Promoting choice and value
for all gas and electricity customers

Gas System Operator Incentives from April 2012

12 October 2011

Agenda

- Purpose of workshop
- Background
- Our views on incentives (after we present our views for each there will be an opportunity for NGG to comment followed by open discussion)
  - Shrinkage
  - Demand forecasting
  - Residual balancing
  - Data publication
  - Unaccounted for gas
- Next steps
- AOB

Purpose

- To obtain stakeholder feedback on our initial views on the setting of five SO incentives schemes to run from 1 April 2012 until 31 March 2013.
  - There will be an opportunity to follow up with written comments (submit by 21 Oct)
  - All stakeholder comments will be taken into account in turning our initial views into final proposals prior to statutory consultation on proposed licence changes

Next Steps/Process

Following this workshop the next steps will be as follows:

- 21 Oct 2011 Deadline for written comments
- End Nov/Early Dec 2011 publication of consultation on proposed licence changes (28 day consultation)
- Jan 2012 Subject to consultation response publish Direction to make final licence changes
- 1 Apr 2012 licence changes implementing the rollover incentive schemes come into effect.

This approach to obtaining stakeholder views is different from recent approach to setting incentives

- NGG have usually consulted on its proposals followed by our statutory consultation on final licence changes
- Third Package changes to timetable for amending NGG licence necessitated review of process
- We feel that this process will give stakeholders the opportunity to directly feed into the development of our final proposals by sharing our proposals with them earlier in the process

Background

- Five SO incentive schemes (shrinkage, demand forecasting, residual balancing, data publication, UAG) expire on 31 March 2012
- We published an open letter on our approach to the five expiring schemes in May 2011
  - Our view is to set the schemes in "rollover" fashion focusing on areas with most benefit to customers whilst limiting changes to the form of the schemes
  - this approach was supported by respondents to the letter and to NGG's subsequent consultation document
  - This will minimise disruption for stakeholders and allow focus to be on longer term schemes
- NGG issued a consultation on incentives in July 2011
- In response to our open letter NGG (at our request) have submitted proposals on the form of the schemes from April 2012
- In addition we are undertaking a process for developing longer term incentive schemes for the gas and electricity SOs to start from 1 April 2013

