

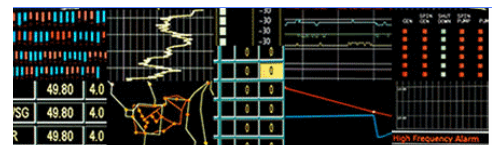
National Grid Gas (NTS) SO Environmental Incentive

Initial Proposals Consultation

Issued 2 May 2008

Responses requested by 30 May 2008

nationalgrid



CONTENTS

Executive Summary	3
1. Introduction	5
2. Compressor Venting	6
2.1 Venting of Natural Gas from NTS Compressors	6
2.2 Analysis of historic compressor venting.....	7
3. Proposed Methane Incentive for 2008/9	8
3.1 Form of Incentive	8
3.2 Target Derivation	8
3.3 Proposed Incentive price.....	9
3.4 Proposed Incentive Scheme.....	10
3.5 Alternative Option Scheme.....	11
4. Consultation Questions and Process	12
4.1 Consultation Questions	12
4.2 Consultation Process	12

Executive Summary



In the recent SO incentives Final Proposals Consultation¹, Ofgem committed to working with National Grid to develop a new Environmental Incentive to apply from 1 April 2008. The purpose behind this incentive being to reduce the amount of methane vented from the NTS compressors through an incentive relating to the environmental costs associated with the venting of methane.

Ofgem has asked National Grid to bring forward its initial proposals for such an incentive scheme, and this consultation paper sets out National Grid's initial proposal for a SO Environmental Incentive on methane venting from NTS compressors.

In summary National Grid's initial proposals are to establish an incentive to reduce the amount of emissions associated with compressor venting below a target, set at the average level from the last 7 years, by introducing a reward for beating the target and a penalty for exceeding it. The reward and penalty is proposed to be related to the shadow price of carbon, adjusted to reflect the increased potency of methane compared to carbon dioxide as a greenhouse gas.

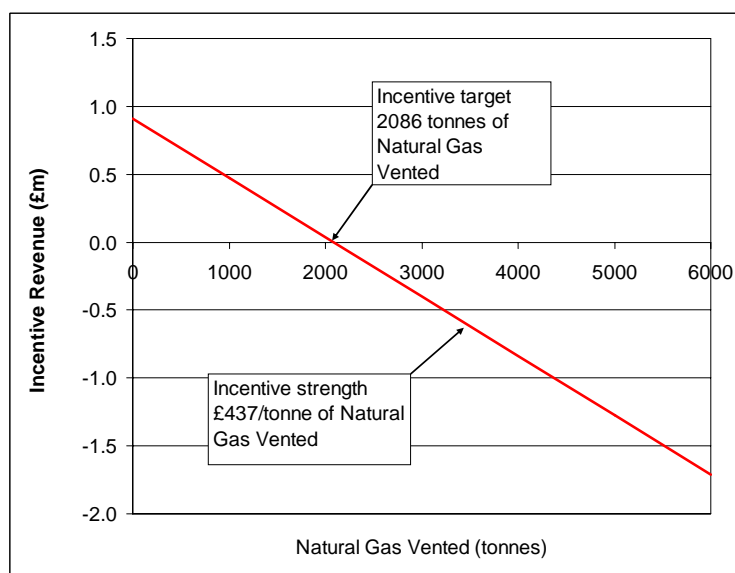


Figure 1 – Summary of the proposed SO Environmental Incentive

National Grid recognises that some industry participants may have concerns that the historic volatility in the amount of emissions could lead to windfall

¹http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/SystOpIncent/Documents1/Final_proposals_main_doc_.pdf

profits or losses. National Grid have therefore included the option of including a deadband around the target to limit potential windfall profits or losses and welcome participants view on whether a deadband is appropriate, and if so how large the deadband should be.

