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21 January 2021

### **RE: Consultation on banning solid urea fertilisers**

Thank you very much for the opportunity to respond to the consultation on reducing ammonia emissions from urea fertilisers. I am responding in writing because the online questionnaire required almost every question to be answered and offered limited options, even those that are not relevant to us or where we are not in a position to comment. Therefore please find our responses to the consultation questions in the enclosed annex.

Anglian Water is the water and water recycling company for nearly 7 million customers in the east of England. The region we serve is the driest, flattest part of the country, containing half of the country's Grade One agricultural land. The rain that does fall will arrive in shorter, heavier bursts as the climate changes. This increases the risk of diffuse pollution from agriculture affecting the water environment and our drinking water treatment processes. The slow-moving rivers in our region mean that diffuse pollution lasts for longer, causing greater environmental damage. We therefore have an acute interest in policy proposals that could have a detrimental impact on the water environment, such as in this case.

We fully support the need to reduce ammonia emissions as part of the Clean Air Strategy. However, the proposal to ban solid urea fertilisers seems to focus on this goal in isolation, without adequately considering the wider impacts and perverse consequences that could occur. Decisions like this need to be taken in full recognition of the environmental trade-offs, with the best package of policy measures selected that maximises delivery against the range of relevant objectives whilst minimising environmental risks. In contrast, the ban on solid urea is being justified on the basis of a single objective and proposed without a full explanation of the alternative approaches to meet the Clean Air Strategy's goals.

There is a very real risk of pollution swapping in this case, with the benefits of ammonia reduction being offset by an increase in nitrate leaching, and arguably even more importantly, higher nitrous oxide emissions (a potent greenhouse gas). Having established the Nutrient Management Expert Group to advise on these matters, it would seem appropriate to wait for their recommendations before reaching a decision.

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Regarding the water environment specifically, the consultation recognises that there could be a 5% increase in nitrate leaching into water bodies. This increase is not “small”, as the consultation suggests, and we are not at all confident that the Farming Rules for Water nor the Nitrate Vulnerable Zone regulations will be effective in mitigating this. In our separate recent response to the Farming Rules for Water Regulatory Review, we said that the Rules have not proven effective because they have been drafted ambiguously and do not distinguish between mandatory and discretionary measures. The Environment Agency has now begun to enforce them, but with limited resources and rules that are open to interpretation this is unlikely to yield significant gains.

Our overall recommendation is therefore to wait until the Nutrient Management Expert Group reports on the optimal policy package that minimises the environmental consequences of fertiliser use in the round. In the meantime further steps need to be taken to mitigate the existing impacts of fertiliser use on the environment, including by tightening the Farming Rules, but also by encouraging all farmers to go above and beyond regulatory compliance through the way in which the Environmental Land Management scheme is designed.

I would be happy to organise a discussion with Anglian Water’s catchment management experts if you would find that useful.

With every best wish,

A handwritten signature in blue ink, appearing to read 'D. Johns', with a stylized flourish at the end.

**Daniel Johns** FCIWEM  
Head of Public Affairs

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## ANNEX: Response to consultation questions

The following sections are colour coded, with relevant questions in **black** and answers in **blue**, with questions coloured **grey** if they are not relevant or we are unable to answer.

### Details of response:

- **Name:** Daniel Johns
- **Contact:** [djohns2@anglianwater.co.uk](mailto:djohns2@anglianwater.co.uk)
- **Organisation:** Anglian Water Services ('other')
- **To be kept confidential?** No.
- **Location:** East of England, headquarters in Cambridgeshire.

### Questions: general urea fertilisers policy

*Q1a: Should the use of liquid fertilisers (such as UAN) containing urea remain unrestricted?*

*Yes/No/No view.*

**YES**

*Q1b: If No, why?*

*Q2a: Should the policy applied relate to solid compound fertilisers (as well as solid straight urea fertilisers)? Yes/No/Don't know.*

**YES** or a simple substitution to compound fertilizer will occur

*Q2b: If No, what solid compound fertilisers should/should not be restricted and why?*

*Q2c: If you agree should the policy applied relate to all compound fertilisers containing greater than 1% carbamide (ureic) nitrogen? Yes/No/Don't know.*

**YES**

*Q2d: If you disagree what should be the threshold of carbamide nitrogen content in order for the policy to reduce ammonia emissions to be effective?*

*Q3a: Do you agree or disagree with the Impact Assessment results for each of the policy options presented? Agree/Disagree/Don't know. 16 of 37*

