

Link response to the integration of Greenhouse Gas Removals (GGR) into the UK Emissions Trading Scheme (UK ETS)

15 August 2024

This consultation response is on behalf of Wildlife and Countryside Link ([Link](#)), a coalition bringing together over 80 organisations to campaign for the natural world.

Opening statement

Link commends the UK government's ambition to bolster private sources of funding to scale-up climate measures and nature recovery. However, Wildlife and Countryside Link does not support greenhouse gas removals (GGRs) being integrated into the UK Emissions Trading Scheme (UK ETS). The impermanence of nature-based removals, unreliability of accounting for natural carbon sequestration, and uncertainty around the future supply of both nature-based and engineered removals, amongst other features, threaten the integrity of the UK ETS overall. As such, the risks outweigh any potential advantages of the proposal for the environment.

The Government is right to look for ways to accelerate nature-based solutions to climate change, especially as nature-based GGRs are currently the most dependable form of GGR whilst research continues for engineered options. However, a national market-based model is not necessary. Instead, we recommend that UK ETS revenues are paid into a strategic nature-based solutions fund and allocated by a suitable public body, such as a statutory nature conservation body, to projects that enhance nature to reduce carbon emissions (reduction, avoidance, or sequestration). Investment could be maintained in the long-term as UK ETS revenues fall by ramping up a Nature Recovery Obligation on relevant sectors and weighting allocation of those funds for nature-based solutions to climate change. This would have three clear advantages over the Government's current proposal. It would:

- (1) fund investment in nature-based solutions without risking the integrity of the UK ETS emissions reduction pathway;
- (2) enable more strategic investment in large-scale, ecologically important nature-based solutions that deliver multiple social and economic benefits (in contrast to a market-based approach which drive low-quality, low-cost options that focus on the cheapest possible delivery of tonnes of carbon, rather than maximising benefits);

- (3) avoid the risk that GGRs undermine a strong UK ETS price signal if cheap allowances enter the market at scale.

Key risks from current proposals include:

Carbon offset credits often overclaim their emissions reductions and could therefore lead to greater global emissions if they are being used as a substitute for direct abatement.¹ Introducing domestic offsets in the UK ETS could not only undermine Net Zero targets, but also the UK's ambition to be a climate leader.

The risks are clearest in Option 1 and Option 3 of the potential cap design, where adjustments of the cap and potentially unlimited supply of (potentially uncertain) GGRs would dent the certainty of the system. The Government's preferred option, Option 2, is less risky so long as credits are directly substituted for allowances. However, the question of whether to readjust the cap in the long-term opens the possibility of future losses of integrity in the cap.

The supply and demand of engineered and nature-based removals over the next 25 years is uncertain. On the supply side, research has shown that the land use sector can only offset its own emissions to reach Net Zero, meaning that no sinks can be spared for other sectors.² There is a risk that removal credits are bought up early in lieu of emissions that could have been abated and fewer are available nearer to 2050. Consequently, credits would increase in price and become less accessible to sectors such as agriculture where residual emissions are expected. Moreover, Bioenergy with Carbon Capture and Storage (BECCS) fuelled by forest biomass may never generate any negative emissions at all, certainly not by 2050.³

We recognise that integrating nature-based GGRs into the UK ETS may stimulate some demand for removals and that some very high integrity carbon credit schemes such as The Wildlife Trust's Atlantic Rainforest Restoration Programme⁴ can help tackle residual emissions. However, a more robust and less risky approach would be to ringfence UK ETS revenues for nature-based climate solutions. Funding nature-based GGRs separately from the UK ETS could better contribute to the £44 billion, as a minimum, needed to deliver the UK's nature-related targets over the next ten years.⁵

Hypothecating revenues from UK ETS auctions for environmental purposes, specifically by placing the revenues in a strategic investment fund for nature restoration, could also deliver

¹ Climate Change Committee. (2022). *Voluntary Carbon Markets and Offsetting*. Westminster, UK.

² Finch, T., Bradbury, R. B., Bradfer-Lawrence, T., Buchanan, G. M., Copping, J. P., Massimino, D., ... & Field, R. H. (2023). Spatially Targeted Nature-Based Solutions can Mitigate Climate Change and Nature Loss but Require a Systems Approach. *One Earth*, 6(10), 1350-1374.

³ Natural Resources Defence Council. (2021). *A Bad Biomass Bet. Why the Leading Approach to Biomass Energy with Carbon Capture and Storage Isn't Carbon Negative*. New York, USA.

⁴ The Wildlife Trusts. (N.D.). *Atlantic Rainforest Restoration*. <https://www.wildlifetrusts.org/atlantic-rainforest-restoration>.

