Quarterly Gas System Operator Incentive Report

Q1 2013-2014 (April 2013 to June 2013)

Introduction

1.1 Purpose

The purpose of this Gas System Operator Incentive Report is to provide information in respect of the performance measures that National Grid Gas is incentivised against during the relevant quarter in operating the gas transmission system

1.2 Nature of the Information Contained in this Report

This publication contains performance measure information associated with the Gas System Operator Incentives, and is based on the latest information at the time of publication. As future quarters are published, the information on this report will be updated to reflect the latest information available at that time. Changes to preliminary data that occur after the publication of the relevant quarter's report will thus be visible in the graphs and tables o future reports.

1.3 Structure of the Report

This report contains a summary of the below incentives on the first sheet, and then covers the individual incentives in more detail:

Constraint Management
Shrinkage
Residual Balancing
Demand Forecasting - Day Ahead and D-2 to D-5
Maintenance
Greenhouse Gas Emissions from Compressors

1.4 Supporting Information

The above link downloads a PDF document that summarises the Gas System Operator Incentive Schemes applicable from April 2013.

1.5 Consultation Documents and Responses

The above link opens a page on the National Grid website that contains any current System Operator Incentive Consultation Documents and any responses that have been received from interested parties.

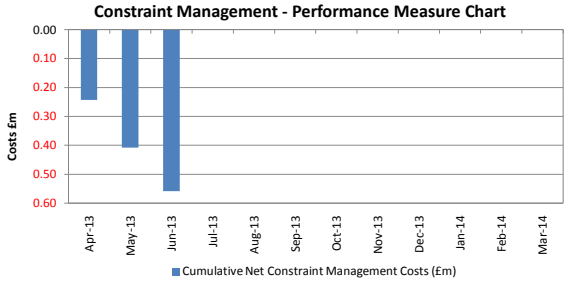
1.6 Ofgems Final Proposals

The above link opens the Ofgem Final proposals document for all Gas System Operator Incentives applicable from April 2013

Quarterly Gas System Operator Incentive Report

Q1 2013-2014 (April 2013 to June 2013)

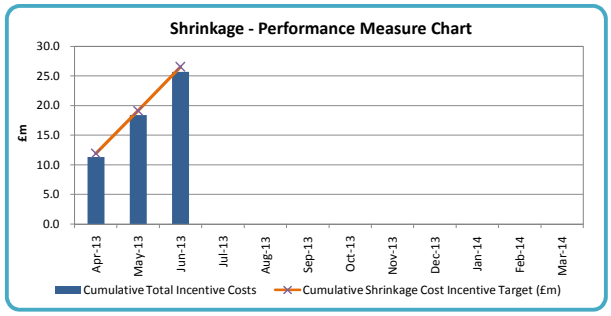
Constraint Management



Commentary

The chart shows the monthly cumulative Constraint Management operational performance measure. The end of Q1 performance for 2013/14 is a revenue of £557,767.

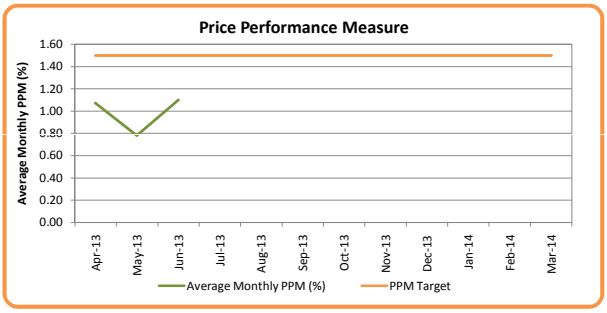
Shrinkage



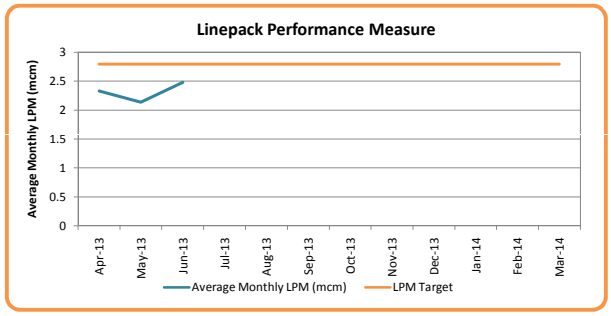
Commentary

Indicative Q1 incentive year 2013/14 NTS Shrinkage incentive costs of £25.7m are £0.8m lower than NTS Shrinkage incentive target cost of £26.5m