*Q3b: If you disagree please specify which of the results you disagree with and provide additional evidence to support your response*

*Q4a: Would these policy options (on an England only basis) have a significant impact on the UK internal market and ensure a level playing field for users? Yes/No.*

*Q4b: If Yes, please indicate how*

### Questions: Ban

*Q5a: The Impact Assessment suggests that this option provides the greatest reduction of ammonia emissions. Do you agree or disagree with this being the preferred option? Agree/Disagree/No view.*

**DISAGREE**

*Q5b: If you disagree please explain why and what your preferred policy option would be.*

Rather than proceed with the ban now it would be prudent to wait until the Nutrient Management Expert Group has made recommendations on an optimal policy package that takes

full and proper account of the potential environmental trade-offs. As the consultation document recognises, banning solid urea will lead to an increase in nitrate leaching and undermine efforts to tackle climate change. We are not at all confident that the Farming Rules for Water will mitigate the impacts of a solid urea ban on local water quality, due to their ambiguous phrasing and lack of enforcement (see our separate response to the FRfW Regulatory Review). In lieu of a ban, option 2 (urease inhibitors) provides 80% of the benefit, for less climate change impact, and at much lower cost to farmers. However, the potential for deleterious effects on soil biology from use of urease inhibitors need to be understood before a decision can be reached.

*Q6a: Do you agree or disagree with the assumption that there will be a shift to the use of ammonium nitrate as a result of a ban? Agree/Disagree/No view.*

**AGREE**

*Q6b: If you disagree, what alternatives might be used?*

*Q7a: Would storage and transportation of ammonium nitrate be a challenge to farmers and/or industry? Yes/No. Please delete appropriately: I am a farmer / an industry representative / Other (please specify).*

*Q7b: If Yes, how? Please list the potential challenges and ways these might be mitigated.*

*Q7c: If you have suggested ways to mitigate potential challenges, what do you estimate the financial costs of these would be? 22 of 37*

*Q8: If a ban is the agreed approach, how quickly following confirmation of this do you think this option could be introduced without impacting on the availability of suitable alternative fertilisers?*

*a. 0 to 6 months*

*b. 7 to 12 months*

*c. 1 to 2 years*

*d. More than 2 years*

*Q9a: Would this policy option impact any other specific sectors such as horticulture or other small-scale end-users? Yes/No/Don't know.*

*Q9b: If yes, please indicate who.*

*Q9c: If yes, please provide further details including whether alternatives can be used.*

*Q10a: If it is necessary to ban the use rather than the sale (and use) of solid urea fertilisers, do you agree or disagree that farmers should be required to hold and present records of fertilisers purchased, such as receipts or invoices, when required? Agree/Disagree/Don't know.*

*Q10b: If you Disagree, what other enforcement options would you suggest? Please specify.*

*Q11a: Do you agree or disagree with the analysis of the environmental impacts of this measure? Agree/Disagree/No view.*

*Q11b: Do you have evidence of environmental impacts which have not been considered? Yes/No. If yes please provide links or references.*

**DISAGREE**

**Page 17 of main consultation document regarding the risk of increased leaching from increased use of AN:** states that *‘Effective nutrient management following current guidelines, and a focus on increasing nitrogen use efficiency (choosing appropriate products to apply to appropriate crops in appropriate conditions), could help mitigate these impacts’*. This understates the potential for water quality impacts from increasing use of AN, and there is too much faith being placed in Nitrate Vulnerable Zones and Farming Rules for Water regulations to mitigate this. Our separate response to the FRfW Regulatory Review concludes that the Farming Rules have had little if any impact on water quality because of their ambiguous and subjective phrasing, combined with a lack of enforcement.

**Page 38 of Impact Assessment regarding GHG benefits (para 127):** Being unfamiliar with the ‘Green Book guidance and BEIS non-traded carbon values’, it is not clear how these are weighted against ammonia based health and environmental costs in the long term. Has the long term (potentially catastrophic) global heating effect been fully accounted for? This points again to a better option being to wait for the findings of the Nutrient Management Expert Group, at which point the trade-offs involved in these choices will be more transparent.

**Page 39 of Impact Assessment regarding Water quality (para 129):** *‘The preferred policy would lead to lower eutrophication and acidification of fresh water due to lower deposition of nitrogen compounds and reduced nitrogen surface water run-off from farmlands.’* This statement is not substantiated and appears to contradict the consultation document which, correctly, suggests reducing solid urea use would *increase* N in surface water from farmland. This is because the substitute product, AN, is more soluble in water than urea.

