



Department for
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Climate Change Action Plan 2021 -22

September 2021

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Foreword



Climate change creates profound challenges for us all, and the need for urgent and resolute response. The New Decade New Approach agreement drew out a range of issues needing early action; and the Assembly declared a

climate change emergency on 3 February 2020. My Department has responsibility for a number of policy areas which impact on, and are impacted by, climate change, and we work closely with other Departments, including the Department for Agriculture, Environment and Rural Affairs (DAERA) which holds a lead for the Executive on climate issues.

This plan sets out the work that my Department will take forward in the next year to adapt and mitigate the impacts of climate change on our activities and on the policy areas in which we lead. This work may on occasion create tensions for us, for instance between the requirements needed to address climate change, and a constrained budget; and between our approach to achieving policy objectives, and addressing climate change. Any such tensions will require choices to be made, and balances to be struck; but in many

instances policy objectives and carbon reduction can be managed in harmony and, given the extent of the challenge, it is vital that we take early action. This plan highlights the key issues, and the actions we will take towards making informed choices on the basis of data and evidence. With the scale of the challenge facing us, it is important that, where we can take action, we begin to do so; this plan has therefore been developed with a one-year timeframe, recognising that work planning led by DAERA is not yet fully updated and that the local legislative framework is not yet in place. My Department expects to publish a multi-year plan before March 2022, either as a standalone document or as part of an Executive plan.

My Department recognises that it has an educative and influencing role to play in supporting climate change mitigation and adaptation, as well as the specific areas that we need to address. We will not duck this challenge.

A handwritten signature in black ink that reads "Deirdre Hargey". The signature is fluid and cursive, with a large loop at the end of the last name.

Deirdre Hargey
Minister for Communities

Introduction

The impacts of climate change have become apparent in the world around us, and the strong view of experts is that the challenges have become stark, and the timeframes in which to address them very short. It is no longer possible to put off actions to mitigate and/or adapt to climate change. The Climate Change Act 2008 sets down in law the requirement that the UK will be carbon-neutral by 2050, something in which all of us have to play our part. The UK Climate Change Committee (UKCCC) has determined NI's equitable reduction in emissions to be 82% by 2050, and legislation is being prepared for the Assembly to consider which would set this figure in our law.

This plan, which has been developed by the Department for Communities (DfC) Climate Change Working Group through a process overseen by the Departmental Management Board, sets out the actions that the Department and its Arm's Length Bodies will take to address the challenge. The plan will be adjusted and updated as further information and insights become available.

The plan is structured around the four main areas in which the Department's activities and policies most closely interact with climate change. The most profound of these is housing, with residential property emitting

14% of NI's carbon emissions in 2018. Housing is therefore a key point of intervention, which interfaces with the whole population and offers an opportunity to encourage a range of personal and lifestyle behavioural changes that can underpin a broad range of mitigation and adaptation actions. Significant action will be required and, given the extent of the housing stock that is owned or funded by the Department and its ALBs, the budgetary impacts will also be profound. An estimation of the investment cost to bring all of the NI housing stock to SAP Band B, for instance, is £9.2 billion.¹

The other areas considered are: the management of our Departmental estate and funding activities to ensure that the impacts of climate change are central to the choices we make; our built heritage, where the age and composition of buildings and monuments mean that they may respond differently to climate change, requiring specific considerations; and our urban regeneration activities where we will need to ensure that climate change impacts are considered from design through to construction and ongoing management. In all of these areas, we will need to ensure a focus on resilience in the face of climate change, and on the overall impact of various possible interventions to address the causes and impacts of climate change.

¹ Cost of carbon savings in Northern Ireland's housing stock (<https://www.nihe.gov.uk/Documents/Research/Single-Downloads/Cost-of-carbon-savings-in-NI-housing.aspx?ext>)

At the heart of DfC's activity is our purpose to support people, build communities and shape places. The response to climate change will be outwards from communities as well as from central initiatives and investments. The many initiatives we see instigated by local communities including repair cafes, community and urban farms and local tree planting, and to build skills in responding to climate change, demonstrate the appetite for addressing climate change that there is among the public and our communities as we each take individual

actions and make changes. The Department will seek to support and connect these initiatives, alongside the more central actions and activity that we will progress.

Taken together, all of these factors and responsibilities give the Department an important role in the collective effort to mitigate climate change and adapt to its impacts. This plan will therefore be a key document to inform a range of departmental decisions.

1. Climate Change: Legislative Framework, Evidence and Challenge

Legislative Framework

The legislative framework for addressing climate change is set out in a number of national and international documents. These date back to the UN Kyoto Protocol in 1992; and more recently include the Paris Agreement of 2015. At an EU level, the EU Energy and Climate Framework sets targets for emission reductions; and the UK Climate Change Act 2008² sets a binding target for the UK of being carbon-neutral by 2050, and requires the relevant NI Department to lay Climate Change Adaptation Plans before the Assembly.

The Sixth Carbon Budget³ sets a target for Northern Ireland of a 48% reduction in greenhouse gas emissions by 2030 against the 1990 baseline. The UK Government has recently set a target of 78% reduction across the UK by 2035. The New Decade New Approach Agreement commits the Executive to bring forward climate change legislation. Legislation is being prepared by DAERA to legislate for at least an 82% reduction in emissions by 2050, in line with the UKCCC's

recommendations in its Sixth Carbon Budget. A Private Member's Bill proposing a 100% reduction by 2045 has also begun its Assembly passage.

DAERA is the lead NI Department on climate change, and a range of material is available via its website. This includes the 2017 NI Climate Change Risk Assessment⁴ and the Climate Change Adaptation Plan 2 covering the years 2019-2024.⁵

Evidence and Challenge

The impacts of climate change are projected to be profound. By the end of this century (when compared to 1981-2000), for a low emission scenario sea-level rises are very likely to be in the range 0.08 m to 0.49 m. For a high emission scenario this range is very likely to be 0.30 m to 0.90 m⁶. DfI flood maps estimate that flood risk by 2080 as a result of sea level rises will see flood hazards at Belfast City Hall, and as a result of rises in river floodplains the area behind Causeway Exchange will be subject to flooding.

