

Consultation on Northern Ireland's 2030 & 2040 Emissions Reduction Targets & First Three Carbon Budgets & Seeking views on Climate Change Committee (CCC) Advice Report: The path to a Net Zero Northern Ireland

Consultation response from Ulster Wildlife

CONSULTATION QUESTIONS

Question 1. The 2030 Target:

Do you agree that DAERA should follow the current advice provided by the CCC (Climate Change Committee) and keep the current 2030 emissions reduction target in the Act of an at least 48% reduction in emissions compared to the baseline?

Yes

No - please provide your reasons and any suggested alternative (Noting, that if the target is to be changed, that the Act only allows it to be changed to a higher percentage)

UW is supportive of the need for significant reductions in carbon emissions in line with the CCC advice. However, the recommendations of the CCC deal purely with mitigation and do not consider the need (and priority) for actions and investments in relation to climate resilience and adaptation. We realise that the CCC has an Adaptation Committee and believe it would be more effective to consider these issues together considering the ongoing trends in global emissions. This balance of mitigation and adaptation needs to be considered within the financial constraints in which NI (Northern Ireland) is operating with policy coherence and long-term vision, rather than silo-based approaches.

Investment in ecosystem integrity and health, in particular functionality of peatlands should be a priority. Healthy habitats deliver nature-based solutions to climate mitigation, whilst also supporting biodiversity and providing clean water. Investment in initiatives that address a long-term combination of climate mitigation, resilience and adaptation measures will be fundamental to the future and will help address these combined and complex issues which have been illustrated by the recent example of the multiple issues impacting on the health of Lough Neagh.

We are lagging on actions which are critical for the future including planning specifications which need to fully incorporate solutions such as renewable energy, nutrient neutrality and biodiversity net gain. The treatment of waste is also a significant issue and plays an ongoing role on the condition of rivers with discharges into rivers. Our current rates of tree planting are well below government targets. Farmers wishing to plant trees on their land out with forestry establishment-e.g., planting riparian buffers or introducing agroforestry, no longer have the incentive or encouragement of any government support measure. This needs rectified as a matter of urgency. We note the recent 'Native Tree Area' scheme launched in the Republic of Ireland delivers these incentives at a rate likely to encourage uptake.

Ulster Wildlife welcomes the target of 48% reduction by 2030. This is in line with the levels of reduction identified by the IPCC (Working Group III report) to achieve a 1.5-degree Celsius pathway. Without making this change the world is on a 3.2-degree Celsius pathway, leading to irreversible

climate risks and catastrophic impacts on civilisation and biodiversity. The CCC analysis presents several scenarios, where the reduction by 2030 without engineered removals allocated to NI is 47%-48%. We therefore need to see all sectors outlined in the budget consultation move forward collectively as it is only if each plays their part that we will achieve the reductions needed in our changing world. The scale of the challenge is huge e.g., the renewable energy sector will need to achieve the same increase in the next 10 years as in the last 30-year period – but with planning and technology it should be possible including an upgrade to the NI electricity grid since many of the larger wind turbines are constrained by their grid connection.

Climate risks in terms of societal impacts within the pathway need to be fully explored as sectoral plans are developed and it may well be necessary to revisit the NI Carbon Budget Consultation at this point and refine it further. Adaptation is critical and needs to be planned and considered well in advance to ease the transition to our new climate scenarios. This will be important for every public sector organisation and will require a reprioritisation of spend e.g., upgrading wastewater infrastructure rather than building roads, considering nature-based solutions which provide long term sustainable solutions with multiple benefits. R&D and adequate investment in technology development is also extremely important within both the mitigation and adaptation pathways.

Question 2. The 2040 Target:

Do you agree that DAERA should follow the current advice provided by the CCC and set a 2040 emissions reduction target of an at least 77% reduction in emissions compared to the baseline?

Yes

No - please provide your reasons and any suggested alternative.

Ulster Wildlife welcomes the ambition to reach this level of emissions reductions but notes the increasing challenges in achieving the 2040 target, including adopting speculative options, such as Direct air capture with CCS (DACCS) and the agriculture sector adjusted to the 'Tailwinds' scenario. We note that the CCC is not 'necessarily recommending them without further consideration of achievability, cost and social implications.

It is important that the carbon budget is regularly reviewed to take account of emerging science that would improve the accuracy of the budget. This is particularly important for the peatland emissions which will need modified once validated science on local emissions is available. These land use calculations should be expanded to include carbon sequestration from grassland and herbal leys.