Residual Balancing - Price



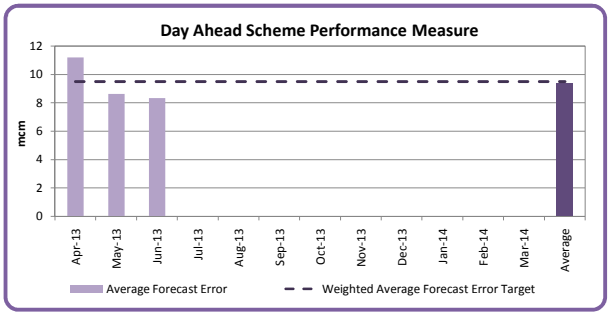
Residual Balancing - Linepack



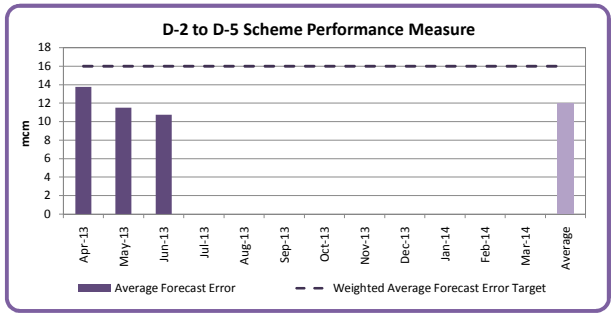
Commentary

The end of June position for the price portion of the incentive is a profit of approximately £48k. The Linepack portion of the incentive has also made a profit in the first quarter of £71k

Demand Forecasting - Day Ahead



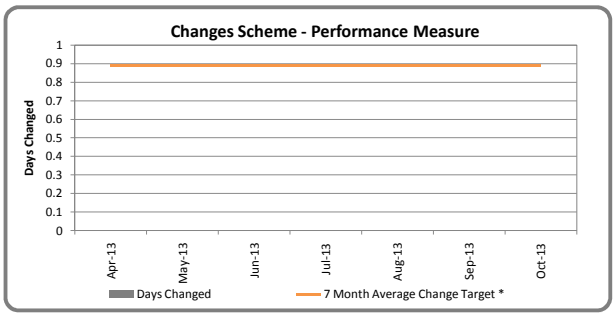
Demand Forecasting - D2 to D5



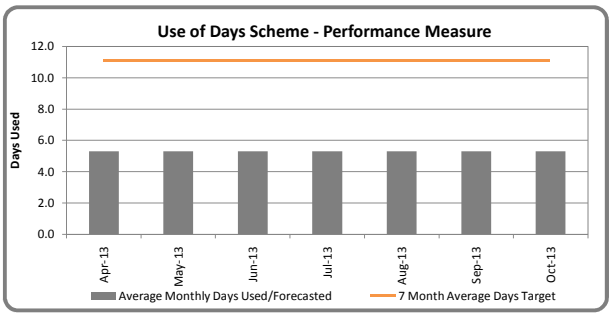
Commentary

The weighted average forecast error for both incentives remain below their respective target for this quarter.

Maintenance - Changes to Maintenance Plan



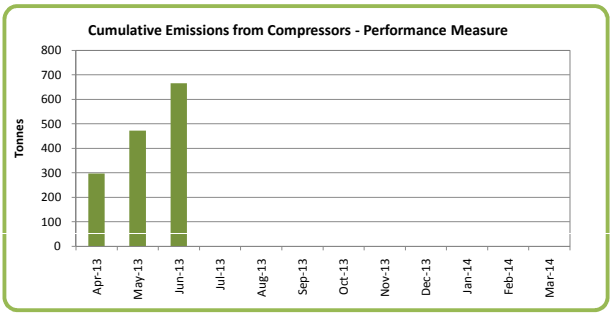
Maintenance - Days of Maintenance Used



Commentary

Maintenance Day changes is currently zero against a full year target of 6.23. Our full year forecast is £0.15m profit as a result of improved data flow and planning processes. Maintenance days called to date is 37 against a target of 77.83 giving a forecast profit for days used of £0.82m. This is due to the improved use of bundling with customer outages and the re-evaluation of maintenance practices. Please note the maintenance days used as depicted in the graph relates to forecasted average days for the Maintenance Period

Greenhouse Gas Emissions from Compressors



Commentary

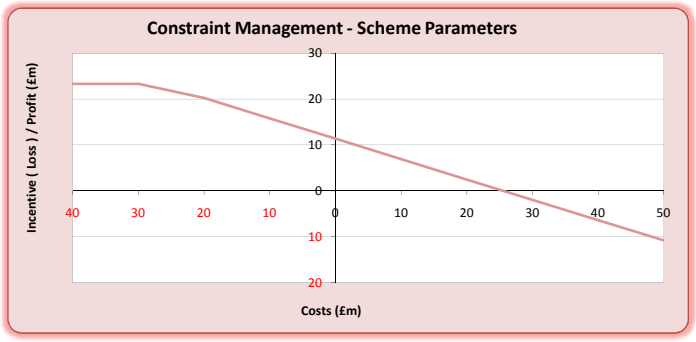
April venting was significantly higher than expected and this was mainly due to higher than expected demand, which was associated with cold weather, together with relatively constrained supply patterns. These supply and demand patterns increased compression requirements to ensure that assured pressures could be met across the NTS. Some of this increase was offset in May and June by the relatively balanced supply and demand patterns, which required lower than expected levels of compression

Constraint Management

Q1 2013-2014 (April 2013 to June 2013)

Scheme Purpose

The purpose of this scheme is to incentivise an efficient overall cost of System Operator Constraint Management actions through efficient system operation and the optimisation of strategies.
National Grid Gas is obliged to release obligated levels of capacity significantly in excess of peak demand at both entry and exit points on the network. In the instances where we believe we cannot accommodate Shipper's flow requirements associated with booked capacity, we undertake constraint management actions.