² <http://www.legislation.gov.uk/ukpga/2008/27/contents>

³ Sixth Carbon Budget - Climate Change Committee (<https://www.theccc.org.uk/publication/sixth-carbon-budget/>)

⁴ <https://www.theccc.org.uk/wp-content/uploads/2016/07/UK-CCRA-2017-Northern-Ireland-National-Summary.pdf>

⁵ <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Northern%20Ireland%20Climate%20Change%20Adaptation%20Programme%202019-2024%20Final-Laid.PDF>

⁶ <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp-headline-findings-v2.pdf>

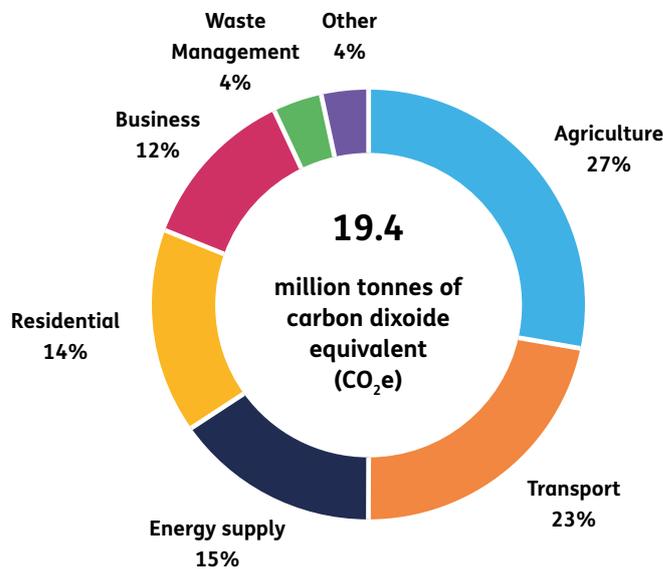
Also by the end of the century, summer temperatures are expected to be 4 and 7 degrees Celsius higher⁷ and sea level rises are likely to lead not only to reduced carbon storage capacity of soil but also to increased soil erosion and further loss of soil fertility impacting farming and food production.⁸

The drastic changes in temperature and sea levels illustrated here, and the volatile manner in which they are likely to occur, have direct and profound impact for us all.

In terms of emissions, between 1990 and 2018,⁹ England’s emissions fell by 46%;

those in Scotland by 45%; those in Wales by 31%; and those in NI by only 20%. Ireland’s emissions rose by 9.9% between 1990 and 2019.¹⁰ Northern Ireland accounted for 4.3% of total UK greenhouse gas emissions in 2018, whilst accounting for 2.8% of the UK’s population and 2.2% of UK’s economic output. The UKCCC estimates that Northern Ireland’s contribution to the Sixth UK Carbon Budget requires at least a 48% reduction in emissions against 1990 levels by 2030. The challenge for NI is therefore laid clear.

The breakdown of NI emissions by sector in 2018¹¹ is shown in the chart below.



⁷ <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp-headline-findings-v2.pdf> September 2019

⁸ UK Environment Agency – State of the Environment: soil – update September 2020

⁹ NI Greenhouse Gas Statistics 1990-2018 - Report (web version)_0.pdf (https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Greenhouse%20Gas%20Statistics%201990-2018%20-%20Report%20%28web%20version%29_0.pdf)

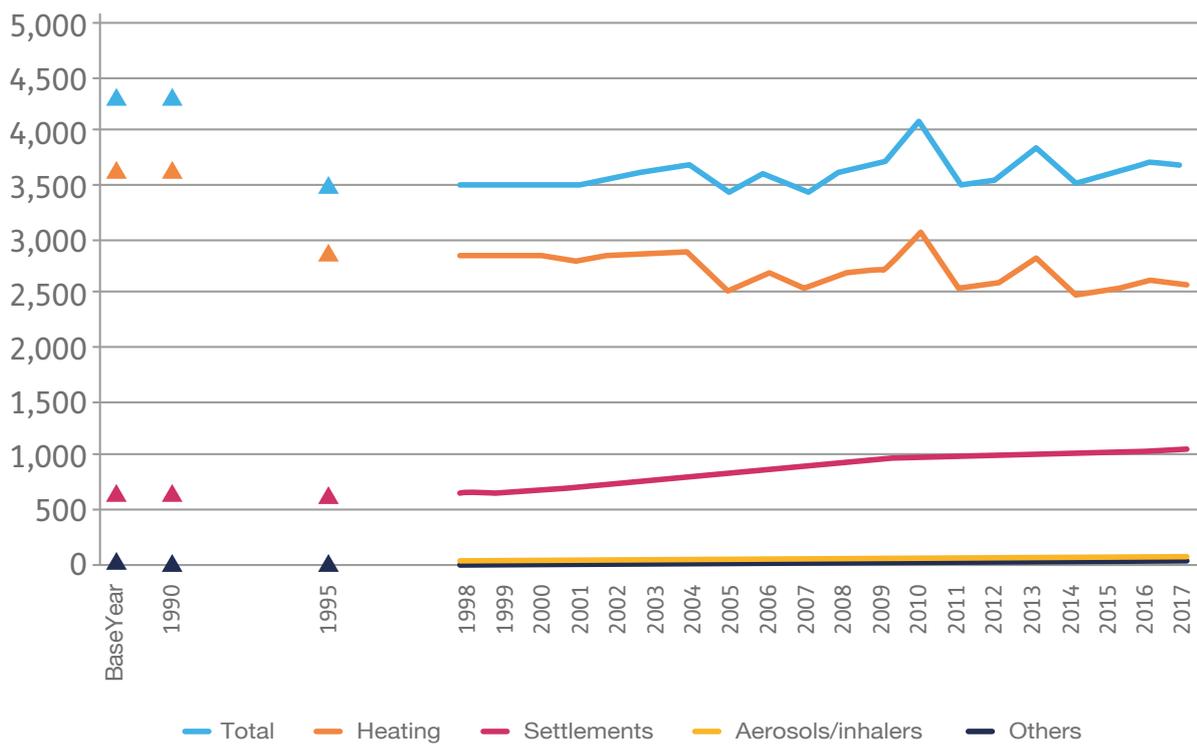
¹⁰ Ireland NIR 2021.pdf (https://www.epa.ie/publications/monitoring--assessment/climate-change/air-emissions/Ireland_NIR-2021_cover.pdf)

