

Consultation Response - Ammonia Strategy for Northern Ireland

Comments by Northern Ireland Environment Link

3 March 2023

Northern Ireland Environment Link (NIEL) is the networking and forum body for non-statutory organisations concerned with the natural and built environment of Northern Ireland. Its 66 Full Members represent 190,000 individuals, 262 subsidiary groups, have an annual turnover of £70 million and manage over 314,000 acres of land. Members are involved in environmental issues of all types and at all levels from the local community to the global environment. NIEL brings together a wide range of knowledge, experience and expertise which can be used to help develop policy, practice and implementation across a wide range of environmental fields.

These comments have been prepared by NIEL's Sustainable Agricultural Policy Working Group and endorsed by our wider membership.

If you would like to discuss these comments further we would be happy to do so.

Sean Kelly,
Development Manager
Northern Ireland Environment Link
89 Loopland Drive Belfast
BT6 9DW
P: 028 9045 5770
E: Sean@nienvironmentlink.org
W: www.nienvironmentlink.org

Introduction

Northern Ireland has the worst levels of ammonia pollution in the UK, making up 6% of the UK land area and 3% of the population, it is responsible for 12% of UK ammonia emissions, impacting biodiversity and human health.

NI is also the only part of the UK where levels of ammonia are rising each year. We are in a biodiversity crisis, the majority (98%) of our Special Areas of Conservation (SACs) are exceeding **critical** loads of nitrogen deposition, some as high as 500% the legal limit.

97% of ammonia emissions come from agricultural sources in NI with emissions of ammonia and nitrogen from agricultural run-off being the leading cause of waterway degradation in NI. More must be done to tackle this runaway pollutant.

The Strategic Approach to Ammonia: Targets

- Reduce Agricultural ammonia emissions from NI by at least 30% by 2030.
- Reduce ammonia concentrations at all designated sites by at least 40% or to below Critical Levels

We welcome these proposed targets to tackle ammonia emissions by 2030 so long as they are acted upon fast, are well-funded and well-resourced. We hope to see leadership to turn this strategy into action quickly. It is unclear how this strategy will be funded.

Targets should be met with ambitious action, such as more specific remedial and holistic approaches for farming policy and nature restoration.

Pillar One: Ammonia Reduction Programme

Reduction measures

We acknowledge that 61% of ammonia emissions come from slurry management, spreading and storage of cattle manures produced in housing, and so we welcome the proposed measures to reduce ammonia, such as low emission slurry spreading equipment and low emission livestock housing. However, like many of technological-focused proposals from the Future Agricultural Policy, these measures will only achieve small reductions in emissions, “chipping away at the margins” without addressing the root cause of the problems of large-scale unsustainable and intensive livestock systems which overgraze land, compact soils and utilise high levels of urea fertiliser and slurry. Tackling this much larger issue will require a transition to more regenerative farming practices to improve soil health and farm productivity, which can only be achieved through a cross-cutting policy approach to agricultural reform.

Solutions such as scrubbing while appearing good on paper has faced criticisms in countries where deployed extensively. Despite the high cost, and reported high emission reduction they often prove unsuitable in practice due to required ongoing maintenance. There is no guarantee that such systems would be maintained to a standard to ensure continued reduction in emissions. Similarly, much of reported emission reductions from slurry cooling are from warmer climates and the potential for substantial reductions applying this technology in a local context is limited. Any technology recommended needs to ensure that they will be maintained and are equally appropriate under local conditions. Recommendations to include acidification systems in pig houses only could be extended to cattle, though recent international literature is highlighting that such acidification increases odour nuisance which is already a substantial issue for pig farms (Pedersen et al., 2022).

Many emission reductions suitable for housing need to be followed up by subsequent approaches in the manure management chain. If emissions are reduced when animals are housed, it can increase the amount of ammonia to potentially be volatilised during spreading. The full manure management chain needs to be considered when weighing options for emission management.

Such agri-tech mitigation solutions should work alongside wider actions which provide remedial management to improve the condition of our already critically loaded protected sites and wider habitats, like the implementation of nature based solutions. The Future Agricultural Policy offers a real opportunity to reform policy to reward farmers for remedial actions they take under a Farming with Nature package. The tree-planting measure should be part of a much larger suite of options under agri-environment schemes for on-farm agroforestry and peatland restoration as well as the uptake of nitrogen-fixing swards which will improve farm resilience and reduce inputs.

