficient Functioning of the Pipeline System Connected or to be Connected to the Facility.

SHT is already party to and complies with National Grid's standard terms and conditions through the Network Entry Agreement for natural gas entering the NTS at Milford Haven. To ensure the pipeline system can accommodate incremental volumes the Terminal will work with National Grid through their PARCA framework to evaluate what works needs to be done to reinforce the export pipeline.

By following the PARCA Framework, SHT and stakeholders can be assured that an exemption for the Incremental Capacity would not be detrimental to the efficient functioning of the pipeline system.

ANNEX 1 – DEFINITIONS

“**ACER**” means the European Agency for the Cooperation of Energy Regulators.

“**Additional User**” is defined in the TAC as being a person (other than the Base User) who has entered into a terminal access agreement with the Terminal Operator which remains in force for the time being.

“**Base Capacity**” means the SHT LNG processing capacity of ~15.6 MTA annual average or 650 GWh/day with >99% availability, which was the subject of the First Exemption.

“**Base User**” means SHG.

“**BEIS**” means the UK Government’s Department for Business, Energy & Industrial Strategy.

“**Capacity Transfer**” means the mechanism detailed in the TAC for transferring capacity between users of the Terminal.

“**Commission Staff Working Paper**” means the Commission staff working document on Article 22 of Directive 2003/55/EC concerning common rules for the internal market in natural gas which provides information on the European Commission's assessment of exemption decisions taken by national authorities.

“**EEA**” means the European Economic Area.

“**EMGME**” means ExxonMobil Gas Marketing Europe Limited.

“**ExxonMobil**” means a relevant member of the ExxonMobil group of companies, the ultimate parent company of which is Exxon Mobil Corporation. Further information about the activities of the group is available on the corporation’s website www.exxonmobil.com

“**FID**” means the final investment decision in respect of relevant facilities.

“**First Exemption**” means the RTPA exemption granted by Ofgem to SHT in November 2004 covering ~15.6 MTA and 650 GWH/day for 25 years.

“**Gas Act**” means the UK Gas Act 1986 (as amended from time to time).

“**GB**” means Great Britain.

“**Golden Pass LNG Project**” means the Golden Pass LNG Project detailed in Annex 6.

“**GTM**” means the ACER Gas Target Model which sets out a long term vision of well-functioning wholesale markets in all of Europe; connecting these functioning wholesale markets in all of Europe; secure supply patterns that ensure gas flowing to Europe; and ensuring that economic investments take place.

“**HHI**” means the Herfindahl–Hirschman Index as detailed in the former Competition

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Commission and the former OFT Merger Assessment Guidelines¹⁴ which “*is a measure of market concentration that takes account of the differences in the sizes of market participants, as well as their number. The HHI is calculated by adding together the squared values of the percentage market shares of all firms in the market.*”.

“**Incremental Capacity**” means the Terminal processing capacity above the Base Capacity up to the Peak Capacity, with a significantly reduced availability when compared to the Base Capacity.

“**LNG**” means liquefied natural gas.

“**MRA**” means a Master Regasification and Gas Delivery Agreement.

“**National Grid**” means National Grid Gas plc (formerly Transco) which owns and operates the NTS.

“**NTS**” means the GB gas transmission network known as the National Transmission System.

“**Ofgem**” means the Office of Gas and Electricity Markets.

“**OFT**” means the former Office of Fair Trading.

“**PARCA**” means the National Grid Planning and Advanced Reservation of Capacity Agreement.

“**Peak Capacity**” means the maximum LNG processing capacity achievable at the Terminal from time to time, which currently rates at ~812.5 GWh/day but may marginally change following any terminal investment associated with improvements to Incremental Capacity availability.

“**Pivotality Analysis**” is a method used by Ofgem to assess potential market power. Their pivotality model is applied by “*focusing on gas supply capacity and assessing whether a certain party’s supply capacity is necessary to meet demand*”. A party would be classed as pivotal “*if total demand cannot be met from all available sources of supply controlled by other players*”.