¹¹ NI Greenhouse Gas Statistics 1990-2018 - Report (web version)_0.pdf (https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Greenhouse%20Gas%20Statistics%201990-2018%20-%20Report%20%28web%20version%29_0.pdf)

The emissions arising from areas where DfC has some policy responsibility are shown in the graph below. Residential emissions are projected to remain at 14% of total emissions in 2030, as they were in 2018. The graph shows that DfC has some level of policy responsibility around 20% of total emissions.¹²

The particular DfC actions contained in the 2019-2024 NI Climate Change Adaptation Programme¹³ are:

- To implement the Fuel Poverty Strategy by the end of 2023; and
- To develop a strategy on climate change and the historic environment including research and the development of appropriate guidance by the end of 2019.



¹² Northern Ireland Greenhouse Gas Projections Update Based on 2018 Greenhouse Gas Inventory (Feb 2021) - <https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20GHG%20projections%20Update%20based%20on%202018%20GHG%20inventory%20-%20Report.pdf>

¹³ Northern Ireland Climate Change Adaptation Programme 2019-2024 Final-Laid.PDF (<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/Northern%20Ireland%20Climate%20Change%20Adaptation%20Programme%202019-2024%20Final-Laid.PDF>)

These actions sit under priority P1: *we have people, homes, building and communities that are resilient to the impacts of flooding and extremes of weather.*

It will be important that a future Fuel Poverty Strategy aligns with emerging energy, Green Growth and climate change strategies and is supported with improvements in energy efficiency from future revisions of Building Regulations. The timeframe for the development and implementation of proposals for a new strategy will therefore be dependent on progress in these areas. While there is no specific action to be completed within this one-year plan, the Department will continue to engage with DfE, DAERA and DoF, working towards Implementation of the Strategy by 2023.

The Department, working with sister organisations and stakeholders, has developed a range of interventions as regards the historic environment, as summarised in section 2.4 of this plan.

Consequences

The challenges laid out in this section are stark. They emphasise the situation facing us all, and in the context of this plan particularly the challenges facing the Department with our policy and operational responsibilities.

As with all challenges, however, they present opportunities also. The Department aims to support people, build communities and shape places. The climate change challenges require us to frame new and adapted responses. These responses can be framed to support improved employability; inclusive skills which support Green Growth; community initiatives which create additional community resilience alongside addressing climate change; changes to our housing which create living spaces which improve wellbeing and reduce health interventions; and interventions in our towns, cities and villages which make them more accessible and inclusive places alongside reducing their climate impacts.

The next section of this plan considers the activity we will progress in 2021-22 in support of this, including where ‘going beyond compliance’ can deliver a range of dividends – whilst recognising the challenges of finance, technology and operational capacity. We will consistently be ambitious in our outlook, whilst respecting (and challenging) those limitations.

2. Our Response

The Department is committed to taking firm and visible action to address climate change in NI. This plan summarises work we have undertaken to date, and sets out actions we will take in the coming year. It does this by considering key policy and operational areas in turn. The plan has a one-year timeframe; a longer-term plan and actions will be developed during 2021-22 within the framework of agreed legislation and DAERA-led work on Green Growth and climate change.

2.1 General Actions

The Department, its staff and its assets have a wide reach across our population. We can therefore lead by example, encourage others through a range of levers, and provide both encouragement and instruction to those with whom we work. The actions below cut across the different strands of activity set out in this plan.

To generate momentum and an evidence base, the Minister has assigned capital funding to a DfC Climate Change Fund for 2021-22. The Fund includes strands of funding on our own assets (buildings, vehicles and wider estate), grant funded assets, new build homes, retrofit of homes, heritage, and regeneration. There has been wide buy-in to this approach, which will make a difference on the ground and provide further data and evidence around costs, challenges, opportunities and impact. This is therefore an important statement of intent by the Department.

It will be vital to connect all that we do to address climate change, to our overall Departmental strategy to build inclusive communities. Communities are well-placed to identify interventions which can achieve this, whilst also delivering on climate change objectives. We will work with communities and sectors to share, challenge and determine appropriate actions.

Action	Owner	Timescale / Targets
Implement a DfC Climate Change fund for 2021-22 to encourage early action and collate evidence	Climate Change Lead	Fund in place in April 2021; agreed budget expended by March 2022; lessons learned report by April 2022
Develop and oversee a set of interventions which will encourage departmental staff to lead by example, encourage others to do the same, and implement appropriate guidance and requirements in all of our work	Climate Change Lead	Working Group consideration of shape of proposals by 30 June 2021; proposals developed by 30 September 2021.
Work with our ALBs to use our networks and capabilities to increase community awareness and understanding of climate change issues and impacts	Climate Change Lead	Initial programme and priorities agreed by 30 September 2021 and then implemented.
Ensure that all interventions are considered in light of support for employability and Green Growth inclusive skills, and their potential to increase community resilience	Climate Change Lead	Greater clarity on key areas by 31 December 2021.
Determine an approach to carbon audits and baselines across the Department and our ALBs which provide consistent and robust baselines for action	Climate Change Lead	Consolidated understanding of these issues by 30 September 2021.
Provide support to DAERA in terms of NI contribution to COP26	Climate Change Lead	Provide input to DAERA as required.