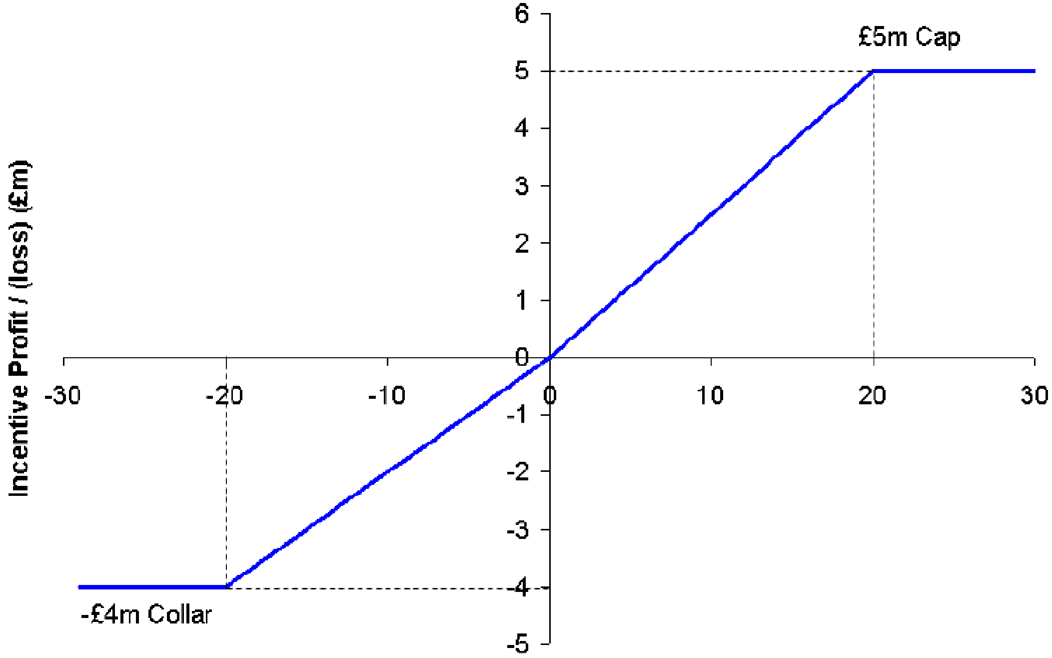
Shrinkage: background

- Under the shrinkage incentive NGG buys gas and electricity that constitute the elements of shrinkage
- Shrinkage consists of:
  - Compressor fuel use (electricity and gas used in operation of compressors)
  - CV shrinkage (gas not billed due to CV capping regulations)
  - Unaccounted for gas (quantity of gas after taking into account all known inputs and outputs from the system)
- NGG is incentivised to minimise the costs of purchasing shrinkage gas and electricity by setting target prices and (some) target volumes

Price	×	Volume	=	Shrinkage Cost Target
GCRP ECRP	×	Target elec CFU Target gas CFU Target CV Shrinkage Outturn UAG	=	Shrinkage Cost Target (before environmental adjustment)

Shrinkage: background

- NGG Keep 25% of over performance or lose 20% of under performance against the target subject to £5 million cap and £4m collar



Shrinkage: recent/projected performance

Incentive Year	Incentive Target	Outturn	Out-performance	Incentive performance
2009/10	£246.4m	£139.4m	£106.9m	£5m
2010/11	£139.3m	£114.1m	£25.2m	£5m
2011/12* (NGG estimate)	£141.4m	£149.4m	-£8.0m	-£1.6m

Source: NGG reporting

- Out-performance in 09/10 and 10/11 largely due to NGG buying gas below target price
- 11/12 is projected performance

Shrinkage: our initial views

Element	Our view	Comment
GCRP	Reduce by XX% (to be determined)	Based on updated market data and reduction in allowed swing volumes (see next slide)
CFU target (gas)	Reset ex-post target adjustment	Target is adjusted to take into account actual flows. NGG provided evidence that rate of target adjustment should be lower
CV shrinkage target	No change	Methodology still sound for 12/13 and largely immaterial to costs or incentive performance
Outturn UAG	No change	UAG volumes dealt with under UAG incentive
ECRP	Adjust for new info	Allow for changes in supply contract and transportation charges (to be confirmed)
CFU target (elec)	Set on basis of expected schedule of replacement of gas compressors	Should have little impact on overall cost or incentive performance
Environmental adjustment	Adjust to reflect CRCEES introduction and DECC guidance on carbon cost	NGG will have to pay CRCEES costs during the 12/13 Emissions are covered by ETS, DECC recommends traded price of Carbon appropriate