We would suggest that rather than waiting for the 2030, 2040 and 2050 milestones, emerging science is integrated once validated and the carbon budget is used as a living document.

There is also currently no provision with the IPCC framework for blue carbon initiatives such as restoring native oysters and sea grass meadows. Nature based solutions are sustainable and produce multiple benefits contributing to mitigation, resilience and adaptation. They also play a key role in water quality and water management.

As one of the main delivery agents for peatland restoration, we view the targets as specified by CCC to keep emissions reduction on target as extremely ambitious and unrealistic without a step change in policy levers, resourcing and delivery. We are over 10 years behind the rest of the UK in peatland restoration and funding insecurity has resulted in loss of skilled staff during the last year for all eNGOs although increased activity to build capacity is planned.

Tree planting is recognised as a major part of the plan for delivering towards our net zero targets and we comment on this in other responses. However, there is currently inadequate incentive. Any

incentives introduced must be adequate to ensure it is economic for native, broad-leaf species to be planted on fertile soils to ensure we don't end up with the cheaper option of fast-growing species on marginal (High Nature Value) land.

Appropriate levels of financing are needed to deliver on peatland restoration and tree planting targets. This will have to come from private as well as public investment, with mechanisms in place to ensure correct carbon accounting. There is a risk to NI carbon targets that offsetting gains from tree planting in Northern Ireland are attributed to other jurisdictions if the funding initiatives and offsetting benefits are from a corporate entity domiciled outside of Northern Ireland.

The cost and feasibility of DACCS in Northern Ireland compared to GB has yet to be explored. This should be fully investigated, and arrangements considered. DACCS is currently not feasible in NI, but it is important that we do not ignore the future potential of DACCS as innovative solutions are also emerging with this technology globally. If feasible, it would add value to the decarbonisation process and provide a competitive advantage for NI business.

Question 3. First Carbon Budget (2023-2027):

Do you agree that DAERA should follow the current advice provided by the CCC and set the first carbon budget at a level that has a 33% average annual reduction in emissions compared to the baseline?

Yes

No - please provide your reasons and any suggested alternative.

To have any chance of meeting the targets set by CCC, there needs to be accelerated progress across all sectors and Departments underpinned by large scale attitudinal and behavioural change. We would suggest that climate resilience and adaptation should be a key area of consideration for the levelling up fund across the UK since at present in NI with budget constraints there seems little scope for investing in the transformative change required.

Investment in R&D and technology development will be a key factor within the climate transition, and it is critical that this is considered, and science is commissioned that will fill the gaps and provide a solutions focused and sustainable future.

Policy coherence and systematic thinking is a priority, with unintended consequences anticipated and quickly mitigated. There also needs to be adequate resources ring fenced to build capacity within all sectors, but especially those where there are barriers to change e.g., Private Sector SMEs, agriculture where profitability is marginal (for every £1 spend in the supermarket, 6p goes to the farmer as quoted on the Westminster Policy by the Chair of the CCC Adaptation Committee).

We note DAERA believes the agriculture sector can meet this first carbon budget through efficiency and technological measures. We welcome this with caution, as the impacts of policies can have unforeseen consequences, or not deliver the predicted scale of emissions reduction.

We are also aware that the use of technology such as methane inhibitors is being considered an integral part of production systems to reduce emissions. One product is already licensed for use and being used in the EU and in NI. Several new products are in the pipeline and should be licensed before 2030. We are aware of the challenge in effecting the level of behavioural change and husbandry methods required to deliver efficient carbon farming, as well as the pace of change and investment needed for the transition. This will require an integrated and consistent approach in messaging by the agriculture, agri-food and environment sectors to build capacity and

understanding and integrate the required changes within their supply chains to make the sector fit for purpose for the future.

It is essential that all environmental issues are addressed effectively during the change of farming systems and effective policy levers such as outcome based agri-environment schemes and tree planting schemes are operational as soon as possible to incentive the transition for landowners.

We would ask that DAERA considers progressing a Land Use and Land Use Change Strategy that can establish a framework and principles for good decision making for landowners and managers and that these principles are also integrated into Sustainability Standards in the agriculture/agri-environment policy. For example, only land uses compatible with the Climate Change Act should be considered for resilience payments.

