Gas Storage

Regulatory Framework

Consultation Paper

22nd July 2009

Contents

1. Introduction

There is significant industry interest in developing gas storage facilities in Northern Ireland. Current interest is through the development of underground caverns in salt layers within the Larne area. As there has been no previous natural gas storage facilities in Northern Ireland a regulatory framework has not been developed. Therefore in order to provide a position to industry, a regulatory framework for gas storage in Northern Ireland is required.

This paper sets out the Utility Regulator's initial views on the most appropriate gas storage framework for Northern Ireland. These views and the proposed storage framework have also been discussed with the Department for Energy, Trade and Investment (DETI). Both government bodies will be involved in the licensing process, since a licence may be granted by DETI after consultation with the Utility Regulator or by the Utility Regulator under either general authority or consent from DETI. As any decisions on the most appropriate regime will be made in light of applications for a gas storage licence, it is not possible at this early stage to provide a definitive answer on the most suitable framework. However in order to provide some transparency and certainty to storage investors the paper provides an insight into the key principles that the Utility Regulator and DETI would take into account when judging an application for a gas storage licence.

The key principles discussed are:

- third party access (TPA) regimes,
- exemptions to access; and
- licence conditions.

In discussing the principles, the paper reviews relevant legislation and existing gas storage frameworks as a reference in considering an appropriate framework for Northern Ireland.

The paper focuses on the existing EU Directives on TPA, in particular the negotiated and regulated regimes. Any future gas storage framework will have to comply with these directives and remain mindful of future European requirements.

The principles regarding exemptions to TPA are also discussed and the approach taken in other jurisdictions is examined.

The regulatory framework will be implemented through a new gas storage licence. Under existing legislation, a gas storage licence is required to store natural gas in Northern Ireland. Although this legislation is in place, a gas storage licence has never

been created as there has been no requirement to do so, up until now. Accordingly, a concept draft gas storage licence accompanies this paper.

The paper also provides a brief background to the potential benefits that gas storage facilities would bring to Northern Ireland, by improving security of supply, stabilising prices and in its use as a flexible supply source.

Although the proposed gas storage framework under consideration is for Northern Ireland, the consultation is also mindful of the Common Arrangements for Gas (CAG) project and the potential CAG market.

The paper seeks the views of participants on all aspects of the paper and in particular the key principles regarding third party access, exemptions and licence conditions.

Industry participants will also be interested on the development of transmission tariffs for gas storage facilities and the approach to strategic storage in Northern Ireland. This paper does not address these issues as the intention is that transmission tariffs for storage will be included within the CAG tariff workstream and that strategic storage is addressed through a joint approach between the Department of Enterprise Trade and Investment (DETI) and Department of Communications, Energy and Natural Resources (DCENR).

1.1 Paper Structure

The approach of the paper has been to set out the key European legislative areas on gas storage that need to be considered for the Northern Ireland regulatory framework. As a comparator, the approach adopted by other European Member States is also presented. This is followed by analysis applicable to the Northern Ireland market.

Throughout the paper, areas where the Utility Regulator is keen to receive responses from industry are highlighted with boxed questions.

This section is followed by Section 2 which provides some background on the primary benefits of gas storage. Section 3 discusses the gas storage projects in Northern Ireland that are currently under development. Section 4 discusses the legislative environment for gas storage within Northern Ireland including the gas storage licence requirement Section 5 sets out the European legislative environment applicable to gas storage facilities. For comparative purposes existing regulatory frameworks are considered in Section 6, namely Great Britain and Ireland. Section 7 applies analysis of the applicable legislation to Northern Ireland. Section 8 identifies the next steps required in the gas storage workstream.

Supporting documentation is presented in the Appendices. A draft gas storage licence also accompanies this paper (presented as a separate document). The storage licence is included for indicative and discursive purposes only and will be subject to further change.

1.2 Request for comment

This consultation paper seeks the views of all participants on the most appropriate regulatory regime for gas storage facilities in Northern Ireland. In particular the paper seeks comments on the negotiated and regulated third party access regimes, exemption criteria and the indicative licence conditions.

The paper sets out specific questions on which we seek industry response.

The Utility Regulator intends to publish all comments received. Any confidential information that respondents wish not to be published must be clearly marked as such. The Utility Regulator invites comment on this consultation paper by close of business on Friday the 16th of October 2009. Responses, preferably in electronic format, should be returned to:

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2. Background

The following section provides a brief overview of the primary benefits of gas storage.

Flexibility tool

Gas Storage is principally used to meet seasonal and short-term variations in demand. Gas is injected during the summer period during periods of low demand and withdrawn during the winter period to meet higher demand. This is known as managing the swing.

Until recently, managing the swing between summer and peak winter demand has largely been provided by varying the flows from the production fields in the North Sea. However with North Sea gas stocks diminishing this will not be an enduring position.

Increasingly UK gas supplies will originate from further afield via pipeline from Norway, Russia and Algeria or by ship through Liquefied Natural Gas (LNG) imports.

Gas storage is an important tool in managing the swing. The reliance on expensive imported gas during the winter can be reduced by filling gas storage facilities during the summer period with lower priced gas. Control over the swing capability through the use of gas storage has the potential to reduce the fluctuations in the cost of gas for consumers. The value of these savings has been estimated in the CAG Cost Benefit Analysis[1] (CBA). The CBA demonstrates that by taking advantage of the winter/summer price gas differential, savings of £5.75 million per annum could be realised.

Gas storage can also be used in meeting the short term fluctuations in weekly and daily demand. This allows suppliers to supplement gas supplies from storage during periods of increased demand rather than purchasing expensive short term gas. The lower price can then be passed onto consumers.

Gas storage will also provide a flexibility tool to the electricity market, since the use of storage will allow power stations to respond to short term fluctuations in demand. Gas storage will also provide a responsive source for peaker plants that are intended to supplement wind turbines in the event of low levels of wind. This is particularly recognised in Ireland to support the desire to increase the use of renewable energy sources.

Security of Supply

As GB becomes increasingly dependent on imported gas, the level of control over the security of gas supplies will reduce. This issue will have a significant impact upon Northern Ireland and Ireland as both jurisdictions are heavily reliant on imports from the

[1] Common Arrangements for Gas, Cost Benefits Analysis, 20th April 2009

GB market. Over 90% of gas supplies are now imported from GB to Ireland and Northern Ireland. Taken in isolation Northern Ireland is wholly dependent on GB for its supplies.

To further compound the issue, both Northern Ireland and Ireland are becoming increasingly dependent on gas for electric power generation. Approximately 65% of imported gas is used for power generation. Therefore if a restriction on gas supplies occurred the electricity sector would also be severely impacted.

There are emergency arrangements in place to reduce the impact to consumers if such an event were to occur. For example, domestic consumers would be the last customers to be switched off in the event of a shortage to supplies. There is also inventory within the gas network (line-pack) which would be available if supply is interrupted. However it is estimated that line-pack supply to the domestic market would be unlikely to exceed a few days (dependent on demand).

The EU Council Directive 2004/67/EC[2] require provisions that domestic customers are protected to an 'appropriate extent' in the event of a partial disruption to gas supplies or under extremely cold temperatures. There are no specific guarantees to domestic consumers set out in the directive, however a list of 'instruments' or provisions that should be used to reduce the risk of disruption to domestic supply is proposed, including the availability of gas storage. Any future changes to these legislative provisions will be factored into our considerations.

Gas storage can be used as a back-up in the event of either a mechanical failure at entry point or a political interruption to gas supplies. Gas storage is currently available at the Southwest Kinsale reservoir. However there is a considerable shortfall given that all-island domestic demand is around 10 mscm/day[3] and indigenous supply from Kinsale production, withdrawal from Southwest Kinsale storage and available line-pack totals around 4mcm/day. A particular benefit of the gas storage projects planned for Northern Ireland is the high withdrawal rates available from salt caverns. This would provide a greater level of responsiveness in the event of a restriction to supplies.

It is recognised that additional gas storage can be provided by GB storage facilities to meet peak demand in both Northern Ireland and Ireland, however this comes with the potential interruption risk should there be a supply problem via Moffat in Scotland.

[2] Council Directive 2004/67/EC of 26 April 2004 concerning measures to safeguard security of natural gas supply

[3] Source: CSA Group, Study on Common Approach to Natural Gas Storage and Liquified Natural Gas on an All Island basis, Executive Summary, November 2007. The report states that 7 mscm/day would be required to maintain domestic demand, however in practical terms supplies to the majority of other customers connected to the distribution system need to be maintained as there is no way of isolating them safely. This brings the requirement up to 10mscm/day.

The above discussions have highlighted the level of risk facing both Northern Ireland and Ireland with regards to the security of future gas supplies. Given this situation, the development of additional gas storage facilities in Northern Ireland would be a key and welcome addition to the instruments that could be used to reduce the risk of disruption to domestic supply. Indeed in the report "Common Approach to Natural Gas Storage and Liquefied Gas on an All-Island Basis", commissioned by both the Departments of Ireland (DCENR) and of Northern Ireland (DETI) in April 2008 gas storage in salt caverns has been highlighted as one of the recommendations required to address the security of supply issues facing Ireland and Northern Ireland.