⁵ Green Finance Institute. (2021). *Finance Gap for UK Nature report*.

better quality and better value for money. Market-based approaches risk driving the market toward small-scale, low-cost, narrowly focused solutions. For example, Woodland Carbon Code units are sold at a lower value on the market than the UK ETS allowances. Integrating meaningful nature-based solutions into the UK ETS could undermine and undervalue the ecosystem services being supported by subsidies and/or any future natural capital market. By contrast, strategic investment funding would enable the kind of nature-restoration at scale that is necessary to achieve biodiversity restoration as well as large-scale emissions reduction, avoidance, or sequestration. A proportion of funds should be earmarked for international finance projects, such as rainforest protection, where some of the biggest gains can be made at the lowest cost. This would boost nature-based solutions to climate change as well as biodiversity loss.

Further robust options to boost voluntary nature markets include introducing a Nature Recovery Obligation that requires companies to fund nature's recovery, based on a sector's impact on nature.⁶ Similarly, a Carbon Takeback Obligation could be introduced to require all extractors and importers of fossil fuels to permanently store a percentage of the carbon dioxide generated by their activities, a percentage that increases over time in line with Net Zero targets.⁷

The scale of the climate crisis, as well as the uncertainty about the effectiveness and land demands of offsets, means that these more sound actions should be prioritised over the integration proposals consulted on. Decarbonisation should be the priority for the UK ETS to guarantee long-lasting emissions reductions. Nature-based solutions (removals and avoidance) should be given equal priority across Government but separate policy approaches such as hypothecated funds are needed.

The following responses to selected consultation questions aim to advise on the environmentally- and economically-sound design of the UK ETS, should the integration take place. However, throughout our responses, we reiterate that the Wildlife and Countryside Link does not support the integration of GGRs into the UK ETS. We also highlight that more robust options are available for building a financially sustainable path to tackle the climate crisis while also driving investment in nature-based solutions.

⁶ Wildlife and Countryside Link. (2023). Nature 2030 Manifesto. A Plan for People and Nature. London, UK.

⁷ Jenkins, S., Kuijper, M., Helferty, H., Girardin, C., & Allen, M. (2023). Extended Producer Responsibility for Fossil Fuels. *Environmental Research Letters*, 18(1), 011005.

Responses to selected consultation questions

Q.2: Do you agree the Authority should maintain the gross cap for initial integration of GGRs in the UK ETS (Option 2)? Please explain your answer.

If the Government decides to proceed with integration, which we do not support, the gross cap should be maintained and under no circumstances should the cap be increased (Option 1). Maintaining the gross cap would preserve the strength and integrity of the cap, as well as benefit market stability over an initial integration period. It will be essential to reduce the cap in line with the Net Zero trajectory to reduce mitigation deterrence and incentivise participants to meet their emissions reduction targets.⁸ A focus on emissions reductions must remain a priority. Given the evidence around tipping points and the urgency of the need to reduce emissions to limit global warming to 1.5°C,⁹ it is essential to reduce absolute emissions entering the atmosphere, not just net emissions. Maintaining the cap, and reducing it annually, would be the clearest method to achieve this.

The Government is right to look for ways to accelerate nature-based solutions to climate change, but a national market-based model is not necessary. Instead, we recommend that UK ETS revenues are paid into a strategic nature-based solutions fund and allocated by a suitable public body to projects that enhance nature to reduce carbon emissions (either avoidance or sequestration). Investment could be maintained in the long-term as UK ETS revenues fall by ramping up a Nature Recovery Obligation on relevant sectors and weighting allocation of those funds for nature-based solutions to climate change. This would have three clear advantages over the Government's current proposal. It would:

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- (3) avoid the risk that GGRs undermine a strong UK ETS price signal if cheap allowances enter the market at scale.

⁸ Lancaster University. *Mitigation Deterrence Effects of GGRs, Briefing Note*. Lancaster, UK.

⁹ Allen, M., Dube, O. P., Solecki, W., Aragón-Durand, F., Cramer, W., Humphreys, S., & Kainuma, M. (2018). Special report: Global warming of 1.5 C. *Intergovernmental Panel on Climate Change (IPCC)*, 677.

Q.3: How can the UK ETS sustain demand for GGRs in the long-term, taking into account the consideration of setting a new cap (Option 3)?

The potential benefits of setting a new cap in the long-term to provide a deeper base for GGR demand and maximise economic efficiency are outweighed by the continued risk of weakening the Net Zero pathway. Consequently, we do not support the integration of GGRs into the UK ETS.

If the integration does proceed, the demand for nature-based GGRs would be subject to extraneous factors and a price risk could be introduced if GGR quantities are not known with certainty. Importantly, nature-based GGR integration will rely on the availability of land to provide sufficient and robust GGR credits in the long-term. However, there is growing competition for land, for example for food production and settlements in the UK. Research has shown that the land use sector can only offset its own emissions to reach Net Zero, meaning that no sinks can be spared for other sectors.¹⁰ Research into nature-based carbon sequestration must be prioritised to identify key carbon stores and therefore additional opportunities for nature-based GGR credits. The availability of land to supply wood pellets for BECCS is also highly uncertain, subject to growing competition for land, and is associated with high environmental and energy security risks (see Q.12 response).