2.2 Housing

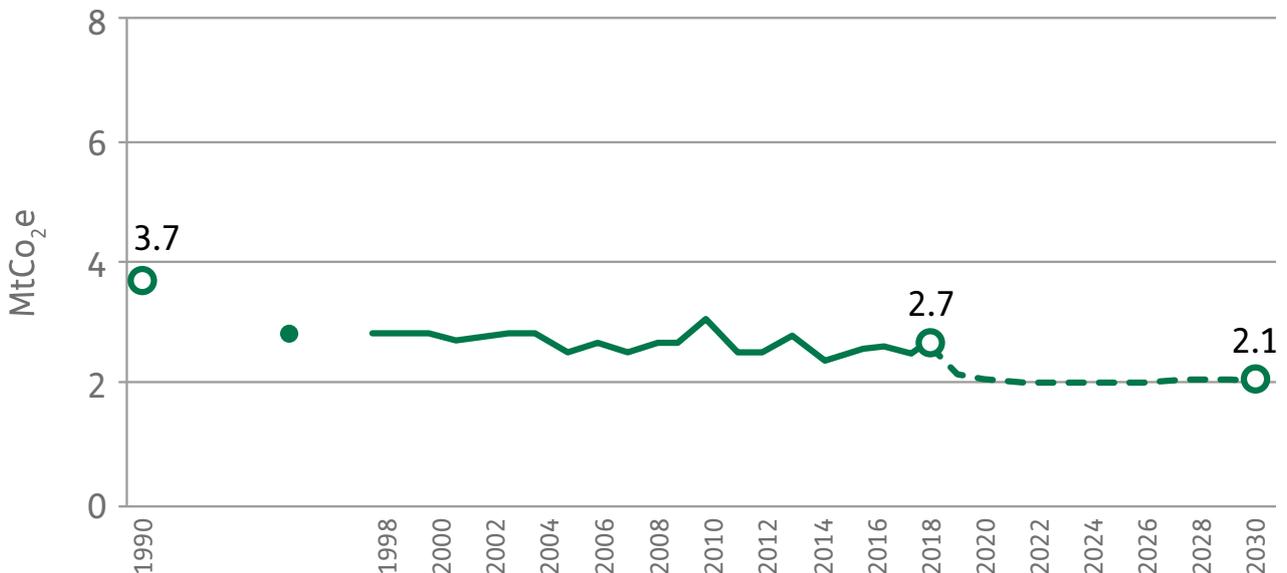
The Department has responsibility for housing policy, including funding affordable housing (social and intermediate). There is a range of issues to be addressed within this field, as set out in this section.

The projections for carbon emissions for the sector are shown in the graph below¹⁴. Emissions in this sector are driven by fuel combustion in homes and therefore follow a similar trend to the energy supply sector, with emissions decreasing in the earlier years as NI becomes less carbon intense.

The projection shows a slight increase from 2024 on as policy savings reduce.

Residential emissions fell by 25% between 1990 and 2018. The projections estimate that this decline will be maintained, with a 23% decrease between 2018 and 2030, resulting in an overall decrease of 43% between 1990 and 2030. The share of total emissions from this sector are projected to remain the same between 2018 and 2030, at 14%. By 2030, it is expected that emissions from the residential sector will become the third largest source in Northern Ireland.

From the latest GHG inventory (1990 to 2018) and updated projections (2019 to 2030)



¹⁴ NI GHG projections Update based on 2018 GHG inventory - Report.pdf (<https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20GHG%20projections%20Update%20based%20on%202018%20GHG%20inventory%20-%20Report.pdf>)

General Condition of Housing Stock

Our housing consists of a range of different dwelling types, ages, physical forms and construction types, many of which have been modified over time to create a diverse stock of varying quality and condition. The Northern Ireland Housing Statistics Report 2019-20¹⁵ showed there were approximately 807,000 dwellings in Northern Ireland. This is an increase of approximately 27,000 dwellings from numbers reported in the 2016 House Condition Survey¹⁶. The 2016 Report also indicated that approximately one third were located in rural areas; and that 38% were detached housing, 28% semi-detached, 25% terraced and 9% flats/apartments. Based on the SAP 2012 methodology, average SAP values in Northern Ireland in 2016 were 66.3.¹⁷

Emissions from residential buildings in Northern Ireland were 2.7 MtCO₂e in 2018,¹⁸ accounting for 14% of total emissions. There is no single low carbon solution for a housing stock that varies so significantly, and clearly there are challenges from having a relatively higher amount of detached, rural dwellings (when compared to the other parts of the UK) which are more exposed and therefore harder to keep warm.

It is technically possible to reduce emissions from baseline levels through changes to the housing stock, but this requires maximum uptake of technically viable actions, including some that presently do not have a financial return on investment to an owner over their lifetime (based on current differences between the retail prices of electricity and fossil heating fuels). Significantly improving the energy efficiency of the more than 800,000 existing homes and buildings in NI will require investment, consumer buy-in and a comprehensive range of supporting policies. The Department is currently developing a Housing Supply Strategy which is scheduled for launch by the end of March 2022. The most recent stage in the development of the Strategy was a 'call for evidence' which closed for consultation on 16 July 21. Responses to this consultation are now being analysed, along with other sources of evidence and information, to help inform the development of the draft Strategy. It is intended that the draft Housing Supply Strategy will be published for consultation later this year

New Build

Building Regulations will play a key role in determining the energy efficiency, heating requirements and carbon emissions of new

¹⁵ <https://www.communities-ni.gov.uk/system/files/publications/communities/ni-housing-stats-19-20-full-copy.pdf>

¹⁶ <https://www.nihe.gov.uk/Documents/Research/HCS-2016-Main-Reports/HCS-Main-Report-2016.aspx>

¹⁷ SAP scores of 100 denote buildings which will run with 'zero energy costs', whilst a score of 100+ indicates that the building can be 'zero carbon' and able to generate surplus energy which can be feed back into the grid

¹⁸ NI Greenhouse Gas Statistics 1990-2018 - Report (web version)_0.pdf (daera-ni.gov.uk)

homes, of which there were 7,085 in NI in 2019-20¹⁹. Reviews of building standards elsewhere are considering future-proofing for low carbon heating for new homes and buildings. For example, in England the Future Building Standards consultation²⁰ which closed on 13 April 2021 seeks a 31% reduction in carbon emissions. Failing to achieve high insulation standards now is likely to make it more expensive to retrofit to high standards later. Building Regulation is the responsibility of DoF, which is considering the changes that may be required. An increase in the requirements in the Regulations is likely to have an impact on the cost per house built, in the short term at least, with estimates of an increase of around 5-10% in costs per house built. We will therefore work with DoF, and the housing supply sector, to understand the options and issues further, taking into account that any construction cost increase will be offset by societal benefits, including in health, wellbeing, environment and reductions in fuel costs for low income families.²¹