The development of gas storage facilities would improve the ability to maintain supply in the event of an emergency and also avoid direct government investment in strategic storage if commercial ventures developed these facilities. Again referencing the CAG CBA, this could amount to an annual avoided cost of £2.8 to £4.1 million for both governments.

With these benefits in mind, the Utility Regulator is keen to put in place a regulatory framework that encourages the development of gas storage facilities in Northern Ireland.

3. Proposed Storage Projects

Currently there are no gas storage facilities in Northern Ireland. However geological studies have highlighted the possibility of gas storage in salt caverns within the Larne area.

Two industry ventures currently hold Mineral Exploration Licences to prospect the Larne area:

Islandmagee Storage Limited (Portland Gas plc and Moyle Energy Investments Limited)

The results of a 3D seismic survey in 2007 have been positive and the company wishes to proceed with submitting a planning application towards the end of 2009.

A borehole to provide data for Front-End-Engineering-Design is expected to take place in 2010. Assuming successful award of planning permission the target for first gas operations is 2014, with full capacity available in 2016.

Initial proposals are that capacity would be in the region of 500 mscm (million standard cubic meters) in seven caverns below Larne Lough in an area leased from the Crown Estate. To set this in context the annual demand for gas on the island of Ireland is 5.7 bscm (billion standard cubic meters) (2006/2007 figures).

The Islandmagee Storage Limited facility would therefore be capable of storing 9% of annual gas consumption for the island (based on current consumption figures). Using figures of 27 mscm/day peak demand, this could theoretically provide 18 days of storage. The withdrawal rate is likely to be less, say 22 mscm/day, increasing the number of available days to 23. This would provide a substantial buffer in the event of any restriction to supply.

Bord Gais Eireann/Storengy

Bord Gais Eireann and Storengy (a company of GdF SUEZ) plan to carry out an onshore seismic survey on an area 25km² to the south west of Larne in the final quarter of 2009 as part of their “North East Storage” (NES) project. Test drilling is also expected to take place on this project in 2010.

An indicative estimate is that the facility may have a working gas capacity of approximately 300 mscm. A more accurate estimation of the actual potential working capacity will be given after the seismic survey is completed later this year. Indicative withdrawal rates are between 15 and 20 mscm per day with 6-8 mscm/day injection rates.

Storengy currently owns and operates a portfolio of 12 onshore gas storage facilities in France (including 3 salt cavern facilities). Storengy are also present in Germany and Canada and are currently constructing a salt cavern gas storage facility in England.

4. Northern Ireland Regulatory Framework

This section details the Northern Ireland legislative environment for the storage of gas in Northern Ireland. This section is complemented with a concept draft gas storage licence.

Under the Energy (Northern Ireland) Order 2003 (the Order) DETI and the Utility Regulator are required to carry out their respective gas functions. The principal objective of the DETI and the Utility Regulator in carrying out their respective gas functions is to promote the development and maintenance of an efficient, economic and co-ordinated gas industry in Northern Ireland[4].

In carrying out these functions, DETI and the Utility Regulator are also to secure a diverse, viable and environmentally sustainable long term-term energy supply[5] , to protect the public from dangers arising from the conveyance, storage, supply or use of gas[6] and to facilitate competition between persons whose activities consist of or include storing, supplying or participating in the conveyance of gas[7].

Furthermore the Draft Strategic Energy Framework for Northern Ireland 2009[8], published by the Department in July 2009, acknowledges the benefits of gas storage and welcomes the development of gas storage projects in Northern Ireland.

Additionally, in carrying out their respective gas functions the Department and Utility Regulator shall not discriminate between persons whose activities consist of or include storing, supplying or participating in the conveyance of gas as regards either rights or obligations[9].

A gas storage licence is required in order to store gas in a gas storage facility in Northern Ireland. This is a key principle of the regulatory framework in Northern Ireland. The licence may be granted by the Department or by the Utility Regulator under either general authority or consent from the Department[10]. Further discussions relating to the development of the gas storage licence are discussed in section 4.1 below.

[4] Article 14(1) of the Energy (Northern Ireland) Order 2003
[5] Article 14(5)(c) of the Energy (Northern Ireland) Order 2003
[6] Article 14(5)(b) of the Energy (Northern Ireland) Order 2003
[7] Article 14 (5)(d) of the Energy (Northern Ireland) Order 2003
[8] A Draft Strategic Energy Framework for Northern Ireland 2009, DETI, July 2009
[9] Article 14 (5a) of the Energy (Northern Ireland) Order 2003
[10] Article 8(1)(b) of The Gas (Northern Ireland) Order 1996

The new Northern Ireland gas storage licence will also require alignment to the third party access regimes contained in the recently adopted 'Third Package' of legislative measures on the internal energy market which is further discussed in Section 5.

Additionally the consent of the Authority must be granted for the execution of works for the construction of a gas storage facility[11].

4.1 Gas Storage Licence

The legislative arrangements discussed above all require consideration in the future gas storage regulatory framework. It is intended that the gas storage framework will be largely implemented through a new gas storage licence. As Northern Ireland does not have a storage facility the above legislation, although in place, has never been used. Therefore a licence to store gas in a storage facility in Northern Ireland has never been created.

As part of this consultation, a concept gas storage licence has been provided for review. The concept licence is for indicative purposes only and will be subject to further change. However the concept licence is included to give an indication of the Utility Regulator's current thinking on the conditions to be included in a gas storage licence. As such, the Utility Regulator seeks comments from industry on the concept licence. As areas of the licence are part of this consultation process, sections of the licence remain intentionally incomplete. Some points arising from the development of the gas storage licence to date are highlighted below.

Grant and terms of licence

The issue of what business entity is granted the licence is a matter for consideration, i.e. the owner or the operator of the storage facility. At this stage, it is the Utility Regulator's initial view that licensing the business responsible for the day-to-day operation of the storage facility would be the most appropriate approach, therefore in this case the Storage System Operator (SSO). The owner may have some obligations indirectly via the licence but it is expected that the storage operator would be the licensed business. This is of course dependent on the particular structure of the business applying for a licence and will be a consideration at the time of application.

Also the grant allows for the licensing of multiple locations under a single licence. For clarity it is expected that a single licence would cover all locations where a storage facility is sited - for example a single licence would only be required for a site in Larne

[11] Article 37 of The Gas (Northern Ireland) Order 1996

and additional sites operated elsewhere in Northern Ireland by the same operator, should this situation ever occur.

Part 1 - General Conditions Applicable to the Licence Holder

The general conditions included are similar to conditions contained within conveyance and supply licences but with amendments relevant to the licencing of gas storage facilities. For example conditions such as Powers of Entry and Development Duties have not been included as they are considered not relevant for a gas storage business, However equally applicable conditions such as Consultation with the General Consumer Council, Restriction on Use of Certain Information, Disposals of Relevant Assets and other standard general conditions have been retained in the gas storage licence.

Part 2 – Conditions Applicable to the Storage of Gas by the Licence Holder

Condition 2.1.3 requires the licensee to provide a Capacity Statement to the Utility Regulator, Transmission System Operators (TSOs) and to third parties on request. The intention of this condition is to provide transparency of available capacity and to ensure alignment with the Gas Capacity Statement/Pressure Report provided by the TSOs.

Condition 2.2.2 on the independence of the Gas Storage Business, requires the licensee to operate the gas storage facility through an entity legally distinct and separate from any other business which is engaged in the production or supply of gas in Northern Ireland. The inclusion of this condition within the licence is in reference to the independence requirements of the Third Package discussed in Section 5 of this paper.

Condition 2.3 refers to the storage operator's interaction with other natural gas undertakings, system users and storage system operators. In particular conditions 2.3.6 and 2.3.7 apply to the third party access regime discussed throughout this paper.

Condition 2.6 refers to Emergency Services and obligations. The intention here is to reference the Gas Safety Management Regulations (Northern Ireland) (GSMR(NI)) without causing any unnecessary overlap or confusion. The GSMR(NI) are overseen by the Health and Safety Executive Northern Ireland (HSE(NI)).

The Utility Regulator seeks industry views on the concept draft gas storage licence presented as part of the gas storage regulation framework for Northern Ireland.

5. European Legislative Environment

This section outlines the legislative environment for gas storage facilities within Europe. Some background is provided through reference to the First[12] and Second[13] Gas Directives, and their contribution to the recently adopted 'Third Package[14]' of legislative measures on the internal energy market. The paper largely focuses on the third party access regimes under these directives, however further conditions of the Third Package such as transparency and unbundling are discussed in section 5.6.

5.1 Third Party Access

The First Gas Directive established common rules for the transmission, distribution, supply and storage of natural gas. The First Gas Directive, amongst other things, required Member States to ensure Third Party Access (TPA) to transmission and distribution networks, and gas and LNG storage facilities.