We also would like to see research into the emissions produced by extensive grazing systems, including the sequestration from semi-natural grassland, with clear policy support where extensive grazing by traditional breeds delivers enhanced biodiversity and ecosystem health as well as climate resilience.

Question 4. Second Carbon Budget (2028-2032):

Do you agree that DAERA should follow the current advice provided by the CCC and set the second carbon budget at a level that has a 48% average annual reduction in emissions compared to the baseline?

Yes

No - please provide your reasons and any suggested alternative

In recognition that climate change is already happening and within the 1.5 degrees scenario (or beyond if net zero is not achieved) there will be further stresses on society, land use and infrastructure we feel that the advice of CCC, which should be modified and have improved accuracy by this stage) should be followed. Risks also need to be regularly reviewed and adaptations considered to reduce risk sooner rather than later. The insurance sector has already confirmed that due to the lack of long-term data trends on climate change, they are unlikely to insure high risk properties that are projected to suffer climate impacts. Inaction by government, private sector and people will compound into an increasingly large-scale societal problem that needs an effective risk analysis, mitigation and focus on adaptation now. Irrespective of how NI delivers on its carbon budgets, emissions are global, and missed targets will have significant implications for NI. We need to be logical, rational and strategic about how we plan for the transition from our current to the new climate scenarios that lie ahead and include nature-based solutions at the heart of this adaptation.

The achievement of the 2028-32 goal will also be dependent on large scale behavioural change which should be an underpinning principle across all sectors in the Sector Action Plans. At present there is lots of societal debate however little shift in terms of taking ownership for carbon mitigation collectively or individually. This needs to change urgently.

Incentivisation programmes should also be considered in NI, similar to those available in other regions of the UK to accelerate progress e.g., renewable heat sources and charging infrastructure for e-cars. Delays as a result of the political situation are no longer acceptable and the decision to move forward needs to be taken in the public interest, or by the Secretary of State. It is also important to consider where investment would stimulate innovation to address the issue e.g., in the US, there is a large-scale innovation fund for the aviation industry to accelerate progress with sustainable aviation fuel.

At present with the decisions required to effect this level of change and the inability to take cross cutting decisions in Government, the first Carbon Budget is in danger of being missed, which will increase the pressure and cost during the second budget period.

Question 5. Third Carbon Budget (2033-2037):

Do you agree that DAERA should follow the current advice provided by the CCC and set the third carbon budget at a level that has a 62% average annual reduction in emissions compared to the baseline?

X Yes

No - please provide your reasons and any suggested alternative.

Due to the importance of the net zero target in stopping global climate change beyond 1.5 degrees and the need for the UK to set a positive example, we agree with the target.

As we progress towards 2050 and beyond, climate adaptation becomes increasingly critical. For example, as the temperature rises, we will need to change the species-mix of trees planted due to drought tolerance and disease and issues such as coastal erosion will become irreversible and permanent. Whilst climate mitigation is important, adaptation is also crucial, and government and politicians are not considering these issues. Water quality and fishery interests also need early consideration, as the rising temperatures will affect the quality and quantity of water in our rivers and lakes. In England targeted programmes of planting are being planned to provide shade for the rivers and its inhabitants. Research has also shown the importance of trees in addressing climate impacts in urban settings and due to the science, the US government and federal states have begun a street treescape programme as the temperature in tree-lined streets is significantly lower than those without tree cover.

In summary, we recognise the challenges in achieving these reductions however we feel that it needs to remain subject to updates which might also affect the % reduction required at this stage.

As a charity committed to protecting and enhancing biodiversity, we recognise the threat of climate change to society and species/habitats, and we will be critical of emission reduction strategies that result in negative impacts on biodiversity. Nature-based solutions should be prioritised as a win-win for climate and nature, with a biodiversity/environmental impact assessment factored into all carbon reduction measures to ensure actions provide net gain for biodiversity.

Question 6. CCC advice:

Do you agree that DAERA should follow any updated advice and recommendations from the CCC (as a result of the publication of the Northern Ireland 2021 Greenhouse Gas Inventory) when setting the first three carbon budgets?

X Yes

No - please provide your reasons.

Yes – as measurement of greenhouse gas emissions is still an emerging and inexact science, it is important that we continue to refine measures and targets as more refined and accurate figures become available, particularly in LULUCF where more locally measured emission factors may vary

from the current model. However, we would like to see further discussion about NI's and the UK's place within a global context and this should inform sustainable economic strategies for the future. Many parts of the world will not be able to continue with business as usual including potentially parts of the UK and this requires strategic planning and alternatives.

