

DAERA Discussion Document on a Northern Ireland Climate Change Bill

comments by

Northern Ireland Environment Link

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Northern Ireland Environment Link (NIEL) is the networking and forum body for non-statutory organisations concerned with the natural and built environment of Northern Ireland. Its 60 Full Members represent 190,000 individuals, 262 subsidiary groups, have an annual turnover of £70 million and manage over 314,000 acres of land. Members are involved in environmental issues of all types and at all levels from the local community to the global environment. NIEL brings together a wide range of knowledge, experience and expertise which can be used to help develop policy, practice and implementation across a wide range of environmental fields. These comments are made on behalf of Members, but some members may be providing independent comments as well.

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

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NIEL response to DAERA discussion document on climate change

Background

The New Decade, New Approach¹ published in January 2020, included a recommendation that

“The Executive should bring forward a Climate Change Act to give environmental targets a strong legal underpinning.”

However, more than a year on from the publication of ‘New Decade, New Approach’ and almost a year since the NI Assembly declared a climate emergency², no NI climate change bill has been produced by the Minister or the Department (DAERA). A NI Climate Change bill was however submitted to the NI Assembly Speaker’s office as a Private Members Bill (PMB)³ in October 2020. This PMB has cross party and cross community support of a majority of MLAs and includes many of the attributes, aims and policies that the discussion document refers to as desirable. Amongst other things, this PMB has an ambitious target for achieving net-zero Greenhouse Gas (GHG) emissions in NI by 2045. The PMB also includes provision for 5-year carbon budgets, sectoral climate action plans and establishes a NI Climate Office and a NI Climate Commissioner – the latter two provisions address the question of the independent advisory body explored in section 6.5 of the discussion document⁴ for example.

As well as the attributes, aims and policies of the PMB, there is also the issue of time pressure. We know we need to act quickly. The UK Climate Change Committee (CCC) confirmed this when the chair of the CCC, Lord Deben, in his foreword to the CCC’s 2019 Zero Carbon report urged the governments of the UK to *“legislate for these new targets as swiftly as possible”*⁵. Lord Deben went on to say⁶

“We must now increase our ambition to tackle climate change. The science demands it; the evidence is before you; we must start at once; there is no time to lose.”

Unfortunately, there is a real urgency about this because we have already hesitated for far too long. Lord Deben’s words above are reminiscent of the words of Nicholas Stern (now Lord Stern of Brentford) who concluded that the benefits of strong, early action far outweigh the costs of not acting to manage impacts of climate change on water resources, food production, health, and the environment. As Lord Stern warned us in the eponymous 2006 Stern Review⁷

“if we don’t act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global GDP each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more.”

To put the scale of those potential impacts into context, in a speech in November 2020, the UK Chancellor Rishi Sunak referred to a report by the Office for Budget Responsibility which forecast the UK economy will contract by 11.3% in 2020⁸.

The Stern Review also stated

“The scientific evidence is now overwhelming: climate change is a serious global threat, and it demands an urgent global response.”

We must heed these warnings and learn from the rising costs of delay. We really must act urgently.



The PMB submitted to the NI Assembly Speaker's Office in October 2020 is the only NI specific climate change bill in existence. NIEL is of the view that this PMB is much more likely to progress to Royal Assent before the end of the current Assembly mandate than any potential bill that may be drawn up by DAERA at an as yet unconfirmed date. In addition, since the content of any other potential climate change bill is not confirmed, there is no evidence that any future bill will appropriately address all the issues that need to be addressed to tackle climate change and/or are addressed in the PMB submitted in October 2020. There is also no guarantee that any such bill the department may draw up will secure the support of a majority of MLAs. With no guarantees in relation to any aspects of any potential separate future NI climate change bill that may be drawn up by the department, NIEL believes that the Minister and department should instead support and facilitate the smooth and speedy passage of the PMB on climate change that was submitted to the NI Assembly Speaker's Office in October 2020 in order to avoid unnecessary duplication of effort and any delays in the legislative process.

Given the urgency of this matter, NIEL is unclear as to why a discussion document on the possible content of a separate, potential NI climate change bill was only launched approximately two months after this PMB was submitted.

Questions in the climate change bill discussion document.

Question 1: Which of the following high level options do you think is appropriate for Northern Ireland to take forward?

- Option 1: Northern Ireland Climate Change Bill setting interim emission reduction targets and a long term target of net zero emissions in Northern Ireland by 2050 (long term target does not consider expert climate change advice)
- Option 2: Northern Ireland Climate Change Bill setting interim emission reduction targets and a long term target for Northern Ireland by 2050, the long term target is an equitable contribution to achieving UK-wide Net Zero by 2050 (long term target considers expert climate change advice)
- Not sure / No opinion

NIEL response.