In particular, the First Gas Directive gave Member States the option to meet these requirements either through a negotiated (nTPA) or regulated TPA (rTPA) regime. Either regime must operate in accordance with objective, transparent and non-discriminatory criteria.

The Second Gas Directive repealed the First Gas Directive but retained the option for Member States to meet the TPA requirements through implementing either a negotiated or regulated TPA regime. Following on from this, the Second Gas Directive has recently been repealed through the adoption of the Third Package but again the option to meet the TPA requirements through a negotiated or regulated regime has been retained.

There are no set rules on the implementation of a nTPA or rTPA regime. Each Member State is free to tailor a suitable regime to their market as long as procedures in place for either regime are objective, transparent and non-discriminatory.

Additionally and as guidance, at the EU Gas Regulatory Madrid Forum, May 2009, the European Energy Regulators (ERGEG) proposed the following criteria for consideration when selecting the most appropriate TPA regime:

[12] Directive 98/30/EC concerning common rules for the internal market in natural gas

[13] Directive 2003/55/EC concerning common rules for the internal market in natural gas

[14] Directive 2009/…/EC concerning common rules for the internal market in natural gas and repealing Directive 2003/55/EC

- the effectiveness of competition in the market
- the availability of alternative flexible tools
- the availability of capacity for storage users
- the availability of requested products by other storage operators
- the independence of the storage system operator

ERGEG plan to develop the analysis behind the proposed criteria in a public consultation expected in August 2009. The Utility Regulator will review the outcome of the consultation and consider any recommendations presented.

A summary of the access requirements under both the negotiated and regulated access regimes are given below. Consideration of the most suitable access regime to the Northern Ireland gas storage market is provided in section 7.

5.2 Negotiated Third Party Access

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

Contracts for access to storage shall be negotiated with the relevant SSO. The SSO is required to publish its main commercial conditions for the use of storage on an ex-ante basis.

Any disputes relating to the negotiations for access are to be settled by an independent and competent authority. In the event of cross-border disputes, the authority that covers the gas storage facility shall act as the settlement authority. For example, should there be a dispute with supply to Ireland from a gas storage facility in Northern Ireland; the Utility Regulator would act as the settlement authority.

The ERGEG publication, 'Guidelines for Good TPA Practice for Storage System Operators' (GGPSSO) provides further recommendations on the charging principles to be applied under a nTPA regime.

The GGPSSO advises that under a nTPA regime, the charges should[15]:

- be non-discriminatory; prices should be the same for any storage user for the same service contracted for at the same time and under the same conditions;
- promote efficiency and facilitate competition in the use of storage services;
- provide for appropriate incentives on new investments according to storage users' needs, feasibility and technical constraints
- be negotiated in a time frame compatible with the storage users' reasonable commercial needs.

[15] ERGEG Guidelines for Good TPA Practice for Storage System Operators, March 2005

5.3 Regulated Third Party Access

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.

As a minimum the information published under a rTPA regime would be equivalent to those of the nTPA regime; however additional obligations would be in place. For instance, such additional obligations could include having to apply to the regulatory authority for approval of methods for calculating a storage tariff and for verification of the resulting tariff.

The GGPSSO states that the tariff structure under a rTPA regime should:

- reflect efficiently incurred costs of access to storage facilities including a fair return on investment, both in the case of direct access to a specific storage site and access to a group of storage sites;
- reflect the geological nature of the storage facility or facilities;
- avoid cross subsidies between storage users;
- promote efficient commercialisation and use of storage;
- promote adequate and efficient investments according to users' needs, feasibility and technical constraints;
- be clear and transparent;
- be reviewed on a regular basis taking into account developments in the market;and
- where appropriate, international benchmarking of tariffs may be taken into account and applied in a non-discriminatory manner.

Table 1 outlines the key points and differences between the negotiated and regulated regimes.

Table 1 Summary of key points regarding Negotiated versus Regulated Third Party Access[16]

Key Points	Negotiated	Regulated
Storage operators are not to discriminate between parties or classes of parties particularly in favour of related undertakings.	Applies	Applies
Storage operators can only refuse access to the facility on the basis of (1) lack of capacity (2) where the access to the facility would prevent them from carrying out their public service obligation (3) where access would cause the storage operator serious economic and financial difficulties as a result of take-or-pay contracts.	Applies	Applies
Parties must be able to negotiate access to storage facilities so as to conclude voluntary commercial agreements for supply.	Applies	
Storage operators are required to publish their main commercial conditions for the use of the facility on an annual basis.	Applies	
Parties must be given a right of access to the storage facility on the basis of published tariffs and/or terms and obligations for the use for the facility.		Applies

5.4 Technically and/or economically necessary requirement to allow access

Under Article 32 of the Third Package a storage operator will be required to provide third party access to the storage facility – be it under the negotiated or regulated regime – where access to the facility is "*technically and/or economically necessary for providing efficient access to the system for the supply of customers, as well as for the organisation of access to ancillary services*".

[16] Source: Ofgem letter, The Second EU Gas Directive and storage regulation Great Britain, 25th November 2004

Therefore if TPA is deemed to be *technically and/or economically necessary* under the Directive, Member states have the option to meet the TPA requirements through implementing either a negotiated or regulated regime. If access to the gas storage facility is not required for the operation of an economically efficient gas market then the facility is exempt from allowing access to third parties. Further discussion on exemption through this means is provided in section 7.7.

The Council of European Energy Regulators (CEER) has published guidance on the application of the term 'technically and/or economically necessary' within the report: 'Recommendations on implementation of Third Party Access to Storage and Line-pack[17]'. This analysis contained in the report has been used as guidance on applying the term to the Northern Ireland gas storage framework as discussed in section 7.

The report provides the following definitions:

Technical Requirement

If there are no flexibility tools apart from storage that can satisfy any operator or new entrant's demand for a certain kind of flexibility services, this means that access to the gas market is *technically* possible only through storage. In this case, access to storage must be granted, either under an nTPA regime or rTPA regime.

Economic Requirement

If shippers' need for a certain kind of flexibility can be fulfilled by any tool other than storage, this tool should be available at a cost that does not represent an economic barrier to entry in comparison with the cost of using storage itself. This result can be achieved either through effective competition, under nTPA, or through cost reflective tariffs, under rTPA.

The recommendations from the CEER report are included in Appendix 2 and are further discussed below.

The report's recommendations are dependent on the flexibility of the market concerned. Flexibility is defined as the availability of gas and/or capacity (transmission, storage, LNG capacity) needed to:

[17] CEER, Recommendations on implementation of Third Party Access to Storage and Line-pack, 5th December 2003

- adapt supply to foreseeable volume variations in demand and to adjust the erratic fluctuations of demand;
- exploit market opportunities with the market opening to competition, i.e. using different combinations of flexibility tools in order to achieve cost advantages or enjoy new market business;
- comply with public service obligations and strategic objectives

The report identifies ‘flexibility tools’ to provide flexibility on the supply side in order to meet fluctuations in demand. Examples of flexibility tools are storage, production flexibility, flow management, such as import flexibility, back-haul, interruptible and line-pack or other more sophisticated flexibility tools such as virtual storage and spot markets.

The tools identified above, if available, will increase the flexibility within the market. However these tools are not always close substitutes for storage, as they may provide different performances in terms of peak, durations and time response. For example, production flexibility and import contracts are likely to be insufficient to cover wintertime peak demand.

5.5 Exemptions

In continuation with the Second Directive, the Third Package (Article 35) also permits exemptions from TPA requirements to be given to major new gas infrastructures, including gas storage for a defined period of time.

The conditions allowing exemption are:

- the investment must enhance competition in gas supply and enhance security of supply
- the level of risk attached to the investment is such that the investment would not take place unless an exemption was granted
- the infrastructure must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that infrastructure will be built
- charges are levied on users of that infrastructure
- the exemption is not detrimental to competition or the effective functioning of the internal gas market, or the efficient functioning of the regulated system to which the infrastructure is connected.

5.6 Additional requirements of the EU Third Package

The EU Third Package aims to progress common rules for the internal market in gas, including rules relating to gas storage activities. The proposed changes plan to further progress the development of an internal gas market and to address existing obstacles within the current market.

In order to address these issues, the proposed changes focus on ensuring independence through unbundling, clear designation of roles and fair access to services. Transparency and the availability of information to market participants are also promoted within the package. Relevant high level points, applicable to gas storage, are outlined below.

Unbundling

The Third Package directive states that without effective separation of networks from activities of production and supply ("effective unbundling"), there is a risk of discrimination in the operation of the network and also in the incentives for vertically integrated undertakings to invest adequately in their networks.

The European Parliament has referred to ownership unbundling as the most effective unbundling tool to promote investments in infrastructure in a non-discriminatory way, fair access to the network for new entrants and transparency in the market. The term ownership unbundling implies the appointment of a network owner as the system operator and its independence from any supply and production interests.

In relation to storage, where an independent system operator has been appointed, a transmission system owner and a storage system operator which are part of a vertically integrated undertaking shall be independent at least in terms of their legal form, organisation and decision making from other activities not relating to transmission, distribution and storage.