Finally, it is important to note that proposed technological measures are prohibitively expensive for the majority of the 75% NI farms classified as 'very small' (< 41 hectares). With continued pressures on farm finances (cost of living increases, rising bank interest rates and low farm gate prices) and reluctance to / fear of change – greater information on the practical and financial support will need to be provided to incentivise adaptation of on-farm practices especially on small farms.

In addition to the above we would like to make the following additional specific points:

- The draft strategy does not provide sufficient, mandatory measures to reduce emissions /deposition, including background levels and at site level
- While we note the measures to be targeted in the areas around each internationally designated (Natura 2000 sites) nitrogen sensitive site are:
 - A prohibition on spreading of manures within 50 metres of a designated site.
 - Require slurry to be spread by Low Emission Slurry Spreading Equipment (LESSE) within 1km of a designated site by 2025.

We would welcome further information as to the evidence base for these proposals as it is likely that they be not be warranted in some instances while be insufficient at other sites i.e. a site specific approach will be required.

Critical loads on sites need to be considered alongside critical levels. The eutrophying effect of ammonia is principally assessed by its contribution to exceedance of critical loads of total nitrogen deposition. Ammonia emissions in formation of particulate ammonium, which can cover much greater distances than the 1 km mentioned. Ammonium is typically deposited in rainfall. Kelleghan et al., (2021) highlighted this wet deposition of ammonium can contribute between 25 – 50% of total nitrogen a sensitive site could receive. It is particularly problematic on upland sites, most of which are well outside the 1 km of sources.

Limitations on slurry spreading adjacent Natura 2000 sites needs to be based on evidence. 50 m seems to have been selected to align with requirements under Nutrients Action Programme on distance thresholds set for boreholes, wells and springs. Atmospheric pollution is distinct from impacts arising from run off, and 50 m may not be appropriate. Larger distance thresholds are likely required to adequately reduce concentrations and deposition on protected sites.

Reducing ammonia emissions within 1 km is welcome, but consideration should be given to potentially expanding in future. As stated above, contributions to wet deposition of ammonium can be substantial and occur from sources at much greater distances away than 1 km.

Use of LESSE

Agronomic benefits highlighted are not specific to LESSE, they are due to retention of nitrogen in slurry. This can be supplemented by reductions earlier in manure management chain. Reducing loss of nitrogen as ammonia throughout the manure management chain enhances nitrogen content in slurry, thereby adding value as a fertiliser.

These methods are reliant on skilled operators, pooling of slurry in fields is still possible when in use. Thus achieving the maximum potential of these methods in practice may be limited. This approach should also consider limits to the rate of application, as higher application rates will result in increased emissions further limiting suitability of LESSE methods. Mixed species swards should be prioritised over grassland monocultures, these swards require lower nitrogen inputs and as such can be effective at reducing emissions if less slurry and fertiliser application is required.

Additional points

- In Box 1, under 'Enabling Actions' while we welcome the inclusion of *Review Policy & Legislative Framework* there is no detail around what this proposal is designed to do. Given the biodiversity crisis, we would want reassurance that the intention is to strengthen rather than weaken environmental protections for biodiversity.
- It is unclear what role the agricultural policy framework will play in driving down ammonia emissions to deliver sustainable farming.

Policy Integration

This strategy fails to lay out a roadmap for the direction of travel for agriculture in NI. The Ammonia Strategy must be underpinned by the principles of the Environment Strategy and upcoming Biodiversity Strategy, including the polluter pays principle. Policy coherence between this strategy and the Future Agricultural Policy must also be clearer if targets are to be met across the sector. Voluntary uptake of measures within current EFS have been shown to be insufficient, so setting out clear incentives for options which farmers can be rewarded for to tackle ammonia pollution will be key.

This strategy should see the establishment, appropriate funding and enforcement of strong regulatory baseline through implementation of site-specific Nutrient Management Plans and extend to enhanced conditionalities being proposed under the new Farm Sustainability Standards.