Scheme Description

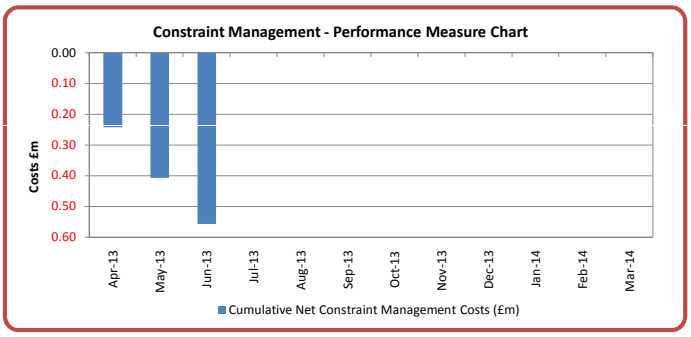
Performance Measure:- Entry and Exit operational constraint management cost.

From 01 April 2013, National Grid Gas is subject to a new Constraint Management Incentive which has been set for 8 years and encompasses both Entry and Exit Capacity Constraint Management actions.

Incentive performance is driven by the difference between the net constraint management costs over a year and a target value for such costs.

For 2013/14 the target cost comprises a pre-inflation cost of £22m (in 2009/10 prices) for entry and exit operational constraint management, with National Grid Gas accruing 44.36% of the revenue or loss (the sharing factor).

Performance



Supporting Data

	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Cumulative Net Constraint Management Costs (£m)	-0.24	-0.41	-0.56									

Commentary

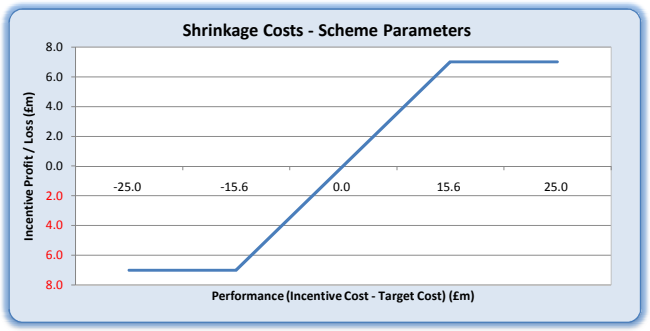
The chart shows the monthly cumulative Constraint Management operational performance measure. The end of Q1 performance for 2013/14 is a revenue of £557,767.

Shrinkage

Q1 2013-2014 (April 2013 to June 2013)

Scheme Purpose

The purpose of this scheme is to incentivise an efficient overall cost of shrinkage through efficient system operation and energy procurement.
NTS Shrinkage covers the gas and electrical energy which is used in operating NTS compressors, and the gas that cannot be accounted for and billed in the measurement and allocation process.



Scheme Description

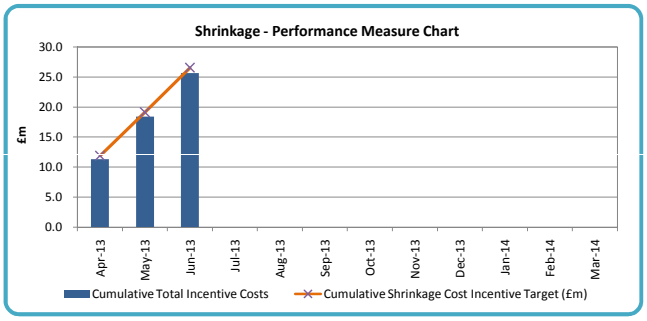
Performance Measure - Shrinkage Costs (£m).

The form of the Shrinkage Incentive is a bundled cost minimisation incentive across all components of shrinkage, with a target principally derived from an energy procurement cost benchmark.

This "Energy Procurement Target" is derived from a volume forecast and variance. This is multiplied by gas and electricity reference prices to derive a cost target.

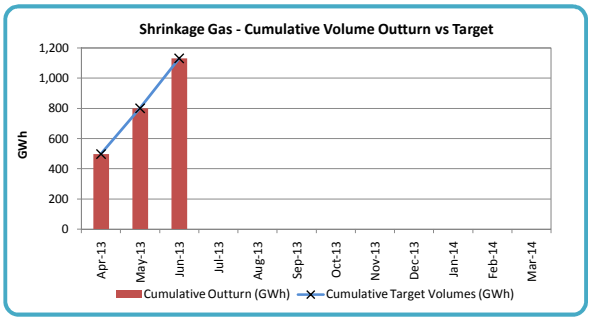
This incentive has been set for 8 years beginning on 01 April 2013. If total spend against the incentive is below the target, National Grid Gas receives a payment equivalent to 45% of the underspend, with a cap of £7m. Conversely, if total spend against the incentive is in excess of the target, National Grid Gas incurs a penalty of 45% of the overspend, collared at £7m.