Neither. NIEL does not regard either of the two options given above as appropriate for NI to take forward and as such would question the rationale behind offering the two options put forward. NIEL believes that a Northern Ireland specific climate change bill needs to be developed and implemented and supports the development of a NI Climate change bill with interim emission reduction targets and a long term target of achieving net zero GHG emissions no later than 2050 and preferably by 2045, on the basis that the targets and policies in any such bill must have been developed based upon consideration of expert climate change advice. NIEL regards the condition attached to Option 1 that the *"long term target does not consider expert climate change advice"* as illogical, impractical and unjustifiable, particularly given what the Minister said on page 7 of the discussion document⁹ when referring to *"the introduction of Northern Ireland climate change legislation that is evidence-based."* As such, NIEL would support option 1 were it not for the caveat attached to it which NIEL regards as ill-advised given the importance of policy being informed and guided by science, as



acknowledged in the discussion document. NIEL would appreciate it if DAERA could provide clarification as to why only the two options in the document were proposed? NIEL would further recommend that the condition attached to option 1 that a NI climate change act has a long term target which does not consider expert climate change advice, must be removed from any future consultation on a NI climate change bill.

Question 2: Do you have any opinions on what would be the most important criteria to be considered when setting or updating long term and interim emission reduction targets?

Yes

Not sure / No opinion

NIEL response

Yes. The most important criteria to be considered when setting or updating long term and interim emission reduction targets is the use of the best available scientific evidence to develop and implement those (evidence based) targets, as the Minister referred to on page 7 of the discussion document¹⁰. This is very clearly illustrated by the fact that the level of emissions reductions deemed necessary for the UK and globally have changed over time in response to the developments and refinements in the best available scientific evidence.

Looking at the development of UK climate change policy since 2000 for example, the UK's Energy White Paper of 2003 included a target to reduce the UK's Carbon Dioxide (CO₂) emission by 60% as compared to 1990 levels by 2050. This target was included in the White Paper 2003 in response to a recommendation by the Royal Commission on Environmental Pollution (RCEP) 22nd Report "Energy the Changing Climate", published in 2000¹¹, which in turn echoed an approach previously advocated by the Global Commons Institute in 1990. This target was subsequently amended when, based on the latest scientific advice at that time, the UK Parliament introduced the UK Climate Change Act (2008)¹² which set a target for the UK to reduce a basket of greenhouse gases^a (referred to in the 2008 act as 'targeted gases')¹³, which included CO₂, by 80% by 2050. By introducing this legislation, the UK became the first country to introduce long-term legally-binding targets to tackle climate change¹⁴. In summary, in response to the changing scientific evidence, the UK's emissions reductions target was expanded beyond just CO₂ to include the basket of 'targeted gases' and the target level of reductions was increased from 60% to 80%. The Climate Change Act 2008 was subsequently amended in 2019 when the UK became the first major economy to set a legally binding target for net zero GHG emissions by 2050¹⁵. This new target requires the UK to, in effect, reduce the levels of all the target greenhouse gases by 100% compared to 1990 levels by 2050. It is noteworthy though that even in the relatively short period of time since that UK net zero target was set in 2019, the debate has moved on. Given the ongoing impacts of climate change and the weight of the ever evolving evidence that the more we reduce our emissions, the greater the chance we have of reducing the

^a The targeted greenhouse gases listed in the UK Climate Change Act 2008 are: carbon dioxide; methane; nitrous oxide; hydrofluorocarbons; perfluorocarbons; sulphur hexafluoride, and any other greenhouse gas designated as a targeted greenhouse gas by order made by the Secretary of State.



negative impacts of climate change, the current direction of travel is for achieving net zero globally before 2050.

The decision regarding the date by which net zero must be achieved is in turn based on the evidence in relation to the global target/limit for the amount by which global temperatures can or should be allowed to rise compared to the pre-industrial average. For a number of years, a limit of 2°C above the pre-industrial average was deemed to be appropriate. Now there is a growing support for limiting that temperature rise to no more than 1.5°C above the pre-industrial average, as reflected in the 2015 Paris Accord¹⁶ for example. According to the IPCC, in order to have a 50% chance of limiting global temperature rise to not more than 1.5°C above the pre-industrial average, global GHG emissions must reach net zero by 2050¹⁷. Achieving net zero any later than 2050 will, in effect, mean that the 1.5°C target will be exceeded and that we will then be looking to try to limit the global temperature rise to no more than 2°C above pre industrial levels. Unfortunately, due to the failure to cut global emissions earlier and by a much greater amount, scenarios which involve a close to 66% chance of limiting global temperature rise to below 1.5°C above pre-industrial levels involve such drastic levels of emissions reductions (e.g. achieving net zero by 2025) that, on balance, that is viewed as impossible. However, it is on this basis of probability, that many political and business leaders, organisations and countries are calling for net zero to be achieved before 2050. As referred to earlier, the chair of the CCC, Lord Deben said in 2019 *“there is no time to lose.”* The CCC Sixth Carbon Budget¹⁸ also refers to the need for the UK to have the **“highest possible ambition”** as regards pathways to net zero. The discussion document says¹⁹