The timeframe of carbon sequestration, particularly from nature-based GGRs, needs to be explicitly considered for long-term integration. Whereas reducing carbon emissions lowers the amount of carbon in the atmosphere immediately, sequestration through natural ecosystems happens over a much longer period of time. Consequently, planetary tipping points could be exceeded in the intervening years.¹¹ In addition, the fungibility of biological carbon sequestered by natural ecosystems, and the fossil carbon released through the burning of fossil fuels, hinders a rational GGR integration. Ultimately, the “negative” tonne of a carbon sequestration offset is much more unreliable than the certainty of the damage that will be caused by continuing burning of fossil fuels. This unreliability is also, in part, because of poor data quality relating to land use emissions.

Setting a new cap (Option 3) may introduce challenges from increased flexibility. For example, it may allow for political interference which introduces its own uncertainties around the

¹⁰ Finch, T., Bradbury, R. B., Bradfer-Lawrence, T., Buchanan, G. M., Copping, J. P., Massimino, D., ... & Field, R. H. (2023). Spatially Targeted Nature-Based Solutions can Mitigate Climate Change and Nature Loss but Require a Systems Approach. *One Earth*, 6(10), 1350-1374.

¹¹ Lenton, T. M., Rockström, J., Gaffney, O., Rahmstorf, S., Richardson, K., Steffen, W., & Schellnhuber, H. J. (2019). Climate Tipping Points—Too Risky to Bet Against. *Nature*, 575(7784), 592-595.

Government's credibility in reducing emissions.¹² Frequent intervention in this way can create distortion in the market that is greater than the gains from the trade.¹³

The UK must be ambitious and set the new cap as low as possible. Doing so would create new trading (and cost-saving) options. In turn, this might allow a more ambitious endgame for the UK ETS, once caps become tighter and prices rise. Crucially, the higher future carbon prices can be used to prevent a resurgence of emissions.

Q.4: Do you agree that GGR allowances in the UK ETS should be issued ex-post (i.e. after the removal has taken place and been verified)? Please explain your answer.

If the Government proceeds with a credit-based approach, which we do not support, engineered and nature-based GGR credits should only be issued ex-post. With clear verification, the GGR allowances should be issued ex-post to enable sound crediting and accounting. Robust monitoring, reporting and verification (MRV) will be essential to track the sale, re-sale, and retirement of credits. This is needed to avoid double-counting of carbon removals and prevent the sale of credits for multiple different ecosystem services from one area of land. However, the robust MRV needed for ex-post issuance of allowances will be resource-heavy and require constant verification that the emissions are stored. With the different types of carbon storage, the monitoring points and verification requirements expands massively. Current methodologies for measuring carbon removals in the land use sector are particularly prone to error¹⁴ with a lack of consensus around the tools that should be used to quantify carbon sequestration in natural ecosystems. Consequently, we return to our suggestion to not integrate GGRs into the UK ETS.

We recommend the creation of an Environmental Markets Authority, responsible for oversight and integration of the range of emerging environmental markets in the UK. Should GGRs be integrated, a regulator is needed to oversee a central registry to track credits.¹⁵ This regulation will grow increasingly important, and complex, with the growing range of credits that can be sold on environmental markets. A regulator would also help to manage issues such as the stacking or bundling of payments for different environmental services from a single project. Successfully coordinating these different markets would require a much more sophisticated registry system than is currently used for credits sold under the Woodland Carbon Code and Peatland Code. For example, the Woodland Carbon Code is largely trading in Pending Issuance Units (PIUs) at present.¹⁶ As a result, the amount of carbon absorbed will

¹² Burke, J., & Gambhir, A. (2022). Policy incentives for Greenhouse Gas Removal Techniques: The Risks of Premature Inclusion in Carbon Markets and The Need for a Multi-Pronged Policy Framework. *Energy and Climate Change*, 3, 100074.

¹³ Harstad, B., & Eskeland, G. S. (2010). Trading for the Future: Signaling in Permit Markets. *Journal of public economics*, 94(9-10), 749-760.

¹⁴ UK Government. (2019). *Mapping Carbon Emissions & Removals for the Land Use, Land Use Change & Forestry Sector*. London, UK.

¹⁵ UK Government. (2021). *Monitoring, Reporting and Verification of greenhouse Gas Removals*. London, UK.