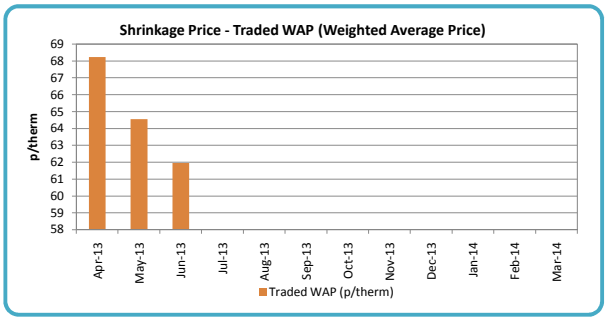
Performance



Supporting Data (Overall - Gas and Elec)

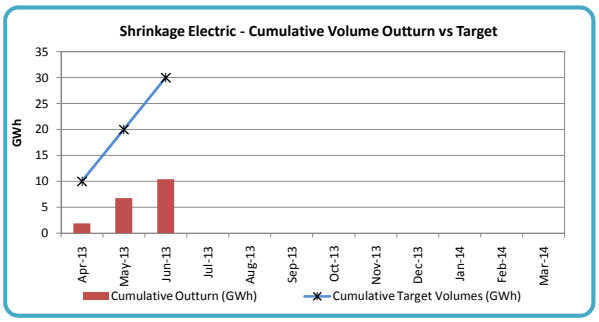
	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Total Incentive Costs (£m)	11.3	7.2	7.3									
Cumulative Total Incentive Costs (£m)	11.3	18.4	25.7									
Shrinkage Cost Incentive Target (£m)	11.9	7.2	7.4									
Cumulative Shrinkage Cost Incentive Target (£m)	11.9	19.1	26.5									

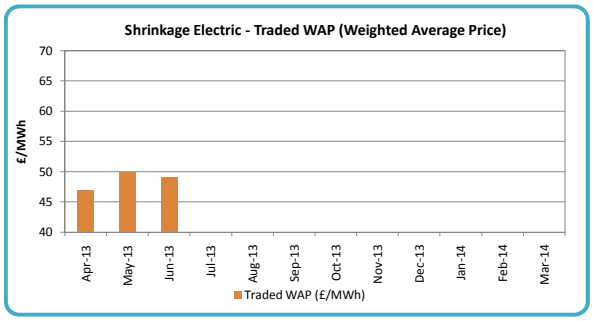




Supporting Data (Gas)

	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Outturn - Shrinkage Gas (GWh)	497	303	332									
Cumulative Outturn (GWh)	497	800	1132									
Incentivised Cost of Gas (£m)	11.1	6.6	7.0									
Target Volumes (GWh)	497	303	332									





Supporting Data (Electricity)

	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Outturn - Shrinkage Electricity (GWh)	2	5	4									
Cumulative Outturn (GWh)	2	7	10									
Incentivised Cost of Electricity (£m)	0.2	0.4	0.4									
Target Volumes (GWh)	10	10	10									
Cumulative Target Volumes (GWh)	10	20	30									
Traded WAP (£/MWh)	47.0	49.8	49.1									

Commentary

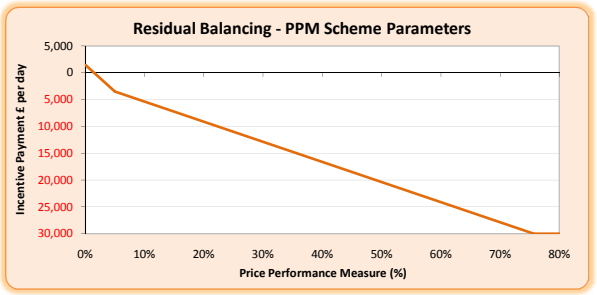
Indicative Q1 incentive year 2013/14 NTS Shrinkage incentive costs of £25.7m are £0.8m lower than NTS Shrinkage incentive target cost of £26.5m

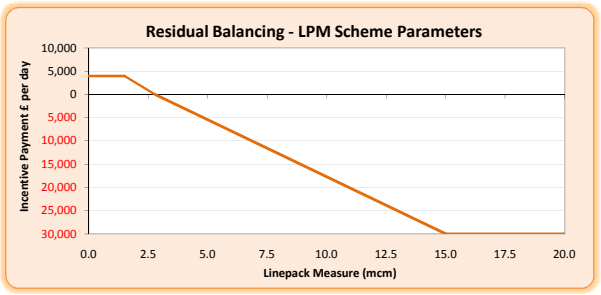
Residual Balancing

Q1 2013-2014 (April 2013 to June 2013)

Scheme Purpose

The purpose of this scheme is to incentivise the daily balancing of supply and demand whilst minimising the impact of any actions on market prices.
The incentive is split into 2 elements, the Price Performance Measure (PPM) and the Linepack Performance Measure (LPM).