Responses to the proposal from interested parties are welcomed. Contact details are provided at the end of this section for anyone who would like to discuss these proposals further with National Grid. Following completion of this consultation process, Ofgem will review the consultation responses and prepare its final proposals and statutory licence consultation to establish an incentive in NGG's NTS Licence.

Responses to this consultation should be sent to
soincentives@uk.ngrid.com

by 5pm on 30 May 2008

Contact

John Perkins
01926 656337
john.perkins@uk.ngrid.com

Section 1 Introduction

1. In its SO incentives Final Proposals Consultation² Ofgem acknowledged that although the methane emissions from the NTS are considerably smaller than those from the DN Networks, as methane is a more potent greenhouse gas than carbon dioxide, NGG should have a financial incentive to minimise the volume of methane released from equipment on the NTS.
2. In response to the comments Ofgem made in its Final Proposals Consultation, National Grid has developed a proposal for an incentive focussing on the natural gas emissions from the NTS compressor fleet.
3. National Grid will continue to work with Ofgem and industry to develop incentives that produce economic environmental benefits to the operation of the NTS.
4. Building on the success of the SO incentives process introduced last year, Ofgem has asked National Grid to provide and consult on its own 'Initial Proposals' for incentive arrangements. Ofgem will review the responses to this consultation before bringing forward its Final Proposals for an incentive scheme along with proposed modifications to National Grid's Gas Transporter Licence in respect of the NTS.
5. This document provides information describing the situations that lead to methane venting from compressor units, the historic volumes vented over the last 7 years and our conclusions from analysis of the impacts of supply/demand factors on these volumes. Based on this information, proposals for incentives to reduce these volumes are made and industry responses invited.
6. To put some context to the materiality of an incentive on methane venting from compressor sites, the 'total environmental cost' based on an adjusted shadow price of carbon of total methane venting from all of the NTS compressors over the last 7 years is £0.9m / annum.
7. Responses to this consultation will be published on National Grid's website (unless a specific request is made not to) and all responses will be sent in full to Ofgem.

²http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/SystOpIncent/Documents1/Final_proposals_main_doc_.pdf

Section 2 Compressor Venting

This section provides a description of the circumstances in which National Grid vents natural gas from compressors, information on historic levels of venting and conclusions from analysis of the supply/demand factors which may influence levels of venting.

2.1 Venting of Natural Gas from NTS Compressors

8. Natural gas is vented from NTS compressors for a number of reasons including purging the compressor on start up, use in starter motors and gas leakage past the dry gas seals on the compressor shaft. However the majority (~85%) of the natural gas vented from NTS compressors is associated with the depressurisation of the compressor unit. This depressurisation can occur for a number of reasons, when the compressor is not expected to be required for an extended period and for safety reasons (to allow maintenance or under emergency situations).
9. Depressurisation of the compressors allows ancillary electrical equipment (vent fans, oil pumps etc.) to be switched off and will remain the correct thing to do if a compressor is not going to be needed for an extended period. The introduction of the proposed environmental incentive will introduce an additional cost associated with venting compressors that will factor into National Grid's decision making process on whether to depressurise a compressor or not.
10. National Grid is already regulated by the Environment Agency in relation to methane and other emissions from the NTS compressor sites on an annual (calendar year) basis, under the 'Pollution Prevention and Control (England and Wales) Regulations 2000, SI 2000 No.1973 (as amended) (the PPC Regulations)', and the 'pollution Prevention and Control (Scotland) Regulations 2000 ("the Regulations")'.
11. Table 1 provides a summary of the historic data that has been reported to the Environment Agency, since the obligations were introduced in 2000.

