Transmission Price Control Review
Seminar on enduring gas offtake reform

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Introduction and scene setting

- Purpose of today
- Context
- Timetable and process

Purpose of today

- Overview of Second Consultation and responses
- Outline Ofgem's initial thoughts on some of the key issues
- Understand NG NTS thoughts on allocation mechanisms and product definition
- Facilitate discussion
- Review next steps

Context – DN sales

- Sale of gas distribution networks in June 2005 created new interface
- Different user classes signal capacity requirements in different ways / to different timescales
- Authority concluded that development of "enduring" offtake arrangements necessary to protect the interests of customers

Context – Large investments required

- Network investment in the coming decade may be significantly higher than in the previous decade

Forecast capex over next control period (gas and electricity transmission) = **£7.1 – £9.2 billion**

- Compares to approx £3.4 billion over current period (2002 – 2007)
- £3.7 billion to £5.8 billion of this total is load related capex
- £1.4 billion to £2 billion relates to gas transmission (approx £0.9 billion load related)

- With more expenditure comes greater potential for differences between planning forecasts and actual user requirements:
  - As an example, if £500m of assets are not actually required then this could result in extra charges to consumers of some £40-50m p.a.

The challenge is to ensure arrangements deliver the best possible information about the future needs of network users

Timetable and process

- TPCR policy document in March
  - Further thinking on price control / incentives for both transitional and enduring regimes
  - Highlight issues to address on access arrangements
  - Overview of NG NTS initial thinking on access arrangements
  - Re-state forward work plan
- TPCR Initial Proposals in June
- Continuation of Enduring Offtake Working Groups

Agenda

1.	Introduction and scene setting	10:00
2.	Overview of Second Consultation	10:10
3.	Overview of respondents' views	10:45
4.	Break	11.00
5.	User commitment models: rationale & implications (& discussion)	11.15
6.	Initial thoughts from NG NTS	11.50
7.	Concluding remarks	12.30
8.	Lunch and finish	
9.	EOWG 5	13.15

Overview of TPCR second consultation

Tim Dewhurst

- Key principles
- High level options presented
- Other issues consulted upon:
  - determination of baseline levels
  - application & derivation of revenue drivers
  - buy back incentives

Enduring offtake arrangements

- TPCR second consultation (December 2005) outlined high level options for enduring offtake arrangements
- Aim is to improve upon the transitional regime
- Key principles are:
  - Potential for commitment from all NTS users
  - Unconstrained allocation of capacity to NTS users in long run
  - Constrained allocation of capacity to NTS users in short run

Enduring offtake arrangements: key principles

Long term

- **Unconstrained allocation** of capacity
- Typically occurs in time that is consistent with investment planning timescales
- Users can choose to commit to use NTS capacity – *guaranteed access at regulated price*
- Provides investment signal to NTS. It builds, if necessary, to meet sustained user demands as there is sufficient time available

3 years ahead (ish)

Short term

- **Constrained allocation** of capacity
- NTS does not have sufficient time in this period to invest to meet all user requests
- Users may apply for remaining unsold NTS capacity
- If demand exceeds that available NTS will have to ration access in non-discriminatory manner

Gas day

- Key principles
- High level options presented
- Other issues consulted upon:
  - determination of baseline levels
  - application & derivation of revenue drivers
  - buy back incentives

Proposed enduring offtake options (1/2)

- TPCR second consultation (December 2005) outlined high level options for enduring offtake arrangements
- These are not intended to be a comprehensive set of alternatives, but include variations relating to:

Spatial definition of baselines	The level of aggregation at which the NTS obligation to release a specified level of NTS offtake capacity is defined and measured (i.e. is it a nodal, zonal or network-wide obligation?)
Spatial definition of products	Defines whether NTS offtake products give the holder the right to offtake from a specific node, or grouping of nodes (i.e. is it a nodal, or zonal product?)
Substitution incentive	A financial incentive on the NTS to swap (unsold) baseline capacity from areas of low demand to areas of high demand in the long term

Proposed enduring offtake options (2/2)