Scheme Description

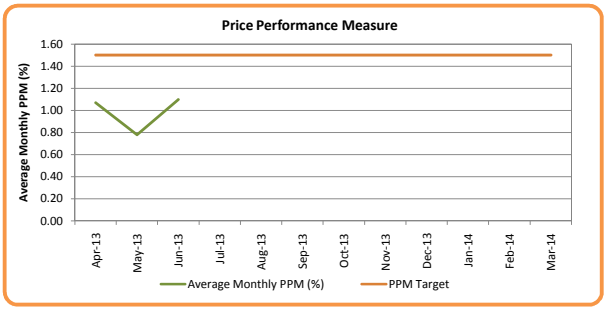
Performance Measure:- for PPM, the difference between any National Grid Gas Trades, divided by SAP (System Average Price). For LPM, the absolute difference between opening and closing NTS Linepack over a Gas Day.

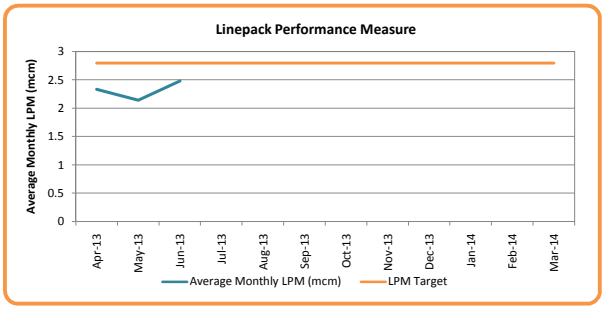
The Price Element (PPM) incentivises National Grid Gas to execute any Residual Balancing trades at prices that are in a small range compared to the System Average Price (SAP) for the day. The PPM is defined as the difference between the highest and lowest prices at which National Grid Gas trades, divided by SAP. The target for 2013/14 is a price spread of 1.5% of SAP. If the PPM is below 1.5% on a given day, then National Grid Gas receives an incentive payment up to a maximum of £1,500. Conversely, if the PPM is above 1.5%, then National Grid Gas incurs a penalty up to a maximum of £30,000.

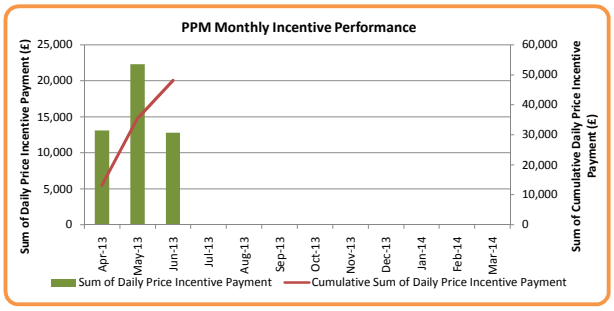
The Linepack Element (LPM) incentivises National Grid Gas to minimise any changes between opening and closing NTS linepack over a gas day (i.e. to achieve a balance between the supply and demand on the Gas Day). This is intended to ensure that any system imbalances are resolved on the relevant day, such that the costs of resolving any imbalances are targeted to those responsible for the imbalance. The target for 2013/14 is a linepack change of 2.8 mcm. If the LPM is below 2.8 mcm on a given gas day, then National Grid Gas receives an incentive payment of up to £4,000. Conversely if the LPM is above 2.8 mcm then National Grid Gas incurs a penalty of up to £30,000.

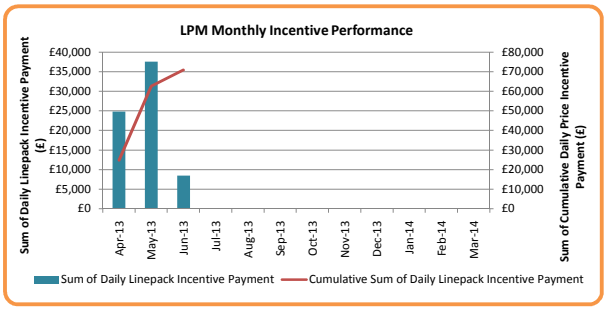
The Sum of all the daily payments for linepack and price performance under the Residual Balancing incentive are annually capped at £2m and collared at -£3.5m.