Table 1: Tonnes of Natural Gas Vented from NTS Compressors³

	Total (tonnes)
2001	2098
2002	1819
2003	2383
2004	1922
2005	2213
2006	2283
2007	1887

2.2 Analysis of historic compressor venting

12. National Grid has carried out analysis to try and identify those supply/demand factors which may have driven the historic levels of compressor venting. It was hoped that identification of any such relationships would be useful in correcting any future target level of performance for factors beyond National Grid's control (either by increasing or decreasing the target value).
13. The analysis has not identified any relationships between compressor venting and supply/demand factors. In trying to identify the relationships with supply patterns we have looked at both national impacts and local impacts, such as the impact of St. Fergus terminal flows on the 'Northern' compressors (both individually and collectively).
14. As no relationships have yet been identified between venting from compressors and supply/demand factors, it is proposed to set a venting target based on the historic data in Table 1.
15. National Grid will continue to collect data over the forthcoming year and will continue to attempt to identify relationships with supply/demand factors.

³ Data on a calendar year basis, as reported to the Environment Agency

Section 3

Proposed SO Incentive for 2008/9

This section sets out National Grid's proposals for an operational incentive to reduce the volume of methane vented from NTS compressors for 2008/9.

3.1 Form of Incentive

16. National Grid believes that it is appropriate that the environmental costs associated with venting of Natural Gas from compressors should be factored into its decision making processes on whether to vent this gas or whether to incur the ongoing costs associated with keeping a compressor unit pressurised, but not operating.
17. Exposing National Grid to the environmental costs of any increase in the level of natural gas vented and equally rewarding any decrease, acts as an incentive on National Grid to appropriately factor in the total costs of depressurising compressors which may lead to a reduction in the overall level of venting, where it is the economic thing to do.
18. In the Final Proposals Consultation⁴ Ofgem proposed a 'methane price' of £546/tonne of methane, based around the shadow price of carbon, adjusted to reflect the increased environmental impact of methane compared to carbon.
19. National Grid believes that this approach is appropriate, however as the existing reporting mechanisms are based on tonnes of natural gas vented it is necessary to apply a conversion factor to reflect the proportion of methane in natural gas.

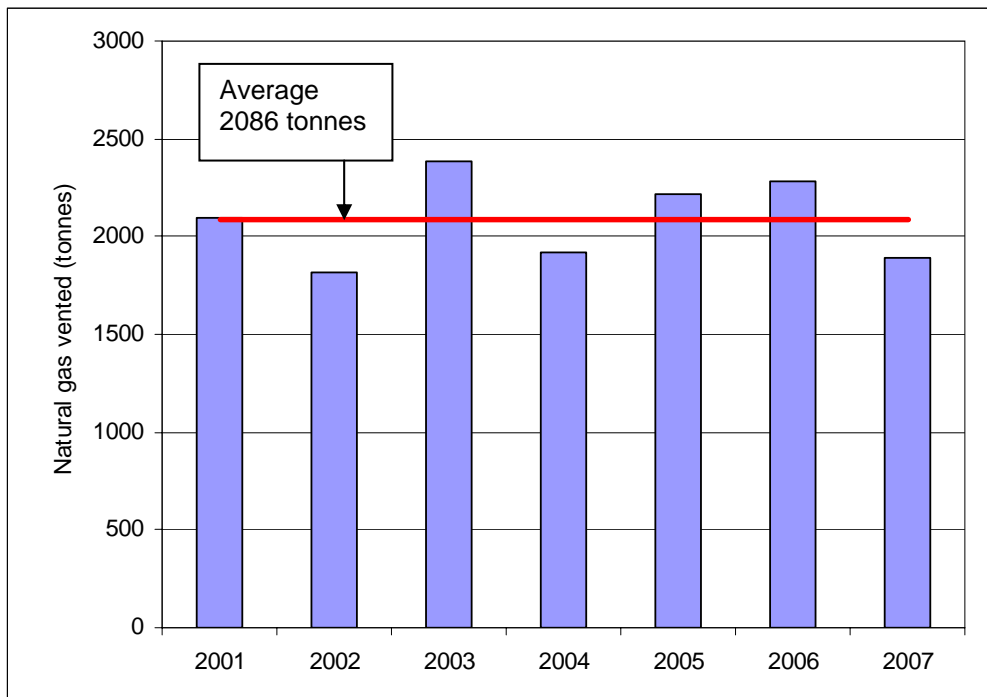
3.2 Target Derivation

20. As the historic volume of gas vented is reasonably stable and in the absence of any identified relationships with supply/demand factors, our initial proposal is to set the target venting volume as the historic average over the 7 years of available data. A 7 year average being used as this is the total historic data set, during which time there have been no major changes or trends in the data