“**Project**” means the potential Golden Pass LNG Project and/or, where the context so admits, alternative new sources of supply.

“**QGII Project**” means the existing Qatargas II LNG vertically integrated project which was designed to supply LNG from Qatar to the Terminal.

“**QP**” means a relevant member of the Qatar Petroleum group of companies, the ultimate parent company of which is Qatar Petroleum.

“**RTPA**” means regulated third party access which is the process of offering LNG terminal capacity to the market at a regulated tariff.

¹⁴ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/284449/OFT1254.pdf

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“**SHB**” means a South Hook Bundle as described in Annex 3.

“**SHG**” means South Hook Gas Company Ltd. who has purchased the long term Terminal capacity or Base Capacity from SHT.

“**SHT**” means South Hook LNG Terminal Company Ltd, the owner and operator of the Terminal.

“**Sponsors**” means, collectively, Qatar Petroleum LNG Services (QGII) Limited and ExxonMobil Qatargas (II) Terminal Company Limited (together, where the context so admits, with other members of the QP and ExxonMobil corporate groups that have jointly invested in LNG-related projects.

“**Terminal**” means the LNG receiving and regasification terminal located at South Hook, Pembrokeshire.

“**TAC**” means the SHT Terminal Access Code which details the main rules and requirements of using Terminal regasification capacity.

“**Terminal Operator**” means SHT.

“**UIOLI**” means a "use-it-or-lose-it" mechanism applied to ensure spare capacity is made available to potential third party users.

“**UK**” means the United Kingdom.

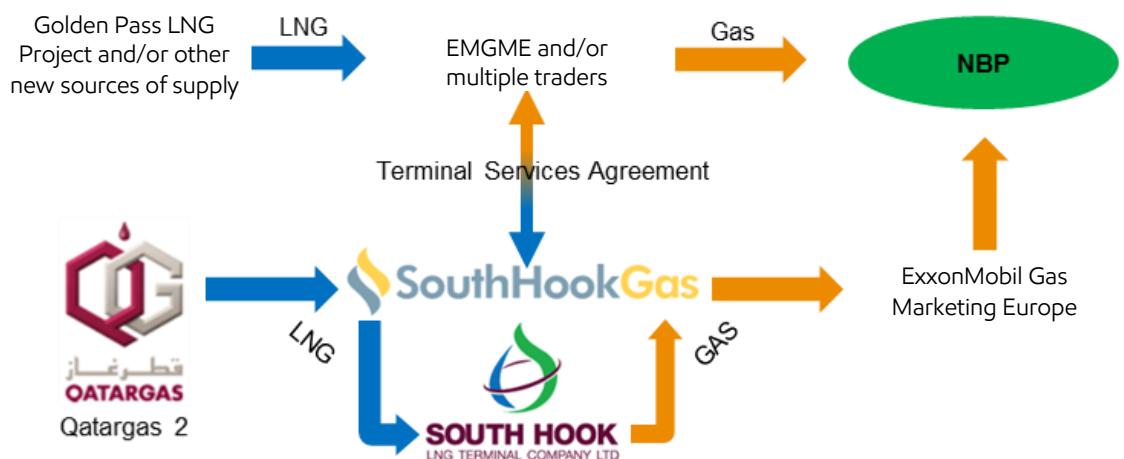
“**VI**” means Vertical Integration, an indicator used by Ofgem which refers to the ability of a supplier to the retail market to cover their respective consumer demands through their direct production assets. In addition, any degree of VI should not facilitate cross subsidization between entities, ensuring that there is no competitive advantage to be gained.

ANNEX 2 – POTENTIAL COMMERCIAL STRUCTURES

Although yet to be negotiated, commercial arrangements for Incremental Capacity could be similar to those for the Base Capacity.



An alternative model could be SHG providing access to regasification services through a new Terminal Services Agreement arrangement.



Final commercial arrangements will be finalized prior to project start-up and will not affect any analysis in this RTPA exemption application.

