Cyswllt Amgylchedd Cymru | Wales Environment Link

The Environment (Air Quality and Soundscapes) (Wales) Bill

28th April 2023

Summary

WEL is pleased to see the Environment (Air Quality and Soundscapes) Bill introduced, with air quality affecting wildlife and ecosystems, as well as public health.

However, we do question the order of legislation coming forward; as we continually highlight the absence of an independent environmental governance body, which the Welsh Government has promised along with targets for nature's recovery i.e. a 'Nature Positive Bill'. The future new governance body will have a key role to play in holding government to account in relation to air quality targets (equivalent to the role the Office for Environmental Protection plays in England); it is regrettable that, due to ongoing delays in bringing forward environmental governance legislation, this role will have to be added to the air quality framework at a later date.

We welcome tackling fine particular matter (PM2.5) and nitrogen dioxide, but we are very concerned that this Bill overlooks action to tackle pollution from ammonia. It is increasing in severity, with 93% of sensitive wildlife habitat experiencing higher nitrogen levels than it can tolerate (CEH Trends Report 2022). The Explanatory Memorandum does acknowledge that: "Air pollution contributes to acidification of soil and surface water, eutrophication in sensitive habitats and damages vegetation through exposure to ozone" and that "poor air quality can also adversely affect wildlife through widespread changes to species distribution and the quality of habitats". It does set out estimate costs for monitoring ammonia, which is welcome. However, as the Bill only specifies PM2.5 targets, and the rest are left to the discretion of Welsh Ministers in setting regulations, we cannot guarantee it will be considered; we have therefore included proposals to tackle ammonia pollution and its impacts below.

General Principles

WEL welcomes the introduction of legally-binding targets as current targets under the EU National Emissions Ceiling Directive (NECD) expire in 2030. We strongly support the targets to be reviewed at least every five years, although we would suggest that some elements (such as nitrogen dioxide and ammonia emissions) may benefit from more regular scrutiny, particularly in the first term of the plan.

The initial deadline of '3 years from Royal Assent' for the first set of targets is overly long and does not match the urgency which the Explanatory Memorandum sets out. We would suggest that a shorter timeframe would be better, to add more priority to this important and delayed process. Ideally, it should mirror the UK Government's corresponding targets deadline of a year to introduce. The subsequent short delay of two months – the Environment Act 2021 in Westminster said they must be put before parliament by 31st October 2022 – saw them set out in December 2022. The example set here shows it's important to have ambitious deadlines so it is assured to be a government priority in the years ahead.

Binding targets should serve as a catalyst for action, in the same way that statutory recycling targets propelled us to achieve world-leading recycling rates. WEL believes that binding targets on major pollutants will have a similar effect and will kickstart progress where voluntary efforts have been unsuccessful.

However, it would be better if it included commitments on nitrogen oxides and more specifically ammonia (NH_3).

The Bill should place a duty on the Welsh Government to set additional targets, particularly for ammonia

Almost 69% of Wales' total land area receives ammonia concentrations above the critical level set to protect lichens, mosses, liverworts and other bryophytes – keystone species that are vital to ecosystems and many of which are threatened. Unprecedented concentrations of reactive nitrogen have built up in the atmosphere, mainly due to ammonia emissions (NH_3) from intensive farming practices and nitrogen oxide (NO_x) emissions from combustion (in transport, industry and other

sources). Reactive nitrogen in the air can be deposited close to its source or can travel long distances; this is impacting all kinds of wildlife habitats, from coastal sand dunes to the tops of our mountains. Ammonia emissions also contribute to the formation of particulate matter, which damages people's health, and are closely linked to emissions of nitrous oxide and methane, both greenhouse gases.

The air quality chapter of the SoNaRR (State of Natural Resources) report states that 88% of sensitive wildlife habitat has higher nitrogen levels than it can tolerate, upsetting the delicate balance of the ecosystem, and almost 60% of habitats or species features in European protected sites are adversely affected by nitrogen deposition – figures from a more recent analysis paint an even worse picture (CEH Trends Report 2022). A few vigorous plant species (such as nettles and brambles) thrive, but more than two-thirds of wildflowers, as well as many rare and endangered lichen and fungi, are unable to survive in high nitrogen conditions. In extreme cases, concentrated ammonia emissions are causing spectacular lichens such as eyelashes treebeard (*Usnea florida*) to be coated in algal slime. More evidence of this can be found in Plantlife's report: We Need To Talk About Nitrogen.