¹⁶ Forest Carbon. (2023). *Where is the Woodland Carbon Code Today?* Durham, UK.

not likely make a substantial difference to atmospheric carbon concentrations until the 2040s. This will likely disinterest investment into the scheme. Additionality must also be considered in relation to ex-post allowances given the lack of upfront funding for GGR operators. Measures such as offtake agreements may provide a stable and scalable demand of GGR, but will require the alignment of methodologies, accounting, pricing, and MRV to do so accurately.¹⁷

Q.7: Who should receive the GGR allowance? Please consider whether this would also apply for GGRs that involve multiple actors in the value chain and provide examples.

In the Climate Change Committee (CCC) Carbon Budgets and the government's own Carbon Budget Delivery Plans, sectors are identified which can be classified as 'hard-to-abate', primarily aviation and agriculture, as well as portions of heavy industry. By 2050, these are the only sectors which are budgeted to continue emitting and are 'offset' by removals. There are no spare removals available under these plans to 'offset' other sectors. Therefore, it does not make sense to make other sectors eligible to purchase GGR allowances to 'offset' their emissions. This would only lead to mitigation deterrence and discourage other sectors from making necessary and budgeted emissions cuts.

In an internally consistent system, only these identified 'hard-to-abate' sectors should have access to GGR allowances. This would be better managed through regulation rather than an integrated market ETS which would be so constrained as to undermine any benefits of a market mechanism.

Power generating businesses such as Drax should not receive funding through the UK ETS. If power generating businesses receive GGR allowances, these companies would be paid twice for BECCS/DACCS that harm the climate and nature.¹⁸ To further this, not including BECCS in the UK ETS would better align the UK's carbon removal efforts with the nuances and challenges of the global carbon budget.

Q.8: Should allowances from GGRs be differentiated from UKAs and, if so, how?

There should be separate national carbon accounts for emissions and for GGRs as technology-specific allowances. Separate accounting of UKAs and GGRs allows more transparent accounting and year-on-year monitoring of progress towards emissions reduction targets. This monitoring would also provide data on the extent that the national net emissions figure is made up of ongoing emissions versus carbon removals. By clearly communicating the state of the market, there would be less potential for allowances, either from UKAs or GGRs, to cover up business-as-usual or double-counting and claiming. This would reduce the risk in undermining the Net Zero target.

¹⁷ Carbon Pulse. (2024). *Offtake Agreements Key to Bridging CDR Financing Gap – Report*.

¹⁸ Biofuelwatch. (2022). *Carbon Capture from Biofuel and Waste Incineration: Hype versus Reality*.

By providing type and origin information attached to the allowance, different pricing mechanisms may be introduced in a separate negative emissions market. Participants may be willing to pay more for nature-based GGR allowances due to greater value placed on them compared to engineered removals.¹⁹ This is bolstered by growing opposition to engineered removals such as BECCS. A price premium for nature-based GGRs in the marketplace would help create a market that allows GGR operators to recover costs and so increase the supply of GGRs. Likewise, differentiating between allowances could also incorporate price differences for varying levels of permanence, given that the value of carbon storage increases with time. A higher carbon price may also enable offset schemes to deliver wider benefits than carbon, including positive biodiversity actions. An example of a high integrity carbon scheme with additionality and transparent carbon saving calculations is The Wildlife Trust's Atlantic Rainforest Restoration Programme.²⁰

To take this further, GGRs and UKAs should have separate targets to 2050²¹ to avoid creating a false sense of progress.²² This is also important because GGRs can be reversed, either naturally or intentionally. Therefore, a differentiated allowance system is a prerequisite for tracking the permanence of GGRs and any reversal events. The more specific the allowance, the better the tracking can be.

Allowance differentiation requires a large amount of ongoing MRV to track the market and removal permanence. This MRV should extend beyond final counts of allowances at the end of each annual cycle or auction round. Integrating GGRs into the UK ETS will require constant verification that the emissions are stored. This includes a clarification over the timescales that are considered permanent for nature-based GGRs. With the different types of carbon storage, the monitoring points and verification requirements expand massively. Moreover, current methodologies for measuring carbon removals in the land use sector are particularly prone to error²³ with a lack of consensus around the tools that should be used to quantify carbon sequestration in natural ecosystems. Without appropriate calculation tools to ensure robust MRV of removals, carbon removals may be overestimated.

¹⁹ National Infrastructure Commission. (2021). *Engineered Greenhouse Gas Removals*. London, UK.

²⁰ The Wildlife Trusts. (N.D.). *Atlantic Rainforest Restoration*. <https://www.wildlifetrusts.org/atlantic-rainforest-restoration>

²¹ McLaren, D. P., Tyfield, D. P., Willis, R., Szerszynski, B., & Markusson, N. O. (2019). Beyond "Net-Zero": a Case for Separate Targets for Emissions Reduction and Negative Emissions. *Frontiers in Climate*, 1, 4.