Most buildings constructed now will still be standing long after the 2050 date for net zero carbon emissions, and should therefore be designed and constructed so that they do not require retrofit in the foreseeable future. Rather, to avoid this large opportunity cost, they should be highly energy efficient and designed to accommodate low-carbon heating from the start, optimising overall

system efficiency and comfort at building level. The Housing Executive is piloting an on-site Modern Methods of Construction system, to provide dwellings to improved energy efficiency standards. At the core of this is the benefit of reducing fuel poverty in new/re-provisioned housing, developing new jobs in construction/production, and meeting housing need in an environmentally and socially positive way. This route has the potential to support many of the Department's policy aims, including improved employability and skills, tackling fuel poverty, and addressing climate change. The Department will therefore continue to work with partners and stakeholders to collate and analyse relevant evidence and determine the appropriate policy and operational responses in the Social Housing Development Programme.

Retrofitting

In February 2019, the UKCCC reported to the UK government and devolved administrations that UK homes were not fit for the future. Given that approximately three quarters of the UK's existing buildings will still be in use in 2050, enhancing the energy efficiency of existing housing stock through a range of retrofitting measures is critical.

Different sectors of the housing stock require different levers to make retrofit happen. Tenure is likely to have a particularly large influence on the most appropriate choice of

¹⁹ <https://www.communities-ni.gov.uk/system/files/publications/communities/ni-housing-stats-19-20-full-copy.pdf>

²⁰ The Future Buildings Standard - GOV.UK (<https://www.gov.uk/government/consultations/the-future-buildings-standard>)

²¹ [https://www.tyndall.ie/contentFiles/files/IERC_Residential_Retrofit_Renovation_Benefits_Wave_in_Ireland_Position_Paper\(1\).pdf](https://www.tyndall.ie/contentFiles/files/IERC_Residential_Retrofit_Renovation_Benefits_Wave_in_Ireland_Position_Paper(1).pdf)

lever. Smaller, lower value owner occupied dwellings are among the ‘hardest to reach’. Smaller off-grid owner occupied dwellings are currently among the ‘hardest to treat’, while dwellings located in conservation areas also present specific challenges. This is part of the general picture that the owner-occupied sector may have significant barriers (actual or perceived) that will need to be addressed.

The 2016 House Condition Survey indicates that the private rented sector (PRS) makes up around 17% of the housing market in Northern Ireland, and that 26% of PRS households are in fuel poverty. Progress in the rental market has been constrained by ‘split incentives’, where landlords meet the costs of energy efficiency upgrades and tenants are perceived to reap the benefit in terms of lower heating costs. At present in NI there is no requirement for a property to have a specific EPC rating before it can be rented, in contrast to England and Wales where it is now deemed unlawful to let properties with an EPC rating below an ‘E’ rating. Scotland is also proposing more stringent EPC targets - Band C - by 2024 where technically feasible.

The Department has carried out a review of the role and regulation of the PRS and the standard of properties, including plans to introduce a minimum energy efficiency standard for the PRS. A Private Tenancies

Bill is being brought forward in this mandate which will give the Department the power to bring forward regulations concerning the energy efficiency levels required before a property can be let as a private tenancy.

The Department will have to consider how to fund retrofit for social housing stock, which will be a considerable capital expense. We will also need to consider grant schemes to support improvements in both the PRS and the owner occupier sector. The upgrading of the existing housing stock to support CO2 emission reduction targets represents a significant opportunity to kick start our building sector, creating new jobs and skills in the current context of Covid-19 driven challenges to our economy.

The Housing Executive recently commissioned research via BRE²² to assess the cost of improvement, reduction in household energy costs and reduction in carbon emissions across all NI housing with improved energy efficiency standards to mitigate against climate change. These improved energy efficiency standards are based on all NI housing achieving a SAP Band C²³ and SAP Band B using existing technologies and low carbon options likely to be considered over the next ten years, based on evidence from the UKCCC. The key findings of this research are as follows:

²² The Building Research Establishment (BRE) is a centre of building science in the United Kingdom, owned by charitable organisation the BRE Trust. It is a former UK government national laboratory that was privatised in 1997.

²³ Various regions are aiming to improve the existing housing to a SAP Band C between 2024 and 2030, however this is good practice, not a duty.

- Medium Term: The total cost to improve the approximately 390,000 eligible dwellings in Northern Ireland to at least a SAP band C was £2.4 billion, with a mean cost of £6,200 per dwelling.
- The overall impact of improving dwellings in Northern Ireland to Band C would be to provide mean energy cost savings of £500/year, mean CO₂ savings of 3.2 tonnes/year and a mean SAP rating increase of 14.
- Long Term: The total cost to improve the approximately 586,000 eligible dwellings in Northern Ireland to at least an SAP band B was £9.2 billion, with a mean cost of £15,600 per dwelling.
- The overall impact of improving dwellings in Northern Ireland to Band B would be to provide mean energy cost savings of £700/year, mean CO₂ savings of 3.7 tonnes/year and a mean SAP rating increase of 18.
- Generally, traditional improvement measures, which focus on installing fabric insulation and upgrading heating systems, were sufficient to improve dwellings to a SAP band C. To reach the target SAP band B threshold, however, further measures were required in the majority of cases. Specifically, the installation of photovoltaic (PV) panels was essential in improving a significant proportion of the stock to a SAP band B.

In context of carbon reduction, the long term consequence of this retrofitting resulting in reducing CO₂ emissions by 2.2 million tonnes annually. Based on 2018 DAERA statistics, NI is producing 13.1 million tonnes of CO₂ annually²⁴. This report therefore demonstrates that the retrofitting of NI housing can significantly reduce NI's carbon footprint.

The research also indicates a significantly increased requirement of funding provision across both the public and private sector to provide these improved standards. Although this may require a step change by funding providers, housing authorities and the 'able to pay' sector, the societal benefits from improved thermal comfort and reduced fuel poverty will improve household health and reduce the burden on the NHS.