The Woodland Trust has highlighted how much ancient woodlands can also be impacted by nitrogen pollution, outlining: "*In 2014, 90% of the internationally important habitat in Special Areas of Conservation (SACs) in England and Wales received excessive levels of nitrogen. The situation is probably even worse for ancient woodlands as a whole, with critical loads for nitrogen exceeded for 92-98% of all UK woodlands".* Their technical advice note sets out an assessment process that can reduce the worst impacts to help Local Planning Authorities to mitigate the effects on woodland areas and other priority habitats.

In December 2022, the long-awaited Convention on Biological Diversity COP15 summit agreed the Kunming-Montreal Global Biodiversity Framework. It embeds a global mission to halt and reverse the loss of nature by 2030 and achieve recovery so that, by 2050, nature is thriving once more, "sustaining a healthy planet and delivering benefits essential for all people". This is in line with the Nature Positive goal called for by organisations around the world in the years leading up to COP15.

The new Global Framework includes outcome-oriented goals and targets, to: halt extinctions and recover species abundance; tackle ecosystem loss; restore degraded

ecosystems; effectively protect and manage 30% of land and sea (the '30 by 30' target); reduce pollution from all sources; and drive sustainable production.

Taking action to reduce atmospheric ammonia is essential if the Welsh Government is to meet these commitments to biodiversity. Although we recognise that the proposed PM2.5 targets would also help to reduce ammonia levels, we urge for ammonia to be considered specifically, due to its increasing prevalence and devastating impacts on human and ecosystem health. Tackling nitrogen deposition is essential if Wales is to restore and protect its rich biodiversity assets.

Strategic links should also be made with policy action on Climate Change and the Decarbonisation agenda. This would not only serve to recognise the contribution of many major pollutants as direct contributors to global warming but would also expand the potential for awareness raising campaigns. These links would also facilitate regular reviews, as air pollution levels can be used as a key indicator for Government across a spectrum of policy areas.

We are clear that specific action to tackle ammonia will be necessary to achieve the Government's biodiversity and public health ambitions, in addition to action focused on PM2.5. A recent scientific paper concludes that "Action plans aimed at national agricultural sources of NH_3 and strengthened supranational agreements would be most effective at alleviating $PM_{2.5}$ in most UK cities" (Kelly *et al*, 2023). We strongly recommend legally-binding targets for ammonia to be introduced at the same time as PM2.5 targets to drive policy change and practical action.

Monitoring and enforcement will also be essential to drive ammonia levels down. Part of the issue relates to monitoring of farm planning conditions, which is currently falling into a large responsibility gap: NRW states that LPAs are responsible for monitoring compliance with farm planning conditions, and yet LPAs do not have the capacity or (often) expertise to do this job properly. The Welsh Government needs to review this situation and design a solution to ensure that the responsibility for monitoring agricultural pollution is clearly attributed to an authority (our preference would be for this to be NRW's responsibility) and that the responsible body has the resources and expertise in place to do this job properly. We support increasing capacity, training and resources for permitting and advisory staff in NRW and local authorities to implement the regulations.

Overall, we think that there is a missed opportunity in the proposals for this Bill to legislate for some actions that would immediately start to tackle the problem of both ammonia (and consequently PM2.5) and we recommend an agriculture section be added to the Bill. Examples of actions include:

- mandatory covering of slurry storage tanks and lagoons, as they have done in England, with the potential for capital grants to support their installation if necessary;
- including a minimum target for 20% urban tree coverage;
- lowering the threshold for environmental permits for poultry units from 40,000 birds to 999;
- requiring environmental permits for other emissions sources, particularly large and indoor cattle units; and
- banning splash plates, and requiring appropriate technologies i.e. trailing shoe.

Extending the environmental permitting regime to dairy and intensive beef farms, as proposed in England, and reducing the permitting threshold for poultry units, should be pursued as a priority in Wales. The introduction of permitting would ensure that such farms adopt best available techniques (such as those detailed below) for reducing ammonia emissions, as well as providing a clearer framework for their monitoring and inspection. It would also ensure farms which invest in ammonia reduction measures are not disadvantaged by those who do not.