“the later cuts are made, the greater they must be to achieve the same long-term goal, and so they will be more expensive to implement”

NIEL therefore recommends that the NI Executive ensures NI’s GHG emissions are reduced as much as possible and as quickly as possible, in line with the statements referred to above and the CCC’s stated intention of the UK having the **“highest possible ambition”** as regards pathways to net zero. While the date by which net zero needs to be achieved is still a matter of debate, NIEL believes that the essential and fundamental point is that our actions to try to mitigate and adapt to climate change must be based on the best available science. NIEL believes that any NI climate change bill must include a statutory target to achieve net zero GHG emissions no later than 2050, in line with the current UK target, and preferably earlier, for example, by 2045.

Question 3. Do you think flexibility should be built into the Bill, to allow consideration of new emerging evidence and science on climate change (for example on long lived and short lived pollutants) when setting emission reduction targets?

Yes

No Not sure / No opinion



NIEL response

Yes. NIEL does believe that flexibility should be built in to the bill to allow for consideration of new emerging evidence and science on climate change when setting emission reduction targets, though the wording of this question does appear to be contradictory to the condition attached to option 1 in question 1 above. However, the source or sources of the evidence which would form the basis of any revised climate change target or policy must be robust and made publically available, which relates to the role of an independent advisory body for climate change. Evidence from reputable bodies such as the UN IPCC²⁰, NASA²¹, NOAA²², the World Meteorological Organisation²³, the UK Committee on Climate Change²⁴, the Met Office²⁵, Met Eireann²⁶ and the Climate Change Advisory Council in Ireland²⁷ are examples of organisations from whom evidence would be regarded by NIEL to be reputable and robust. This is not a definitive list though and emerging research (which has been peer reviewed) from reputable bodies, such as the bodies listed above and third level educational institutions, should also be taken in to account. For the reasons discussed in NIEL's response to question 2, above, this flexibility is essential. However, NIEL would advocate that a safety measure is needed in any NI climate change legislation to ensure that until there is very clear, robust evidence from expert bodies, including some or all of the organisations referred to above, that makes it clear beyond a reasonable doubt that the actions being taken in NI and elsewhere will ensure that the target in the Paris Accord of limiting global temperature rise to no more than 1.5°C above pre industrial levels will be met, there can be no weakening of targets, that is, no reduction in the ambition of the level of GHG reductions and/or the setting of a date for this reduction to be achieved which is later than that which has been agreed in the most recent version of any NI specific legislation and relevant UK and/or international legislation. In other words, a non regression clause on climate change targets will be needed to ensure that the date by which net zero is to be achieved can only be brought forward and that there can be no weakening or dilution of the emission targets. This is similar to the approach taken in the Scottish Climate Change Act²⁸.

Question 4. Do you agree that a Northern Ireland Climate Change Bill should include a duty for 5 yearly carbon budgets to set a statutory cap (interim emission reduction targets) on total greenhouse gases that can be emitted in Northern Ireland?

Yes

No Not sure / No opinion

NIEL response

Yes. This is the approach taken by the UK for example and the Climate Change Committee (CCC) advises the UK government on the five yearly carbon budgets. In line with the UK CCC, carbon budgets for NI should specify the limits for carbon emissions within the period of the commitment and should align with the dates of the interim targets. All carbon budgets must reflect the most up-to-date science and account for any changes in changes in UK legislation which may set higher targets.



A NI Climate Change Act should place a duty on all government departments to develop a robust and ambitious Climate Action Plan for that department as part of the five year carbon budget process. The Climate Action Plan should, in particular, set out proposals and policies as to how each department will meet the emissions reduction targets during the plan period. These climate action plans must cover all sectors including for example, transport, agriculture and land use, food, energy (electricity, transport and heating), waste, and buildings (residential, commercial and public) and must be kept under review with an appropriate timescale. There should also be a requirement to report on progress towards achieving the targets set and clearly defined sanctions for failure to achieve the targets set where that is deemed to be appropriate.

Question 5. Should provision for reporting on adaptation measures by ‘major player’ public bodies be included in a Northern Ireland Climate Change Bill?

Yes (which major player public bodies and why?)

No **Not sure / No opinion**

NIEL response

Yes. NIEL believes there should be statutory reporting mechanisms for both mitigation and adaptation (including clear communication freely available to the general public) to assess and monitor progress on adaptation and mitigation for local councils and public bodies in any future NI Climate Change bill and NIEL supports the response made by Climate NI in relation to the role of adaptation. NIEL believes that the Civil Society and Local Government Reporting mechanism for adaptation set up by Climate NI through the Northern Ireland Climate Change Adaptation Programme 2019 (NICCAP2) is an appropriate model for such reporting mechanisms.