Qatargas II Shareholders

QP 67.5%, ExxonMobil 24.15%, Total 8.35%

SHG Shareholders

QP 70%, ExxonMobil 30%

SHT Shareholders

QP 67.5%, ExxonMobil 24.15%, Total 8.35%

EMGME Shareholders

ExxonMobil 100%

ANNEX 3 – PRIMARY AND SECONDARY CAPACITY ALLOCATION MECHANISMS

Primary Capacity Allocation

SHG would acquire all primary capacity rights to the Incremental Capacity at the Terminal from SHT. Third parties may express an interest in the Incremental Capacity during Ofgem’s public consultation, but SHT will not be under any obligation to enter into any discussion regarding the allocation of the Incremental Capacity to any other party other than SHG.

Third Party Access

SHT has already published a Guidance Document¹⁵ and form of Confidentiality Agreement to assist those parties seeking secondary capacity at the Terminal. Third party access to Incremental Capacity would be available in the same way as Base Capacity.

Once a third party has become an Additional User there are a number of ways by which they can access secondary Terminal capacity:

1. By agreement with the Base User

SHG is the first point of contact for potential Additional Users seeking to access secondary capacity of the Terminal. SHG offers any spare capacity which might result from scheduling efficiencies for sale.

Additional Users may purchase secondary Terminal capacity from SHG when available, and hold such capacity in the form of a South Hook Bundle (“**SHB**”). A SHB comprises a single berthing slot, firm redelivery capacity and LNG storage space for a defined period of days. The Additional User must nominate redelivery of all the regasified LNG within the defined period.

SHG also offers LNG toll processing services under a bilateral Master Regasification and Gas Delivery Agreement (“**MRA**”) which includes secondary Terminal capacity. The MRA is designed to simplify the contractual and operational framework of processing LNG at the Terminal as it does not require the interested LNG owner to become an Additional User at the Terminal and hence they do not need to enter into a direct contractual relationship with SHT. Currently there are five MRAs in place.

2. By agreeing SHB transfers with other Additional Users

Once a SHB has been created and purchased by an Additional User it can be sold to other Additional Users, pursuant to the terms of the TAC.

3. By participation in an auction conducted by the Terminal Operator as part of the UIOLI regime

When SHG, as Base User, does not intend to utilize or has not been able to sell a

¹⁵ <https://www.southhooklng.com/commercial/secondary-capacity/>

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berthing slot, it will release it back to the Terminal Operator fourteen days ahead of the scheduled slot. SHT will offer a UIOLI slot to the market through an auction process. As per a SHB, a UIOLI slot consists of a berthing slot, storage capacity and gas redelivery for a set time period following the berthing slot. The Guidance Document sets out a step-by-step guide of how an Additional User can participate in a UIOLI capacity auction. The rules for access and use of the Terminal are contained in the TAC.

In addition to the above routes, all Terminal users may on any particular gas day also purchase interruptible redelivery capacity when made available by the Terminal Operator.

ANNEX 4 – SOUTH HOOK TERMINAL INSTALLATION



Source: South Hook Terminal

1. Terminal Capacity

- Base Capacity is 100% sendout capacity of approximately 15.6 MTA annual average or 650 GWh/day with >99% availability
- Peak Capacity sendout is 125% of Base Capacity annual average (for in-day catch-up purposes) with lower availability
- Above capacities based on lean LNG (propane & heavier hydrocarbons removed prior to liquefaction)

2. Main unit operations include:

- Unloading System
- LNG Storage Tanks
- Boil-Off-Gas & Vapour Handling
- LNG Pumping & Vaporization
- Utilities & Infrastructure
 - Integrated Control & Safety System (ICSS)
 - Process Control (DCS)
 - Fire & Gas Detection (F&G)
 - Emergency Shutdown (ESD)
- Nitrogen Generation Units
- LNG & Gas Measurement
- Fuel Gas System
- Electric Power
- Instrument / Plant Air
- Water & Drainage

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All of the Terminal systems are fundamental to the safe and reliable operation of the facilities and are capable of reliably sustaining the Base Capacity, as well as attaining the Peak Capacity, but at a reduced level of availability.