Performance





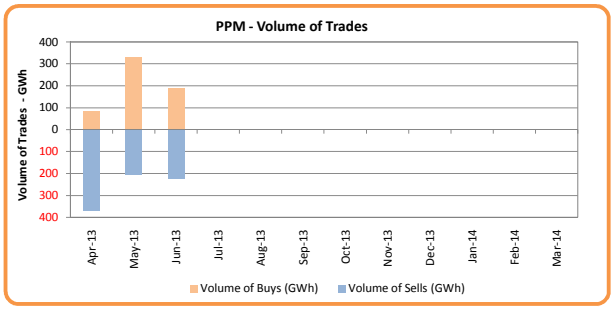


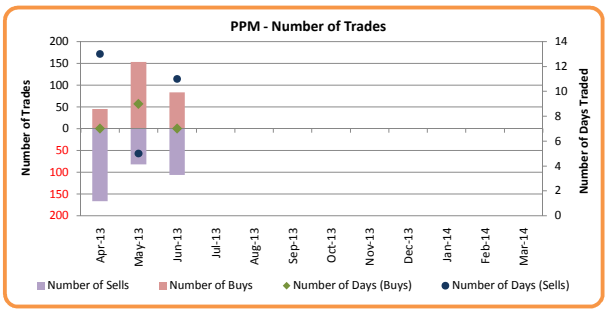


Supporting Data

		Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Price	Sum of Daily Price Incentive Payment	£13,088	£22,310	£12,770									
	Cumulative Sum of Daily Price Incentive Payment	£13,088	£35,398	£48,168									
	Average Monthly PPM (%)	1.07	0.78	1.10									
	Min PPM (%)	0	0	0									
	Max PPM (%)	5.16	3.79	5.68									
	PPM Target (%)	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Linepack	Sum of Daily Linepack Incentive Payment	£24,801	£37,651	£8,440									
	Cumulative Sum of Daily Linepack Incentive Payment	£24,801	£62,452	£70,892									
	Average Monthly LPM (mcm)	2.33	2.14	2.48									
	Min LPM (mcm)	2.21	2.02	2.00									

Trades





	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Volume of Buys (GWh)	84.9	329.6	188.8									
Volume of Sells (GWh)	-370.0	-207.3	-227.4									
Number of Buys	45	153	83									
Number of Sells	-166	-82	-106									
Number of Days (Buys)	7	9	7									
Number of Days (Sells)	13	5	11									
Sell Min Price (p/therm)	63.5	62	38									
Sell Max Price (p/therm)	81.45	67.75	64.25									
Buy Min Price (p/therm)	65.50	64.60	42.60									
Buy Max Price (p/therm)	82.50	70.50	65.00									

Commentary

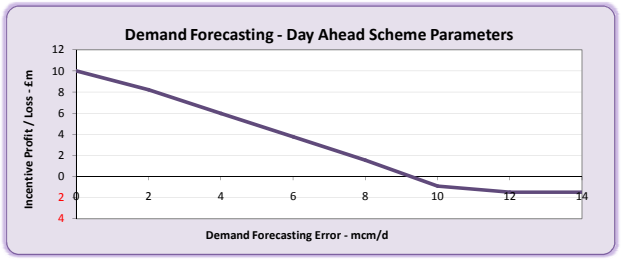
The end of June position for the price portion of the incentive is a profit of approximately £48k. The Linepack portion of the incentive has also made a profit in the first quarter of £71k

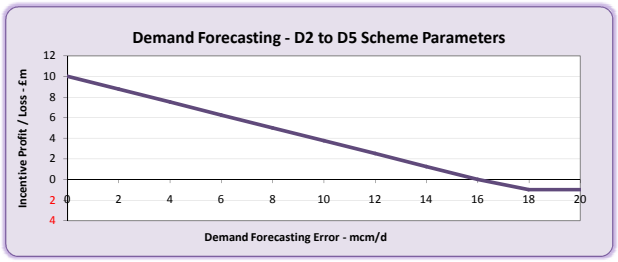
Demand Forecasting

Q1 2013-2014 (April 2013 to June 2013)

Scheme Purpose

The purpose of this scheme is to incentivise improvements in the accuracy of the Demand Forecasts issued by National Grid Gas.
There are now 2 separate incentives under Demand Forecasting, with an additional scheme measuring the accuracy of the forecasts issued at 2, 3, 4 and 5 days ahead supplementing the existing day ahead scheme.





Scheme Description

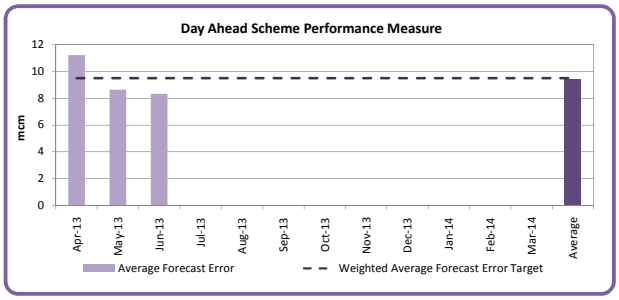
Performance Measure:- Demand Forecasting Error (mcm/d)

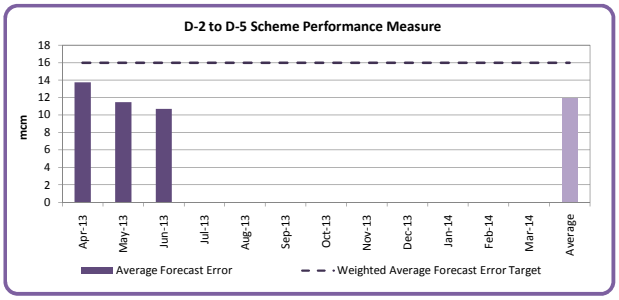
In respect of the Day Ahead scheme, in 2013/14, National Grid Gas has an incentive target of an annual average absolute forecast error of 8.5 mcm with an adjustment for the level of short cycle storage injection capability (to take account of the unpredictability of demand from short cycle storage sites, the target is adjusted in proportion to the additional injection capability at these sites). This adjustment revises the day ahead target absolute error of 8.5 mcm up an additional 1 mcm, therefore the maximum Day Ahead target absolute demand forecasting error for 2013/14 is 9.5 mcm. The incentive payment is capped at £10m and collared at -£1.5m.