We would also support consideration of rural/ecological AQMAs/LAQMs or 'Clean Air Zones for Nature', specifically to tackle the increasing problem of ammonia pollution from farms and to embed action on rural pollution and its impacts on biodiversity within public debates, policy and communications in the air quality sector.

Ways ammonia can be reduced

The new Sustainable Farming Scheme is a clear opportunity to align air quality goals with agriculture practices, and the UK Centre for Ecology and Hydrology has set out several kinds of management measures to reduce ammonia emissions from agriculture, including:

- Housing floor systems to remove cattle/pig manure (20 – 46% reduction)

- Slurry spreading systems – trailing shoe (30 – 60% reduction) or disc injector (70 – 90% reduction)
- Covering slurry stores with tight lid (80% reduction) or floating cover (60% reduction)
- Drying of poultry manure (35 – 45% reduction)
- Tree planting as shelter and grazing areas to capture N and increase dispersion (20 – 25% reduction) to protect semi-natural areas downwind of ammonia sources. (More on that outlined here).

The governance gap

As mentioned above, this Bill starkly highlights the environmental governance gap that exists in Wales. In March 2021, the Court of Justice of the EU ruled that the UK had systematically and persistently failed to fulfil its obligations under EU rules on air quality (after the European Commission started proceedings against the UK in 2014). Failures on air quality standards, by both UK and Welsh Governments, have also been challenged successfully in the domestic courts by Client Earth.

This Bill establishes a framework for Ministers to set air quality targets and includes a process for Reporting on Targets (clause 5), under which Ministers have to report to the Senedd as to whether or not a target has been met. If a target has not been met, Ministers have to lay before the Senedd a report explaining why not, and the steps to be taken to rectify this.

The equivalent framework for England (under their 2021 Environment Act) goes further, and includes an additional layer of scrutiny: the OEP (Office for Environmental Protection) reports regularly (e.g. this report on improving England's natural environment) on the UK Government's progress including assessing compliance with targets and commenting on the adequacy of policy measures to meet them. The UK Government is required to respond to the OEP's recommendations.

The OEP will also be able to consider any future challenges or complaints from citizens about failures to deliver on air quality targets, by the UK Government or other public bodies in England, filling the vitally important gap of providing access to justice for citizens once more. The Interim Assessor for Wales does not have the

powers or remit to do either of these things. Until we have fixed this gap through legislation, the risk of environmental damage gone unchecked will only increase.

It is regrettable that the Welsh Government has continued to delay bringing forward legislation to address the governance gap, after Ministers accepted the recommendations of a specially convened stakeholder group in 2020. To ensure the new air quality and soundscapes frameworks can operate effectively and deliver clear improvements for the people of Wales, the Welsh Government must commit to bringing the 'Nature Positive Bill' forward without further delay.

Soundscapes

We welcome that this Bill will address soundscapes, treating them as a pollutant in line with literal pollutants. Noise quality is also very important to wildlife, with one study highlighting that "to date, noise pollution has been considered in terms of impacts on human health, but very little or no consideration has been given to impacts on other species and ecosystems." A meta-analysis showed that "anthropogenic [human created] noise affects species of all taxonomic groups", which included both aquatic and terrestrial species. They outline: "These clear-cut effects of noise are particularly important from a conservation point of view, because it shows that noise affects not only a few species that we need to pay attention to but many species that inhabit very different ecosystems."

Reducing noise pollution is not only good for both human and wildlife health, but by reducing that human created noise, natural background sound will be enhanced and better appreciated. The Natural History Museum has found that bird song can offer people "relief from mental fatigue and stress", which was echoed by another study finding that participants' mental wellbeing increased when they saw or heard birds, including amongst those diagnosed with depression. It suggests that having natural noise able to come through amongst quieter urban environments can both help people's general wellbeing, and improve the mindset of those with mental health problems.

Wales Environment Link (WEL) is a network of environmental, countryside and heritage Non-Governmental Organisations in Wales. WEL is a respected intermediary body connecting the government and the environmental NGO sector. Our vision is a thriving Welsh environment for future generations.

This paper represents the consensus view of a group of WEL members working in this specialist area. Members may also produce information individually in order to raise more detailed issues that are important to their particular organisation.



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