3. LNG Unloading

- Berths 1 & 2 each out-fitted for berthing and unloading of LNG carriers in range of 125,000 to 265,000 m³
- Two LNG carriers can be berthed simultaneously at the terminal. However, only one carrier can discharge at a given time
- Each berth has three LNG Unloading arms, one Vapour Return and one Hybrid LNG/Vapour

4. LNG Storage

- 5 Full Containment tanks with working capacity of 155,000 m³ each
- 8 days storage based on Base Capacity
- Location and height of tanks selected to minimize visual impact

5. In-Tank Pumps

- Each tank has two in-tank LPSO pumps and three pump tubes (i.e. common spare)
- 6 LPSO Pumps required for Base Capacity, 8 for Peak Capacity

6. High Pressure LNG Pumps

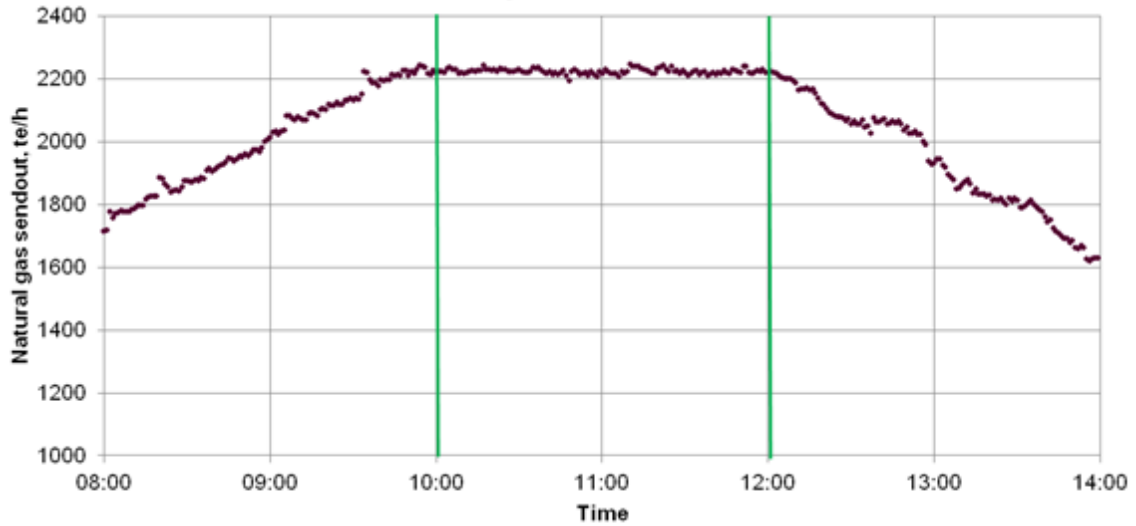
- 15 HPSO pumps installed: 8 in Train 1 and 7 more in Train 2
- 11 HPSO Pumps required for Base Capacity, 14 for Peak Capacity

7. LNG Vaporization

- 15 Submerged Combustion Vaporizers (SCVs) installed: 8 in Train 1 and 7 more in Train 2
- 11 SCVs required for Base Capacity, 14 for Peak Capacity

ANNEX 5 – TERMINAL FLOW TEST

Peak Send-out Performance Test, 10th May 2016



Source: South Hook Terminal

SHT performed a peak capacity test for approximately two hours, maintaining stable operation throughout the test.

ANNEX 6 – GOLDEN PASS LNG EXPORT PROJECT



LNG export project located in Sabine Pass, Texas

- Brownfield project with export capacity up to 15.6 MTA

Shareholders

- Qatar Petroleum (70%), ExxonMobil (30%)

Project activities on track as scheduled

- FEED complete
- Draft EIS received by FERC March 2016

Key Milestones

- FEIS by FERC: 4Q 2016
- NFTA permit by DOE: 2Q 2017



Source: Golden Pass Terminal

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ANNEX 7 – SUPPLY VOLUMES AND MARKET ANALYSIS – EXXONMOBIL

ExxonMobil gas supply in the EEA as a percentage of the corresponding physical supplies.