Moreover, the ongoing derogation of the Nitrates Directive is reflective of the lack of coherent policy and strategic action across the Executive to reduce pressures on the best places for nature, and this must be addressed.

High quality monitoring and advice is essential for effective and targeted action to tackle emissions and should be a key component of the Farming with Nature advisory scheme with adequate resourcing.

In terms of policy integration, in an effort to reduce ammonia emissions stronger linkages should be made with corresponding policies and strategies to reduce food waste.

Meeting our Obligations

Overall, we would be concerned that the draft Strategy would be insufficient/ incompatible in terms of achieving our CBD and climate targets, reversing biodiversity loss and restoring ecosystems, particularly peatland restoration.

As highlighted above, there remains insufficient ambition and urgency within the proposals particularly given the 2050 goal to reach Critical Levels and loads at designated sites and does not address the obligation to meet CBD target 7 agreed at Montreal to 'halve nutrient loss to the environment by 2030'.

Finally, while there is an understandable focus within the document on our international designated sites, greater attention needs to be paid to our ASSIs and priority habitats, including areas important for 30x30 and species recovery. We suggest these areas should be mapped as soon as possible in order to help guide Pillar 2 action, agricultural policy and wider biodiversity objectives.

Planning and spatially targeting measures

The strategy outlines the intention to launch a call for evidence on the Operational Protocol on air quality impacts after this public consultation. This is disappointing as it delays one of the most vital aspects of tackling ammonia emissions – more effective regulation of future development and licensing. Some recommendations for ways in which this protocol could be improved to tackle emissions includes:

- Accounting for cumulative impacts of developments in a local area,
- Reviewing critical levels and nitrogen loads for screening assessments,
- Increase the screening distance required for air quality assessment beyond that of England, Scotland and Wales where ammonia emission exceedances are not so high.
- A joint up approach to the consultation to be lead by both DAERA and DfI.

The misuse of permitted development should also be reviews to halt developments with perverse outcomes for nature.

The measures outlined in the site-specific targeted approach to ammonia reductions will help to mitigate emissions impacting on sensitive sites, however, under the current failings of cross compliance and nutrient management, it is likely to remain ineffective.

The scale of interventions proposed through the spatially targeted measures will pose significant challenges to the planning process. Existing and future permitting and advisory staff will require increased capacity, training and resources in order to meet these demands and existing regulations and legislation. Actions may need to be implemented in line with agri-environment interventions.

Licensing under the pollution prevention and control (PPC) regulations does not currently cover beef and dairy (the biggest source of emissions by species), extending permitting to smaller poultry, beef and dairy systems could help to turn the tide on emissions intensive practice.

Pillar Two: Conservation Actions to Protect and Restore Nature

Timelines

This section is much less detailed and relies on many general links to other policies without any concrete proposals.

The reference to Conservation Management Plans is also premature as these plans have yet to be put out to consultation. These plans should include:

- Site-specific nitrogen action plans,
- Incorporate deposition levels and impacts into monitoring assessment and management of SSSIs
- Integrate N deposition into biodiversity strategies with targets for mitigation and restoration of habitats and ecosystem
- Social and economic assessment of impact of air pollution on species and natural and ecosystem services
- Support further research to improve evidence base.

Further Considerations

SEA and HRA analysis

This appears to be at the screening stage and waiting on the results of the public consultation exercise before moving to next stage. We would have expected both assessment processes to be further along as they would be crucial to informing the current strategy.

Health

While the draft strategy highlights the wider human health implications of ammonia emissions, the document then solely focuses on human health in terms of health and safety concerns around slurry tanks rather than the wider health issues. Given the intersection between air quality, emissions from pollutants and public health, it is vital everything is done to ensure we are reducing emissions from various pollutants, whether that is emissions of fine particulate matter PM2.5 from transport or domestic heating, or indeed ammonia emissions from agriculture.

Transboundary analysis

It is unclear what consideration has been given to the Espoo Convention and Gothenburg Protocol. There are significant transboundary emissions, both across the island of Ireland, and between Northern Ireland and Great Britain.

See [NIEL Ammonia Workshop Proceedings](#) for more information on legislative context and recommendations.