- Status Quo defined as being the transitional arrangements
- Other proposed options all involve "user commitment" i.e. a pre-specified financial commitment required from *all* NTS users "n" years in advance
- These user commitment models were differentiated by:
  - spatial definition of baselines (nodal, zonal or global)
  - spatial definition of products (nodal or zonal)

	Status Quo	**Long term user commitment models**			
	Option Ex1	Option Ex2	Option Ex3	Option Ex3A	Option Ex4
Baseline	(LDZ)	Nodal	Zonal	Global/ network wide	Zonal
Product definition	Nodal	Nodal	Nodal	Nodal	Zonal
Substitution	×	✓	×	×	×

User commitment models

Model	Key advantages	Key disadvantages
Option Ex2 (nodal / nodal)	▪ efficient investment decisions ▪ maximise the use of the existing network ▪ clarity of where baseline capacities will be delivered ▪ encourage long term purchasing	▪ costly substitution incentive / exchange rates ▪ information asymmetries could cause significant problems (e.g. baselines) ▪ significant Ofgem involvement ex ante
Option Ex3 / 3A (zonal or global / nodal)	▪ efficient investment decisions ▪ more flexibility for NTS to allocate baselines across the network ▪ encourage long term purchasing ▪ Substitution incentive not required	▪ need to monitor how NTS exercises greater level of discretion ▪ little substitution between zones
Option Ex4 (zonal / zonal)	▪ promote trading of zonal offtake rights ▪ encourage competition ▪ promote efficient allocation of capacity amongst market participants	▪ less accurate investment decisions ▪ potentially higher buyback costs ▪ potential security of supply issues

- Key principles
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  - application & derivation of revenue drivers
  - buy back incentives

What is a baseline?

Baselines have historically had a dual function:

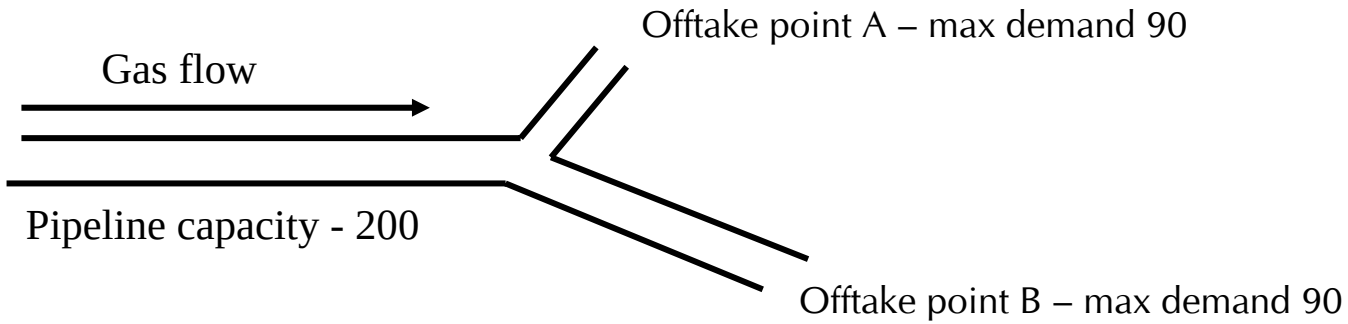
1. Establish delineation between TO and incremental funding
2. Define output measure / quantity of capacity that must be made available by National Grid NTS in allocations

Alternative baseline methodologies

The December document considered the following methodologies:

- **Theoretical maximum physical baseline**. Based on the methodology used at entry, the maximum amount of gas that could be evacuated from a node/zone irrespective of other network considerations (whilst keeping national supply/demand balance).
- **1 in 20 baseline**. Baselines equal forecast demand on the 1 in 20 day.
- **Practical max physical baseline.** The maximum amount of gas that could be evacuated from a node/zone, under realistic scenarios of flows on the rest of the network.

Worked example



Assuming nodal baselines…..