In order to ensure independence of the transmission system owner and storage system operator the directive recommends that the following minimum criteria are applied:

- the management of the transmission system owner and storage system operator may not participate in company structures of the integrated natural gas undertaking responsible, directly or indirectly, for the day-to-day operation of the production and supply of natural gas

- appropriate measures should be taken to ensure that the professional interests of persons responsible for the management of the transmission system owner and storage system operator are taken into account in a manner that ensures that they are capable of acting independently

- the storage system operator shall have effective decision-making rights, independent from the integrated natural gas undertaking, with respect to assets necessary to operate, maintain or develop the storage facilities, and
- the transmission system owner and the storage system operator shall establish a compliance programme, which sets out measures taken to ensure that discriminatory conduct is excluded, and ensure that observance of it is adequately monitored. The compliance programme shall set out the specific obligations of employees to meet those objectives. An annual report, setting out the measures taken, shall be submitted by the person or body responsible for monitoring the compliance programme to the regulatory authority and shall be published.

In summary, the package promotes the operation of storage facilities that have effective independent decision making rights from any supply and production interests.

Transparency

In order to ensure effective market access for all market players the package requires that storage operators publish detailed information regarding the services it offers and the relevant conditions applied, together with the technical information necessary for storage facility users to gain effective access.

Storage operators will also be required to publish the amount of gas in each storage facility and the available storage capacities, including those facilities exempted from third party access.

Also, as discussed in section 5.3, to ensure transparency relating to tariffs the storage facility operators or relevant regulatory authorities shall make public sufficiently detailed information on tariff derivation, methodologies and structure of tariffs for infrastructure under rTPA.

Additionally storage operators must satisfy confidentiality requirements for commercially sensitive information.

The points highlighted above are a high level review of the legislative requirements for gas storage under the Third Package requirements. Further analysis on the impact of the Third Package will be required in this area. However at this stage the Utility Regulator aims to ensure that the regulatory framework put in place in Northern Ireland will reflect the requirements of the Third Package.

The discussions above focus on third party access, unbundling and transparency requirements of the Third Package. Are there any further aspects of the Third Package legislation that should be considered for the future regulatory framework of gas storage in Northern Ireland?

6 Existing Regulatory Frameworks

6.1 Great Britain

Importantly in comparison to Northern Ireland legislation, neither the operation nor the ownership of gas storage facilities in Great Britain are licensable activities. The commercial operation of storage facilities are however subject to some requirements set out in the Gas Act 1986 including a requirement to provide nTPA unless exempt.

Directive Compliance

With regards to the EU First Directive the Department of Trade and Industry (DTI) decided to implement a 'light-touch' regime for access to gas storage on the basis that the gas storage industry had been deregulated in GB, and that competition in the market for gas storage service was increasing. DTI therefore chose to implement a nTPA regime for access to storage and also introduced an exemption regime whereby Ofgem could exempt storage facilities from all or some of the TPA provisions on the basis that certain criteria set out in the Gas Act 1986 had been met. A facility could be exempt if:

1. The requirements of the TPA arrangements were already met by existing market arrangements which promoted competition
2. The use of the facility by other persons was not necessary for the operation of an economically efficient gas market

As discussed in section 5.5, the Second Gas Directive sets out further conditions allowing exemption from TPA; these have been transposed into the Gas Act. Where Ofgem have reached a decision to grant an exemption, the Second Gas Directive requires that the European Commission is notified. The ability to grant an exemption has recently been carried forward into the legislation contained in the Third Package. Also any exemptions that have been granted under the Second Directive continue to apply until the scheduled expiry date as decided in the granted exemption decision.

Exemptions

In practice Ofgem grants exemptions depending on the type of storage facility and how the facility is used. Using this approach, Ofgem split storage facilities into three categories: short, medium and long range.

Short Range Storage (SRS) are facilities that can be emptied very quickly, i.e in less than a week. These facilities are Liquified Natural Gas (LNG) based storage, used in very high demand days and emergencies. As LNG based delivery has high deliverability rates it is typically used by National Grid to meet such operational use. However the downside is that the facilities are very slow to refill implying low flexibility. The remaining capacity is sold on yearly auctions. The basis of TPA access to LNG facilities is through the Uniform Network Code (UNC).

Medium Range Storage (MRS) is defined as facilities that can be emptied within one week to two months in duration which may apply to both salt caverns and depleted gas fields depending on the characteristics of the facility. Essentially MRS facilities are filled in summer and emptied in winter. They also inject gas during winter months to take advantage of short term price variations, known as 'cycling'. In contrast to LNG based storage, MRS facilities are highly flexible. Ofgem may grant a 'de minimis' exemption to Third Party Access provisions if the facility is relatively small, and therefore the use of the facility was not necessary for the operation of an economically efficient gas market. The MRS facilities presented in Table 2 have been granted an exemption under the de minimis waiver. In these cases the exemption has been granted on the findings that the use of the facility by other persons was not necessary for the operation of an economically efficient gas market (point 2 above). The Ofgem decisions for each exemption application are largely determined by analysis on the share of the market the facility would offer to the storage owner. In these cases it is viewed that an exemption to TPA will not impede the operation of a competitive market. Notably the Hornsea facility is subject to nTPA, which is discussed further below.

Table 2 TPA arrangements for existing GB Gas Storage facilities

Facility	Range	Type	Space (mscm)	Deliver-ability (mscm)	Duration (Days)	Start date	Owner
Operated under nTPA							
Rough	Long	Depleted Field	3,422	42	~81	1985	CSL
Hornsea	Medium	Salt Cavern	325	18	~18	1979	SSEHL
Exempt and operational							
Avonmouth	Short	LNG	82	15	~6	1978	NG
Dynevor Arms	Short	LNG	28	5	~6	1983	NG
Glenmavis	Short	LNG	47	9	~5	1975	NG
Partington	Short	LNG	105	20	~5	1972	NG
Hatfield Moor	Medium	Depleted Field	117	2	~57	2000	Scottish Power
Humbly Grove	Medium	Depleted Field	288	8	~38	2005	Petronas
Hole House Phase 1 + 2	Medium	Salt Cavern	56	8	~7	2004 - 2008	EDF Trading
Holford H165	Medium	Salt Cavern	5	7	~1	2007	Ineos
Exempt and under construction							
Aldbrough	Medium	Salt Cavern	242	26	~11	2009	SSEHL
Aldbrough	Medium	Salt Cavern	121	13	~11	2009	Statoil UK
Holford	Medium	Salt Cavern	164	16	~10	-	E.ON
Caythorpe	Medium	Depleted Field	205	7	~30	-	CSL
Saltfleetby	Long	Depleted Field	716	8	~90	-	Wingas/ Gazprom

Source: Ofgem Open Letter, Gas Storage third party access exemptions (Annex A), June 2009.

Long Range Storage (LRS) facilities are emptied over a longer period, beyond two months duration. Due to their scale they offer longer term reserves but have less flexibility to cycle gas and benefit from price variations. The largest off-shore storage site at Rough is subject to TPA.

The Rough and Hornsea facilities are both subject to third party access. Originally Rough, Hornsea and the five LNG terminals were owned by British Gas plc. At the time ownership of these major gas facilities gave British Gas a dominant market position; however ownership has now been broken up with the facilities being passed through several owners. None of the subsequent or current owners of Rough and Hornsea, Centrica and Scottish and Southern Energy respectively, have applied for an exemption so the relevant provisions of the legislation relating to TPA apply.

Given the size of the Rough facility and the requirement of gas storage facilities to comply with general competition law, the facility has to comply with additional written undertakings as set out by the Competition Commission. These undertakings are a result of the report[18] by the Competition Commission at the time of Centrica's acquisition of the business.

The major elements of the undertakings recommended in the report are that Centrica would:

- sell Rough's full capacity on non-discriminatory terms;
- auction all capacity remaining unsold no less than 30 days before the start of each storage year, with no reserve price;
- not participate in the primary sale process but reserve no more than 20 per cent of Rough's existing nominal capacity for itself in the first year (2004/05) falling to 15 per cent over five years and remaining at that level thereafter: this is to give Centrica an incentive to invest in expanding Rough's capacity, in that Centrica would be able to retain any incremental capacity for its own use;
- maintain legal, financial and physical separation between its storage business and all other parts of the group; ensure that no commercially sensitive information arising from the operation of Rough is passed to other parts of Centrica; and make any disclosure of information relating to the storage operations to all market participants simultaneously;

[18] Centrica plc and Dynergy Storage Ltd and Dynergy Onshore Processing UK Ltd. A report on the merger situation, August 2003.

- facilitate the efficient operation and development of the secondary market in Rough capacity;
- offer at least 20 per cent of Rough's capacity on annual contracts; capacity should also be offered on a range of other durations and with the possibility of fixed or indexed pricing; and
- arrange for an independent review of compliance with all undertakings by Centrica's Audit Committee, with annual reports to the Office of Fair Trading and the Office of Gas and Electricity Markets

6.2 Ireland

Ireland has one gas storage facility at the Kinsale Reservoir which was recently sold by Marathon Oil Limited to Star Energy Group plc. Similarly to Northern Ireland a licence is required in Ireland to store natural gas. The CER licensed operations of the facility to the previous owners, Marathon, on 31st May 2006.