There are significant changes that will emerge during the next 10 years and beyond and we would like to see this incorporated into annual revisions of the budget so that progress and issues are evident. For example, the UK currently does not currently include 'Blue Carbon' from the oceans in a marine equivalent of LULUCF and this has the potential for rebalancing emissions and sequestration in the future.

Emissions from livestock farming are a major contributor to current NI emissions due to the presence of methane, which is currently classed as 28-34 times more potent than CO₂, but also has a shorter atmospheric cycle. Any alterations to the CO₂ equivalent measure for methane (up or down) will have a major impact on how the agriculture industry has to respond. There is currently unequal efforts and attention on different sectors, but if climate change is to be addressed, it needs to be a collective strategy with every sector delivering its share and as soon as possible.

Question 7. Impact assessments

Can you provide any information (relating to the potential financial, economic, social, rural and equality impacts) which will help inform the completion of the relevant impact assessments on the proposed carbon budgets?

Ulster Wildlife is a nature conservation charity, but also recognises the key role of people as custodians of nature, in managing habitats and having access to wild places. Due to the importance of farming and land use in achieving carbon reduction targets, and reliance on public transport to replace individual journeys, rural communities will be disproportionately affected. It is important that adequate measures are put in place and suitable funding available for Just Transition.

There will be economic consequences for the future viability of farm businesses, the agri-food sector and the rural economy. These sectors already rely on support to deal with market failures and instability in production and pricing. Future investment should increasingly be directed to those who are managing land in the right way to positively contribute to climate, ecosystem and biodiversity issues.

Question 8. Stretch Ambition Scenario to reach 93% reduction by 2050:

Do you think that the Northern Ireland Executive should follow the advice provided by the CCC and choose the Stretch Ambition Scenario?

Yes

No - please provide your reasons and any suggested alternative.

The global commitment is for net zero emissions by 2050. Our view is that NI should retain this goal as an underpinning principle. The stretch ambition, as currently assessed, will not reach the net zero target.

Whilst we challenge the ambition of this scenario in not meeting net zero, we also understand that achieving net zero is not straightforward. We have concerns that some of the recommendations withing the stretch target are not achievable, based on current investment and trajectory. More

ambitious policies and behaviour change beyond those already considered will be needed to meet net zero.

Ambitious tree planting targets are predicated on 'freeing up' land from grazing. However, agriculture has not yet set a strategy beyond 2027, which does not have large-scale changes to farming systems, instead focusing on efficiency. In addition, there are multiple other competing land-use scenarios that must be balanced before space for tree planting at this scale can become a reality.

Ambitious planting targets will also put pressure on the cheapest or most available land, which may not always be the most environmentally suitable. As custodians of many 1000's of hectares of species-rich grassland through our Nature Reserve management and our work with farmers in Higher tier agri-environment schemes, we see first-hand the importance of extensive, low-input grazing in maintaining these rare and important habitats. This type of farming is unprofitable without financial support for the ecosystem services provided (including C sequestration by semi-natural grasslands). Under current DAERA policies to drive efficient farming and the marginal nature of much of this land, we are concerned that these lands could come under pressure from inappropriate tree planting under the Stretch Ambition Scenario. We would advocate for tree planting to be focused on appropriate soils and through natural expansion of existing semi-natural woodlands where possible and better constraint mapping of species-rich grassland and peatland areas to be used when developing planting opportunity maps.

Ulster Wildlife would like to see a more diverse agriculture industry, supplying a wider range of foodstuffs for local consumption. These should be produced in a low input model, with less reliance on imported feed and fertilizer. This would reduce emissions, increase food security and increase the farmland habitats and enhance the range of species on farms by adding variety to the predominantly grass-based dairy and beef sectors. This also provides food security and resilience in our food chain given the likelihood that countries from which we import food are likely to be harder hit by climate change.

Question 9 (a). The Speculative DACCS Option to reach Net Zero by

2050:

Do you think that the Northern Ireland Executive should choose the Speculative Direct Air Capture with CCS (DACCS) option to reach Net Zero?

Yes

No - please provide your reasons and any suggested alternative.

