



Promoting choice and value
for all gas and electricity customers

RIIO|GD1, RIIO|T1 Capacity Working Group

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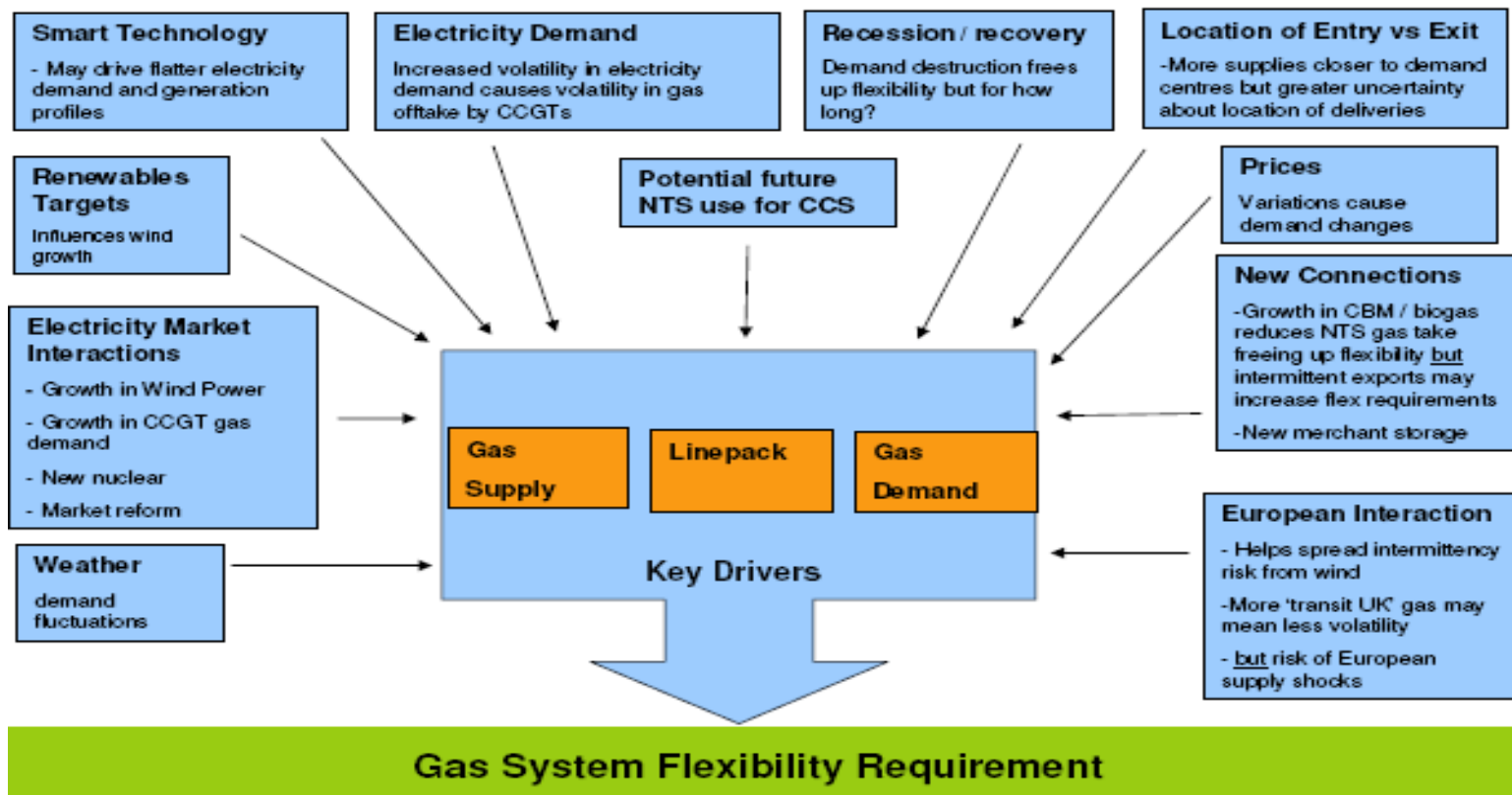
Agenda