The Housing Executive landlord is currently finalising its Energy Efficiency Strategy which will indicate its intention to refurbish its existing housing stock to improved energy efficiency standards based on feasibility and value for money. The delivery of this Strategy is predicated on the Housing Executive agreeing a sustainable business model to deliver the current landlord responsibilities with central government. Work is underway in this regard through the NIHE Revitalisation arrangements. This Strategy will require significant funding that is currently not projected to be available under the existing funding regime. This is a

²⁴ NI Greenhouse Gas Statistics 1990-2018 - Report (web version)_0.pdf (https://www.daera-ni.gov.uk/sites/default/files/publications/daera/NI%20Greenhouse%20Gas%20Statistics%201990-2018%20-%20Report%20%28web%20version%29_0.pdf)

dynamic strategy as the NI Energy Policy and ongoing trials by the Housing Executive will provide additional direction and data, therefore this Energy Efficiency Strategy can be reviewed periodically.

Within the Housing Association (HA) sector, the stock condition is better which will reflect on investment needs. The HA sector has a more sustainable revenue stream from its rented properties which facilitates their life cycle; however additional energy efficiency measures may require additional funding.

On 25 February 21, Minister for the Economy Diane Dodds launched her Department's Economic Recovery Action Plan.²⁵ An element of that plan is the development of proposals to introduce an Energy Efficiency Home Retrofit Scheme to drive energy efficiency in the NI building stock, providing opportunities for job creation and green economic growth. DfE intends to establish a pilot to test its approach, and DfC is working to ensure that a joined up approach and outputs and learning from that pilot should inform future retrofitting concepts and implementation. It will be important that the end state across any future retrofitting programme should be considered within a comprehensive and integrated approach to enhance the performance of estates e.g. Green space management, public transport provision and the option of community heating.

Heating

Northern Ireland homes have a high reliance on fossil fuels. In 2016 oil central heating accounted for 68% of heating systems, followed by gas at 24%. The Utility Regulator has estimated that approximately 60% of all households and businesses in Northern Ireland will have access to the natural gas network by 2022; however many households in fuel poverty cannot afford to make the switch from oil. Fuel poverty still remains a significant issue, with the latest estimate from the 2016 House Condition Survey suggesting that 22% of households in Northern Ireland were affected. Climate and fuel poverty policies must work in synergy, with low-carbon heat needing to work alongside an energy efficient building fabric to be effective in both cost savings and emissions reductions.

Decisions by DfE on the NI Energy Strategy have the potential also to affect the carbon impacts of different energy sources, thereby impacting the market and available options to reduce emissions. Up to this point, reductions in carbon emissions in domestic heating have been achieved through switching from oil to gas boilers. While gas heating releases about 30% less CO₂ than oil heating, it is still a fossil fuel and any long term solution must be carbon neutral to ensure compliance with the Climate Change Act. Injecting biomethane into the gas grid is a means of decarbonising supply without requiring changes from consumers, and

²⁵ <https://www.economy-ni.gov.uk/sites/default/files/publications/economy/dfe-economic-recovery-action-plan.pdf>

provides a route for capture and use of methane emissions from biodegradable wastes. Its potential is limited to around 5% of current gas consumption at UK level. Over the longer term, a switch to Green Hydrogen may be possible, but this would take investment in infrastructure (and the replacement of every gas boiler) if it is considered an economically viable solution. The viability of this is being explored within the DfE Energy Strategy.

We therefore need to encourage new forms of domestic heating, such as electric heat pumps in buildings not on the gas grid, and to obtain a bigger contribution to heating and hot water from local or building embedded renewable energy. Electric heat pumps are the leading low-carbon option for buildings not connected to the gas grid but this depends on dwellings being well insulated to provide comfort affordably. Together with new-build properties, installation of heat pump in buildings off the gas grid can help create the scale needed for supply chains to develop, potentially in advance of accelerated heat pump roll-out in on-gas grid properties after 2030. Such technologies are currently expensive and a switch to these would greatly increase the cost-per-house of the Affordable Warmth Scheme. The current approach to and investment in Fuel Poverty Schemes is inadequate to make anything other than a marginal change to the carbon footprint of our housing stock. Compliance with the Climate Change Act will require a step change in approach to incentives and

interventions across both the public and private sectors. A coordinated set of interventions using a range of technologies will be required, also ensuring that regulations including within the planning system are appropriately reflective of climate change impacts.

We also need to explore low-carbon heat networks which can utilise the variable output of local wind generators in winter at times when outputs are highest, and community energy generation initiatives. ‘Hot Pipe’ Community heating schemes require a certain density of heat demand in order to be economic, which means that they are suited to older urban areas, new-build developments and some rural homes. Low-carbon heat sources can include waste heat, large-scale (e.g. water-source) heat pumps and geothermal heat. Community heating systems have become ‘Smarter’ and more reliable than the district heating systems previously used. This will need to focus in urban areas and will be more financially viable within new build scenarios. Across Europe these capital projects are supported by local authorities to ensure fairness and equity across users. The ongoing review of NI Energy Policy by DfE, which has been recently released for consultation, highlights policy options for the transition of household heating systems across NI. Based on evidence from the UKCCC, the electrification of heat, especially in the rural areas off the gas grid is a likely option, admittedly with the inclusion of improved energy efficiency measures. Within the urban environment,

including the gas grid localities, zero carbon options for gas, e.g. Green hydrogen are presently being researched in GB, and maybe a 'good fit' solution for the existing gas grid if value to the householder can be achieved without subsidy.

Many of the actions that the Department knows it needs to take on housing issues are dependent on understanding the broader direction of travel in Green Growth and in Energy Policy, meaning that, in the short term, the Department will need to focus on collaboration and engagement as the direction of travel is determined.