Ulster Wildlife would prefer that net zero was achieved through nature-based solutions and behavioural change, but we recognise the need to have a mixed portfolio of solutions, including technological to reach net zero. Currently no suitable storage facilities exist in NI. The cost and feasibility of DACCS in Northern Ireland compared to GB has yet to be explored. This should be fully investigated, and arrangements considered. DACCS is currently not feasible in NI, but it is important that we do not ignore the future potential of DACCS as innovative solutions are also emerging with this technology globally. If feasible, it would add value to the decarbonisation process and provide a competitive advantage for NI business.

Question 9 (b). The Speculative Agriculture Option

Do you think that the Northern Ireland Executive should choose the Speculative Agriculture option?

Yes

No - please provide your reasons and any suggested alternative.

Ulster Wildlife would like to see an agricultural industry in Northern Ireland that produces a wider range of food for local consumption. However, we also recognise the increase in emissions that this might bring. We are supportive of 'nature-friendly' farming practices that add value to agriculturally productive land and the management of low productivity 'high nature value' farmland using extensive grazing and zero input farming that delivers primarily for wildlife and delivery of ecosystem services.

We support the need for change in the industry to meet local demands for food where there is not a significant increase in emissions and to deliver multiple positive outputs for nature and ecosystem services, but change must be accompanied by adequate 'just transition' funding to reduce risk and provide farmers with a pathway to diversify into other forms of food production, or move into carbon farming opportunities through woodland creation, peatland restoration or bioenergy production.

The western diet is changing, and farming should adapt to meet the needs of consumers. However, food is increasingly a complex global market, with meat and dairy demand continuing to grow in developing parts of the world and NI is suited to pasture-based production systems due to its mild and wet climate. Upland and marginal areas have limited alternative options to livestock as a farming system. Maintenance of species-rich grassland and peatland require extensive grazing by large herbivores, or which light traditional cattle provide the best fit. Many of these areas are not suitable for tree planting due to the presence of peat, or important priority habitats. We currently invest considerable resources in assisting farmers manage this type of land for wildlife due to its high nature value.

A drastic destocking in line with the Speculative option could put pressure on these biodiverse low input, extensive farms that currently deliver the most for biodiversity, rather than the larger beef and dairy units which measure favourably under efficiency metrics and rely on export markets.

DAERA and the agricultural industry needs to meaningfully look beyond the first carbon budget and take a longer-term view on how to balance food production to balance export and local demand, minimise emissions and maximise biodiversity to deliver a viable and sustainable industry. The CCC recommendations do not appear to support the continuation of the industry in its current form. With around 80% of dairy production currently exported, the balance between trying to reduce the emissions of an export market (that requires current scale to compete) or find alternative uses for this productive land that delivers financially for rural communities, the climate and biodiversity, needs to be addressed.

Additionally, the balance sheet for agricultural emissions is not yet fully understood and there are elements of methane from ruminants LULUCF (grasslands, hedges and peatland soils) that are not yet quantified and will alter the current emissions assessment (both positively and negatively) of the sector which could reduce (or increase) the pressure on livestock numbers.

There should also be a focus on supply chain efficiency and social behaviour with respect to food waste. Currently, around ¼ of food (post farm-gate) is wasted, with 70% of this by households (see section on waste). A reduction in waste through more efficient usage may reduce production demand and will reduce emissions across the supply chain and the methane from the waste.

Question 9 (c). Other Speculative Options:

Do you think that the Northern Ireland Executive should consider other speculative options such as (1) enhanced rock weathering and (2) addition of biochar to agricultural land?

Yes

No - please provide your reasons and any suggested alternative

Due to the importance of achieving net zero targets and the risk of non-delivery on some of the CCC identified pathways, these options are worth considering. However, the environmental costs and energy requirement of processing and spreading the materials must also be assessed. Such applications must avoid priority habitats and semi-natural land.

Question 10. Agriculture Sector Contribution to Net Zero:

Do you think that the Northern Ireland Executive should diverge from the CCC sector advice to deliver the required outcomes for the first carbon budget period and that these can be achieved through the actions outlined in the Agriculture sector summary?

Yes

No - please provide your reasons.

DAERA delivering efficiency measures in the industry as a first step towards net zero is a sensible approach, but dialogue around the challenges on next steps (post 2027), including forecasting of stock numbers needs to begin now with the industry to ensure they are engaged in possible scenarios.