With reference to TPA, the CER decided that the Kinsale facility did not meet the "technically and/or economically necessary" test described in the Second Directive at the time, and so is exempt from TPA requirements. Therefore with the Kinsale facility not subject to third party access, the storage operators are free to use the facility for their own purposes or negotiate commercial arrangements between interested shippers. However a licence condition, set out in Table 2, does set a limit on the amount of capacity that a single party may hold.

Indeed gas storage is viewed as a commercial entity with the gas storage licence intentionally 'light-touch'. The licence serves to provide a compliance hook to reference applicable safety, environmental, European and competition laws.

For the purpose of comparative research it is useful to consider the individual conditions of the gas storage licence as shown in Table 3.

Table 3: CER Gas Storage Licence

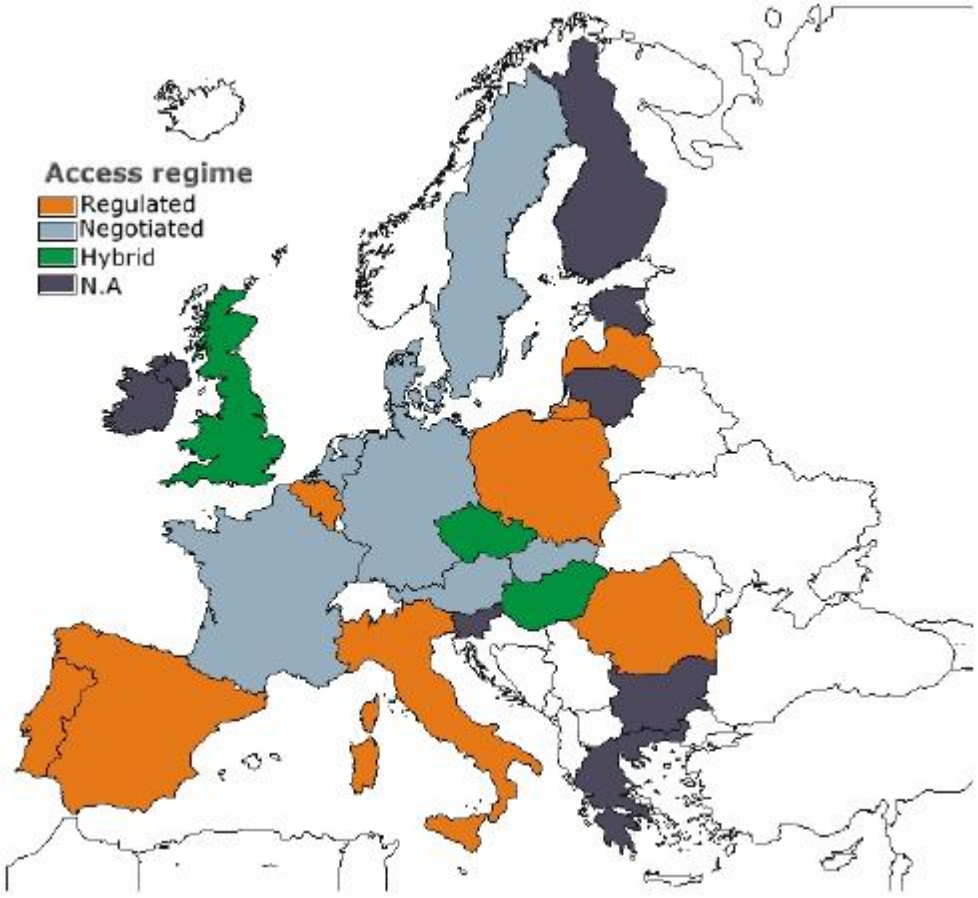
No.	Condition	Key points
1	Interpretation and construction	Definition of terms
2	General duties of licensee	The operation, maintenance and development of the facility with due regard to environment and public safety. To provide information to ensure operation compatability with other user systems.
3	Access to and use of the licensee's storage facility	• Adherence to Directive 2003/55/EC on third party access. • Licensee not to contract with any one party for access for more than 3 years without CER approval. • Licensee not to contract with any one party for access to more than 75% of the capacity of the facility without CER approval. Remaining 25% to be made available to other parties (which can include a party already contracted for the 75% component, with CER approval).
4	Interaction with other natural gas undertakings	• To provide information to other parties to ensure safe, secure and efficient inter-operability. • To co-operate with the Network Emergency Operator
5	Confidentiality and restriction on use of certain information	To preserve the confidentiality of commercially sensitive information.
6	Provision of information to the Commission, records and reporting	To keep records of operations and provide records and reporting to the Commission.
7	Separate accounts	Compliance with accounting and reporting requirements.
8	Safety Framework	• Produce and maintain the Safety Framework document setting out criteria, systems and procedures for compliance to current safety legislation. • Compliance with applicable laws or regulatory consents such as the Petroleum and Other Minerals Act 1960, Continental Shelf Act 1968.
9	Environment	Compliance with obligations under applicable environmental laws.
10	Competition Law	Compliance with EU and Irish competition law.
11	Payment of levy	Payment to the Commission the amount specified determined under a Levy Order.
12	Assignment and change in control	Sets out rules and governance procedure for any transfer of the gas storage licence

6.3 European Approach

As discussed above, each Member State is free to choose the access regime that best fits their market. Figure 1 illustrates the adopted regimes across Member States.

A general rule is that in competitive markets, access should be negotiated, and markets with no or weak competition should adopt a rTPA regime. This is an evaluation of whether the market is better off at setting prices or whether the national regulators are better at setting the tariff. The countries that have adopted a nTPA regime in Figure 1 tend to be the markets that are the most developed.

Figure 1: Gas Storage TPA Regimes in Europe



Source: The ERGEG 2006 Report on monitoring the implementation of the Guidelines for Good Practice for Storage System Operators (GGPSSO), the DG Competition Report on Energy Sector Inquiry and Gas Storage Europe.

7. Analysis

The previous sections have presented the legislative background applicable to third party access to gas storage facilities and how they have been interpreted and implemented across Europe. A similar assessment will be required when applying the legislation to the proposed gas storage facilities in Northern Ireland.

This section applies the legislative environment regarding third party access to the Northern Ireland market. The principal areas for analysis are:

- negotiated versus regulated third party access regimes
- technical and/or economic requirement to access storage
- exemptions to third party access

However prior to this, a discussion on the relevant market is required, both in terms of the geographic and product markets involved.

7.1 Relevant Markets

Geographic Market

The European Commission defines the relevant geographic market[19] as:

"… an area in which the undertakings concerned are involved in the supply and demand of the relevant products or services, in which area the conditions of competition are similar or sufficiently homogenous and which can be distinguished from neighbouring areas in which the prevailing conditions of competition are appreciably different".

As gas storage services are available across several Member States, the European market could be proposed as a relevant geographic market. However whether the conditions of competition are similar or sufficiently homogenous across each of the Member States in line with the above definition may be questionable. This definition may represent more of a future intention, rather than a market that is readily accessible.

Similarly the North West market created under the Gas Regional Initiatives (GRI) could be presented as a relevant geographic market. The regional initiatives are European-wide initiatives proposed by ERGEG in order to facilitate the creation of regional energy markets. The GRI created three regional markets (North-West, South-East and South)

[19] Commission Notice on the Definition of the Relevant Market for the Purposes of Community Competition Law, Official Journal, C 372, 9/12/1997.

as an interim step to creating a single European market. The applicable region for Northern Ireland, the GRI North West, is made up from the following participating countries: Netherlands, Belgium, France, Ireland, Great Britain, Germany, Denmark, Sweden and Northern Ireland. The gas products and services available from these countries could be viewed as a relevant geographic market; however as with the European market above, the market conditions or availability of services may not be fully developed.

One geographic market that could be considered for this analysis is the UK market which includes the gas markets of Northern Ireland and Great Britain. The approach of connecting Northern Ireland to the GB market is proposed due to the strong price link established through the National Balancing Point (NBP). The NBP price is the price at which gas is traded in GB. This is linked to the price that consumers in Northern Ireland and Ireland pay since the total price paid for gas is based on transportation costs to ship the gas to the island plus the NBP price.

Since imports from GB account for 100% and over 90% of the gas supplies to Northern Ireland and Ireland respectively, the connection with the NBP price is significant and establishes a strong link between the markets considered.

The potential CAG market between Northern Ireland and Ireland is also considered within the analysis. Again through similar reasoning above, the CAG market will have a strong link with the NBP price.

Comments are welcome on the above discussions on the relevant geographic market for a gas storage facility in Northern Ireland.

Product Market

The European Commission provides the following definition for a product market[20]:

"A relevant product market comprises all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reason of the products' characteristics, their prices and their intended use".