In respect of the D-2 to D-5 scheme, in 2013/14 National Grid Gas has an incentive target of an annual average absolute forecast error of 16 mcm. There is no adjustment for the level of short cycle storage injection capability for this incentive. The incentive payment is capped at £10m, and collared at -£1m.

The Day Ahead incentive has been set for 8 years, commencing 01 April 2013, and the D-2 to D-5 scheme has been set for 2 years commencing 01 April 2013.

Performance





Supporting Data

		Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Average
Day Ahead Scheme	Average Forecast Error	11.22	8.64	8.33										9.39
	Weighted Average Forecast Error Target	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5	9.5
D-2 to D-5 Scheme	Average Forecast Error	13.75	11.48	10.72										11.98
	Weighted Average Forecast Error Target	16	16	16	16	16	16	16	16	16	16	16	16	16

Commentary

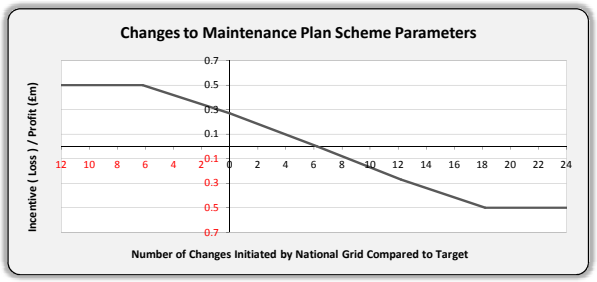
The weighted average forecast error for both incentives remain below their respective target for this quarter.

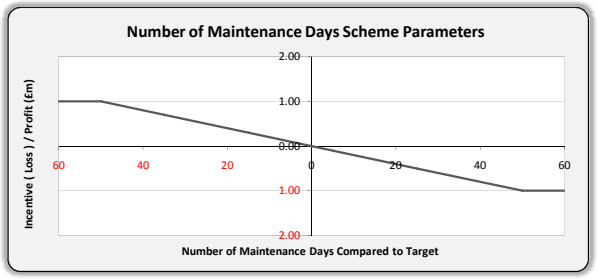
Maintenance

Q1 2013-2014 (April 2013 to June 2013)

Scheme Purpose

The purpose of this scheme is to incentivise the efficient planning and execution of network maintenance impacting customers at direct exit connections from the NTS.
To enable customers to make any necessary arrangements, National Grid Gas is required to provide advance notice of it's intention to call maintenance days in the form of a maintenance plan. This incentive is made up of 2 schemes incentivising the minimisation of changes initiated by National Grid Gas to the plan and minimisation of the use of maintenance days to perform the required maintenance.





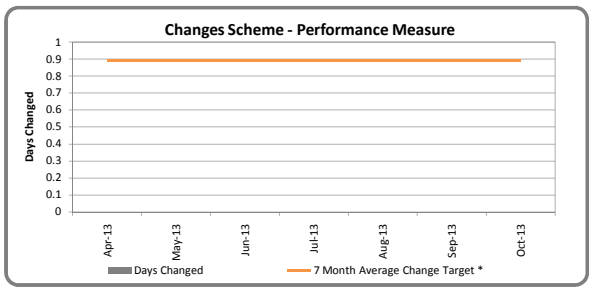
Scheme Description

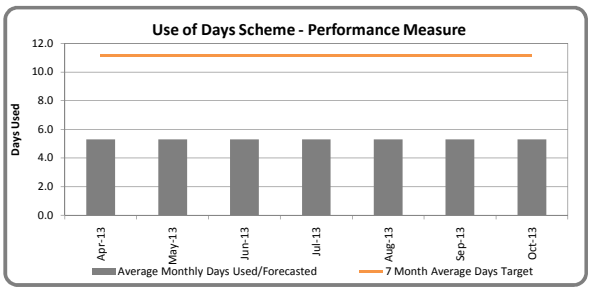
Performance Measure - Number of Maintenance Days and Changes Initiated by National Grid Gas to the Maintenance Plan.

In respect of the Changes Scheme, in 2013/14 the target number of Maintenance Days subject to change initiated by National Grid Gas is equal to 14.5% of the Maintenance Days workload throughout the year. If the actual number of days changed is equal to the target, then incentive revenue is zero. If the actual number of days changed is less than the target then a payment of £50,000 per change below target is accrued up to a scheme cap of £0.5m. If the actual number of days changed exceeds the target then a penalty of £50,000 per change in excess of the target is accrued to a scheme collar of -£0.5m.