✂

EEA	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
ExxonMobil Supply Share % Excluding SHG LNG	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂
ExxonMobil Supply Share % Including SHG LNG	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂
ExxonMobil Supply Share % Including SHG LNG and Incremental Capacity					✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂

Chart Assumptions:

1. ExxonMobil comprises expected ExxonMobil equity sales in Europe; including ExxonMobil forecasts for equity production in the United Kingdom, Norway and Germany, plus regasified LNG expected to be purchased from SHG
2. SHG LNG volumes are based on SHG percentage share of UK LNG Regasification Capacity and UK LNG forecast from proprietary third party data
3. Physical Market Demand forecast from proprietary third party data
4. Market Share = ExxonMobil Sales / EEA Physical Market Demand forecast
5. Incremental South Hook Terminal Capacity assumed in 2022 but subject to FID and construction timing; assumes incremental volume is 100% utilised going forward

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ExxonMobil gas supply in GB as a percentage of the corresponding physical wholesale market.

✂

GB	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
ExxonMobil supply % of 2016 UK OTC and Exchange Market including Incremental LNG	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂
ExxonMobil supply % excluding SHG LNG	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂
ExxonMobil supply % including SHG LNG, excluding churn	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂
ExxonMobil supply % including SHG LNG and Incremental LNG, excluding churn						✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂	✂

EM Share of UK Physical Market Assumptions:

1. ExxonMobil is represented by EMGME Sales in GB; including ExxonMobil forecast for 100% equity production related to the UK, 35% of Norwegian equity production, plus regasified LNG from SHG
2. SHG volumes based on SHG percentage share of UK LNG Regasification Capacity and UK LNG forecast from proprietary third party data
3. UK Physical Market Demand forecast from proprietary third party data
4. Market Share = EMGME Sales / UK Physical Market Demand forecast
5. OTC and Exchange Market Data from ICIS Heren and ICE
6. Incremental South Hook Terminal Capacity assumed in 2022 but subject to FID and construction timing; assumes incremental volume is 100% utilised going forward
7. UK OTC & Exchange Market reflects market churn and provides a more realistic measure of market influence.

ANNEX 8 – SUPPLY VOLUMES AND MARKET ANALYSIS – OP

QP LNG supply in the EEA as a percentage of EEA gas demand

Area	LNG volumes supplies (BCM equivalent)	Percentage in relation to gas demand
EEA	23.3	5%
GB	10.0	13%

Data Source: IHS Waterborne and IHS EU 28 / Country Demand (all data as available Jan 2017)

Percentage in relation to gas demand calculation = LNG volumes supplies from Qatar in 2016 divided by Total IHS Gas Demand in 2016 for the relevant area

ANNEX 9 – UK TERMINAL UTILIZATION



Chart Redacted

Source: Proprietary third party data

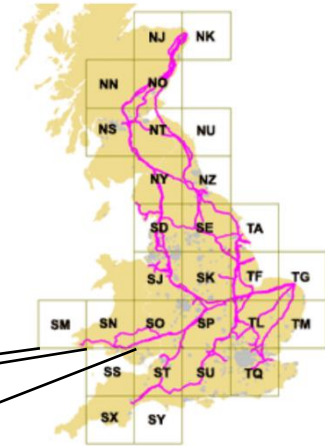
Note: SHT regasification capacity held by SHG, not SHT shareholders

ANNEX 10 – FELINDRE PIPELINE

National Grid high pressure gas pipeline from Milford Haven

Milford Haven entry point (SHT/Dragon LNG) is connected to the NTS via a purpose built 75 mile gas pipeline from Milford Haven to Aberdulais, and a further 122 mile pipeline from Felindre to Tirley. The pipeline has a total capacity of 950 GWh/d.