Some of the agricultural emissions reductions in the first budget are based on assumptions of farmer responses to new policies and incentives and some around prototype and non-mainstream/unproven technologies. These uncertainties add some risk to achieving the agreed actions and a contingency position needs to be agreed, should these not be met to avoid any cliff-edge scenarios for the industry at the end of the accounting period. Currently there is good industry and government partnership working, so it will be clearer what can be achieved, what emerging technology can be mainstreamed and how the IPCC framework will have been revised by 2030 when progress and an updated pathway should be developed. Similarly, there will be technological solutions yet to be realised, and metrics to be calibrated, or not yet considered (e.g., grasslands as part of LULUCF) that could shift the balance of agricultural emissions and may require annual reassessment.

Ulster Wildlife manages priority habitat and species-rich grassland through our network of Nature Reserves and via our EFS (Environmental Farming Scheme) Group Programme. We recognise that extensive, but 'inefficient' grazing is good for land management and do not want this to be a casualty of policy that focuses farmers solely on measuring carbon per unit of farm output. However, we accept that there are ways for farming in the uplands to be more efficient although this will require a change in farming practice. There needs to be a recognition of the role of these relatively unproductive, but low input, systems in delivering biodiversity in extensive and low input systems. It is imperative that agri-environment measures are developed alongside climate policy to ensure these systems are adequately recognised and rewarded.

As a significant part of the NI economy, agriculture has a significant role to play in carbon reductions, but has many other roles in society, including food security, habitat management and viable/thriving rural communities which must form part of the overall decision-making process.

DAERA policy currently focuses on efficiency in the national herd to achieve the first carbon budget (2023-2027) targets without explicit focus on reducing stock numbers. At present, it would appear to be difficult to achieve the 2030 and 2040 target without reduction in stock numbers and this needs to be reviewed before this cycle commences.

As a wildlife organisation, Ulster Wildlife is predominantly concerned with climate and land use impacts on biodiversity.

If there are mitigating factors to allow livestock and dairy number beyond CCC recommendations in order to maintain production on the basis of carbon efficiency in a global food context, then Ulster Wildlife would strongly advocate that this decision is not taken without consideration of other local

pressures from intensive agriculture production, which would have to have suitable mitigation in place. These would include maintenance or enhancement of habitat and species and control of atmospheric pollution from ammonia and eutrophication of watercourses from runoff of phosphates/nitrates.

Ulster Wildlife is supportive of an agriculture sector that has a low environmental footprint through reduced consumption of resources and sustainable levels of production, an industry that produces high quality food products and enhances biodiversity and the local landscape through habitat management and restoration/creation on the least productive areas of land. Agri-environment measures need to be fully funded and delivered well in advance of 2030 to provide alternatives to current farming systems where they are not sustainable, or to supplement income on extensive high nature value farmland where multiple objectives of biodiversity enhancement and carbon sequestration are already being achieved.

Ulster Wildlife also acknowledges the importance of agriculture to the NI economy and the value of a certain type and scale of livestock agriculture to maintaining and enhancing biodiversity.

Where society changes its dietary preferences and needs, it is important that agriculture follows. A more diverse agriculture in fertile areas (away from predominantly grass-based livestock) has potential to deliver more habitats for biodiversity.

Additionally, competing land use needs for energy and carbon sequestration will create opportunities for farmers to diversify with non-food crops, tree planting and habitat restoration.

Whilst Ulster Wildlife is not against increases in efficiency and decreases in livestock numbers, there is an urgent need for agri-environment policies that recognise and support traditional farming practices in areas of high nature value farmland which typically include low/zero inputs and extensive grazing, but would be considered inefficient and carbon intensive per kg of food production using current methodologies e.g., Agrecalc. There is a risk that such areas become abandoned from farming or turned over to tree planting to meet narrow carbon policy objectives.

Species-rich grasslands and other upland habitats such as heathland and blanket bog are some of the most biodiverse habitats in Northern Ireland and have potential for significant contributions to carbon sequestration under LULUCF but will require ongoing low pressure and extensive grazing by large herbivores to retain their biodiversity interest.

Question 11. LULUCF Sector Contribution to Net Zero:

Do you think that the Northern Ireland Executive should follow the LULUCF sector advice provided by the CCC?

Yes

No - please provide your reasons and any suggested alternative

Ulster Wildlife supports ambitious LULUCF targets and recognises the potential for 'nature-based solutions' in reducing emissions, particularly through peatland restoration and appropriate tree planting. Whilst we support the level of ambition of the CCC targets, and our organisation is one of

the main actors involved in delivering peatland restoration we have concerns around the gap between current rates of delivery and the ability to ramp it up to achieve the scale and rate of restoration suggested by the CCC.