NIEL also supports the approach advocated by Climate NI that reporting on adaptation should include the following three main aspects:

- ‘Adaptation Reporting Power (ARP)’ for ‘Major Player’ Public Bodies
- Improved Adaptation Reporting for Government Departments
- Voluntary Adaptation Reporting for Civil Society

NIEL believes NI should follow the example in the UK and Scottish Acts, and be able to direct a ‘major player’ to prepare a report containing any of the following: an assessment of the current and predicted impact of climate change in relation to organisational functions; a statement of the organisation’s proposals and policies for adapting to climate change in the exercise of its functions and the time-scales for introducing those proposals and policies and an assessment of the progress made by the organisation towards implementing the proposals and policies set out in its previous reports.

Government may also direct two or more ‘major players’ to prepare a joint report.



Adaptation reporting from government departments must be improved through the NICCAP (this reporting will not be captured under the 'major player' ARP power). There must be independent reviews of Northern Ireland Climate Change Adaptation Programmes by an independent NI or UK Climate Change Expert Committee to review adaptation progress on addressing the risks outlined in CCRA. NI government investment and engagement in development of the CCRA must increase to ensure it provides a robust view of the climate risks facing NI (this is currently limited by lack of NI-specific evidence and lack of cross-departmental engagement). The development of NICCAPs must have suitable resource within government, and budgets available to support development of new actions and indicators across government. NICCAPs should set out how they address all risks and opportunities set out in CCRA.

Adaptation reporting for civil society is an area of work that is still developing. NIEL believes that NI can learn from other administrations. Some areas for potential improvement include: addressing issues around trust and industrial confidentiality for reporting organisations; timing reporting to line up with Climate Change Risk Assessment and Northern Ireland Climate Change Adaptation programme evidence gathering cycles; the need to provide support (and constructive feed-back) for organisations to undertake adaptation planning and reporting and greater emphasis on and facilitation of sharing of information and dialogue between organisations and across sectors.

The major player public bodies that should be required to report on adaptation measures include Government Departments and their agencies, Councils, Hospitals and Health Trusts, Education Institutions, transport operators, Police and Emergency Services.

Question 6. Should provision for reporting on mitigation measures by 'major player' public bodies be included in a Northern Ireland Climate Change Bill?

Yes

No Not sure / No opinion

NIEL response

Yes, as outlined in NIEL's response to question 5 above, NIEL believes there should be statutory reporting mechanisms for both mitigation and adaptation. Many major player public bodies such as Government departments, non-ministerial departments, agencies and Non-Departmental Public Bodies already must report as a minimum certain GHG emissions in their Annual Reports as part of their statements on sustainability performance and NIEL believes a similar reporting duty on major players in NI should be included in a NI Climate Change bill.

The major player public bodies that should be required to report on mitigation measures should be, as far as possible, the same as the list of organisations that are required to report on mitigation namely Government Departments and their agencies, Councils, Hospitals and Health Trusts, Education Institutions, transport operators, Police and Emergency Services.



Question 7. In addition to continuing to avail of the expertise of the UK Climate Change Committee, should we also include provision in the Bill, for an independent Northern Ireland advisory body on climate change?

Yes

No Not sure / No opinion

NIEL response

Yes. While ongoing advice from reputable bodies like the CCC, amongst others, is important, NIEL believes there is a need for an independent NI advisory body to review progress on delivering the provisions of a NI climate change act. This is most similar to option (b) as outlined on page 38 of the discussion document. The independence of such a body is the key issue. NIEL believes that an independent body, for example a Northern Ireland Climate Office should be established with a NI Climate Commissioner. In this example, the Commissioner should review the adequacy and effectiveness of any future NI Climate Change Act and prepare review and progress reports on the working of the Act for the Assembly. The Commissioner should have the power to propose recommendations for amendments to the Act which are considered necessary and desirable in order to achieve the overriding climate objective.

Question 8. Do you have any other comments in respect of the issues raised in this discussion document?

Yes

No Not sure / No opinion

NIEL response

Yes. NIEL regards the options that readers are given at the start of the discussion document for a NI climate change bill as limited and inappropriate, particularly the proposal that a NI climate change bill be developed which does not consider expert climate change advice and NIEL is unclear as to the rationale for that proposal.

NIEL also notes an occasional negative overtone and lack of detail in the discussion document in relation to the economic opportunities and benefits of achieving net zero. For example, the discussion document says on page 28 that according to the CCC in 2019, *“getting to UK net zero will incur huge costs.”* but no page number is given for this quote attributed to the CCC’s Net Zero report. The discussion document also said on page 29 that, referring to the same CCC 2019 report

“Current evidence and advice from the CCC also is that for Northern Ireland, the “earliest credible year for net zero GHG emissions [would be] Post-2050”.”