Assessment of potential reinforcement required through the National Grid PARCA framework process.



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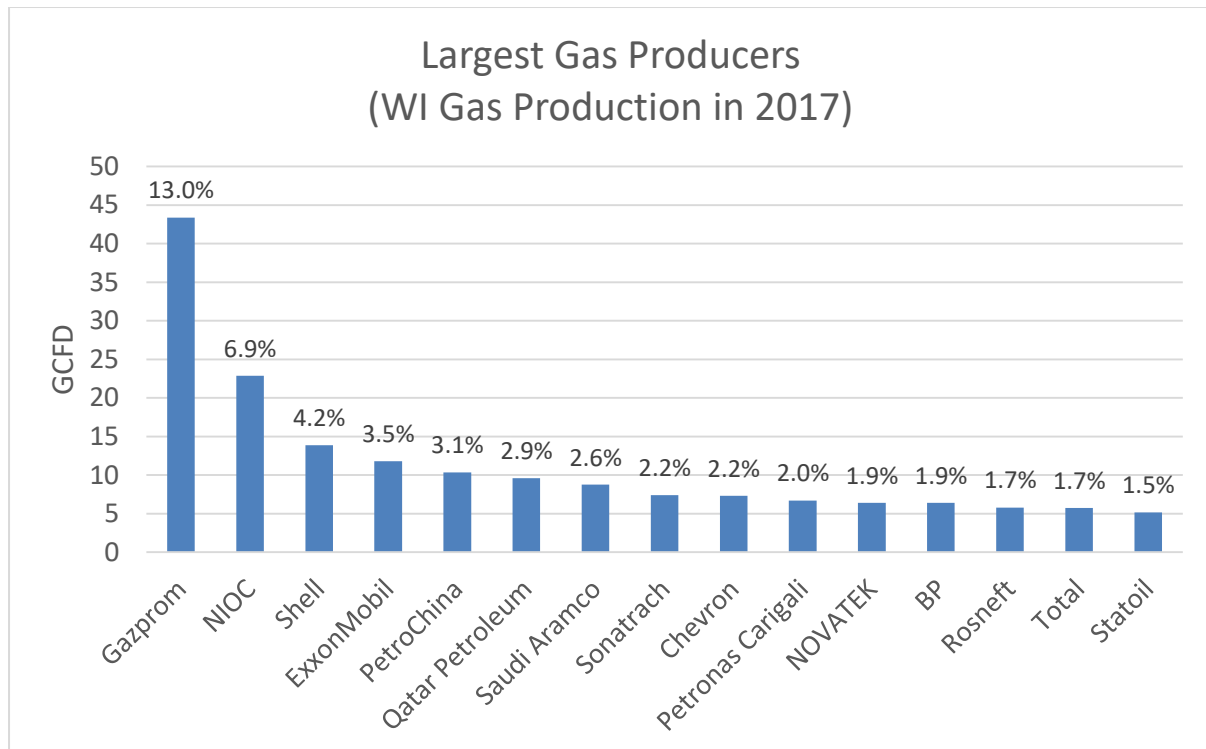
SN ←