Action	Owner	Timescale / Targets
Develop and implement a Fuel Poverty Strategy aligned with the Energy Strategy and Green Growth Strategy	DfC Housing Divisions	Implement by 2023 in line with the 2019-2024 Climate Change Adaptation Programme.
Introduce enabling legislation for minimum energy performance certificate bands for all private rented sector properties	DfC Housing Divisions	Enabling legislation has been drafted. Subject to successful passage through the Assembly it is intended the Bill will be law by the end of this mandate.
Work closely with DfE in their development of a pilot domestic retrofit programme.	DfC Housing Divisions	To the timetable set by DfE.
Work with DoF to understand a timetable for revisions to Building Control regulations	DfC Housing Divisions	Gain clarity by 31 March 2022.
Work closely with DfE on its development and implementation of the NI Energy Strategy	DfC Housing Divisions	To the timetable set by DfE.
Progress work under European Regional Development Fund to apply external wall insulation to non-standard, uninsulated older homes.	NIHE	By Sept 2023 (dependent on Covid-19), in alignment with the NIHE Energy Efficiency Strategy and to support research for Improved Energy Efficiency Standards to SAP Band C and SAP Band B via BRE.

2.3 Estate management, investment decisions and grant funding

DfC Estate Management

The Department and its Arm's Length Bodies employ over 12,500 people and occupy a considerable estate, including 96 libraries and four museum sites (aside from the housing stock owned by the NI Housing Executive).

In terms of the estate occupied by Departmental staff (generally as tenants of the Department of Finance), under the UK Carbon Reduction Scheme which reported from April 2010 to April 2019, the Department achieved a reduction in CO2 emissions per tonne of more than 35% through encouraging behavioural change by staff, replacing outdated plant and reducing its building footprint. We have invested in LED lighting and boiler conversion to gas – both of which reduce emissions but do not eliminate them. The majority of offices use a centrally-controlled Building Energy Management System (BEMS) to control the heating, ventilation and water. We understand

that the particular requirements around ventilation to mitigate Covid-19 transmission are likely to have increased energy usage in the estate in 2020-21.

The Department is committed to playing its part in the current NICS plans to reduce net energy consumption by 30% by 2030, compared to 2016-17. This plan will have to be delivered in a constrained budgetary environment, and recognising that there will be capital, and in some cases ongoing resource, costs linked to the necessary changes.

Early work is ongoing as part of a Department of Finance (DoF) led programme of change, building on the response to the Covid-19 pandemic, to look at more agile ways of working across the NICS. This is expected to lead to further reductions in the estate footprint of the NICS, which will have consequential impacts for the DfC estate and associated energy consumption in the medium term, as well on the carbon impacts of travel to work and whilst at work.

Action	Owner	Timescale / Targets
Play a full part in the NICS programme to reduce office energy consumption	DfC Estates	Condition survey for Plaza Building by March 2022 and actions progressed in line with agreed plan. Condition Survey for Lisahally during the 22/23 financial year and actions progressed in line with agreed plan.
Play a full part in the NICS New Ways of Working Programme	DfC Estates	2 x Connect2 hubs available by April 2021 with further 8 x Connect2 hubs available by April 2022. Agreed NICS Home/ Remote Working Policy in place by March 2022. Agreed DfC Workforce/ Workplace/ Digital strategies in place by March 2022.

Arm's Length Bodies and Advisory Groups

The Department has ALBs with significant non-housing estates, including National Museums NI and Libraries NI. These bodies already consider carbon impacts when they undertake capital works, but also have a significant number of older buildings which will need to be considered for retro-fitting, some at significant cost which will have to be considered alongside development work. We will ensure that National Museums NI and Libraries NI consider carbon impacts in all of their capital investments, and bring forward

challenging and costed carbon reduction plans which allow informed decisions on the most appropriate actions to take.

The Department also has an advisory body, the Ministerial Advisory Group on Architecture and the Built Environment (MAG), which has access to a wide range of independent multi-disciplinary expertise, and can undertake strategic advisory work, educational outreach, knowledge share, briefings and Design Reviews. We will involve this centre of expertise centrally in our work, to advise both the Department and others.

Action	Owner	Timescale / Targets
Develop a Libraries NI carbon reduction strategy	Culture Division	Signed off by Libraries NI Board and DfC by March 2022.
Develop a National Museums NI carbon reduction plan within its Asset Management Strategy	Culture Division	Signed off by National Museums NI Board and DfC by 31 March 2022.
Determine financial impacts of the Libraries NI strategy and bring forward options	Culture Division	Analysis completed by 31 March 2022.
Determine financial impacts of the National Museums NI strategy and bring forward options	Culture Division	Analysis completed by 31 March 2022.
Ensure that the Ministerial Advisory Group is positioned as a centre of expertise to advise the Department and other public bodies in climate change issues	Culture Division	Clear action plan, with resourcing and skills consequences set out, in place by 31 March 2022.

Contracts and operations

The Department has responsibility for the management of significant contracts, for instance for post, waste handling and cleaning. Most of these are collaborative procurements managed through Construction and Procurement Delivery (CPD) in DoF. We recognise the potential for carbon emission reductions through the specification of these contracts, and will therefore continue to press for CPD to consider including further carbon reducing

measures in the procurement of future collaborative contracts.

The Department is also responsible for administering and operating the social security benefits, child support and pensions systems, largely in alignment with those in GB and using GB IT systems. We have identified a number of policy and operational areas where climate change could be more centrally embedded, and will engage with DWP to determine how quickly we are able to address these.

Action	Owner	Timescale / Targets
Continue to challenge CPD to consider including further carbon reducing measures in the procurement of future collaborative contracts such as post, waste handling and cleaning as these contracts present for renewal	DfC Contracts	As contracts end and procurement of new service commences.
Engage with DWP on areas where climate change impacts can be embedded more fully, including operational use of paper and the Motability scheme ²⁶	Work & Health Group and Supporting People Group	Initial considerations explored by 30 September 2021.

Grant Funding and Investments

We will consider the wider range of works that we fund, for instance through the voluntary and community sector, arts sector, sports sector, and neighbourhood renewal programme. We will consider what requirements we place on these funding streams as regards climate change issues, including whether that is only for grants above a certain value or for certain kinds of activity; and whether it is a requirement of funding, or enables access to a separate carbon-reduction fund. We note that such considerations are already required in the PEACE programme. We recognise that either route may require additional total funding, or achieving less development with the same funding. Based on the future DfE Energy Policy, there may for instance be

capacity to develop community energy initiatives. It will be important to consider how we show leadership, and to use the leverage available through our funding to create reductions in carbon emissions, and adaptations to cope with climate change. We will work with other grant funders as we progress our considerations, sharing learning and seeking to embed a consistent approach across funders.