The Use of Days scheme incentivises National Grid Gas to minimise the number of Maintenance Days it uses to undertake in-line inspections and valve operations. In 2013/14 National Grid Gas has an annual incentive target (in days) comprised of the sum of benchmark durations. If the actual number of Maintenance Days used for these activities is equal to the target, then incentive revenue is zero. If the actual number of Maintenance Days used is less than the target then National Grid Gas receives a payment of £20,000 per day below the target up to a scheme cap of £1m. If the actual number of Maintenance Days used exceeds the target then National Grid Gas accrues a penalty of £20,000 per day in excess of the target up to a scheme collar of -£1m.

Performance





Supporting Data

Maintenance Period

		Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14	Total
Changes Scheme	Days Changed	0	0	0	0	0	0	0						0
	7 Month Average Change Target *	0.9	0.9	0.9	0.9	0.9	0.9	0.9						6.2
Use of Days Scheme	Average Monthly Days Used/Forecasted	5.3	5.3	5.3	5.3	5.3	5.3	5.3						37
	7 Month Average Days Target	11.1	11.1	11.1	11.1	11.1	11.1	11.1						77.8

* Target number of days changed is 14.5% of the total maintenance Days in the plan.

Commentary

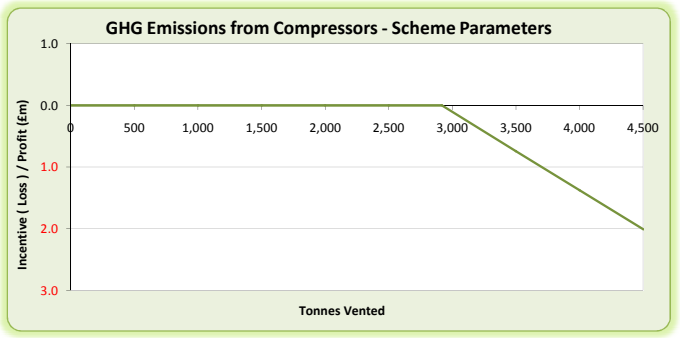
Maintenance Day changes is currently zero against a full year target of 6.23. Our full year forecast is £0.15m profit as a result of improved data flow and planning processes. Maintenance days called to date is 37 against a target of 77.83 giving a forecast profit for days used of £0.82m. This is due to the improved use of bundling with customer outages and the re-evaluation of maintenance practices. Please note the maintenance days used as depicted in the graph relates to forecasted average days for the Maintenance Period

Greenhouse Gas Emissions from Compressors

Q1 2013-2014 (April 2013 to June 2013)

Scheme Purpose

The purpose of this scheme is to encourage National Grid Gas to consider the environment when venting from NTS Compressors.
Compressors are utilised to increase pressures in parts of the NTS and to move gas from the sources of supply to areas of demand. The need to operate an individual compressor on any given day will depend on a number of circumstances including the sources of demand and supply, the prevailing network conditions and the need to accommodate maintenance and construction plans.



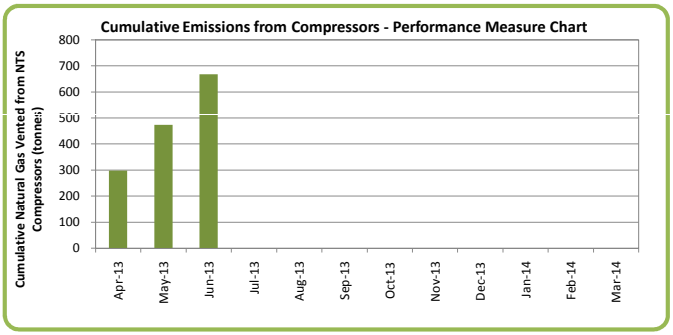
Scheme Description

Performance measure - tonnes of Greenhouse Gases vented from NTS Compressors.

This scheme incentivises National Grid Gas to make the trade-off between choosing to depressurise compressor units (venting the gas within them) or to keep units on standby - which incurs costs associated with ancillary electrical equipment such as vent fans or oil pumps.

This incentive has been set for 3 years commencing from 01 April 2013. For every tonne vented above the target (2,917 tonnes of Greenhouse Gas Vented), National Grid Gas is subject to a penalty of approximately £1,302, equivalent to £100,000 for every 77 tonnes vented above the target. As a "downside only" scheme, National Grid Gas does not receive any payment for target outperformance.

Performance



Supporting Data

	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	Jan-14	Feb-14	Mar-14
Natural Gas Vented from NTS Compressors	298.45	174.96	193.84									
Cumulative Natural Gas Vented from NTS Compressors	298.45	473.41	667.25									

Commentary

April venting was significantly higher than expected and this was mainly due to higher than expected demand, which was associated with cold weather, together with relatively constrained supply patterns. These supply and demand patterns increased compression requirements to ensure that assured pressures could be met across the NTS. Some of this increase was offset in May and June by the relatively balanced supply and demand patterns, which required lower than expected levels of compression