- **Introductions**
- **Minutes of last meeting**
- **System flexibility overview**
- **NGG system flexibility obligations - RIIO|T1**
- **GDN capacity/flexibility obligations - RIIO|GD1**
- **Update on company output measures discussions**
- **AOB**

System flexibility overview

- NGG uses system flexibility to meet Users' needs to vary the rates they enter and exit gas
- System flexibility constraints manifest themselves as aggregate linepack shortages, or as locations specific constraints i.e. specific NTS exit points
- GDN's 'NTS exit (flexibility) capacity' needs are an important driver of system flexibility needs, but flexibility capacity is a system wide issue
- NGG's System Flexibility Workshops confirm that system flexibility is a function of entry (supply), system linepack and exit (demand) factors (see slides 4 and 5)
- Continued decline in UKCS gas and increase in LNG and continental gas imports expected to result in changes to NTS gas flows and entry needs.
- Changes in entry and exit flows are anticipated to impact system flexibility requirements.
- NGG considers significant investment from 2012/13 to 2017/18 required to meet future system flexibility needs – see NGG's FB PQ response to TP4 rollover. [discussion on the rollover not in the scope of this group]

System flexibility – key drivers



NGG proposed system flexibility indicators

Phase	Indicator Category	Indicator Descriptor
Phase 1 'Leading' indicators	Supply	Day on day difference in supply from Northern and Southern ASEPs
	Supply	Day on day difference by supply group
	Linepack	Max daily range of within day linepack changes
	Linepack	Frequency of linepack changes at particular thresholds
	Linepack	Hourly zonal linepack
	Demand	Within day demand variation by sector
Phase 1 'Lagging' indicators	Supply	Use of Operating Margins gas
	Supply	Use of entry buybacks
	Supply	Use of entry scalebacks
	Supply & Demand	Residual balancing frequency
	Supply & Demand	Residual balancing volumes
	Supply & Demand	Residual balancing costs
Phase 2 indicators	Supply	Monitor within day changes in supply vs forecast and actual demand
	Supply	DFN correlations to within day supply flows
	Supply	Investigate additional locational indicators
	Demand	Correlation of OPNs to demand
	Other	Correlate forecast wind output with actual
	Other	Investigate accuracy of wind forecasts and implications for leadtimes
	Other	Report on compressor usage patterns

NGG system flexibility obligations - RIIO|T1

- Where NGG propose investment for system flexibility as part of their RIIO|T1 business plans it must be supported by flexibility indicators data and/or robust modelling assumptions
- Any system flexibility investment must be linked to RIIO|T1 Primary Outputs. We need to know what the investment is designed to deliver and why i.e. location and amount of incremental flex capacity in response to incremental flex signals; preservation of specific utilisation factors under forecast flow assumptions...
- We propose an obligation on NGG to develop and report on system flexibility indicators as a RIIO|T1 Secondary Deliverable.
- System flexibility indicators to identify and justify system flexibility investment plans. We propose to link the system flexibility indicators Secondary Deliverable to a potential Primary Outputs measure via RIIO|T1 uncertainty mechanism
- This work should be developed in consultation with NTS users and should build on the work started under the System Flexibility Workshops, but indicators require further interpretation.
- If NTS users system flexibility needs are shown to be driving new investment important that NGG take steps to ensure the commercial and use of system charging arrangements are sending users efficient capacity utilisation signals .

GDNs system capacity/flexibility obligations

RIIO|GD1

- GDN capacity/flexibility needs met by a combination of NTS exit (flexibility) capacity; GDN linepack; GDN storage; and to some extent GDN interruptible capacity.
- Current arrangements have potential to undermine investment efficiency across NTS/GDN interface – in some cases bidirectional inefficiency?
- In developing investment proposals to meet GDN flexibility needs, important that GDNs are able to demonstrate what options, including incremental NTS exit (flexibility) capacity, may be available to them. This will require cooperation of NGG NTS.
 - We would expect to see evidence that all options have been explored before investment requests are incorporated in allowances
- Appropriate for GDNs to develop proposals to address NTS/GDN efficiency, including
 - Procedure for identifying the most efficient form and, if necessary, location for investment.
 - In conjunction with NGG NTS, ways in which existing UNC arrangements and in particular the OCS process can be made to work better.
- Companies should consider how other plausible assumptions impact investment plans