⁴http://www.ofgem.gov.uk/Markets/WhlMkts/EffSystemOps/SystOpIncent/Documents1/Final_proposals_main_doc_.pdf

Table 2: Tonnes of Natural Gas Vented from NTS Compressors

	Total (tonnes)
2001	2098
2002	1819
2003	2383
2004	1922
2005	2213
2006	2283
2007	1887
Average	2086

Figure 1: Tonnes of Natural Gas Vented from NTS Compressors

21. This gives an annual target of 2086 tonnes of Natural Gas / year.

3.3 Proposed Incentive Price

22. As per Ofgem's view in its Final Proposals document, we propose a methane price of £546/tonne of methane. This is in line with the Defra guidance⁵ of using the shadow price of carbon (26 £/tCO₂e for 2008) and converting to the methane equivalent (multiplying by a factor of 21, which equates to the Global Warming equivalent).
23. In order to calculate the weight of methane released per tonne of natural gas vented it is necessary to apply a conversion factor from natural gas to methane.

⁵ How to use the shadow price of carbon in policy appraisal: Defra
<http://www.defra.gov.uk/environment/climatechange/research/carboncost/pdf/HowtouseSPC.pdf>

24. The average NTS gas composition is 89% methane by volume, however by weight this methane accounts for 80% of the weight of natural gas. (i.e. 0.8 tonnes of methane is contained in each tonne of Natural Gas). This 80% factor converts the 'methane price' of £546/tonne of methane to a 'natural gas vented price' of £437/tonne of natural gas.
25. It is proposed that the strength of the incentive should be set at £437/tonne of natural gas vented (applying equally to either performance above or below the target as appropriate).

3.4 Proposed Incentive Scheme

26. Our initial proposal is for an incentive for 1 year commencing retrospectively from 1st April 2008 based upon the following parameters.
27. Target volume venting from NTS compressors of 2086 tonnes of natural gas.
28. Incentive price should be £437/tonne of Natural Gas vented.
29. To avoid any distortions to the efficient point at which it is appropriate to vent methane and depressurise a compressor we are proposing that no sharing factors or caps/floors be applied.
30. A summary of the proposed incentive is given graphically in Figure 2 below.