SO ←



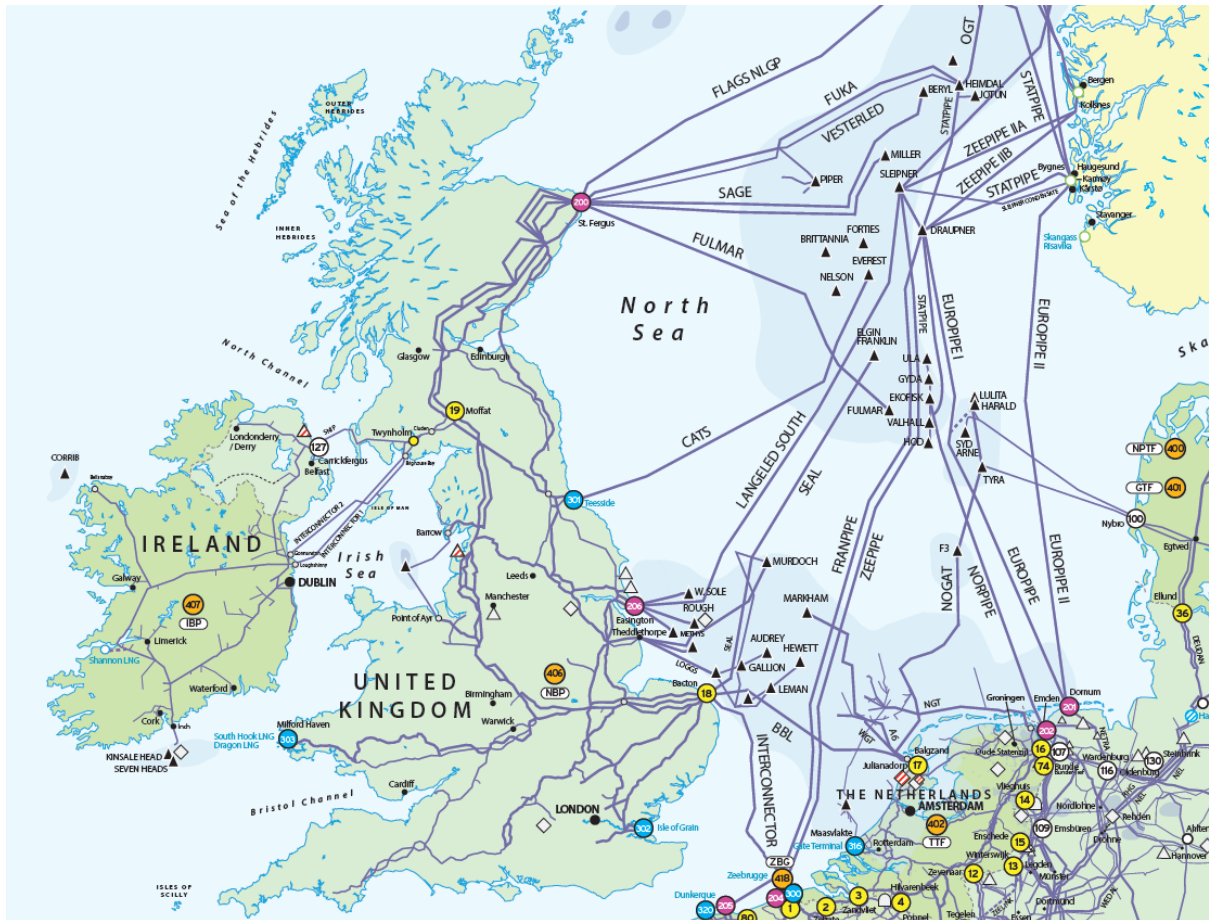
Source: National Grid

ANNEX 11 – GLOBAL GAS PRODUCTION



Source: Third party data

ANNEX 12 – EXISTING SUPPLY ROUTES



Source: ENTSOG

There are multiple North Sea production lines flowing to GB providing strong security of supply, several of which have flow flexibility in that volumes can be directed either to GB or to continental Europe, helping balance supply and demand. The pipelines BBL and Interconnector also help GB rapidly react to market signals.

The three major LNG receiving terminals provide further diversification in gas supplies ensuring GB is well placed to satisfy variations demand.

ANNEX 13 – MARKET TEST

Industry Press Notice:

South Hook LNG Terminal Company Ltd (SHT) Market Test

SHT has an annual average Base Capacity of ~15.6 MTA with >99% availability, and a Peak Capacity of ~19.5 MTA. The Incremental Capacity which makes up the Peak Capacity above the Base Capacity has a much lower availability than the Base Capacity. SHT is evaluating options to reinforce the Incremental Capacity and increase its availability, enabling it to be used on a long term contractual basis. However, the investment planned for this reinforcement would not increase the availability of the Incremental Capacity to the same level as the Base Capacity, and it will therefore be subject to interruptions.