²² Markusson, N., McLaren, D., & Tyfield, D. (2018). Towards a Cultural Political Economy of Mitigation Deterrence by Negative Emissions Technologies (NETs). *Global Sustainability*, 1, e10.

²³ UK Government. (2019). *Mapping Carbon Emissions & Removals for the Land Use, Land Use Change & Forestry Sector*. London, UK.

Q.12: Do you agree that allowances should only be awarded to UK-based GGRs? We welcome views from all stakeholders including sector-specific considerations. Please explain your answer.

On the whole, a national approach to GGR allowances would be most robust and better contribute to market stability than international GGRs. A UK-based ETS is more achievable for nature-based GGRs than engineered GGRs (see below). It is also important to note that nature-based GGRs are currently the most dependable form of GGR whilst research continues for engineered options.

For engineered GGRs, the current reliance on international products introduces several environmental and energy security risks. These risks are associated with technology such as BECCS that burn wood pellets for energy production. These wood pellets are derived from degradation practises in other countries, including within protected and primary forests.²⁴ It is assumed that forest biomass is carbon negative due to forests regrowing – but in reality, this takes decades or longer. Burning forest biomass and capturing the carbon may generate negative emissions in several decades, but certainly not in the near future.

Felling and thinning forests for BECCS has an adverse impact on forest carbon stocks. Investigations in recent years have shown that the UK bioenergy generators continue to source wood from companies associated with clearcutting despite existing sustainability criteria under the Renewables Obligation.²⁵ This highlights the lack of appropriate standards for ensuring the sustainability of supply chain for BECCS, which sources the majority of its wood pellets from other countries. In addition, burning wood pellets releases carbon dioxide into the atmosphere typically at higher levels than burning fossil fuels.²⁶ If the engineered GGR market in the UK grows, so too will the country's reliance on BECCS and wood pellets. Yet, the UK would be dependent on land in other countries in which the UK has no jurisdiction. For example, the Estonian government placed its Natura 2000 sites in a moratorium for more than two years due to concerns over exploitive logging for biomass.²⁷ This joint energy security and environmental harm of BECCS would place the UK in a precarious position in terms of domestic and international commitments.

It remains unclear what the best practice would be for carbon accounting on the BECCS system. However, it is clear that BECCS does not generate instant negative emissions when it uses forest biomass, and in fact many decades may pass before any negative emissions are generated, if ever. Therefore, integrating this globally connected system into UK ETS before there is a robust accounting regime is pre-emptive. This is heightened due to a lack of linkage

²⁴ Land and Climate Review. (2023). *The Scientific Case for Burning Forest Biomass for Energy*. London, UK.

²⁵ Natural Resources Defence Council. (2019). *Global Markets for Biomass Energy are Devastating U.S. Forests*. New York, USA.

²⁶ Office of Industries. (2022). *The Rise of Utility Wood Pellet Energy in the Era of Climate Change*. Working Paper ID: 088.

²⁷ ERR News. (2021). *Estonian Court Suspends Logging at Natura 2000 Sites*.

with EU deforestation regulations that are now coming into place.²⁸ This is again considering the reliance on forest regrowth in other countries, as well as the presumption that BECCS will work in the UK at all. For example, the Climate Change Committee (CCC) 2022 report suggested that contingency options should be explored for greater emissions reductions if BECCS cannot be delivered sustainably at scale.²⁹ More recently, the CCC 2024 report identified that initial business models for engineered removals carry significant risk.³⁰ Given the risk not only of environmental harm, but also huge resources required for BECCS research, development and operations, it does not make economical nor ecological sense to implement it. This is notwithstanding that trees are far better stores and absorbers of carbon when left standing, as well as continuing to provide important ecosystems critical for wildlife and wider socio-economic benefits.^{31,32}

As previously recommended, there is potential to offer affordable and highly ecologically beneficial options for emissions reductions outside of the UK. By hypothecating some of the revenue from the UK ETS to international finance, verified investments could help to reduce damage in key carbon sink habitats such as rainforests.³³

Q.14: What minimum storage period duration should the Authority set for GGRs entering the UK ETS? Please explain your answer.

There is no guarantee that permanent storage is possible.³⁴ This risks a future scenario where removals are reversed and progress towards Net Zero is significantly impeded. This challenge is increased by the level of harm caused by one tonne of carbon being greater when temperatures are higher.³⁵ Following the precautionary principle, GGRs should be kept separate from the UK ETS and priority must be given to emissions reduction efforts.

We support the Government's commitment to only integrating GGRs with high permanence into the UK ETS and that reversal risks are managed, given the large element of risk and uncertainty involved. With regards to removal permanence, it is important to consider that GGRs fall into different permanence categories. For example, engineered removals likely sit within the 'ten thousand years or longer' permanence category, although the efficacy of the technology is unproven at scale. Within nature-based carbon storage, there can be substantial differences in permanence. For example, undisturbed peatland sequesters carbon into

²⁸ Harder, B., Jacobsen, J. B., Bendtsen, U. B., Allerup, J., Goater, A., Colombier, M., & Le Quéré, C. (N.D). *Imported Deforestation and Biomass-Related Trade Issues*. International Climate Councils Network.