#### **Questions: Urease Inhibitors**

*Q12a: Would farmers use solid urea stabilised with UI? Yes/No/No view.*

**YES**

*Q12b: If not, why? What alternatives might farmers use?*

*Q13: At what concentrations should UI be applied to solid urea in order for there to be good efficacy? Please support your answer with evidence.*

*Q14a: With regards to the efficacy of UI in solid urea when blended/coated with other minerals (e.g. sulphur), do you have further evidence that might support this consideration? Yes/No.*

*Q14b: If Yes, please submit your further evidence.*

*Q15a: As a supplier, when would sufficient volumes of treated urea be available to the UK market if there was a requirement to include UI in the melt?*

*a. 0 to 6 months*

*b. 7 to 12 months*

*c. 1 to 2 years*

*d. More than 2 years*

*Q15b: Would a requirement to include UI in the melt (as opposed to a coating) increase the price of UI treated urea? Yes/No/No view.*

*Q15c: If Yes, by how much?*

*Q16a: Would this policy option impact any other specific sectors such as horticulture or other small-scale end-users? Yes/No/Don't know. 27 of 37*

Q16b: If yes, please indicate what sectors/which users.

Q16c: If yes, please provide further details including whether alternatives can be used.

Q17a: If it is necessary to ban use rather than sale (and use) of uninhibited solid urea fertilisers, should farmers be required to hold and present when required, records of fertilisers purchased, such as receipts or invoices? Yes/No/No view.

Q17b: Can invoices/receipts contain details of the name of the specific fertiliser product bought? Yes/No/Don't know.

Q17c: What other option(s) might be more effective for monitoring and enforcing the measure?

Q18a: Do you agree or disagree that UI-treated solid urea would be a better option to use than ammonium nitrate, should this policy option be chosen? Agree/Disagree.

**AGREE.** Allowing UI-treated solid urea would avoid the environmental consequences from an increased use of AN, including in terms of water quality and greenhouse gases.

Q18b: If you Disagree, why?

Q19a: Are you aware of any evidence of negative health or other environmental impacts from use of UIs that are licensed for use in the EU or UK? Yes/No.

Q19b: If Yes, please provide evidence/references.

#### **Questions: Restricted Period**

Q20: In your opinion, are farmers likely to apply more solid urea than needed during the open application window? Yes/No/No view.

**NO**

Q21a: Do you think this policy aligns with Farming Rules for Water and the Code of Good Agricultural Practice in terms of nutrient management? Yes/No/Don't know.

**NO.** Both the Farming Rules for Water and the Code of Good Agricultural Practice focus on promoting best practice and proper nutrient planning and soil testing etc rather than which fertiliser to use.

Q21b: If No, please explain why and note any potential conflicts. 31 of 37

Q22: (To farmers currently using solid urea between April and December) What fertiliser(s) might you use to substitute solid urea from April to December under this option?

Q23: (To fertiliser suppliers) What fertiliser(s) might be in more demand to substitute solid urea from April to December under this option?

Q24a: Do you have suggestions for more effective or less burdensome approaches to enforce this requirement? Please provide details here.

Q24b: If Yes, please provide details here.

Q25: Are there any other suggestions you would like to make that are not covered in this consultation document, or not covered by the previous questions?

Overall there is a very real risk of pollution swapping through banning solid urea, such that a reduction in ammonia would result in an increase in other environmental damage.

In our view, the preferred policy approach of banning urea is likely to increase nitrate leaching, due to increasing the use of ammonium nitrate in the late winter/ early spring time, when nitrate leaching risk remains high. Anglian Water is already expanding its programme of catchment management to drive improvements in land management over and above the level necessary to comply with regulations. The “small” up to 5% potential increase in N leaching mentioned in the consultation document would negate half of the anticipated benefit of our catchment management programme.

A ban is therefore likely to result in at best a slower reduction in the nitrate treatment necessary at affected drinking water sources, and at worst, an increase in the treatment needed. This option is therefore likely to have an additional GHG cost in terms of energy usage for water treatment, on top of the consequences of increased use of AN at wet times or in wet areas for increasing nitrous oxide emissions.

In terms of overall policy and engagement approach, things like soil moisture, soil pH, correct application and timing of nutrients, soil sampling, reducing soil erosion etc usually do more to protect environmental quality than banning any one product. Additionally, the agriculture industry is trying to promote regulation and support schemes that allow and encourage farm-based decisions that are right for that farm and that crop, rather than blanket bans and application window restrictions for example, that take no account of local conditions.