Shrinkage: GCRP

GCRP = 75% GQFP + 25% GMFP + Swing allowance

GQFP = Av. price quarter forward contract on each day of past year

GMFP = Av. price monthly forward contract on each day of past month

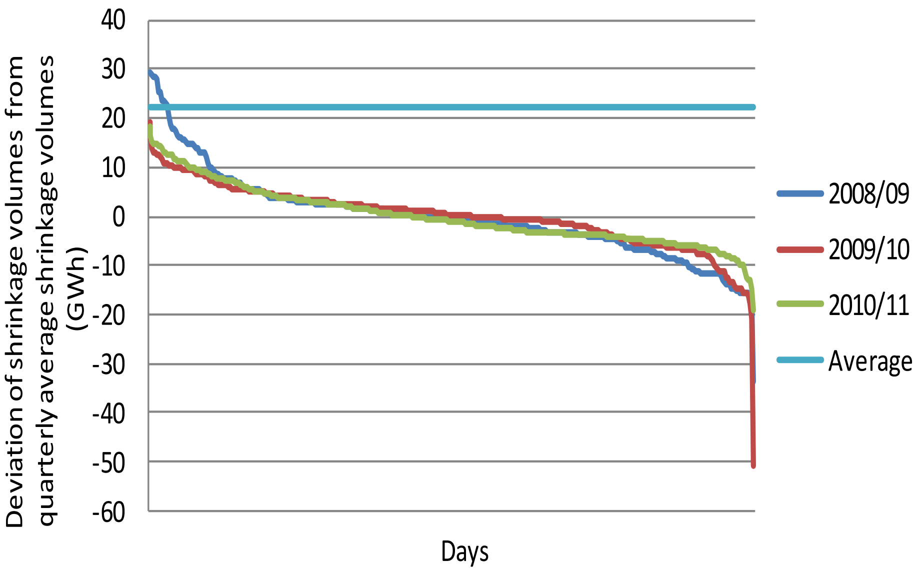
Swing allowance = allowance for need to buy/sell gas in prompt market due to unpredictability of shrinkage volumes. Allowance is based on price of Rough storage and expected volumes of "swing"

We propose to reduce the swing allowance to reflect that:

- Price of rough storage has fallen (33% reduction)
- Previous method of estimating expected value of swing may overestimate swing requirement

Shrinkage: swing allowance

- Swing allowance based on average of largest swing day for last 3 years (see below)
- Swing is defined as deviation of daily shrinkage from quarterly average