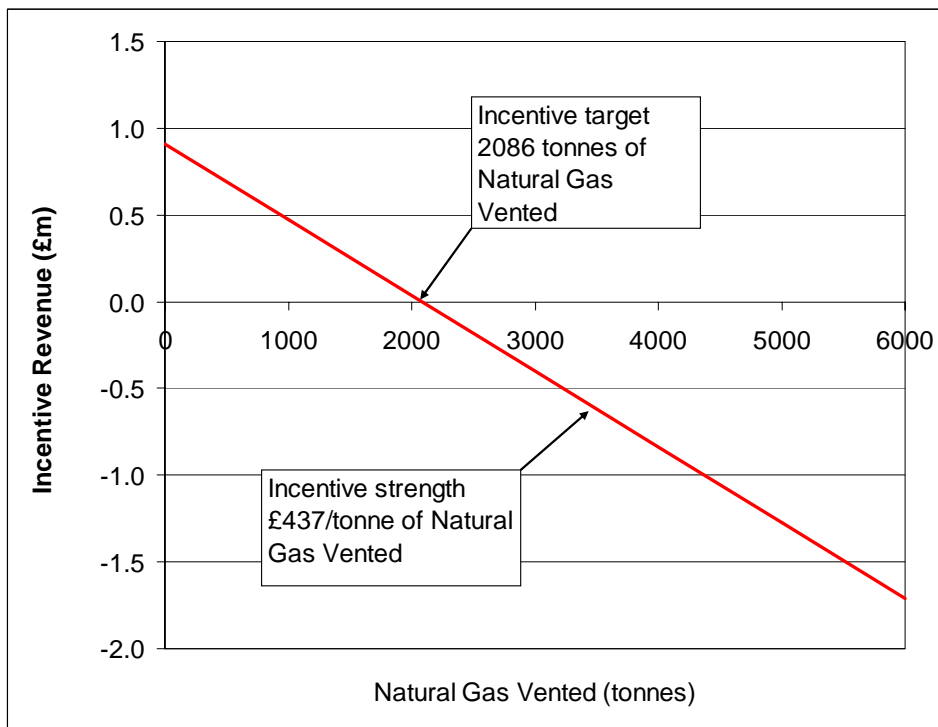


Figure 2 – Summary of the proposed SO Environmental Incentive

31. To give some indication of the potential materiality of these proposals If National Grid were able to beat the historic average by 10% in the year 2008/9 the revenue to National Grid would be approximately £100k.

3.5 Alternative Option, Inclusion of a deadband around the target

32. National Grid recognises that there is some volatility in the historic level of compressor venting⁶ and National Grid will continue to seek identification of any relationships with supply/demand factors that may exist. If industry participants have concerns that this volatility may lead to material windfall profits or losses, the introduction of a deadband around the 2086 tonnes maybe appropriate.
33. National Grid would welcome respondents' views on whether a deadband should be included, and if so how large the deadband should be. To help respondents form views on the potential magnitude of any deadband the variance of the individual years compared to the average is provided in Table 3.
34. Industry participants will need to weigh up the balance between protection against windfall profits/losses and setting the strength of the incentive to reduce emissions (i.e. the larger any deadband is, the higher the protection against windfall payments but the weaker the incentive to reduce emissions).

Table 3: Variance from the average level of Natural Gas Vented from NTS Compressors

	Total (tonnes)	Variance from average
2001	2098	12
2002	1819	-267
2003	2383	297
2004	1922	-164
2005	2213	127
2006	2283	197
2007	1887	-199
Average	2086	

⁶ See table 3 for details

Section 4 Consultation Questions and Process

4.1 Consultation Questions

35. National Grid welcomes responses to any part of these proposals but in particular would welcome response to the following seven questions.

Question 1.	Is it appropriate for National Grid to have an Environmental Incentive relating the natural gas vented from NTS compressors?
Question 2	Is the approach taken to setting the target volume of vented natural gas (2086 tonnes) appropriate?
Question 3.	Is it correct to use an 80% conversion factor to apply from natural gas to methane?
Question 4.	Is £546/tonne of methane and therefore £437/tonne of natural gas vented, the correct price to apply to the incentive?
Question 5.	Is it appropriate that the incentive has no sharing factor, cap or floor?
Question 6.	Is it appropriate that the scheme should have a deadband?
Question 7.	If there was a deadband what size should it be?

4.2 Consultation Process

36. These initial proposals were issued on the 2 May 2008 with a consultation period of 28 days. Responses are requested by 30 May 2008.
37. Responses to this consultation will be published on National Grid's website (unless a specific request is made not to) and all responses will be sent in full to Ofgem.
38. Following closure of the consultation period, we will forward responses to Ofgem. They will then construct Final Proposals and the Statutory Notice to amend NGG's NTS Licence to establish an incentive retrospectively from 1 April 2008, to which NGG must consent.

Responses to this consultation should be sent to
soincentives@uk.ngrid.com

by 5pm on 30 May 2008

Contact

John Perkins
01926 656337
john.perkins@uk.ngrid.com