The proposed product market to be considered is the flexibility market. Section 5.4 provides examples of flexibility tools, such as storage, production and import flexibility,

[20] Commission Notice on the Definition of the Relevant Market for the Purposes of Community Competition Law, Official Journal, C 372, 9/12/1997.

and other more sophisticated flexibility tools. However defining the availability and level of flexibility of these products is difficult to gauge.

In seeking a comparator, Ofgem define the flexibility market[21] to include medium range storage, long range storage, indigenous supplies, imports through interconnectors and LNG imports. Since these products are also available to Northern Ireland shippers they are considered within the product definition for this analysis.

Furthermore as additional sources of gas become available through Corrib and Shannon LNG, the market definition will expand to include these flexibility products in the future.

Again comments are welcome on the discussions on the relevant product market for the products and services offered by a gas storage facility in Northern Ireland.

The Utility Regulator seeks industry views on the relevant geographic and product markets applicable to a gas storage facility in Northern Ireland.

7.2 Negotiated versus regulated third party access regimes

If TPA is deemed to be *technically and/or economically necessary* for providing efficient access to the market then either a negotiated or regulated access regime can be applied. The adoption of either a negotiated or regulated regime is a key principle in the design of the gas storage framework. The factors to consider in choosing the most suitable regime for future gas storage facilities in Northern Ireland are considered below.

Market Power

A key consideration under either regime is the level of market power that could possibly be gained through the use of a storage facility. A gas storage facility that provides a substantial proportion of the market share could create the opportunity for a majority holder to influence market price. The relevant markets and the level of market share within that market are considered below.

[21] Ofgem, Final Decision: SSE Hornsea Ltd's application for an exemption from section 19B of the Gas Act

CAG Market

In late 2007, the Utility Regulator and the Commission for Energy Regulation (CER) came together to discuss the potential for an all-island approach to gas, to be delivered through the Common Arrangements for Gas (CAG) project. A Memorandum of Understanding (MoU) was agreed setting out the Utility Regulator's and CER's commitment and shared vision 'whereby all stakeholders can buy, sell, transport, operate, develop and plan the natural gas market both north and south of the border effectively on an all-island basis'.

In order to achieve CAG, work to harmonise arrangements across a number of key areas has been initiated. This involves the harmonisation of operational arrangements, establishing a single tariff methodology, adopting a single gas quality standard, joint network planning and the implementation of a single retail market.

Effectively under CAG the Northern Ireland and Ireland markets would be combined into a single all-island market. In practice Northern Ireland gas consumers could therefore receive gas from Corrib or Shannon LNG. Likewise this would allow consumers in Ireland to benefit from gas storage facilities in Northern Ireland.

Therefore the level of market power would be reduced under CAG as the share that the gas storage facility market serves would decrease as the size of the market increases.

Under CAG a storage facility in Northern Ireland would also be exposed to market competition through alternative gas sources, such as Corrib and Shannon LNG.

Through CAG, the links between the markets of Northern Ireland and Ireland would be established so that a larger single market could operate under competitive conditions which would subsequently reduce the level of market power available to a storage operator. However even though CAG offers a larger market, it will not set the price of gas within the market as this is determined through the NBP via the GB market.

GB Market

Similarly, but with greater effect, links to the GB market would reduce the level of market power. A strong link to the GB market already exists through the National Balancing Point (NBP) price. As discussed in the relevant markets section 7.1, consumers in Northern Ireland and Ireland pay transportation costs to ship the gas to the island plus the NBP price.

For example in order to store gas sourced from GB in a Northern Ireland gas storage facility, the volume of gas must be purchased at the NBP price and transported to the facility. This route would incur transport costs to the Moffat exit point plus the additional interconnector costs to Ireland or Northern Ireland, either ICs or SNIP respectively. The storage owner will have little influence over the NBP element as this is traded within the GB market.

Alternatively in the future a supplier could source gas from Corrib or Shannon LNG. In this case, the supplier will wish to offer a price that is competitive against the NBP price plus the cost of delivery through the ICs. Since the NBP price plus the IC cost is the marginal entry point this sets a ceiling level for transmission costs to which Corrib or Shannon will base their prices. Since the ICs are expected to continue as the marginal source of gas, the NBP element of the overall cost of gas will remain a key influence to the price of gas supplied to consumers.

Therefore any gas product, including storage, which is offered in Northern Ireland or Ireland, is inextricably linked to the GB market through the NBP price. As the GB market is a large and liquid market a gas storage operator in Ireland or Northern Ireland is not capable of influencing the market price of the gas that is purchased and placed into their storage.

Provided that the strong link between gas delivered to Northern Ireland and Ireland through the NBP price remains, the ability to influence market price will be reduced since the Northern Ireland gas storage market is effectively an extension of the GB market.

Also the level of competition will increase significantly when linked with the GB market. Suppliers currently have many alternatives from which they can either source supplies or store gas thereby reducing the storage operator's market power. The level of competition from the GB market is set to grow due to planned developments in new gas infrastructure. The market is committed to delivering over £10 billion[22] investment in new gas infrastructure over the next few years, including new gas storage facilities. The recent HM Treasury Budget 2009 decision to allow cushion gas to be eligible for plant and machinery allowances has also provided a positive signal to the future development of gas storage facilities. These developments will eventually feed through to increased competition to Northern Ireland and Ireland.

[22] CBI response to BERR Consultation: The effectiveness of current gas security of supply arrangements, January 2007.

Market Share

The size of market share that a future gas storage facility represents is a key contribution in the level of market power that a storage owner may hold. To gain a sense of scale, a 500 mscm facility could provide 29% of Northern Ireland annual gas volumes[23]. This may represent a substantial proportion of the Northern Ireland market and would in itself represent a significant degree of influence within the Northern Ireland market. However as discussed above, when considered within the CAG and GB markets, the market share is significantly lower and subsequently, the level of influence over market price is reduced. Again, to provide an indication of scale, a 500 mscm facility would represent 7% of gas volumes[24] to a CAG market and only 0.5% of GB volumes[25].

Considered purely within the GB storage market, a 500 mscm facility would currently represent 12% of the GB gas storage market[26]. However this estimate is expected to reduce significantly over future years as there are a number of gas storage projects under development within GB which will increase the size of the market.

Emergency

The level of market power would also increase in the event of an emergency. Since over 90% of gas is imported to Ireland and Northern Ireland through the interconnectors, any emergency relating to these pipelines would have a significant impact on the market. For example if flows through the SNIP or ICs were restricted the value of gas in gas storage would increase. The gas storage framework adopted would need to have provisions for such an event to ensure that any dominance, albeit temporary, is not abused.

Summary

Where there is potential for a storage operator to foster a dominant position, a rTPA regime may be more appropriate as this would allow the regulator more control over the level of access so that dominant positions are not achieved. In this model, consumers would be provided with a level of protection through appropriate regulatory tools.

[23] 2006/2007 Northern Ireland gas volume of 1753 mscm (source: DPOs Quarterly Exit Volumes Report 2006/2007).
[24] 2006/2007 Combined Northern Ireland and Ireland gas volume of 6535 mscm (source: CER Gas Capacity Statement 2008).
[25] 2007 (calendar year) Great Britain actual gas volume of 96,813 mscm (source: National Grid 10 Year Statement 2008).
[26] 2008, GB gas storage capacity of 3863mscm (source: page 23, DG Tren, Study on natural gas storage in the EU, 2008).

Whereas a nTPA regime would best fit a storage facility within a competitive market or where the facility represents a small proportion of the market. In this model, competition would provide a level of protection for consumers. The regulator would still have oversight within such a model and can still set conditions within a licence to reflect an appropriate level of regulation.

As discussed, control over market power may sit more closely with a rTPA regime; however a nTPA regime could still address the market power issue through conditions set within a gas storage licence. For example the licence could set conditions for licensees to limit the amount of capacity or length of time one party can book to reduce market power or require the publication of information to establish a suitable level of transparency within the market. Under this model, the regulatory regime may be negotiated but it has appropriate controls in place through the adherence to licence conditions, which are monitored and enforced by the regulator.

The discussions above highlight that the size of the facility and the market in which a storage facility is considered are key factors in the level of market power a facility may hold. Therefore the level of market power held by a storage owner would be a key factor in the decision on the most suitable regulatory regime for that facility.

The analysis indicates that provided the link with the GB market remains it is unlikely that a storage owner in Northern Ireland would be able to dominate the market and benefit from any market power. As such a nTPA regime may be the most appropriate regime for a gas storage facility in Northern Ireland.

The Utility Regulator seeks comments on any aspect of the above discussions on market power, in particular the links with the GB market.

The Utility Regulator seeks industry views on the discussions on market power in relation to a storage facility in Northern Ireland and its influence on selecting the most appropriate TPA regime.

7.3 Technical and/or economic requirement to access storage

The technically and/or economically necessary condition discussed in section 5.4 requires assessment when applying to the proposed gas storage facilities in Northern Ireland.