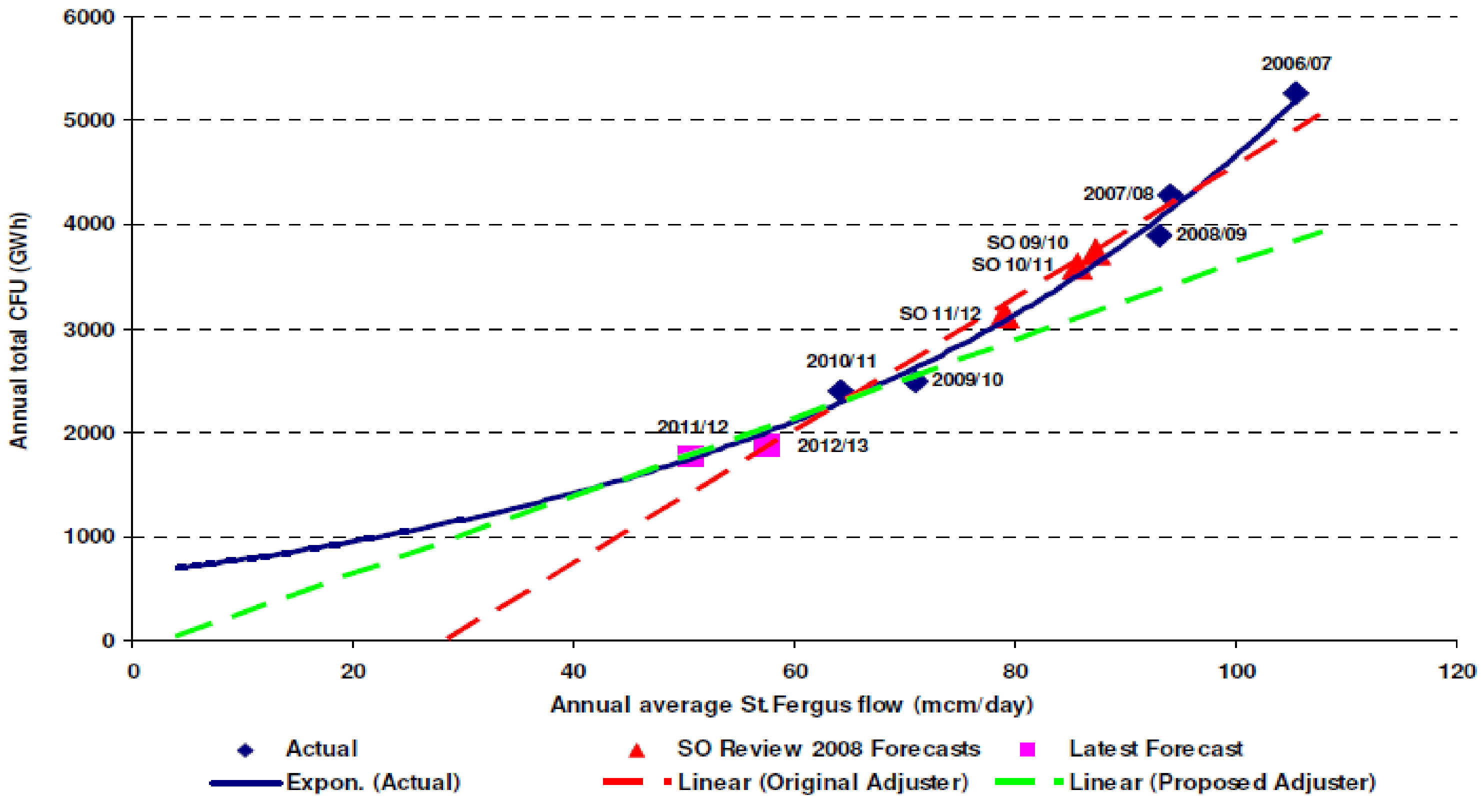
Source: NGG data

- We propose to use a value based on average swing day
  - Target based on average would imply reduction of around 50-60%

Shrinkage: CFU target adjuster

- Gas CFU target based on correlation between flows and fuel usage.
  - There is ex-post adjustment to target based on correlation between actual flows at St. Fergus and CFU, evidence provided by NGG (see next slide) suggests this relationship has changed.
- Our view is therefore, for 12/13, to change the ex-post adjustment value in line with the evidence provided by NGG

Shrinkage: CFU target adjuster



Source: NGG

Demand forecasting: background

- Incentive on NGG to minimise demand forecasting error
- NGG receive an annual payment based on average daily error of the D-1 13:00 forecast

How the incentive works

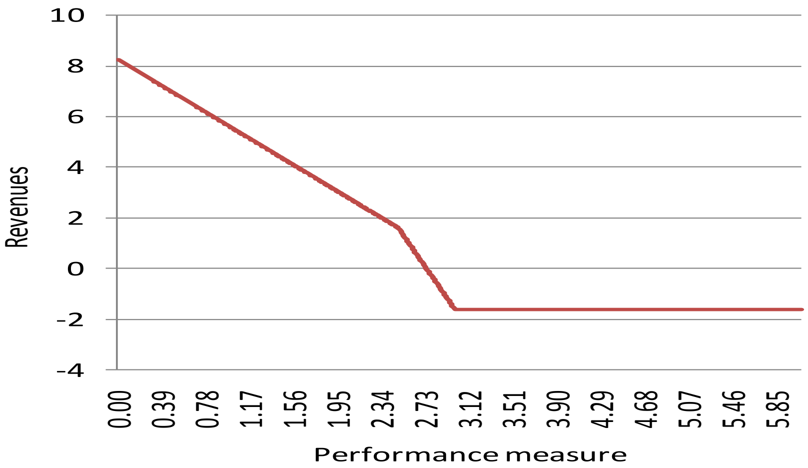
Performance measure:

(current target 2.75%)

$$\frac{\sum \left| demand\ \ forecast - actual\ demand \right|}{\sum actual\ demand}$$

Incentive revenues:

Max (for zero forecast error), £8.8m
Min (for error >= 3%), -£1.6m



Demand forecasting: recent performance

Incentive year	Target	Percentage of days on or below target	Performance measure	Incentive Revenues
2009/10	3.00%	59.5%	2.66%	£2.108m
2010/11	2.85%	60.0%	2.75%	£1.041m
2011/12	2.75%	52.5% (so far)	2.87% (so far)	Circa -£1m (simulated)

