

**APPENDIX F - AMENDMENT TO THE UK PHASE II NATIONAL ALLOCATION PLAN TO UNILATERALLY OPT IN NITROUS OXIDE EMISSIONS FROM NITRIC ACID PRODUCTION**

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**A. INTRODUCTION**

1. The UK has decided to opt-in nitrous oxide (N<sub>2</sub>O) emissions from nitric acid production in the European Union Emissions Trading System (EU ETS) for the period from 1<sup>st</sup> April 2011 to 31<sup>st</sup> December 2012<sup>1</sup>. Article 24 of directive 2003/87/EC of the European Parliament and of the Council establishing a scheme for greenhouse gas emission trading within the Community (the 'EU ETS directive') provides that Member States from 2008 can make an application to the European Commission to include unilaterally additional activities and gases into EU ETS. The UK applied to the European Commission to unilaterally opt-in N<sub>2</sub>O emissions from nitric acid production into Phase II of the EU ETS. This application was approved by the European Commission on **[date to be inserted]**. This appendix sets out the total quantity of allowances distributed to installations as a result of the N<sub>2</sub>O opt-in; the sources of these allowances; rules for any new entrants in the nitric acid producing sector; and general conditions on nitric acid producing installations.
2. There is an extremely high N<sub>2</sub>O emissions reduction potential in the nitric acid production sector which means that operators can bring their emissions down significantly once a carbon price signal is brought to bear on their emissions. In addition, N<sub>2</sub>O is a highly potent greenhouse gas with a global warming potential of 310 times that of Carbon Dioxide (CO<sub>2</sub>). For the UK's two nitric acid producing installations, the average per annum emissions of N<sub>2</sub>O from nitric acid production from 2002-2008 were 3,492 tonnes of N<sub>2</sub>O, or 1,082,545 tonnes of CO<sub>2</sub> equivalent

<sup>1</sup> Carbon Dioxide (CO<sub>2</sub>) emissions from nitric acid production are not covered by the opt in.

(tCO<sub>2</sub>e). In addition, the average emissions intensity over these installations for the same period was 3.0 kg N<sub>2</sub>O/ tonne of 100% nitric acid. It is anticipated that an opt in will reduce the UK's annual emissions of N<sub>2</sub>O to approximately 160,000 t CO<sub>2</sub>e and the average emissions intensity to 0.42 kg N<sub>2</sub>O /tonne of 100% nitric acid by the end of Phase II. Therefore, the opt-in will assist the UK in reducing emissions under the Kyoto Protocol 1<sup>st</sup> commitment period, and meeting our national carbon budgets. It will also help our transition to a low carbon economy.

**B. DETERMINATION OF ALLOCATION OF ALLOWANCES FOR N<sub>2</sub>O EMISSIONS FROM NITRIC ACID PRODUCTION**

*B.1 Allocation Methodology*

3. UK installations included in the EU ETS as a result of the unilateral N<sub>2</sub>O opt-in will be allocated free allowances according to a benchmark as set out in the below formula:

<b>Annual allocation methodology for nitric acid producing sector ‘incumbents’:</b>						
<b>Annual incumbent installation allocation</b>	=	<b>Benchmark level (kg N<sub>2</sub>O/tonne of 100% nitric acid)</b>	<b>X</b>	<b>Relevant production (tonnes of 100% nitric acid)</b>	<b>X</b>	<b>310 (Global Warming Potential for nitrous oxide) / 1000</b>

4. The N<sub>2</sub>O opt-in benchmark level will be as follows: 1.5 kg N<sub>2</sub>O / tonne of 100% nitric acid in 2011, and 1.3 kg N<sub>2</sub>O / tonne of 100% nitric acid in 2012. To calculate the level of allocations installations will be required to submit independently verified production data in tonnes of 100% nitric acid produced for the baseline period 2002 to 2008 inclusive. For the allocation methodology “relevant production” is an average of production from the years 2003, 2005 and 2008. These are the highest overall production years for the opted in installations.
5. The UK N<sub>2</sub>O opt-in is effective from either 1<sup>st</sup> April 2011 or the date upon which the European Commission approves the activities, whichever is the later. Consequently, the annual installation level allocation for 2011 will be pro-rated to reflect the opt-in start date. Allowances are normally issued to EU ETS installations by 28<sup>th</sup> February each year. Allowances for opted-in activities for 2011 will be issued after the 1<sup>st</sup> May 2011, and by 28<sup>th</sup> February 2012 for 2012. The registry administrator must, in relation to the opted-in activities, withhold the issue of allowances for 2011 until after 1<sup>st</sup> May 2011.