However, the CCC also concluded in that same Net Zero report²⁹ of 2019 “*that net-zero is necessary, feasible and cost-effective*” for the UK and so the UK should commit to a net zero carbon future, by 2050. Similarly, in that same report, the CCC says³⁰

“The overall economic impact of cutting emissions and the costs of increasing ambition to net-zero are likely to be small globally and in the UK and could turn out to be positive.”

If the CCC identified in 2019 that net zero for the UK was necessary, feasible and cost effective and that the overall economic impact of achieving net zero by 2050 could actually be positive, that paints a very different picture to the one created by the statements attributed to the CCC in the discussion document as outlined above.

Furthermore, in the CCC Sixth Carbon Budget report published in December 2020³¹ the CCC stated that

“There is no purely technical reason why Net Zero is not possible in Northern Ireland.”

The CCC Sixth Carbon Budget went on to say that in order for NI to reach net zero greenhouse gas (GHG) emissions by 2050 one (or both) of the following was needed: a substantial reduction in output from NI’s livestock farming sector that goes beyond the stretching scenarios analysed in the Sixth Carbon Budget; a much greater than equal share of all UK greenhouse gas removals being located in NI compared to its current emissions, population or economic output.

Many organisations advise that we need to reduce our overall meat consumption in order to tackle climate change. If we do reduce our levels of meat consumption, this is likely to act as a driver for the reduction of the NI livestock sector and so it should not be seen as something to be resisted. For example, the CCC Sixth Carbon Budget Balanced Pathway involves a 20% shift away from meat and dairy products by 2030, with a further 15% reduction of meat products by 2050³². The CCC goes on to reference a 2013 report the CCC commissioned from Ricardo which indicated that the health impacts of reducing red meat consumption by 50% amounted to an annual monetised benefit of 0.5% of GDP³³ which equates to a saving of around £1 billion, with other estimates suggesting reducing average meat and dairy consumption by 83% by 2050 (in the Fair Less meat scenario) could mean 45,000 deaths avoided or delayed each year and a reduction in costs to the NHS of £1.2 billion per year.³⁴ In summary, according to the CCC, reducing the NI livestock sector would allow NI to achieve net zero by 2050 while boosting GDP to the tune of around £1 billion while also potentially improving the overall health of individuals, saving lives and reducing NHS costs. In light of the many co-benefits, based upon the CCC’s advice, NIEL believes the NI livestock sector must be reduced.

In relation to the investment needed to achieve net zero, the CCC said in its Sixth Carbon Budget³⁵ that

“Overall, we find that the net costs of the transition (including upfront investment, ongoing running costs and costs of financing) will be less than 1% of GDP over the entirety of 2020-2050, lower than we concluded in our 2019 Net Zero report.”



The CCC Sixth Carbon Budget also says³⁶ that

“Around half of the measures to reduce emissions are expected to be cost saving by 2050, primarily decarbonising electricity and surface transport.”

Modelling commissioned for the CCC Sixth Carbon Budget report³⁷ suggests a boost to GDP growing to around 2% of GDP by 2030, with an accompanying boost to employment of around 1%. According to this analysis the GDP boost will continue growing after 2030 before levelling off at around a 3% boost by 2050. The CCC goes on to say³⁸ that considering the various economic models and evaluations, the investment programme for achieving net zero set out in section 2 of the Sixth Carbon Budget report

“can provide a significant economic boost in the coming years and support the UK’s economic recovery.”

As the Minister himself outlined on in the discussion document,

“tackling climate change should be viewed not just as an environmental challenge, but also as an economic opportunity”

There is a lot of evidence of the potential economic benefits of developing a low and ultimately zero carbon economy in the UK and for Northern Ireland specifically. For example, the Institute for Public Policy and Research³⁹ has concluded that greater investment in a green recovery and clean, low-carbon jobs could create 1.6 million new jobs over the next decade of which over 40,000 could be in Northern Ireland. Of those 1.6 million jobs, half a million (560,000) could be created by improving the energy efficiency of homes, which would also help reduce fuel poverty and help the health and economic prospects of thousands. The IPPR also found that without government intervention, unemployment could rise by more than 2.1 million to almost 10% of the workforce.

The low carbon and renewable energy (LCRE) economy in NI is significant⁴⁰, generating £2 billion in 2017 - £1.2 billion directly and £800 million indirectly and approximately 11,700 FTE jobs with an even 50/50 split between direct and indirect jobs. This is a very significant contribution, but we can build on this. For example, according to the National Grid⁴¹ the UK will need to recruit over 400,000 jobs to build the net zero energy workforce and reach net zero by 2050, of which 13,700 jobs will be needed in NI. This is a clear demonstration of how setting the right policies can drive economic development and job creation. The London School of Economics Grantham Research Institute and the Centre for Climate Change Economics and Policy⁴² reached the same conclusion and said

“The key issue preventing a rebound in investment is a lack of confidence to invest rather than a lack of liquidity.”