- **1 in 20 baseline**
  - Node A - 90
  - Node B - 90
- **Theoretical maximum physical baseline**.
  - Node A - 200
  - Node B - 200
- **Practical maximum physical baseline**
  - Node A - 100
  - Node B - 100

Assessment of methodologies

Theoretical maximum physical

Advantages
- Simple and transparent
- Most assurance no capacity is being withheld from market

Disadvantages
- Overstates actual network capability – buy-backs necessary?
- Reduces incentive to buy capacity long term

1 in 20 demand

Advantages
- Consistent with 1 in 20 obligation – minimum requirement

Disadvantages
- Understates actual network capability

Practical maximum physical

Advantages
- Closest to reflecting actual network capability
- Consistent with providing revenue drivers for incremental investment

Disadvantages
- Heavily dependant upon assumptions / scenarios used

- Key principles
- High level options presented
- Other issues consulted upon:
  - determination of baseline levels
  - revenue drivers
  - buy back incentives

What is a revenue driver?

- Revenue allowance that links revenues to an output measure such as capacity provided
- Applies to additional capacity above baseline subject to meeting certain criteria

Form of revenue drivers

What is the appropriate spatial definition for revenue drivers?	▪ nodal? ▪ zonal? ▪ global?
Frequency of adjustment?	▪ fixed for duration of price control? ▪ within period adjustments?
At what point should the assumed cost be reconciled with actual costs?	▪ forward looking (next price control) ▪ rolling 5 year? and / or ▪ retrospective?

- Key principles
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Buy back incentives

- Issues:
  - allocation of risk between NG NTS, NTS users and customers
  - incentives to manage buy back risk
  - complexity
  - transparency
  - interaction with baseline / product definition
- Considering whether to refine current incentives or overhaul – EOWG5 later today

Overview of respondents' views

Matteo Guarnerio

User commitment models

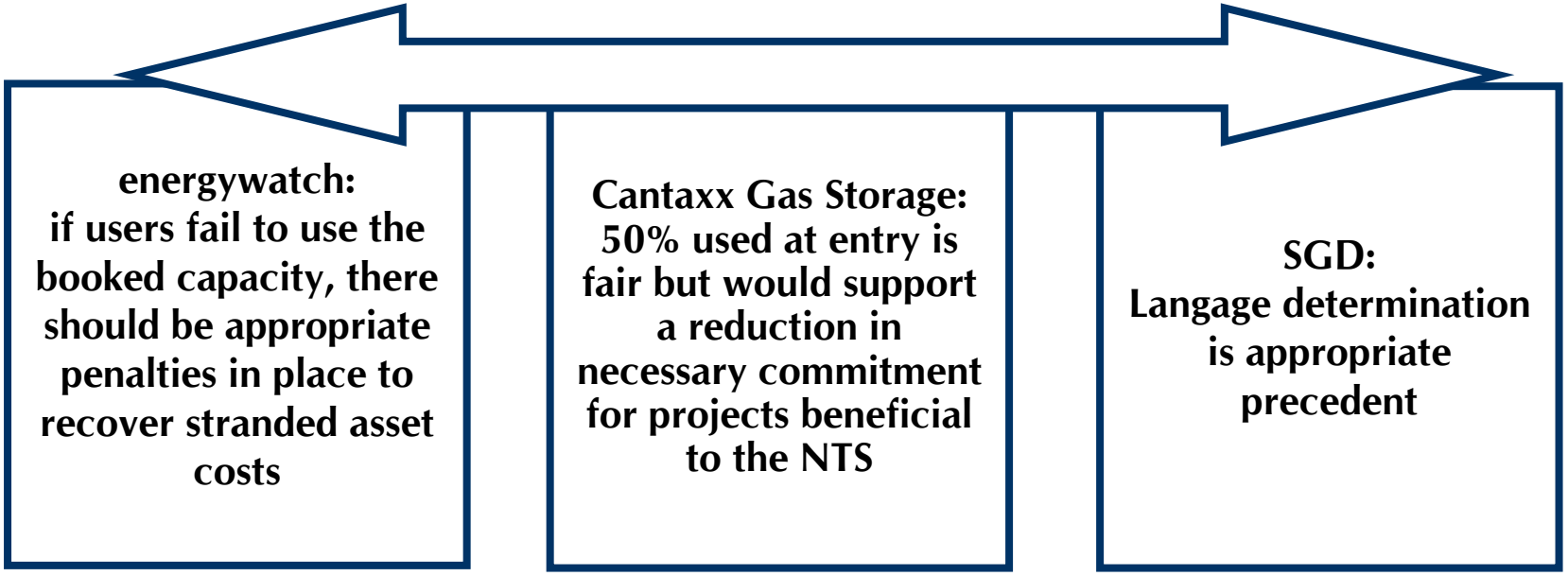
- a number of respondents accepted the merits of user commitment models (e.g. E.on, AEP, CIA, Centrica), but
- others stated that reform was not required (e.g. Statoil, Bord Gáis)
- most respondents expressed concern at the potential cost & complexity of user commitment models with many stating that such arrangements should build upon the current ARCA framework
- concerns also expressed regarding:
  - effectiveness of entry regime in generating long term signals (e.g. EDF, SSE)
  - credit risk for shippers (EDF, SGD)
  - reallocation of risk away from NG NTS (SSE, SGD, CIA, Centrica)
  - implications for DCs changing shippers (SGD, Statoil, Centrica)