*B2 Installation level allocation*

6. In the UK, there are two installations which produce nitric acid, both are operated by GrowHow UK Ltd. These installations are at Ince and Billingham.

7. Based on the allocation formula and benchmark levels set out in section B1, for the period of 2011 – 2012 inclusive a total of 922,353 EU allowances will be allocated to the nitric acid sector for N<sub>2</sub>O emissions based on the opt-in date of 1<sup>st</sup> April 2011. These allowances will be allocated in the following manner:

<b>TABLE 1 – Installation level allocation as a result of the N<sub>2</sub>O opt in</b>				
<b>Operator</b>	<b>Installation name</b>	<b>2011</b>	<b>2012</b>	<b>Total</b>
GrowHow UK Ltd	GrowHow UK Ltd	203,038	234,621	437,659
GrowHow UK Ltd	Billingham Fertilizer Works Auxiliary Boilers (Billingham)	224,858	259,836	484,694
		427,896	494,457	<b>922,353</b>

8. The two incumbent nitric acid producing installations effected by the UK opt-in are already included in Phase II EU ETS under the combustion activity with a rated thermal input exceeding 20 MW listed in Annex I of the EU ETS Directive<sup>2</sup>. Therefore the opt in of N<sub>2</sub>O emissions for nitric acid production will represent an amendment to these installations' Phase II National Allocation Plan allocations. Table 2 below sets out these changes.

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<sup>2</sup>“ Incumbent” refers to installations which are in operation on 30<sup>th</sup> June 2010 (i.e. the date of the UK Article 24 opt in application to the European Commission).

**TABLE 2 - Amendment to UK National Allocation Plan table to unilaterally opt-in N<sub>2</sub>O emissions from nitric acid production**

Approved UK Phase II National Allocation Plan

NAP ID	Permit ID	Installation ID	Operator	Installation name	Allocations					Allocation total
					2008	2009	2010	2011	2012	
2567	EA-ETCO2-1538	GB 148	GrowHow UK Ltd	GrowHow UK Ltd	37,293	37,293	37,293	37,293	37,293	186,465
2109	EA-ETCO2-0282	GB 194	GrowHow UK Ltd	Billingham Fertilizer Works Auxiliary Boilers	13,889	13,889	13,889	13,889	13,889	69,445

Amendments to Approved UK Phase II National Allocation Plan to unilaterally opt in N<sub>2</sub>O emissions from nitric acid production.

NAP ID	Permit ID	Installation ID	Operator	Installation name	Allocations					Allocation total
					2008	2009	2010	2011	2012	
2567	EA-ETCO2-1538	GB 148	GrowHow UK Ltd	GrowHow UK Ltd	37,293	37,293	37,293	240,331	271,914	624,124
2109	EA-ETCO2-0282	GB 194	GrowHow UK Ltd	Billingham Fertilizer Works Auxiliary Boilers	13,889	13,889	13,889	238,747	273,725	554,139

### *B3 Source of allowances for the N<sub>2</sub>O opt-in*

9. Allowances for incumbent nitric acid producing installations will be obtained from the allowances that have returned to the UK Government from the main EU ETS due to the closure of installations in the UK . These allowances would have otherwise been auctioned by the UK Government under section H, appendix D. No new allowances will be created to facilitate the opt-in. This is in order to further improve the environmental integrity of the EU ETS and to ensure that the UK's cap remains tight for the remainder of Phase II.
10. The Government still intends to auction or sell any additional surplus allowances from closures beyond the level required for the opt in, up to the 10% (of the UK cap) auctioning limit set out the EU ETS directive.

### **C. ACCESS TO PROJECT CREDITS**

11. An operator of an installation may not use certified emission reduction units (CERs) issued pursuant to Article 12 of the Kyoto Protocol or emission reduction units (ERUs) issued pursuant to Article 6 of the Kyoto Protocol in order to comply with an obligation to surrender allowances relating to emissions of N<sub>2</sub>O.

### **D. NEW ENTRANTS**

12. Installations that commence the activity of nitric acid production after 30<sup>th</sup> June 2010 and before the 31<sup>st</sup> December 2012 ('new entrants') and have obtained a new permit or variation to their permit to include this activity, will be entitled to apply for an allocation of free allowances. This does not include extensions to existing installations carrying out nitric acid production .
13. Where the provisions of paragraph 12 above apply to an operator, to the extent those provisions are contrary to the provisions of Section D (paragraphs 26 to 28) and Section F (paragraphs 29 to 57, and paragraphs 61 to 70) of Appendix D, paragraph 12 of this Appendix shall take precedence.
14. New Entrants will be allocated using a benchmark of 0.12kg N<sub>2</sub>O /tonne of 100% nitric acid. This is consistent with the most challenging end of the European Commission's Integrated Pollution Prevention Control Reference Document on the Best Available Technologies for the manufacture of large volume inorganic chemicals, including nitric acid production. This benchmark level will be applied to a "relevant production" proxy. This proxy will be calculated by the verified installed capacity of the new installation multiplied by standard factors for the number of operational days (330) and load (90%). The formula for allocating to nitric acid producing new entrants is set out below:

**Annual allocation methodology for nitric acid producing sector ‘new entrants’:**

$$\text{Annual new entrant installation allocation} = \left( \text{New entrant benchmark level (0.12kg N}_2\text{O/tonne of 100\% nitric acid)} \times \text{Relevant production proxy (tonnes of 100\% nitric acid per year)} \times \frac{310}{1000} \right) / 1000$$

Global warming potential for nitrous oxide

Where:

$$\text{Relevant production proxy (tonnes of 100\% nitric acid per year)} = \text{Installed capacity (tonnes of 100\% nitric acid per day)} \times 330 \text{ days} \times \text{Load factor (90\%)}$$

15. In line with other EU ETS new entrants, the Government will take a standardised approach to commissioning that assumes a commissioning period of 50 days, during which new entrants will receive only 50% of their allocation rather than receiving an allocation based on the full, commercial rate of operation from the start date of the installation.

16. New entrants in the nitric acid sector will be required to apply for allowances from the main New Entrants’ Reserve (NER). They will also follow the same allocation process as other EU ETS new entrant. Details of the NER allocation process are set out in section G, appendix D (paras 88 – 128). New entrants in the nitric acid sector will not be required to comply with paragraph 105b of section G and paragraph 4 of section A in appendix D. Such new entrants will not be able to use the new entrant spreadsheet to calculate indicative allocations. Instead, they should use the new entrant formula set out in this appendix F.

**E. CLOSURES**

*E1 Complete & Temporary closures*

17. Complete and temporary closures in the nitric acid producing sector will be dealt with in the same way as other EU ETS installations as set out in section F, appendix D (para 71- 78).

*E2 Partial closure*

18. An installation in the nitric acid producing sector which is deemed to have partially ceased to carry out nitric acid production, or in other words significantly reduced its level of production, will retain its full allocation relating to nitric acid production for the year in which the reduction happened but will receive a revised allocation for

subsequent years. In effect only nitric acid producing installations partially ceasing operation in 2011 will receive a reduced allocation in Phase II.

19. Table 3 sets out the schedule of amendments to the annual allocation level of a nitric acid producing installation as a result of it partially ceasing nitric acid producing activities compared to the “relevant production” (i.e. the level of production used in the initial installation-level allocation methodology). An operator of a nitric acid producing installation must notify the regulator in writing before 30<sup>th</sup> January 2012 if they go above any of the thresholds set out in table 3. The regulator will calculate the installation’s 2012 allocation as per table 3, and notify the operator and the Government of the change. The Government will notify the European Commission of the change and a revised allocation for 2012 will subsequently be issued to the operator.

<b>Table 3 – Schedule of amendments to the annual allocation level of nitric acid producing installations as a result of partially ceasing nitric acid producing activities</b>	
<b>Reduction in nitric acid production for the period 1<sup>st</sup> January 2011 until 31<sup>st</sup> December 2011 compared to relevant production (%)</b>	<b>Corresponding decrease in the 2012 annual allocation as a result of reduced production (%)</b>
90% or more	100%
Below 90%, but above 75%	85%
Below 75%, but above 50%	75%
Below 50%	No change

20. The registry administrator is obliged to issue allowances to installations by 28<sup>th</sup> February each year. At the time it does so, it may not be clear if any nitric acid producing installations have partially ceased to operate in the period from 1<sup>st</sup> April 2011 to 31<sup>st</sup> December 2011. In order to address this, the registry administrator may delay the issue of allowances to a particular installation until it is clear that it did not partially cease to operate in the previous year.
21. The Government intends to auction or sell any surplus allowances from installations from the nitric acid producing sector which have closed or partially ceased operations.

## **F. RATIONALISATIONS**

22. Rationalisation occurs when Annex I activities at one EU ETS installation are closed and moved to another EU ETS installation(s) owned by the same operator. Nitric acid producers that rationalise their production are not entitled to retain the free allocation relating to the activities that have ceased operating.
23. Where the provisions of paragraph 22 above apply to an operator, to the extent those provisions are contrary to the provisions of Section F1 (paragraphs 79 to 87) of Appendix D, paragraph 22 of this Appendix shall take precedence.