The CEER report discussed in section 5.4 recommends application of the technically and/or economically necessary requirement by considering the level of flexibility within the market. In following the CEER guidelines, the level of flexibility in the market should be considered.

There are two considerations here, firstly the specific market as previously discussed and the level of flexibility tools available within that market.

Northern Ireland Market

The first market to consider is Northern Ireland. The Northern Ireland gas market is small with approximately 125,000 gas customers and is dominated by the power generation sector which accounts for 70 % of the total market. As an indication of potential impact, the proposed size of the Islandmagee facility would be capable of supplying 29% of the gas supplied to Northern Ireland. This could allow considerable market power to a sole storage operator, especially in the event of a restriction to supply.

Also as the gas industry in Northern Ireland is relatively young the level of flexibility tools currently on offer is limited. There is some flexibility through capacity trading and interruptible product available on the SNIP, however there is no inventory or short term products available.

However as discussed in the analysis on regulated versus negotiated third party access in Section 7.2, the Northern Ireland market cannot be viewed in isolation due to the link with the GB market through the NBP. As such, a greater level of flexibility tools is available to the Northern Ireland market through the mechanisms available within the GB market. Also the link with the future CAG market will increase the level of flexibility tools available to the Northern Ireland market.

Common Arrangements for Gas (CAG) Market

The future CAG market aims to harmonise the market arrangements in Northern Ireland and Ireland thereby creating a single all-island market. A CAG market would offer a greater customer base (approximately 700,000) and access to more flexibility tools within that market. The CAG market would facilitate access to production from Corrib and Inch, additional import facilities through Shannon LNG and a further storage facility at South West Kinsale reservoir. Ireland also has further flexibility tools on offer such as inventory product on the interconnectors, short term products and capacity trading.

With these additional flexibility tools in place and the higher volume of customers, the provision of third party access under the technically necessary argument may not be necessary under a CAG market. However this is dependent on new developments such as Shannon LNG and Corrib becoming operational.

Great Britain Market

The GB gas market is a large and liquid market consisting of approximately 23 million customers and over 25 active suppliers. Demand and supply can be balanced by modifying volumes through use of storage facilities, LNG, indigenous production and import flexibility. More sophisticated flexibility services are also available through hubs and spot markets.

The price of the flexibility services offered will be linked to the underlying price of gas in the GB market, i.e. the NBP price. Likewise the price of storage offered in Northern Ireland will be linked to the NBP price, since users of storage will have to purchase gas at the NBP price and ship the gas to the Northern Ireland facility.

Therefore due to the existing link with the NBP price, a dominant position could not be achieved since the storage operator in Northern Ireland would not be able to influence prices as prices would be determined by the cost of competing products in GB.

Since Northern Ireland and GB shippers can avail of the flexibility products within the GB market, a gas storage facility in Northern Ireland can be considered to be functioning within a fully competitive and flexible market.

Within this setting third party access to the storage facility would not be economically necessary due to the presence of a high degree of flexibility tools.

Summary

The technically and/or economically necessary assessment was a key feature of the Second Gas Directive and which has been carried forward into the Third Package. Consideration of the flexibility tools available and the market in which the gas storage facility operates contribute to the assessment. At this stage the Utility Regulator is seeking comment from industry on the application of the technically and/or economically necessary assessment to any proposed gas storage facility in Northern Ireland.

The Utility Regulator seeks industry views on the application of the technically and/or economically necessary assessment regarding access to a gas storage facility in Northern Ireland.

7.4 Investment

A nTPA regime would allow the market participants to set conditions by agreeing commercial arrangements. This may offer more attractive conditions to storage users rather than following the conditions set out through a rTPA regime. Indeed reduced regulatory intervention may be seen as a positive signal to investment and provide participants with more flexibility in the market.

More open conditions under a nTPA regime could create a similar playing field with GB and Ireland, thereby facilitating further competition. As a result Northern Ireland consumers could benefit from the additional flexible products on offer. A nTPA regime may create conditions to encourage these benefits.

Conversely an overly regulated regime may be viewed as an obstacle to potential investors which may reduce their interest in pursuing gas storage projects.

7.5 Transparency

It is expected that transparency under a rTPA regime would provide clarity to tariff calculations and the resulting tariffs since these would be verifiable under a regulated regime.

A nTPA regime would still be required to publish the main commercial conditions for access to the facility, but this would not include tariff arrangements negotiated between parties.

The Utility Regulator will be guided by the recommendations set out in the ERGEG publication, ‘Guidelines for Good TPA Practice for Storage System Operators’ (GGPSSO). The GGPSSO requires that information shall be disclosed in a meaningful, quantitatively clear and easily accessible way and on a non-discriminatory basis. Recommendations include that the following commercial terms are published on the internet:

- in rTPA, the tariffs and tariff methodologies for each service offered shall be published ex ante. In nTPA, the main commercial conditions including the prices for standard services must be published and updated whenever required.

- services offered, the main storage standard conditions for each service outlining the rights and responsibilities of all users.

- storage capacity allocation, congestion management and anti-hoarding and reutilisation provisions, auction terms where applicable and rules applicable for storage capacity trade on the secondary market.

- the rules and the charges applicable to storage penalties from storage users and compensation payments from the SSO to storage users.

There are additional features required within a TPA framework which would apply to both regimes. Article 16 of the Third Package requires storage operators to preserve the confidentiality of commercially sensitive information obtained in the course of carrying out its business. Article 30 also stipulates that natural gas undertakings must keep separate accounts for each of their transmission, distribution and storage activities.

A further consideration in the gas storage framework will be aligning to the provisions for access to the transmission network as contained within EU Regulation 1775.

Also the Utility Regulator will continue to engage with the initiatives promoted through the Gas Regional Initiative North West (GRI NW). The aim of the GRI is to push forward, at a practical level, the development of regional markets in collaboration with industry, Member States, the European Commission and other stakeholders.

7.6 CEER Checklist

A checklist to aid the decision process in determining the suitability of either a nTPA or rTPA is presented in Appendix 1. The checklist is taken from the Council of European Energy Regulators (CEER) report: 'Recommendations on implementation of Third Party Access to Storage and Linepack'.

The checklist is considered below. The CEER is of the view that in the event of one or more positive answers to the proposed checklist; a system of rTPA is the most appropriate regime.

The Utility Regulator plans to use the CEER checklist to assist in selecting the most appropriate regime for a storage facility in Northern Ireland. It is difficult at this stage to apply judgment to future applications; however the recommendations in the GGPSO offer an indication of the Utility Regulator's approach to the future assessment of applications.

- Does the storage company have significant market power, i.e. is it able to increase prices above the cost-reflective competitive level?

Market power has been discussed above and is a key consideration in the decision to implement either a negotiated or regulated TPA regime. As the price of gas within Ireland and Northern Ireland is currently linked to the NBP the ability of the storage operator to increase prices above the cost-reflective level is limited.

- Does the market provide incentives for potential collusion between market operators?

- Has the storage operator any incentive to withhold capacity? Are the costs of such a strategy consistent with benefits for the company and its affiliates?

- Has the storage operator the ability and any incentive to discriminate between customers in the provision of capacity?

- Does the storage operator hold information that gives it an unfair advantage with respect to its users and competitors? Does lack of information increase risk and uncertainty faced by customers, competitors and potential entrants?

- Does the storage operator lack the incentive to innovate in marketing new products and invest in increasing capacity?

The changes under the EU Third Package focus on ensuring independence through unbundling, clear designation of roles and fair access to services. Transparency and the availability of information to market participants are also promoted within the package. The questions above should be addressed by ensuring that the storage system operator complies with the provisions of the Third Package.

- In the case of a storage company that is also active in supply or importing swing flexibility, is the storage operator able to manipulate (gaming on the system) its sources of flexibility in order to raise wholesale gas prices? Is this strategy intended to increase its profit or harm its customers and competitors?

The level of independence between supply and storage operations for such a company would be reviewed. Since each storage operator applying for a gas storage licence will be considered separately, it is conceivable that a different TPA regime may granted depending on the circumstances of the company applying for a licence.

Summary

The consideration of a negotiated or regulated third party access regime for gas storage facilities is a key feature of the future gas storage regulatory framework for Northern Ireland. This section has discussed the key factors in considering the most appropriate third party access regime for such a framework. The Utility Regulator seeks industry views on the appropriateness of each access regime for a regulatory framework for Northern Ireland.

The Utility Regulator seeks industry views on the appropriateness of each regime (negotiated and regulated) as a framework for access to gas storage facilities in Northern Ireland.

7.7 Exemptions

A storage system operator will be able to apply to the Utility Regulator and to DETI for an exemption from the third party access requirements contained within the Third Package. The application for exemption will be considered on a case by case basis and judged against the conditions set out in the Directive. To recap an exemption may be granted under the following conditions:

1. Third party access to the gas storage facility is not necessary for the operation of an economically efficient gas market (previously Article 19 of the Second Directive).