²⁹ Climate Change Committee. (2022). *Progress in Reducing Emissions. 2022 Report to Parliament*. London, UK.

³⁰ Climate Change Committee. (2024). *Progress in Reducing Emissions. 2022 Report to Parliament*. London, UK.

³¹ Montaigne, F. (2019). Why Keeping Mature Forests Intact is Key to the Climate Fight. *Yale 360*.

³² Moomaw, W. R., Masino, S. A., & Faison, E. K. (2019). Intact Forests in the United States: Proforestation Mitigates Climate Change and Serves the Greatest Good. *Frontiers in Forests and Global Change*, 2, 449206.

³³ Valentin Bellassen, R. Crassous, L. Dietzsch, S. Schwartzman. (2008). Reducing Emissions from Deforestation and Degradation: What Contribution from Carbon Markets? *Climate Report*, 14.

³⁴ Inman, M. (2008). Carbon is Forever. *Nature Climate Change*, 1(812), 156-158.

³⁵ Bressler, R. D. (2021). The Mortality Cost of Carbon. *Nature communications*, 12(1), 4467.

essentially permanent stores (millennial timescales).³⁶ For grasslands, carbon is predominantly stored in the soil. This is more permanent than in habitats where carbon is stored in biomass (e.g., woodlands), which is more susceptible to release by, for example, fire under a changing climate.³⁷ Still, it should be noted that nature-based GGRs are currently the most dependable form of GGR whilst research continues for engineered options.

The pursuit of GGR permanence is made more complex due to models being limited in the level of detail that can be included to forecast realistic storage scenarios. For nature-based removals in particular, there is significant potential for carbon sinks to switch to a source of emissions.^{38,39} For example, due to ash dieback in 2021, more trees were lost than were planted,⁴⁰ including mature trees that are known to hold on average three times more carbon than young trees.⁴¹ More recently, the non-native eight-toothed spruce bark beetle (*Ips typographus*) has been observed in the UK. This species of beetle has the potential to cause serious damage to the country's spruce and pine trees, as it did in central and northern Europe.⁴² The unpredictability of threats to natural carbon stores cannot be accounted for in models. Therefore, the precautionary principle must be adopted when setting the minimum storage period for GGRs entering the UK ETS.

A permanence framework, including sufficient liability measures, will be critical to the UK ETS to provide assurance that claims of permanence are met. However, this comes with a large amount of robust monitoring and reporting, as well as constant verification that the emissions are stored. Complications arise for the fungibility criteria in an ex-post system that must account for the verification of storage. This is not least because the monitoring points and verification requirements expands massively with the different types of carbon storage. MRV mechanisms for storage need to consider this properly if GGRs are to be integrated into the UK ETS. There is a lack of consensus around the tools that should be used to quantify carbon sequestration in natural ecosystems. Without appropriate calculation tools to ensure robust MRV of removals and storage, carbon removals can be overestimated and suggest false progress towards targets. Specifically, further consideration is required into the stage at which storage is verified and how this is calculated.

³⁶ The Wildlife Trusts. (2022). *Quantifying the Potential Impact of Nature Based Solutions on Greenhouse Gas Emissions from UK Habitats*.

³⁷ Floodplains Meadows Partnership. (2018). *Soil Carbon Stocks in UK Grasslands. A Brief Summary of the Literature, 2018*. The Open University.

³⁸ Anderegg, W. R., Trugman, A. T., Badgley, G., Anderson, C. M., Bartuska, A., Ciais, P., ... & Randerson, J. T. (2020). Climate-driven Risks to the Climate Mitigation Potential of Forests. *Science*, 368(6497), eaaz7005.

³⁹ Pugh, T. A., Arneth, A., Kautz, M., Poulter, B., & Smith, B. (2019). Important Role of Forest Disturbances in the Global Biomass Turnover and Carbon Sinks. *Nature geoscience*, 12(9), 730-735.

⁴⁰ National Trust. (N.D). *Restoring Woodlands Affected by Ash Dieback*.

⁴¹ NCASI. (2021). *Forest Carbon from Old vs. Young Forests*. North Carolina, USA.

⁴² Blake, M., Straw, N., Kendall, T., Whitham, T., Manea, I. A., Inward, D., ... & Facey, S. (2024). Recent Outbreaks of the Spruce Bark Beetle *Ips Typographus* in the UK: Discovery, Management, and Implications. *Trees, Forests and People*, 16, 100508.

