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Dear Ian,

**The Gas Storage Operators' Group Response to Ofgem's consultation on Project Discovery: Energy Market Scenarios**

The Gas Storage Operators Group (GSOG) appreciates the effort and the openness that Ofgem has demonstrated thus far in the progress of this important study and we welcome the opportunity to comment on the above consultation.

The GSOG is a trade association which was formed in May 2006 within SBGI. The group has 16 members, comprising almost all the active participants in the GB Gas Storage Market, and as such represents a wide range of interests. The group includes both established operators and developers of new storage projects, large multinational companies and smaller private ventures. The current members of the group and signatories to this submission are detailed in Appendix 1.

The challenges that the GB energy market will face in delivering secure, affordable and sustainable energy supplies are indeed considerable and Ofgem's work on reviewing whether the existing market arrangements are fit for purpose is commendable. The consultation broadly seeks views on two questions:

- do the scenarios sufficiently cover the range of uncertainty in the market (and hence cover the areas where future policy responses may be required) and;
- do the stress tests represent the types of risks facing the GB energy sector over the next decade?

With regard to the first question we consider that the four scenarios, and the key assumptions upon which they are based, are reasonable and appropriate to provide a broad envelope to test the GB energy market. However, Ofgem may wish to consider a scenario where the UK does not recover as quickly from the recession as the rest of the globe; this will make the UK a relatively less attractive investment prospect and may impact its competitiveness in the global LNG market. Further we believe the scenarios paint a general framework, and care needs to be taken in terms of their necessarily "high-level" illustrative quantification when considering the



implications for possible policy prescription. For example, the short term volatility in gas demand as a result of variable wind generation is more relevant than the overall level of possible annual gas demand when considering gas infrastructure needs.

With regard to the second question, our comment here is that the stress tests adopted, whilst entirely plausible, may not be insular in their occurrence; we would suggest that Ofgem considers how resilient the market is when a combination of events occurs. We should note that historically major GB gas system security risk (as measured by short term price spikes) has largely been the result of infrastructure failure rather than physical supply availability. There are a wide number of nodal risks in the GB system beyond Bacton. Professor Stern provided a useful analysis of this point at the recent SBGI conference "Gas 2009" which we would like to draw to your attention.

<http://www.sbgi.org.uk/ContentFiles/UN/Event%20Presentations/Gas%202009/2.%200J%20SternUKSecuritySGBI11.09.pdf>

Therefore, we suggest that multiple storage facilities at well dispersed locations on the system may prove to be just as important as the absolute volume of storage available when considering failure risk.

We now turn to our substantive comments on the report which primarily relate to the level of gas storage and the role it may be expected to play in the future GB energy market arrangements.

First, it is widely recognised that the GB energy market faces an unprecedented period of uncertainty with significant challenges to the operation of the market over the coming years, many of which Ofgem has identified in the report. We believe that one of the most striking conclusions that can be drawn from Ofgem's work thus far is need for network flexibility; future gas demand is hugely uncertain with Ofgem predicting an annual GB gas demand variance of 36bcm in 2020 (the difference between Dash for Energy and Green Transition). Network flexibility can be expected to be delivered in a number of ways but primarily by: LNG imports, pipeline imports and storage. We were therefore somewhat surprised to learn that Ofgem's analysis suggests that in 3 of the 4 scenarios the GB market requires only a marginal increase in storage capacity. Ofgem's theoretical model appears to be at significant odds when compared to the levels of gas storage supporting our European neighbours whose energy supply is based on existing experience of being gas import dependent. To illustrate this point we have included a graph which provides a useful comparison of storage levels compared to average demands (Appendix 2). Whilst we openly acknowledge that there is no exact science to determining the requisite level of gas storage any particular market needs, levels around 7% of average demand (Green Transition) would appear extremely low. Our analysis suggests that if all announced storage projects are delivered the GB market would have approximately 19bcm capacity equating to between 16% and 24% of average demand in 2020 depending on scenario. Intuitively this would appear a more sensible outcome.

Secondly, Ofgem appears not to have taken any account of storage capacity likely to be required in future in the UK market by LNG importers, by treating storage and LNG as purely competitors in providing flexibility to the market. Gas storage and LNG imports are not mutually exclusive in providing flexibility to the UK market. Access to UK storage will enable LNG players to optimise their portfolios and mitigate risk. From a practical viewpoint, using fast-fill storage facilities should help LNG importers



improve the overall utilisation of its capacity at re-gasification terminals, as it will allow gas to flow more freely into the country, reducing the impact on spot prices, thus allowing import terminals to free up space more quickly than might otherwise have been possible. This will also help to improve security of supply. Having some alternative supply arrangements in place during periods of bad weather for example, might help LNG to improve its reputation as a reliable supply source.