This is another example of the benefits of developing an ambitious Northern Ireland specific climate change bill as that would send the right sort of message to potential low/zero carbon investors.



Question 9. Are there any important issues you feel have not been adequately covered at this early discussion stage?

Yes

No Not sure / No opinion

NIEL response

The two main issues that NIEL believes were not adequately covered in the DAERA discussion document were the economics of achieving net zero and the likely contributions of and implications for land use and agriculture in achieving net zero. These issues were explored in NIEL's response to question 8, above. Other issues that NIEL believes were not adequately covered in the discussion document are: the need for a just transition; cross departmental integration and co-operation; the implications for biodiversity and the need to change land use to turn NI land into a sink rather than an emitter of GHGs and the role for green procurement.

- **Just Transition**

While a just transition was referred to in the discussion document NIEL would like to have seen a more detailed exploration of the importance of a just transition and how it might be managed as well as the related importance of how DAERA will co-operate with other NI departments most notably the Department for the Economy and Department of Finance in relation to ensuring that there is a just transition in NI that meets the needs of NI society and maximises the job opportunities such a transition creates. NIEL believes that NI could and should adopt the approach taken in Scotland to a just transition. The Scottish Government established the Scottish Just Transition Commission⁴³ in 2019 to advise on a net-zero economy that is fair for all. The Scottish principles for a just transition state that action to reduce net greenhouse gas emissions should: support environmentally and socially sustainable jobs; support low-carbon investment and infrastructure; create decent, fair and high-value work in a way which does not negatively affect the current workforce and overall economy and contribute to resource efficient and sustainable economic approaches which help to address inequality and poverty.

- **Integration and co-operation with other government departments**

There is a clear need for high levels of integration and co-operation between DAERA and other government departments in relation to climate change and this will only increase with the development of any future NI climate change bill. As of January 2021, currently six government departments have responsibility for certain aspects of energy use. Amongst other things, the Department for the Economy is responsible for energy policy; the Department for Communities is responsible for fuel poverty and domestic energy efficiency programmes and grants; the Department for Infrastructure is responsible for transport policy and legislation and strategic and regional planning; DAERA is responsible for agriculture and climate change; the Department of Finance is responsible for building regulations and public sector procurement and the Executive Office is responsible for the Programme for Government and the SIB Energy Management Unit. This splintering of responsibility is likely to present obstacles and cause delay to the rapid shift away from



a fossil fuel based energy system to a low and ultimately zero carbon energy system and ultimately to the achievement of a net zero GHG society by 2050 or earlier. Consequently, NIEL believes the structures of government with responsibility for energy need to be reviewed. The establishment of an integrated sustainable energy agency for Northern Ireland is one option that could help with the transition to net zero carbon.

Ensuring a much greater degree of integration across and between and across government departments will be an essential part of NI achieving net zero. This is something that also fits with the approach taken by the draft Programme for Government 2016-21⁴⁴ which takes a long term, outcomes based approach. The establishment of a NI specific Climate Change Act will probably be the most important policy lever to ensure net zero carbon, and other policies should then flow from that including subsequent versions of the Programme for Government, the Economic Strategy, the Investment Strategy, the Regional Development Strategy, the Environment Strategy, the Green Growth Strategy, the Biodiversity Strategy and other relevant strategies and policies. The next version of the Strategic Energy Framework will of course be fundamental to achieving net zero carbon by 2050, or whatever date is agreed for Northern Ireland.

- **Impacts on biodiversity and use of ecosystem services to help adapt to a changing climate particularly in relation to turning NI's land into a sink rather than an emitter of GHGs**

The potential for land use changes which increase biodiversity while simultaneously sequestering carbon must be explored and developed as part of our efforts to try to mitigate and adapt to climate change. One of the clearest examples of the need to address land use and land use management in NI as part of our response to climate change is that according to the DAERA report on greenhouse gas emissions in Northern Ireland in 2018⁴⁵, Northern Ireland is the only UK region where the land use change sector acts as a net emitter of greenhouse gas emissions (+0.5 MtCO₂e). England (-4.9 MtCO₂e), Scotland (-5.4 MtCO₂e) and Wales (-0.4 MtCO₂e) can all be classified as 'sinks' due to their net effect being one that absorbs carbon. This represents a significant failure in Northern Ireland's land use policy. This situation must be reversed as soon as possible so that Northern Ireland's peatlands, woodlands and soils are restored to full health and properly protected and managed so that they and other potential carbon sinks can start to sequester rather than emit carbon dioxide and other greenhouse gases including methane (CH₄).