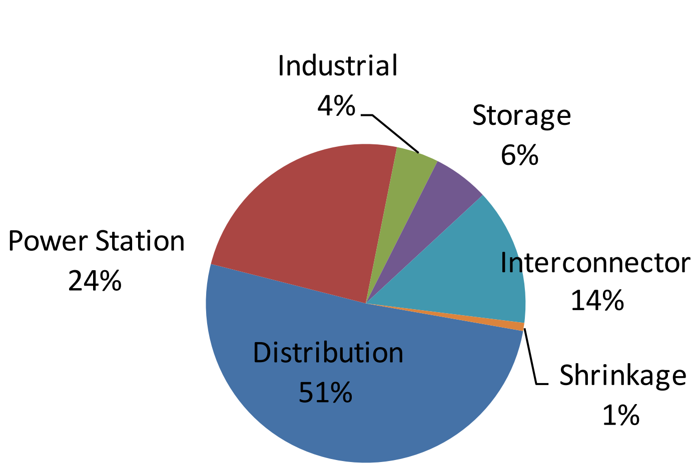
Source: NGG reporting/Ofgem analysis

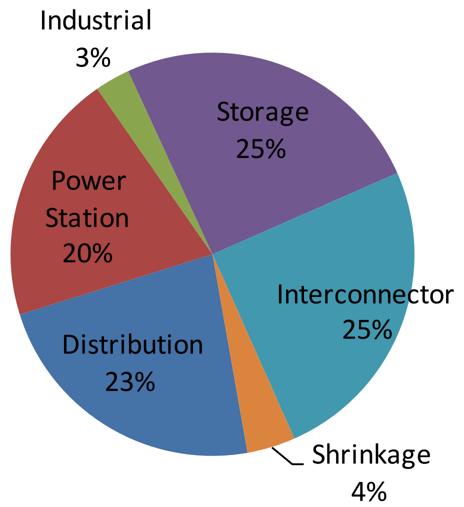
- With tightening of target and deterioration in NGG performance (expected) payments to NGG have become negative

Demand Forecasting: our initial view

- NGG feel that large increase in fast cycle storage volumes mean that the target should be widened to reflect difficulty of forecasting storage demand
  - Changing flows at interconnectors and CCGT intermittency also contribute to difficulty of forecasting
  - Fast cycle storage contributes around 20% of forecast error (NGG estimate, consistent with Ofgem analysis)
  - NGG estimate fast cycle storage injection capability could double in 12/13
- Our view is that target should remain same pending more in depth review of forecast incentive ahead of April 2013
  - Not yet convinced that volatility should be reflected in larger target
  - Areas of large error could be areas where forecast accuracy could be improved

Demand and Absolute Errors by Component (04/2009 – 07/2011)





Source: NGG reporting/Ofgem analysis

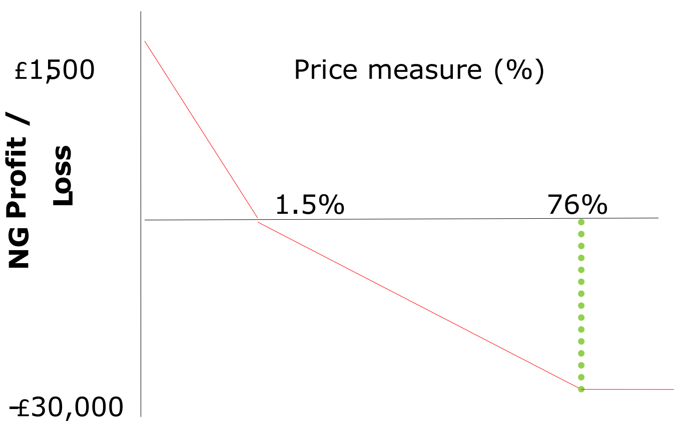
Absolute error as % of demand for each component