Finally, one of the issues that the paper does not appear to address is the physical capabilities of the gas infrastructure; the paper's conclusions being based on an economic model. An illustration of this is the forecasted usage of the LNG infrastructure.

Under the Green Stimulus scenario, which is the scenario involving the lowest consumption of gas, there is a stated need for 51.5bcm of regas capacity per year by 2020; if we make a very conservative assumption that this flows evenly through the year despite the UK's seasonal demand curve, then the following figures can be derived:

Annual flow of	51.5bcm/yr
Giving a monthly flow of	4.29bcm per mth
Existing annual regas capacity as per National Grid 2008 10 yr statement	34bcm/yr
Giving a regas capacity shortfall	34%
In the severe winter scenario Project Discovery has LNG landing of	3.15bcm per mth

Assuming LNG regas is built to meet the UK requirement of 51.5bcm per year then the 3.15bcm per month is a utilisation rate of 73%, a very high figure for regas terminals.

In addition, to ensure the flows of LNG this monthly landing rate is equal to around 80 LNG carriers dedicated to the UK market and at current tonnage that is 26% of the World fleet. If we assume that by 2020 the World fleet has expanded as projected to 527 carriers that is still some 16% of the world fleet dedicated via the spot market to the UK. Even though these figures are all based on the low gas consumption scenario they appear highly optimistic.

In conclusion GSOG believes that Ofgem's report fails to fully recognise the extent to which storage represents an important part of the flexibility mix and that new storage projects can and will be competitive with and complementary to LNG imports as a source of flexibility in the future.

We hope that you find our comments of use and would be happy to discuss these further with Ofgem if you believe this to be of value.

Yours sincerely



 Roddy Monroe, Chair – SBGI Gas Storage Operators Group

## **Appendix 1**

List of Members of the Gas Storage Operators Group:

Bord Gais Eiereann  
Canatxx Gas Storage Limited  
Centrica Storage Limited  
E.On Gas Storage Ltd  
EdF Trading Gas Storage Limited  
ENI UK Gas  
Gateway Gas Storage Company Ltd  
Ineos Enterprises  
National Grid LNG Storage  
Portland Gas plc  
Scottish Power Energy Management Ltd  
SSE Hornsea Limited  
Star Energy Group plc  
Statoil (UK) Limited  
Storengy UK  
Wingas Storage UK Ltd

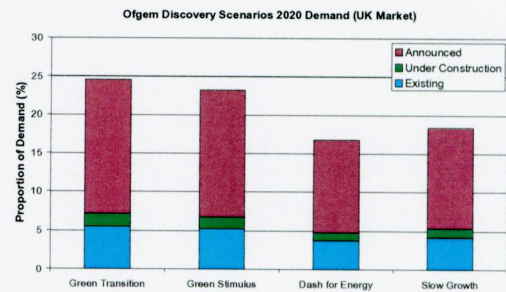
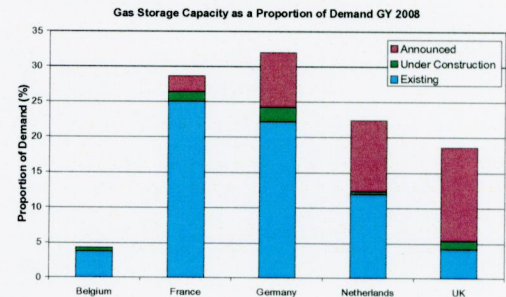


## Appendix 2: Storage Capacity 2020 as a Proportion of Projected Demand

### Storage Capacity 2020 as a Proportion of Projected Demand



Facility	Duration	Space (MCM)
<b>Existing</b>		
Rough	Long	3,215
Hatfield Moor	Long	120
Humbly Grove	Long	340
Hole House Farm	Medium	60
Hornsea	Medium	325
Aldbrough	Medium	60
LNG	Short	120
<b>Sub Total</b>		<b>4,240</b>
<b>Under Construction</b>		
Aldbrough	Medium	640
Byley (Holford)	Medium	165
Stublach	Medium	400
<b>Sub Total</b>		<b>1,205</b>
<b>Announced</b>		
Portland	Long	1,000
Gateway	Long	1,500
Caythorpe	Medium	210
Whitehill Farm	Medium	420
Albury	Long	900
British Salt	Medium	100
Bains	Long	570
Baird	Long	1,670
Fleetwood	Medium	1,180
Hewett	Long	5,000
King Street	Medium	160
Saltfleetby	Long	735
<b>Sub Total</b>		<b>13,445</b>
<b>Total</b>		<b>18,890</b>



Above chart shows the situation if 18.89 BCM was delivered

If there was 12 BCM of Storage in 2020 this would equate to:

10.6% - Dash for Energy

15.6% - Green Transition

The trade association of choice for UK energy & utility network companies