Q.26: Should new ex-post woodland units generated in line with UK Woodland Carbon Code standards be considered for inclusion in the UK ETS? Please base your response on the evidence outlined around permanence, costs and wider land management impacts, and on the policy options outlined in the rest of this consultation.

The Woodland Carbon Code (WCC) provides a practical method for estimating and reporting carbon sequestration within some kinds of intentionally created woodland.⁴³ We agree that the WCC ‘drives the creation of high integrity and permanent woodland carbon units’; it has a strong methodology, has delivered climate mitigation and, until recently, has improved with each new version.

The WCC does provide welcome funding for some nature-based woodland creation, however its application can be problematic when it also funds even-aged, near monoculture, non-native plantation forestry which does not meet the criteria to count as a nature-based solution. The Woodland Benefits Tool⁴⁴ within the WCC does include a self-assessment of the biodiversity benefits but, however well-intentioned, this does not match the robustness of the carbon assessment.

Furthermore, recent changes mean, in some cases, it can no longer be described as having ‘a strict additionality framework.’ The recent changes resulted from the Scottish Government budget cuts to the Forestry Grant Scheme (FGS) and are intended to make public money go further. This is a laudable objective. However, given the worldwide scrutiny that carbon codes are under, particularly over additionality,⁴⁵ it opens the scheme to manipulation. Here is how the changes were described in Scottish Forestry Briefing Note 47 in March 2024⁴⁶:

2. Introduction of Woodland Creation: 50ha and Above (Reduced Grant Requirement) Budget Category

£3m (8%) of the woodland creation funding in 2024/25 has been allocated to a new budget category aimed at projects which are benefiting from other sources of funding (e.g. Woodland Carbon Code) and are able to proceed with a reduced contribution from the FGS.

...

Applicants seeking to apply for these funds should advise their conservancy and confirm the level of funding they would be willing to forgo, before the assessment of their application has been completed.

⁴³ The Wildlife Trusts. (2022). *Quantifying the potential impact of nature based solutions on greenhouse gas emissions from UK habitats.*

⁴⁴ UK Woodland Carbon Code. (N.D.). Standard and Guidance. 4. Environmental Quality.

⁴⁵ The Guardian. (2023). Revealed: Top Carbon Offset Projects May Not Cut Planet-Heating Emissions.

⁴⁶ Scottish Forestry. (2024). Forestry Grant Scheme Budget Update. Briefing Note 47.

Any conversation about how to manipulate other funding streams to qualify for the WCC breaks its additionality investment test⁴⁷:

Projects shall demonstrate that without carbon finance the woodland creation project is either not the most economically or financially attractive use for that area of land or is not economically or financially viable on that land at all.

The WCC is bound by its systematic methods for accounting and so the UK ETS should not include the WCC until it has a stricter additionality framework. We welcome the news that Scottish Forestry have commissioned Ernst & Young to undertake an audit of the additionality criteria and await our chance to respond in the public consultation on this.

Q.27: If the Authority does include new ex-post woodland units generated under the UK Woodland Carbon Code in the UK ETS, should any changes be made to the Woodland Carbon Code? For example, this could include changing the 20% flat-rate buffer contribution, or changes to the MRV and measures to mitigate wider land management impacts.

The WCC should be changed to provide stricter additionality criteria to prevent the manipulation of parallel funding streams. We welcome the news that Scottish Forestry have commissioned Ernst & Young to undertake an audit of the additionality criteria, and we would also welcome the opportunity to work on creating a meaningful Woodland Benefits Tool.

The voluntary peatland code should, if the scheme goes ahead, evolve in the same way as recommended for the WCC with extra consideration given to the question of avoided emissions, i.e., added rigour on top of a current workable base.

Q.28: If the Authority does include new ex-post woodland units generated under the UK Woodland Carbon Code in the UK ETS, should any measures be taken to mitigate potential social and cultural impacts? Please provide details of the impacts, including consideration of impacts on different land ownership models, and potential measures.

The WCC Woodland Benefits Tool considers 'Water, Community and Economy' value as well as Biodiversity value, but these are all fairly rudimentary self-assessment tools. It is not clear if, or how, they are used in assessing the viability of projects. We would recommend that each of these parts of the tool is updated via a co-design approach with the most appropriate stakeholder groups.

⁴⁷ UK Woodland Carbon Code. (N.D.). Standard and Guidance. 1.6 Additionality.

Q.29. Do you agree with the Authority's assessment on peatland restoration?

Peatland restoration should be a priority for government. Payments for peatland restoration would be compatible with our preferred fund-based approach, where ETS revenues are paid into a strategic fund for nature-based solutions. In this case, there could be no question that avoided emissions were being accepted in lieu of on-going industrial emissions.