Interaction with 1 in 20

- NG NTS response:
  - interaction between 1 in 20 obligation & user commitment model needs clarifying - 2 potential options:
    1. user commitments satisfy 1 in 20 obligation
    2. retain NG assessment of 1 in 20 obligation & remunerate such investments
  - would not advocate model 1 above:
    - reliance on implementation of user commitment model
    - timing of investments
    - potential lack of signals
    - willingness of banks to make financial commitments in advance
- AEP: expect ongoing role for traditional planning methods
- Centrica:
  - NTS - central role to assess the long-term needs of its present & future customers
  - sole reliance on user commitment – low risk for NTS – reflected in rate of return

User commitments

- View that the user commitment required should be simple and transparent (NG NTS, AEP)



NTS user differences

- Many respondents stated that DNs and DCs are different and should be treated differently:
  - RWE, Statoil: use different NTS services / have different requirements
  - EDF: DNs have flow management capabilities not available to DCs
  - CIA: different users have different planning horizons
  - SSE: different consequences of failure to secure capacity

Storage:
- all NTS connections should not be treated in the same way
- should incentivise the development of new storage facilities
- benefits of storage schemes should be recognised

Interconnectors:
- concerns regarding treatment of Moffat I/C
- Request for due discrimination at Moffat
- Ofgem should consider impact upon other jurisdictions

Product definition

Flat / flex:

- preference for single capacity product (Viridian)
- issues with current definition: does not match behaviour of system (NGD)

Nodal / zonal:

- preferences expressed for nodal product (NG NTS, Bord Gáis, E.on, Centrica)
- SSE noted importance of locational investment signals
- NGD:
    - nodal definition leaves DN vulnerable to switching of flows between offtakes in the event of an outage; but
    - zonal definition creates problems
- Bord Gáis : zonal definition could cause speculative behaviour

Baselines

Nodal / zonal / global:

-Zonal / global baselines:
- not clear how capacity allocated to nodes on transparent & equitable basis (NGD)
- concern – need to ensure availability of capacity (Bord Gáis)
- cost and complexity outweigh any perceived benefit (E.on)

- Nodal: most likely to act in customers' interests by providing certainty (AEP)
- Nodal with substitution: extent of actual substitution must only be at the margin & payments under substitution incentive need to be high (RWE)

Level of baseline:

- NG NTS:
  - should not exceed system capability
  - should be consistent with 1 in 20 demand
  - should include investments with a large degree of certainty
- Statoil: theoretical max phys: simple, objective & gives shippers a high degree of certainty
- Centrica: 90% of theoretical max phys

Change over time:
- Centrica: reflect known growth?