In accordance with Section 19DB the Gas Act 1986, SHT is conducting a market test in support of a Regulated Third Party Access (RTPA) exemption application. The RTPA exemption application will cover the full 3.9 MTA for a period of 25 years which, subject to FID, will correspond to the start-up of the Golden Pass LNG facility envisaged in 2023, or other source(s) of supply. It is currently planned that the Incremental Capacity will be assigned to South Hook Gas Company Ltd (SHG). However, parties are invited to register if they would have an interest in the Incremental Capacity, which will provide Ofgem and SHT with an indication of the level interest in new LNG regasification capacity in GB. It should be noted that this is not an open season and there is no obligation for SHT to enter into any discussion regarding the allocation of the Incremental Capacity.

The Market Test window will open at 09:00 on 21/03/2018 and close at 12:00 on 18/04/2018, during which parties who wish to express an interest in the Incremental Capacity between approximately 2023 and 2048 may provide the relevant information confidentially to SHT. Any information provided will be shared solely with Ofgem and the European Commission. Further information can be found at the SHT website <https://www.southhooklng.com/media-centre/press-releases/>

Upon submission of the corresponding RTPA exemption application, Ofgem will also be conducting a public consultation where interested parties may read the application in detail and provide comments directly to Ofgem.

About South Hook LNG Terminal Company Ltd

SHT is proud to be one of the major contributors to the diversity of UK energy. SHT is based in Milford Haven, Pembrokeshire, West Wales and is one of Europe's largest and most utilized LNG regasification Terminals. Fully commissioned in 2010, SHT currently has the capacity to process approximately 15.6 MTA of LNG, and capable of receiving LNG carriers of between 125 km³ and 267 km³. SHG has purchased all of the Base 15.6 MTA of capacity for the duration of the current RTPA exemption, with both SHG Gas and SHT facilitating secondary capacity trading when there is availability, including through use-it-or-lose-it provisions. The terminal is designed to receive lean LNG from Qatar and is equipped with nitrogen generation facilities in order for the regasified LNG to be within specification for the GB gas transmission system.

Public Version

SHT Website Notice:

South Hook LNG Terminal Company Ltd (SHT) Market Test

SHT has an annual average Base Capacity of ~15.6 MTA with >99% availability, and a Peak Capacity of ~19.5 MTA. The Incremental Capacity which makes up the Peak Capacity above the Base Capacity has a much lower availability than the Base Capacity. SHT is evaluating options to reinforce the Incremental Capacity and increase its availability, enabling it to be used on a long term contractual basis. However, the investment planned for this reinforcement would not increase the availability of the Incremental Capacity to the same level as the Base Capacity, and it will therefore be subject to interruptions.

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The Market Test window will open at 09:00 on 21/03/2018 and close at 12:00 on 18/04/2018, during which parties who wish to express an interest in the Incremental Capacity between approximately 2023 and 2048 may send any requests for further details, and subsequently provide the following information on a confidential basis, by email to Elvan Akkaya, Commercial Adviser (eakkaya@southhooklng.com). Any information provided will be shared solely with Ofgem and the European Commission.

- Approximate annual quantity in MTA for each applicable year
- Indicative LNG specification
- Expected cargo size(s)
- Level of premium or discount to the reference regasification tariff of 0.42 \$/MBTU

Upon submission of the corresponding RTPA exemption application, Ofgem will also be conducting a public consultation where interested parties may read the application in detail and provide comments directly to Ofgem.

Notes:

- (i) The reference regasification tariff is the arithmetic average of the European Q42017 regasification costs data set from the proprietary third party data which contains reported or assumed regasification terminal costs of existing terminals and proposed developments. The data is in raw download form with the average of the reported costs being approximately \$0.42/MBTU. This figure has no relation to current or future LNG regasification tariffs at SHT and does not take into account normal use and loss gas or ancillary services.