If the government were to integrate GGRs directly into the ETS, it should differentiate between avoided emissions (which should not be eligible for credits) and additional, permanent sequestration (which should be eligible for credits). The Authority should prioritise work to ascertain the additional carbon removals that are possible through restoration.

In either case, substantial additional public and private funding, as well as stronger regulation, is needed to protect and restore peatlands in order to meet Net Zero targets and restore nature.

Q.34: What would be the optimal timing for GGRs to be integrated into the UK ETS, taking into account the considerations set out above? Please explain your answer with reference to impacts on both the UK ETS and GGR deployment.

We do not recommend the integration of GGRs into the UK ETS. If the Government were to proceed, Option 2 would be the only environmentally-sound option in the short-term and, even then, the risk of weakening the cap in the long-term is considerable.

Instead, funds from allowance sales should immediately be transferred to a Strategic Nature-Based Solutions Fund for investment in nature-based solutions to climate change. This would avoid complexity in the UK ETS, reduce transaction costs, minimise risks to the Net Zero mitigation pathway, and enable immediate deployment of funding for large-scale, multi-benefit nature-based GGRs.

We reiterate that we oppose BECCS being integrated into the UK ETS and that BECCS can only become carbon neutral, not negative, in the near future. However, if BECCS was to be integrated, the timing of engineered removals released onto the market should not be instant. In the case of BECCS where wood pellets are known to come from ancient or undisturbed forests, it can be several decades until carbon neutrality is reached.⁴⁸ Consequently, if BECCS is to be integrated into the UK ETS, we propose at least 20 years before a removal translates into an allowance that is released onto the market. This would help prevent an over-shoot of carbon emissions before the global carbon budget can significantly reduce. In contrast, further research is needed into the negative emissions potential of GGR technologies, which should also include an assessment on their wider impact on nature and

⁴⁸ MacKenzie, R. (N.D.). *Not Just Standing There: The Carbon Utility of Established Forest*. University of Birmingham. Birmingham, UK.

local communities globally. The existing UK ETS faces many challenges already, which discourages the introduction of GGRs in the near-term.

The readiness of UK ETS to include engineered and nature-based GGRs relates to the resilience of regulatory arrangements, cap setting processes, and market stability mechanisms to absorb substantial volumes of GGRs.⁴⁹ Many providers are not necessarily in the UK ETS already, particularly eNGOs that can supply nature-based GGRs. Consideration must be given to the potentially divided attention of providers to the ETS and their own emissions reduction targets and strategies. Standards and codes must be developed before the integration of GGRs into the UK ETS. This involves both supporting and improving existing standards for nature-based GGRs, as well as setting new standards for habitats where codes for best practice do not exist. For example, there is growing evidence of the substantial carbon storage abilities of grasslands, especially alluvial floodplains and species-rich grasslands, which could provide benefits for both the climate and nature.⁵⁰ For example, some semi-natural grassland soil carbon levels can exceed that of woodlands.⁵¹ Whilst the average soil carbon in an English 100-year old woodland ranges from 48 to 67 t C ha⁻¹, grasslands of various types (i.e., acid, neutral, floodplain meadows, semi-natural) hold carbon stores between 67 and 109 t C ha⁻¹.⁵² As the number of carbon codes develops, the checklist developed by Tanzer and Ramirez in 2019 offers a potential set of criteria for projects to use to evidence their delivery of genuine carbon removals.⁵³ A sufficient track record of permanent GGRs must be available before the integration takes place as a proof of concept and assurance of effectiveness.

In closing, we reiterate that there is a risk that GGRs integrated into the UK ETS might offer a mitigation deterrent for supposedly unavoidable emissions that are in fact avoidable. The solution must be to prioritise decarbonisation efforts now, with investment in technologies and behaviour change to reduce emissions before accepting claims of unavoidable emissions. The Government is right that additional investment is needed quickly in GGRs; this could be achieved much more effectively by hypothecating revenues from the UK ETS to a strategic fund for investment in nature-based GGRs.

Wildlife and Countryside Link (Link) is the largest nature coalition in England, bringing together over 80 organisations to protect the natural world.

⁴⁹ CO₂RE-NEGEM. (2022). *Consideration of Greenhouse Gas Removals (GGR) in Emissions Trading Systems: Principles and Practice*.

⁵⁰ Floodplain Meadows Partnership. (2018). *Soil Carbon – the Current Hot Topic. Where do Floodplain Meadows Sit in the Debate?* The Open University.

⁵¹ Guo, L. B., & Gifford, R. M. (2002). Soil Carbon Stocks and Land Use Change: A Meta-Analysis. *Global change biology*, 8(4), 345-360.

⁵² Plantlife. (2023). *Grasslands as a Carbon Store*.

⁵³ Tanzer, S. E., & Ramirez, A. (2019). When are Negative Emissions Negative Emissions? *Energy & Environmental Science*, 12(4), 1210-1218.

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