Revenue drivers

Form of revenue drivers:

- function:
  - NG NTS: revenue drivers should be treated as a "down payment" for necessary investments & adjusted at next price control
  - Centrica: may need mechanism to address exceptions (IAEs?)
- nodal / zonal:
  - E.on: nodal – more cost-reflective
  - SGD: global revenue driver - simple & transparent
- cost drivers: recognition that steel prices are a driver as well as project specific factors

De-coupling from reserve prices:

- NG NTS in support
- but concerns that price uncertainty may discourage long term investment (RWE, Statoil, E.on, AEP, Centrica)
- Centrica: concerns at volatility of current pricing tool (Transcost)
- AEP: needs more consideration before decision to formally separate – both should derive from LRMC and be relatively stable over time

Buy back

- Most respondents agreed that there was some merit in separating operation buy backs from those associated with new investments:
  - risks are qualitatively and quantitatively different (NG NTS)
  - but must consider the benefits of separation against resulting complexity (E.on)
  - should first assess whether can be distinguished (AEP)
- NG NTS:
  - new investment – may be more appropriate to have an administered buy back price or liquidated damages for late delivery
  - release of capacity should be linked to a fixed period once all relevant planning consents granted

User commitment models: rationale and implications

Jason Mann

- Importance of user commitment models

- Implications of a user commitment approach

Understanding needs of users

- NG FBPQ submission for £0.9bn in NTS load related capex. Relative to current regulatory asset value of £2.5bn ……
- …..emphasis requirement to understand future needs of network users

Two broad approaches exist to understanding the network investment necessary to meet the future needs of users:

Planning forecasts of usage (incorporating user signals)

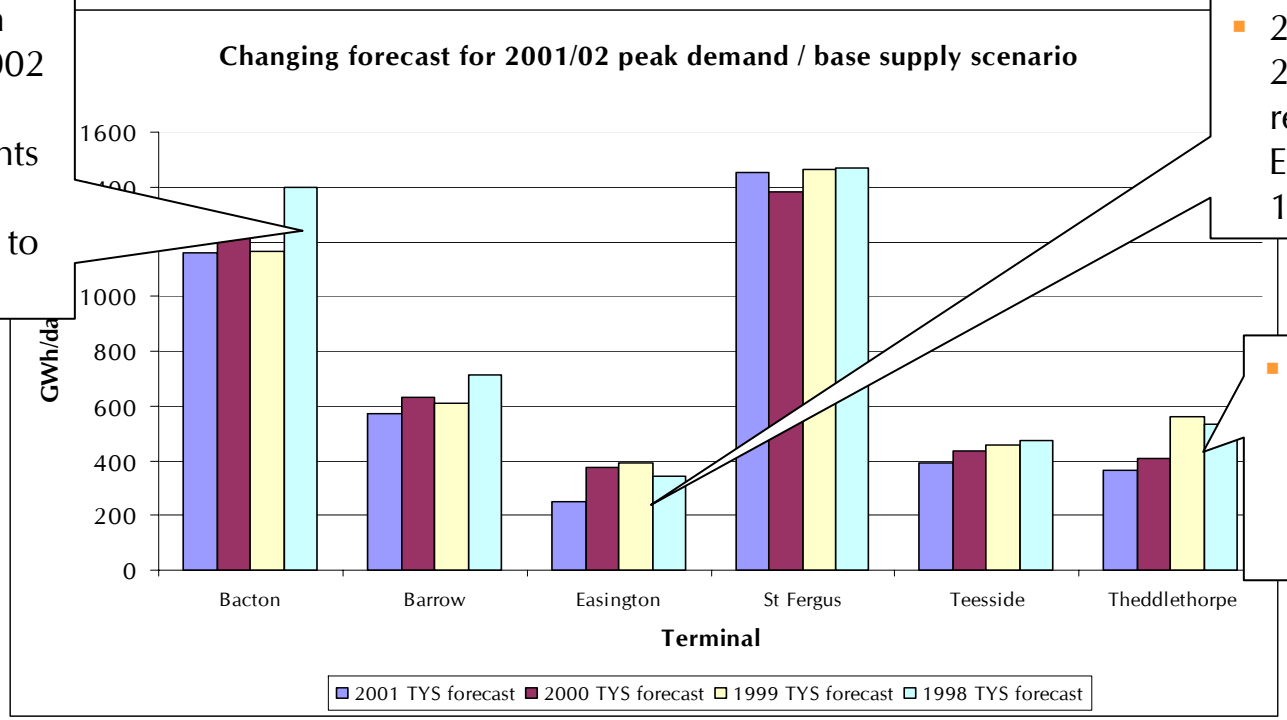
Users signalling their future network requirements