Additionally where the application for exemption to third party access is for a new gas storage facility the conditions set out in Article 35 of the Third Package will apply (previously Article 22 of the Second Gas Directive):

2. The investment must enhance competition in gas supply and enhance security of supply
3. The level of risk attached to the investment is such that the investment would not take place unless an exemption was granted
4. The infrastructure must be owned by a natural or legal person which is separate at least in terms of its legal form from the system operators in whose systems that infrastructure will be built
5. Charges are levied on users of that infrastructure

6. The exemption is not detrimental to competition or the effective functioning of the internal gas market, or the efficient functioning of the regulated system to which the infrastructure is connected.

The Utility Regulator will consider applications for an exemption to TPA arrangements against these criteria and the impact any exemption would have on the market, such as the level of market power held by a storage operator or any potential barriers to market entry. The level of market power that a storage operator may hold or gain through an exemption as discussed in previous sections will be a factor in the decision to grant an exemption.

Each application by a storage operator for exemption will be considered on its own merits. For example Ofgem's final decision[27] to grant an exemption to the Scottish and Southern Energy (SSE) storage facility at Aldbrough, a similar size to the proposed facilities at Larne, included analysis of SSE market shares under various scenarios. The Utility Regulator proposes a similar method for the consideration of exemptions to storage facilities in Northern Ireland.

As further guidance Ofgem have recently published an open letter[28] setting out the criteria for granting exemptions to 'minor facilities' or 'de minimis' exemptions as discussed in section 6.1. These exemptions are applicable where it is deemed access is not necessary for the operation of an economically efficient gas market (point 1 above).

Notably the letter states that "no single test" can be relied upon to demonstrate that an exemption should be granted, rather a series of 'indicators' are used to help Ofgem come to a decision on whether an exemption should be granted. The letter provides further consideration of the terms "technically necessary" and economically necessary" within this context.

- **Technically necessary requirement to provide access** – Under this requirement Ofgem will consider whether there are circumstances where it would be technically necessary to require TPA to be offered at storage facility to provide efficient access to the market. In practice, Ofgem consider it unlikely that access would be required under a technically necessary requirement in all but a very few large or strategically important gas storage facilities. In most cases access to gas storage is not technically necessary due to the availability of other flexible gas sources, however it is recognised that in a dynamic market this position may be subject to change.

[27] Ofgem, Final Decision: SSE Hornsea Ltd's application for an exemption from section 19B of the Gas Act

[28] Ofgem, Gas Storage third party access (TPA) exemptions – minor facilities, 16th June 2009

- **Economically necessary requirement to provide access** – Ofgem will consider whether it is economically necessary to offer TPA at a facility to provide efficient access to the system for the supply of customers. The approach used is to model the impact of an exemption should it be granted. Indicators that are used to examine the impact are:

  - **market power** including market share analysis and a review of the market power over the winter period. Also the level of concentration in the market and the degree of change expected within the market.

  - **market signals and the economic use of storage capacity**. For example consideration is given to the likely impact of the exemption on the pricing mechanism and transparency requirements. Consideration of the use of the facility would also be examined, for example information on the measures that storage operators have in place to ensure that capacity is effectively used would still be expected when an exemption is granted.

  - **monitoring of the market** to look at the impact of exemptions that have been granted and to review any changes in circumstances to the facility concerned.

The letter provides a useful summary of Ofgem's approach to granting exemptions to minor facilities. The Utility Regulator will use the indicators discussed in the letter as guidance in considering exemptions to similar facilities in Northern Ireland.

The Utility Regulator seeks industry views on the suitability of applying exemptions to the Third Party Access requirements for a gas storage facility in Northern Ireland.

8. Next Steps

Responses to this consultation paper are requested to be returned to the Utility Regulator by close of business on Friday the 16th October 2009.

The decision to adopt an appropriate regulatory regime will be dependent on the particular application for a gas storage licence. Therefore it is conceivable that a different regulatory regime, either a negotiated or regulated access, would be applied to different gas storage facilities, depending on the particular application.

Therefore the Utility Regulator is not in a position to decide upon a preferred third party access regime to cover all future facilities. Also, since there has been no formal applications for a gas storage licence, the Utility Regulator at this stage is not in a position to state a third party access regime for a particular facility in Northern Ireland.

However the analysis has indicated that we consider a future gas storage facility in Northern Ireland to be linked to the GB market and subsequently that a nTPA regime may best fit these arrangements.

The Utility Regulator will also consider applications for exemptions to third party access if they are deemed appropriate for the particular storage facility.

However as stated above, each application for a gas storage licence in Northern Ireland will be reviewed on its individual merits and an appropriate decision on the access regime will subsequently be applied.

This will include a decision on:

- the technically and/or economically necessary requirement to grant third party access to that facility
- the preferred third party access regime to that facility
- exemption to access

The Utility Regulator also acknowledges that industry require clarification on the transmission tariff treatment for gas storage facilities. The transmission tariff for gas storage will be considered as part of the CAG tariffs workstream. The Utility Regulator will consult with industry and aims to provide a response by the end of 2009.

Appendix 1: CEER Regulated TPA or Negotiated TPA checklist

The following non-exhaustive check list may be useful when considering the suitability of either regime:

Does the storage company have a significant market power, i.e. is it able to increase prices above the cost-reflective competitive level?

Does the market provide incentives for potential collusion between market operators?

Has the storage operator any incentive to withhold capacity? Are the costs of such a strategy consistent with benefits for the company and its affiliates?

Has the storage operator the ability and any incentive to discriminate between customers in the provision of capacity?

Does the storage operator hold information that gives it an unfair advantage with respect to its users and competitors? Does lack of information increase risk and uncertainty faced by customers, competitors and potential entrants?

Does the storage operator lack the incentive to innovate in marketing new products and invest in increasing capacity?

In the case of a storage company that is also active in supply or importing swing flexibility, is the storage operator able to manipulate (gaming on the system) its sources of flexibility in order to raise wholesale gas prices? Is this strategy intended to increase its profit or harm its customers and competitors?

The CEER view that in the event of one or more positive answers to the above proposed checklist, rTPA is the right option.

Appendix 2 : CEER Report: Recommendations on implementation of Third Party Access to Storage and Linepack

Implementation of Article 19(1) of Directive 2003/55/CE should:

1. choose between rTPA and nTPA according to an in-depth analysis of national market conditions for each flexibility service, adopting the best pro competitive solution;

2. adopt nTPA only where competition is actually in force or, in the case of new entrants, in order to assure level playing field conditions or provide incentives to new investments;

   nTPA could be chosen when:

   a. a complete regulatory framework for the remaining part of the supply chain has been implemented:

      - a regulated regime for transmission is in place: i.e. entry/exit systems allowing gas trading within the transmission grid, thereby allowing alternative sources of flexibility to compete with flexibility from storage facilities;

      - transparent information for the determination of available transmission and storage capacities is made available;

      - available storage (flexibility) capacities i.e. space, injectability and deliverability are published for day, week, month ahead;

      - gas quality specifications comply with interoperability criteria;

   b. there is evidence of real storage (linepack) substitutes for each of the services demanded by the market (substitutes are clearly identified and available under transparent conditions for prices and access rules); or alternatively, there is evidence that entrance to the storage (linepack) market is possible in terms of:

      - technical and/or economical availability of new storage capacity;

      - implementation times for the full running of operations;

      - absence of legal barriers to the development of new storage sites;

      - consistency with flexibility demand levels;

- no dominant position of a single company with regard to flexibility supply and

- transparent and liquid wholesale gas markets revealing the price of storage and other flexibility services over the relevant time period (e.g. by showing the summer/winter spread or the system marginal price within the day).

c. the identification of the relevant geographic market considered – e.g. in the case of a notional market across more than one country – reveals the existence of harmonised systems and compatible rules for cross border trades, backhauls treatment, capacity allocation rules and the absence of bottlenecks and capacity constraints;

3. in the case of the choice of nTPA, assume the burden of proof, providing and publishing appropriate information ;

4. foster all measures suited for the development of spot markets, and, according to market demand, new investments aiming at an increased availability of flexibility services;

5. due to the complexity and technical aspects of the issue, involve both national regulators and competition authorities.

Appendix 3: List of consultation questions

1. The Utility Regulator seeks industry views on the concept draft gas storage licence presented as part of the gas storage regulation framework for Northern Ireland.

2. Are there any further aspects of the Third Package legislation that should be considered for the future regulatory framework of gas storage in Northern Ireland?

3. The Utility Regulator seeks industry views on the relevant geographic and product markets applicable to a gas storage facility in Northern Ireland.

4. The Utility Regulator seeks industry views on the discussions on market power in relation to a storage facility in Northern Ireland and its influence on selecting the most appropriate TPA regime.

5. The Utility Regulator seeks industry views on the application of the technically and/or economically necessary assessment regarding access to a gas storage facility in Northern Ireland.

6. The Utility Regulator seeks industry views on the appropriateness of each regime (negotiated and regulated) as a framework for access to gas storage facilities in Northern Ireland.

7. The Utility Regulator seeks industry views on the suitability of applying exemptions to the TPA requirements for a gas storage facility in Northern Ireland.