Peatland targets have been developed as part of a carbon balance sheet to offset ongoing emissions from other sectors. Alongside peatland restoration, we would like to see more ambitious and innovative policy measures that looked at emissions reductions in other sectors to reduce the reliance on LULUCF to meet net zero. As LULUCF requires suitable and available land, it is inextricably linked with food, farming, forestry and energy policies and it is important to ensure there is no disconnect between the current ambition of these policies and the scale of LULUCF in the CCC advice.

Ulster Wildlife fully support peatland restoration and tree planting initiatives, but based on first-hand experience have concern about how these can be achieved in line with the CCC recommendation.

To date, no more than a few thousand hectares of peatland have been restored in NI, with a rate of 100's of hectares per year. Whilst a level of restoration work is underway, there is still significant licenced and unlicenced extraction taking place for fuel and horticultural peat, working against the target, and increasing the scale of the task. Using the current estimates for peat soils across NI, the CCC advice would require over 100,000ha to be "under restoration" in the next 7 years.

Based on current known options (and those in place for the next 5 years), programmes such as PEACE Plus, the DAERA Environment Fund and Agri Environment measures (in transition) appear to be the main delivery agents. Strand 5.1 in PEACE Plus has a target of 11,000ha of habitats restored (wider than just peatlands) by the end of the programme. The Ulster Wildlife Environment Fund project is the largest peatland project in NI with a target of approx. 500ha restored by 2028. Assuming another 1000ha of restoration (from other non-UW projects). that would leave 80,000ha of restoration required from 2028-2030 to meet the CCC target. Unless there is a significant dedicated funding programme for peatland restoration accompanied by rapid policy change and incentives for landowners then this process will not be rapid enough to meet the target.

The CCC recommendations do not match those of the NI Peatland Strategy (2022-2040). While still ambitious, the Peatland Strategy has a more realistic target of "By 2030, degraded peatland habitats are prioritised for restoration to favourable conservation status. By 2040, all high priority degraded peatlands will be under restoration management."

It will take an increased resource for the Peatland Strategy targets to become achievable and allow sufficient time for the required policy changes to take effect. We would suggest that the peatland element of the CCC LULUCF carbon budget aligns with the Peatland Strategy and builds upon its successful delivery post-2040 to provide a realistic delivery timeline.

With respect to tree removal on peatland, Forest Service are currently working on a programme of reverting low yield forestry back to bog but not at a pace likely to see all areas will be removed by 2030. Prioritisation appears to be on a narrow suite of criteria, including designated sites, rather than all suitable sites. The restoration target date of 2035 provides more time for action, but we are unaware of any ongoing action on this front around planning, engagement with the industry and plans for transition. Without starting that process now then the reality of having all extraction sites even under restoration by the target date is ambitious.

Afforestation is a key part of carbon budgeting and Ulster Wildlife advocates increasing woodland cover if it adheres to the principle of 'the right tree in the right place'. The target of 3100ha per year by 2035, increasing to 4000ha thereafter is ambitious – and 10x greater than current Forest Service targets. If adequately incentivised it will provide an option for farmers to diversity or reduce stock

without loss of income. However, it will also put pressure on competing land uses (food, energy, habitat) and care needs to be taken that a drive for afforestation does not end up in future regret, such as we now view much of the commercial planting on peat in the 1950's and 1960's.

One of our concerns is the likely pressure to plant on cheaper marginal, rural land which by virtue of location and altitude has an increased probability of having high nature value for priority species and habitats. Assurances that this will be protected through appropriate constraints mapping will be required.

Tree planting provides an enormous opportunity for wildlife. But the best planting design and species for C sequestration may not be optimal for biodiversity. Native species, opportunities for open spaces, wide-spaced trees and narrow strips of woodland along watercourses etc are some of the preferred models that would maximise wildlife benefits. Silvopastoral models, or agroforestry may a good compromise that will allow dual land use and open more area suitable for planting.

Question 12 (a). Buildings Sector Contribution to Net Zero:

Do you think that the Northern Ireland Executive should consider the CCC advice on residential buildings, and develop a plan to improve energy efficiency and reduce reliance on fossil fuels, taking account of the capacity and capability of the low-carbon heating sector in Northern Ireland?