To date, network investment has been driven by network owner's forecasts, but this reliance on planning data may introduce significant forecasting uncertainty

Reliance on planning data

- Forecasts of peak demand have been subject to significant revisions within investment timescales. For example:

- 17% fall in forecast 2002 peak entry requirements at Bacton from 1998 to 2001

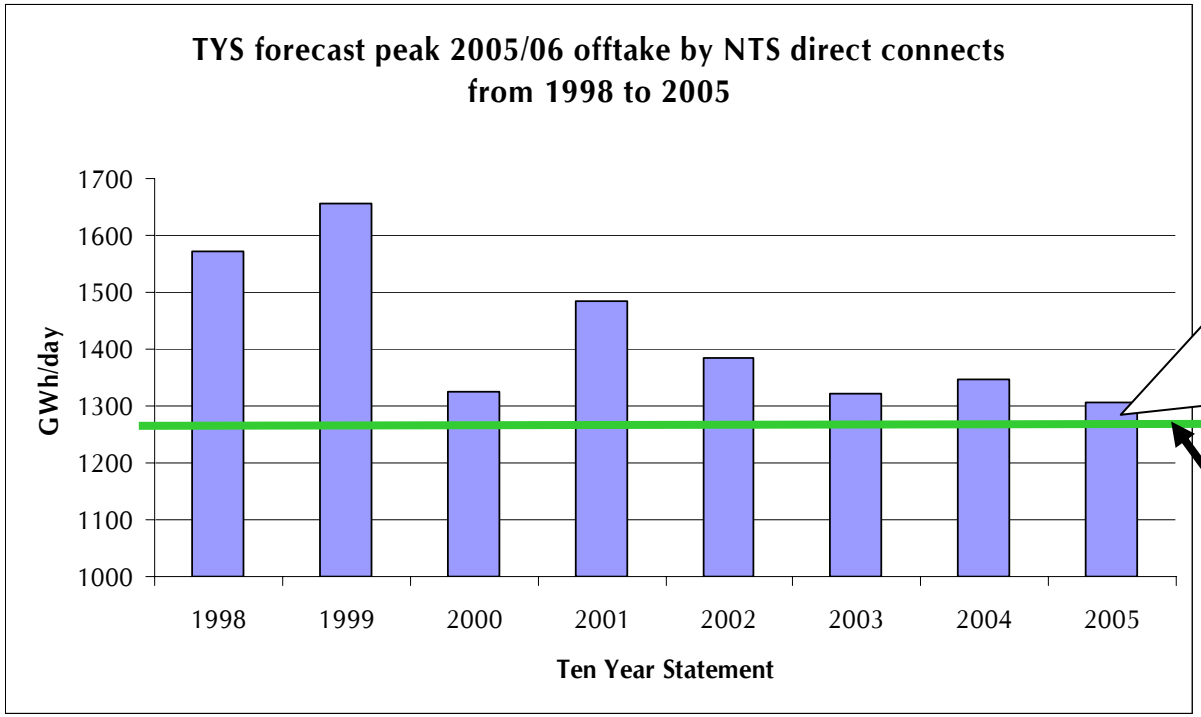


- 27% fall in forecast 2002 peak entry requirements at Easington from 1998 to 2001

- 31% fall in forecast 2002 peak entry requirements at Theddlethorpe from 1998 to 2001

Reliance on planning data

- Forecasts of usage by NTS direct connects subject to significant variation between TYS publications



- Significant % changes in forecast offtake by NTS direct connects year-on-year
- 2002 TYS forecast of 2005/06 peak requirement 9% higher than actual (current) SOQ booking (plus shrinkage)