Chapter six of the CCC Sixth carbon report⁴⁶ also outlines some of the main policies for reducing emissions from land use and agriculture and these include a change in diet (i.e. reducing consumption of meat), something which in turn would facilitate further changes in land use if less meat is being produced. Those changes in land use include afforestation, restoring and protecting peatlands and growing energy crops which the CCC estimates could result in annual savings totalling 25 MtCO₂e when compared to emissions in the Business as Usual scenario in 2035. In relation to peatlands, the CCC refer to how the "*full restoration of upland peatland by 2045*" and "*re-wetting and sustainable management of 60% of lowland peat by 2050.*" would deliver annual saving of nearly 6 MtCO₂e by 2035 and around 10 MtCO₂e by 2050⁴⁷. According to the CCC around 9% of agricultural land will be needed for actions to reduce emissions and sequester carbon by 2035 with 21% needed by 2050⁴⁸. The CCC also recommends the adoption of low-carbon farming practices and reducing fossil fuel use in agriculture⁴⁹. As the CCC Sixth Carbon Budget highlights, forest coverage in NI is around 8% compared to the UK average of 13%⁵⁰ CCC so this is another example of where NI



lags behind the other administrations in the UK and where there is a lot of room for improvement. However, NIEL would like to emphasise that tree planting must be undertaken in the right place e.g. not on peatlands or in areas of high nature value and that native sourced, native stock must be used as far as possible. Planting trees can also help reduce the flow of water and so can be a valuable tool in water management policies, as explored in more detail below.

In addition to peatlands and woodlands, NI should account for significant the role of soils in storing carbon. Every year, around 30% of carbon dioxide (CO₂) is absorbed by plants thanks to the photosynthesis process⁵¹. When those plants die and decompose, the nutrients (including carbon) are recycled by bacteria, fungi and earthworms into carbon-rich organic material in the soil which is essential for plants as it retains water, nitrogen and phosphorus. Overall, global soils contain 2 to 3 times more carbon than the atmosphere and if this carbon level increased by 0.4%, or 4 ‰ per year, in the first 30-40 cm of soil, the annual increase of CO₂ in the atmosphere would be significantly reduced. This is a target of the “4 per 1000” initiative to which the UK has signed up⁵². The carbon level in the soils could be increased by reducing deforestation, and increasing afforestation and by encouraging agro-ecological practices that increase the quantity of organic matter in soils including nutrient management and the planting of legumes (which fix nitrogen). Obviously soils are essential for plant growth but soils can also play an important role in carbon sequestration.

Climate change also has many negative impacts on biodiversity and NIEL wishes to see all departments, especially DAERA, making much greater use of ecosystem services to help adapt to reduce the flow of water and so can be a valuable tool in water management policies, a changing climate. As outlined above, tree planting can help sequester carbon, but it can also help significantly reduce the flow of water and so can be a valuable tool in water management policies. For example, it has been shown that trees and pastureland can decrease peak flows by up to 60%⁵³. Research⁵⁴ based on modelling of flow rates in Pontbren, Wales suggest that

“introducing optimally placed tree shelter belts to the current land use would reduce peak flow by 29 per cent and introducing full woodland cover would reduce flows by 50 per cent”

This approach whereby natural capital or ecosystem services are used to help tackle climate change is an approach NIEL would like to see adopted and implemented to a much greater extent by DAERA and other departments. NI Water’s 2021-2046 strategy is an example of a strategic policy that highlighted the value and importance of using an ecosystems based approach. This strategy states that NI Water’s aim is to improve water quality at source and acknowledges that while investment in treatment works and chemical treatment can remove the problem

“the sustainable long term solution is to work in partnership with land owners and other stakeholders to manage the source waters using catchment management.”

This approach was also reflected in the UK Government’s 25 year plan for nature ‘A Green Future’ in which the UK government committed⁵⁵ to

“using more natural flood management solutions where appropriate”



It is important to learn from examples of where natural capital and ecosystem services have had a positive impact on the management of water resources, for example, South West Water's Upstream Thinking project. This project works in eleven catchments across Devon and Cornwall, including in the Exmoor National Park, and aims to improve water quality, at source, by improved land management techniques to reduce soil and chemical run off in the upper reaches of rivers taking a whole catchment approach. According to South West Water⁵⁶

"It also has wide reaching, positive impacts on the environment by increasing biodiversity and improving raw water quality, reducing energy use, improving carbon sequestration and reducing the risk of flood and drought."