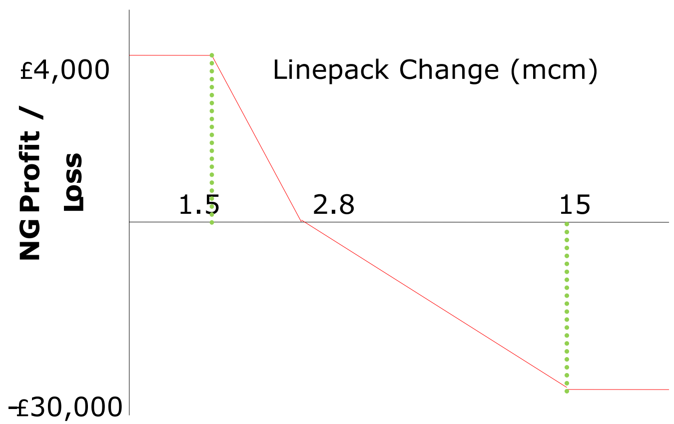
Year	Distribution	Power Station	Industrial	Storage	Interconnector	Shrinkage
2009/10	2.7%	4.0%	4.4%	31.1%	14.0%	25.3%
2010/11	3.0%	6.9%	4.4%	33.6%	10.6%	35.2%
2011/12	3.8%	6.1%	3.8%	17.4%	10.6%	39.7%
Total	**2.9%**	**5.4%**	**4.3%**	**29.0%**	**11.7%**	**30.8%**

Residual balancing: background

This scheme looks to minimise the effect NGG has on the market when it buys and/or sells gas to balance the system as a result of shippers not balancing their own position. Annual payments are capped at £2m and collared at -£3.5m

- **Price Performance Measure:** This incentivises NGG to maintain the price of the gas it buys and sells for residual balancing reasons as close as possible to the market prices.
- **Linepack:** This incentivises NGG to minimise changes in the end of day linepack.





Residual balancing: recent performance/our initial view

Year	Price target	Linepack target	Price Performance	Linepack performance	Linepack Revenues	Price revenues
2009/10	5%	2.8 mcm	2.9%	1.97 mcm	£0.59m	£1.04m
2010/11	2.5%	2.8 mcm	1.5%	2.05 mcm	£0.55m	£0.4m
2010/12	1.5%	2.8 mcm	N/A	N/A	£0.17m (to end Sept)	£0.04m (to end Sept)

Source: NGG reporting

- Incentive revenues have narrowed to well within cap of scheme as price target has tightened
- Scheme appears to be working reasonably well so we do not consider further tightening necessary for rollover

Data publication

- National Grid is incentivised to
  - keep three key screens (Prevailing View, Data Item Explorer and Report Explorer) available with a monthly target of 99.30% availability
  - to update within 10 minutes from the start of the hour predicted Closing Line Pack, National Forecast Flow, National Physical Flow, and Forecast NTS Throughput with a target of 90.5%