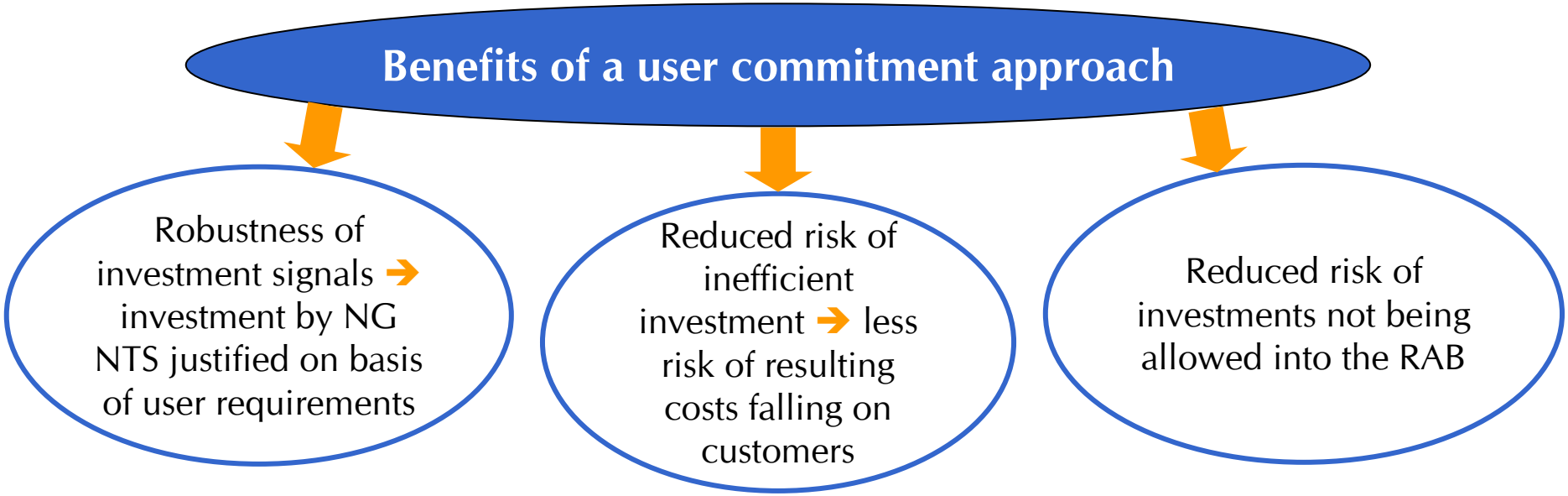
- Actual (current) SOQ booking (plus shrinkage) = 1269 GWh/day

- Importance of user commitment models
- Implications of a user commitment approach

What is a user commitment model?

- All NTS users required to provide consistent signals to NG NTS regarding the appropriate size of the gas transmission network
- Signals provided sufficiently far in advance to allow NG NTS to make appropriate system developments
- Such signals should be backed by an appropriate financial commitment