South West Water described the use of natural capital in the Upstream Thinking project as follows:

"It is a cost-effective and environmental approach to tackling long-term problems facing the water industry and for relatively small amounts of expenditure, the scheme has the potential to reduce water treatment costs, reduce energy consumption and support our company vision and values – Pure Water, Pure Service & Pure Environment "

The project is also predicted to improve the probable water quality in the sub-catchment to 'good ecological status' for phosphate, something that should be of particular interest for those of us in Northern Ireland who seek to reduce the levels of phosphorous in our water bodies. This use of natural systems to improve water quality, reduce the risk of flood and drought, reduce energy use and improve carbon sequestration is an approach that should be adopted in NI especially in light of the predictions as to how our climate will change. For example, amongst other things, the UK Met Office has predicted that winter precipitation is expected to increase significantly and by 2070 NI winters could be 25% wetter⁵⁷ and suggests significant increases in hourly precipitation extremes in the future⁵⁸. According to the Met Office⁵⁹ the most recent decade (2010–2019) has been on average 5% wetter than 1961–1990 and this increase is most pronounced for Scotland and Northern Ireland, which were 7% wetter than 1961–1990. In this light, there is an ongoing, and likely increasing risk of flooding in NI. If these risks can be managed in a way that can improve water quality, reduce energy use and improve carbon sequestration by using natural capital that is something NIEL believes that DEARA and the NI Executive should support and implement, especially when this more natural, land management based approach also has very positive economic benefits. According to South West Water, Upstream Thinking has a potential 65:1 payback ratio over 30 years if it delays or even avoids capital expenditure for building and operating traditional treatment works⁶⁰. Applying an ecosystems based approach also fits with Outcome 2 (We live and work sustainably – protecting the environment) in the draft 2016-2021 Programme for Government.

- **Green procurement**

Procurement expenditure accounts for some £3bn annually, representing a quarter of the NI Executive's budget⁶¹. If the Department of Finance and the Executive ensured this expenditure was as green as possible it could make a huge difference to reducing Northern Ireland's ecological footprint and should help support green, low carbon industries, many of which could be local. As the NI Finance Minister⁶² said in relation to a reported £31 million in savings achieved under a new contract which will see 100% renewable energy supplied to government buildings



“procurement can be a key lever in the transition to a Green Economy.”

NI could learn from Scotland’s sustainable procurement duty, outlined in the Procurement Reform (Scotland) Act 2014⁶³ which aligns with the Scottish government’s purpose to create a more successful country, with opportunities for all of Scotland to flourish, through increasing sustainable economic growth.

-ENDS-

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³ <https://www.bbc.co.uk/news/uk-northern-ireland-54623368>

⁴ https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Discussion%20Document%20on%20a%20Northern%20Ireland%20Climate%20Change%20Bill%20-%20Full-length%20version_0.pdf

⁵ [file:///C:/Users/44770/Downloads/Net-Zero-The-UKs-contribution-to-stopping-global-warming%20\(3\).pdf](file:///C:/Users/44770/Downloads/Net-Zero-The-UKs-contribution-to-stopping-global-warming%20(3).pdf)

page 9

⁶ Ibid page 9

⁷ https://webarchive.nationalarchives.gov.uk/20100407163608/http://www.hm-treasury.gov.uk/d/Summary_of_Conclusions.pdf and



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¹⁴ <https://www.lse.ac.uk/granthaminstitute/explainers/what-is-the-2008-climate-change-act/>

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¹⁶ <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

¹⁷ https://www.ipcc.ch/site/assets/uploads/sites/2/2019/05/SR15_SPM_version_report_LR.pdf (p12)

¹⁸ <https://www.theccc.org.uk/publication/sixth-carbon-budget/> (p17)

¹⁹ <https://www.daera->

[ni.gov.uk/sites/default/files/consultations/daera/Discussion%20Document%20on%20a%20Northern%20Ireland%20Climate%20Change%20Bill%20-%20Full-length%20version_0.pdf](https://www.daera-ni.gov.uk/sites/default/files/consultations/daera/Discussion%20Document%20on%20a%20Northern%20Ireland%20Climate%20Change%20Bill%20-%20Full-length%20version_0.pdf) page 30

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²² <https://www.noaa.gov/>

²³ <https://public.wmo.int/en>

²⁴ <https://www.theccc.org.uk/>

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²⁶ <https://www.met.ie/>

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³⁰ <https://www.theccc.org.uk/publication/sixth-carbon-budget/> (p213)

³¹ <https://www.theccc.org.uk/publication/sixth-carbon-budget/> (p230)

³² Ibid page 165

³³ Ibid page 273

³⁴ CCC Sixth Carbon Budget Methodology Report <https://www.theccc.org.uk/wp-content/uploads/2020/12/The-Sixth-Carbon-Budget-Methodology-Report.pdf> (p245)

³⁵ <https://www.theccc.org.uk/publication/sixth-carbon-budget/> (p239)

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³⁷ Ibid page 267

³⁸ Ibid page 267

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⁴⁶ <https://www.theccc.org.uk/publication/sixth-carbon-budget/> (page 165)

⁴⁷ Ibid page 170

⁴⁸ Ibid page170



⁴⁹ Ibid page 163

⁵⁰ <https://www.theccc.org.uk/publication/sixth-carbon-budget/> p170

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