Yes

No - please provide your reasons and any suggested alternatives

This is one of the key actions within the Carbon Reduction Pathway and regulations for both new builds and extensions should ensure that residential buildings have renewable heat and electricity. This also requires the insulation to be fit for purpose for the future. Retro-fitting homes is huge task and requires incentives from government to make them affordable. For example, heat pumps for an average home can cost 10s of thousands as the fabric of the building needs to be sufficiently insulated for the heat pump to work efficiently and effectively.

Incentivisation will also create jobs and increase the levels of comfort and affordability of heating homes, where almost 25% of households in NI are currently considered to be in fuel poverty.

Question 12 (b). Buildings Sector Contribution to Net Zero:

Do you think that the Northern Ireland Civil Service (NICS) should lead by example in the government estate and phase out the use of fossil fuel boilers as per the CCC advice?

Yes

No - if not, please provide your reasons and any suggested alternatives.

It is imperative that Government leads by example on their own estate if the message and pathway is to be taken seriously by others and has the advantage of economies of scale to demonstrate early adoption of technology and best practice. For all public bodies there should be a requirement to phase out the use of fossil fuel boilers and demonstrate new and emerging technologies.

Question 13. Energy Sector Contribution to Net Zero:

Do you think that additional measures (over and above those in the Energy Strategy) should be taken to ensure alignment with the CCC's advice?

No

Yes - please provide examples of additional measure

Question 14. Transport Sector Contribution to Net Zero:

Do you think that the Northern Ireland Executive should follow the transport sector advice provided by the CCC?

Yes

No - please provide your reasons and any suggested alternative

We agree with the electrification of the transport sector but would like to see increased focus on encouraging people to use other more sustainable ways of transport. To achieve this, more and better infrastructure and services that can reduce car dependency to almost zero in urban and suburban zones is required. We would prefer to see fewer cars on the road than more e-charging points, and the "substantial investment" mentioned in the CCC's report should be redirected to more functional infrastructure that could also improve the health and wellbeing of NI people, from better and more secure cycle lanes to more bus and train services.

Question 15. Business and Industrial Processes Sector Contribution to

Net Zero:

Do you think that the Northern Ireland Executive should follow the Business and Industrial Processes sector advice provided by the CCC?

Yes

No - please provide your reasons and any suggested alternative.

This sector has already seen a 7% reduction since 2010 through efficiency and innovation. The scale of change to meet the carbon budget will have to be three times this rate but there appears to be the commitment and scope to achieve this target.

Question 16. Waste Sector Contribution to Net Zero:

Do you think that the Northern Ireland Executive should follow the Waste sector advice provided by the CCC?

Yes

No - please provide your reasons and any suggested alternative.

Reduction in waste through recycling, investment in circular economy models and reduced consumption are key.

A focus on reducing food waste (of which 24% of domestic food is currently wasted) can help reduce the emissions from farming and food processing if more of this food can be consumed. Reducing the amount of waste also eliminates the emissions from disposal and decomposition.

Sending organic waste, including food waste, to landfills is a source of methane and we advocate such waste going to compost facilities or specially designed digesters that reduce or capture these emissions.

Question 17. Fisheries Sector Contribution to Net Zero:

Do you think that the Northern Ireland Executive should follow the Fisheries sector advice provided by the CCC?

Yes

No - please provide your reasons and any suggested alternative

Fisheries plays a relatively small part in the carbon budget, but nevertheless needs to play its role.

The CCC doesn't provide any specific advice on Fisheries, which appears to be an oversight and Ulster Wildlife would support more attention being given to this sector. The inclusion of aquaculture must also be considered in terms of carbon production, carbon sequestration and the balance of restoring natural habitats where impacts have occurred. Longer-term decarbonisation of fishing vessels should be augmented in the short term through improvements in the efficiency of vessels and fishing methods. Furthermore, Ulster Wildlife support the need for a better understanding of the carbon sequestration role of seabed habitats, such as soft mud, and the potential impact of fishing on these habitats.

We also advocate the role of Blue Carbon as an equivalent measure to LULUCF in contributing in a positive way to carbon budgets. There are significant carbon sequestering habitats in NI waters, which properly protected, restored and managed could form carbon sinks. At present, we are aware of their extent, but not their condition which is the crucial factor in assessing their carbon sequestration potential and emission factor.

Ulster Wildlife has also contributed to the response from the NI Marine Task Force which has more detail on this component of the carbon budgets.