Implications of a user commitment approach

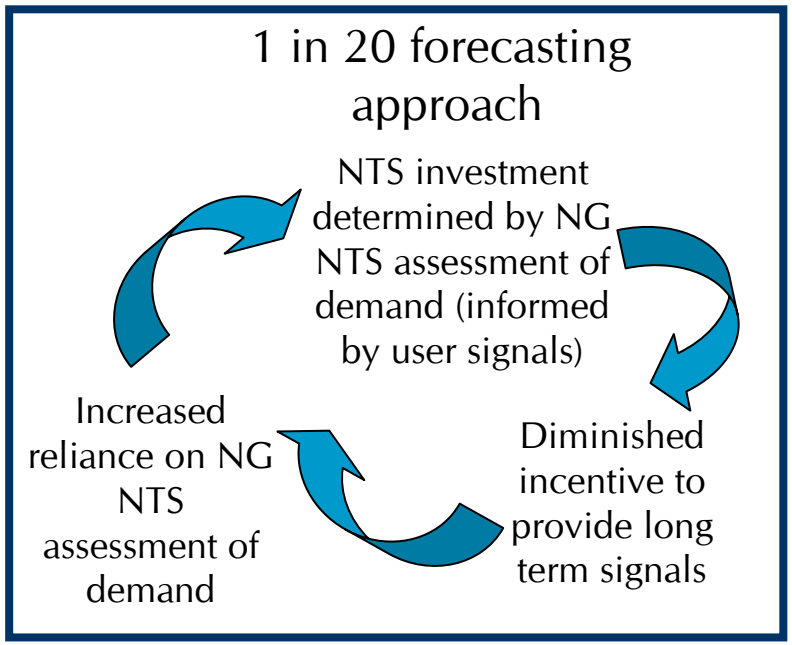


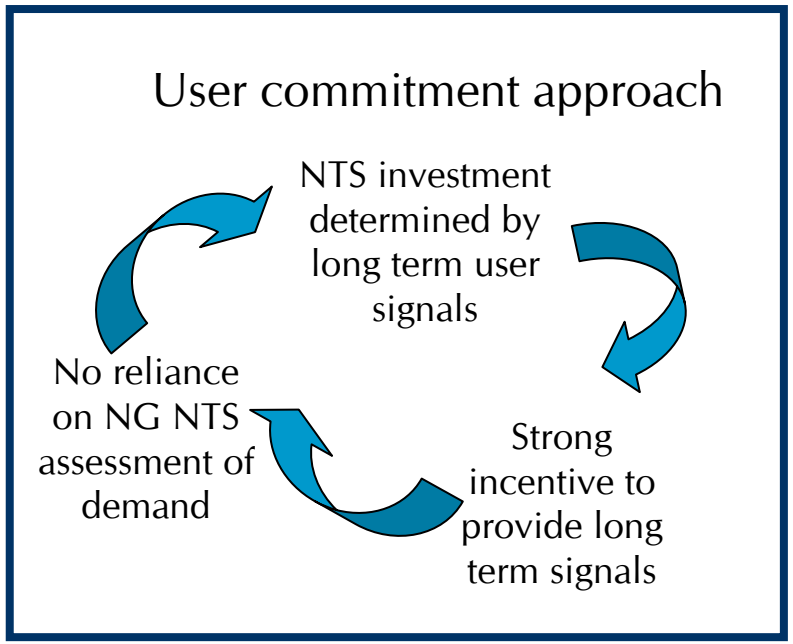
- Potential implications for aspects of the price control settlement:
  - interpretation of NG NTS's 1 in 20 licence obligation
  - determination of baseline levels
  - application of revenue drivers

The 1 in 20 obligation (1/2)

- The 1 in 20 licence obligation applies to the NTS and DNs
- The obligation **requires that the pipe-line system meets "the peak aggregate daily demand**, including, but not limited to, within day gas flow variations on that day, for the conveyance of gas for supply to premises which the licensee expects to be supplied with gas conveyed by it –
  - which might reasonably be expected if the supply of gas to such premises were interrupted or reduced…
  - **which…having regard to historical weather data…is likely to be exceeded in only 1 year out of 20 years"**

The 1 in 20 obligation (2/2)





Is NTS investment in response to user signals from DNs and DCs sufficient to meet 1 in 20 obligation?

Determination of baseline levels

- A baseline level based on planning standards, would be inconsistent with the principle that the user commitment should determine network capability……..
- ……. follows that, baseline levels reflecting **physical capacity** of the network are more consistent with user commitment

Initial thinking: baselines should be capacity (rather than demand) based

Application of revenue drivers

- Incremental investment driven by user commitments
  - ➔ revenue driver triggered only if demand (via appropriate user commitment) exceeds baseline levels
  - ➔ load related capex remunerated through revenue drivers rather than included in baselines / TO revenue allowance
  - ➔ baselines static within price control period

Should NG NTS only be remunerated for investments which have an associated user commitment? ➔ implication would be that investment is less risky both for customers and NG NTS

ofgem

Promoting choice and value for all gas and electricity customers