Recent Performance

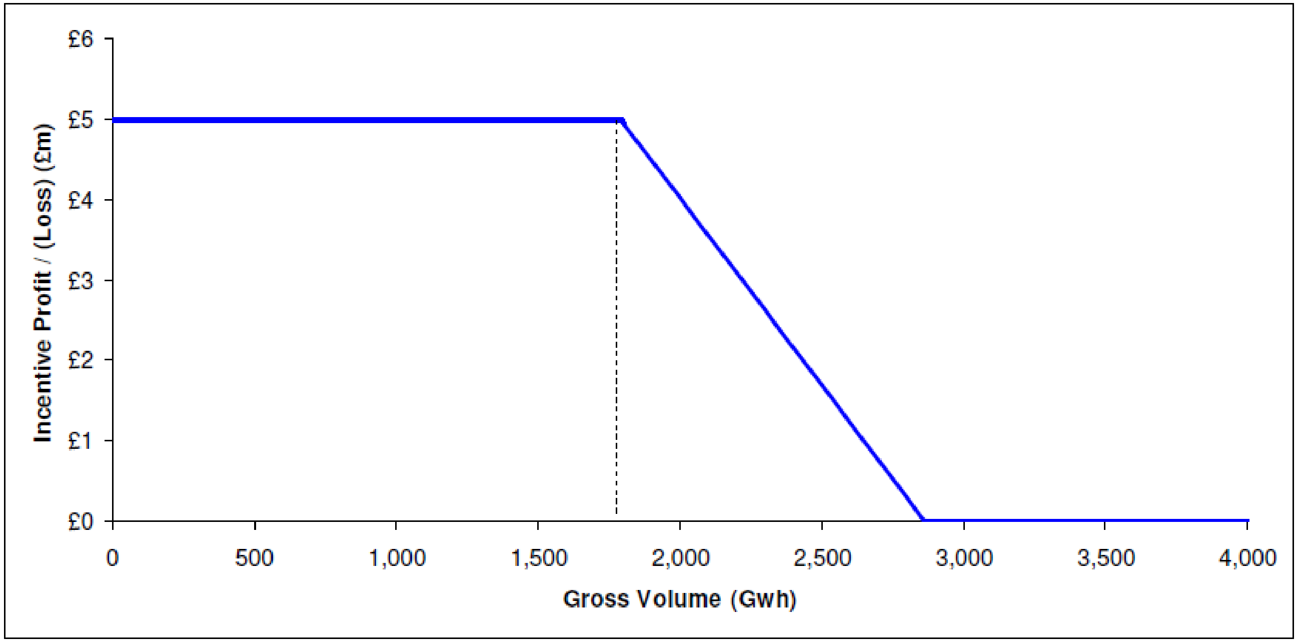
Year	Performance		Revenue
	Availability	Timeliness	
2008/09	99.90%	88.90%	£0.06m
2009/10	99.70%	87.80%	£0.05m
2010/11	99.70%	91.60%	£0.06m

Source: NGG reporting

- Similar performance is expected in 2011/12
- Indications are stakeholders value availability and timeliness of this data
- Propose to leave the incentive as it is for 2012/13

UAG: background

- Incentive set to encourage NGG to take actions to reduce levels of UAG
- Incentive payment of £4.67k for every GWh below target
- Increasing cap over 3 years from £2m (2009/10) to £5m (2011/12)
- Sharing Factor 33%



UAG: recent performance/our view

Year	Target (GWh)	Target (GWh)	Payment
2009/10	2,862	7,716	£0m
2010/11	2,862	6,313	£0m

Source: NGG reporting

- NGG have taken a number of actions to explore causes of UAG, eg data mining
- Current target based on average UAG between 01/02 and 07/08 appears inadequate
- NGG suggest that UAG is largely due to meter tolerances/error and to a great extent beyond their direct control
- We do not think it feasible to set a meaningful target within current incentive parameters for 2012/13
  - is difficult to establish a baseline
  - is unclear that any payments would be due to action taken by NGG
- We will consider inserting a licence condition to ensure that NGG retain incentive to take actions within its power to investigate causes of UAG and reduce volumes (see over)
- Propose to look in detail at UAG ahead of April 2013

UAG: proposed licence condition

Licence condition would be intended to ensure NGG takes useful action in area of UAG in 12/13, NGG have identified three options for what this might mean in practice:

- Option 1 – As now with NGG witnessing approximately 1 in 5 meter validations (approx 20% of throughput, no additional cost)
- Option 2 - NGG target meters with larger throughput for witnessing meter validation (approx 60% of throughput, no additional cost)
- Option 3 – NGG undertake more meter witnessing and target large meters (approx 80% throughput, additional cost circa £350k)

Within each option NGG could also continue its current data mining work but have requested additional funding (£46k) to do so

Do stakeholders have views on these or any other options?

Contact details

- Please direct written submissions to Mathieu Pearson (mathieu.pearson@ofgem.gov.uk)

- Queries can be directed to Mathieu or Karla Perca-Lopez (karla.perca-lopez@ofgem.gov.uk)

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