Within the Department's ALB network there are investors of funds – in particular NILGOSC. The Committee already has guidance in place on responding to climate change, and embedding that in its investment decisions (August 2019). This increases its focus on investing in low carbon businesses and activity, whilst

²⁶ The Motability Scheme is operated by Motability Operations Ltd which is independent of Government. The Scheme is overseen by the registered charity Motability.

recognising its role as an investor in shaping businesses' decisions in this area. The Committee expects to expand its investment Climate Risk work in 2021 and is exploring the measurement of carbon emissions within its portfolios, in addition to annual reporting on climate governance, strategy, scenario analysis, risk and metrics. Climate risk is a matter which is under continuous consideration by the Committee.

The Department is also responsible for the Statement of Investment Policy for the NI Central Investment Fund for Charities. A new policy, taking into account climate change issues, has been prepared.

In addition, many of our programmes channel funding via councils, allowing us to influence and be influenced by council thinking on climate issues and how to apply funding and other levers to address impacts. The existing relationships and liaison structures which the Department is a member of or convenes with local government – including the Partnership Panel – provide appropriate and relevant means to share insights and best practice with councils. There will be important links to Community Planning and Local Development Planning as well: the Community Planning

duty on councils makes reference to incorporating sustainable development in Community Plans.

Councils are bodies corporate with their own legal standing and responsibilities. As such, the Department does not have a direct power on the exercise of their actions which might impact climate change. However, the Department's close working relationship with local government does provide a suitable means by which the Department can share insights, and influence and be influenced by local government activity on climate action, including through the Local Government Climate Action network (convened by Climate NI for council environmental officers).

In a similar vein, we will consider how climate change impacts (positive and negative) are explicitly addressed in economic appraisals. The Green Book requires consideration of environmental impacts, but these often do not form a key element of the appraisal of proposals. This is likely to be best achieved through cross-NICS working to agree how to embed this in the economic appraisal process.

Action	Owner	Timescale / Targets
Review Engaged Communities Group grant funding and bring forward proposals to embed carbon reductions within appropriate works and support community energy developments	Engaged Communities Group	Paper developed and approved by 30 September 2021 which identifies priority areas (those where the most difference can be made), to inform relevant 2022-23 and future year grants
Review other DfC grant funding and bring forward proposals to embed carbon reductions and renewable generation within appropriate works	Strategic Policy & Professional Services Group	Paper developed and approved by 31 December 2021, to inform 2022-23 and future year grants
Review NILGOSC climate change guidance	Local Government Policy Division	By March 2022
Implement appropriate climate change guidance in Statement of Investment Policy for the NI Central Investment Funds for Charities	DfC Finance Division	Updated guidance in place by June 2021.
Develop structured means of sharing insights and options with district councils	Local Government Policy Division	Current arrangements reviewed and any appropriate changes embedded by March 2022.
Encourage DoF to agree a cross-NICS approach to carbon emission considerations in economic appraisals	DfC Finance Division	Building on current Green Book guidance, any appropriate changes in place by March 2022.

2.4 Historic Environment

The Department has the policy lead for heritage, and is also a significant owner and guardian of heritage assets in the State Care Monuments. Older buildings and monuments often respond differently than newer structures to climate change, and Historic Environment Division (HED) works with sister organisations and others to understand how best to address these impacts. Some – such as rising sea levels and increased intensity of rainfall in storms – are obvious; others are less so – the change in direction of prevailing wind and therefore rain is causing problems for many older buildings.

A key issue in the heritage field is understanding the carbon impacts of various approaches to retro-fitting, and the specification for this; and of the relative impacts of new build as compared to retro-fitting. There has recently been a significant increase in academic publications in this field, and practical outworking of this into approaches for different types of buildings. We will need to consolidate our understanding of this, and produce relevant guidance and advice. This may impact our approach to supporting heritage construction activity, and to the balance we propose between retro-fitting and new build; which in turn would need to feed through into any grants through the Historic Environment Fund.

As owner and guardian of the State Care Monuments, we are collating information through our Condition Surveys on impacts of climate change on each site, and considering options to address/ mitigate these. We are drawing on work by sister organisations in this, and in other elements of understanding how climate change impacts, and is impacted by, the historic environment.

The Department also holds a coordinating role on the implementation of the Protocol on the Care of the Government Historic Estate agreed by the Executive in 2012; one of the requirements in this is to consider the impacts of climate change. We are looking at a rolling reporting system to allow particular focus on this area in the near future.

We have commissioned a piece of work to develop a self-assessment tool for owners to consider climate impacts on their buildings. This was road tested at a Historic Environment Stakeholder Group meeting in 2020 and found to be very valuable. We will therefore shortly roll this out within our guidance material. Other elements of guidance we are developing in this field are around energy efficiency in older buildings; and retrofitting historic buildings. Organisations in the historic environment sector are also developing guidance, and we work closely with them to coordinate the creation and publication of guidance for various audiences.

Action	Owner	Timescale / Targets
Develop an evidence-based assessment of risks and interventions required at state care monuments to address climate change issues	Historic Environment Division	Embed climate change considerations into state care monument condition surveys/ risk assessments and review the suitability and usability of the 3Keel data for initial climate risk assessment for State Care Monuments
Publish the self-assessment tool for climate change for owners of historic assets	Historic Environment Division	By 31 March 2022.
Working with housing colleagues, academics and others, assess options for gathering robust evidence on the climate change impacts of new build and retrofitting, and feed this into decisions on grant schemes	Historic Environment Division	Initial paper by 30 June 2021; further update by 31 March 2022.
Report on climate change measures taken and planned by government departments in the care of their historic estate	Historic Environment Division	Report published by 30 September 2021.
Working with the Historic Environment Stakeholder Group, and with sister organisations, review further interventions and evidence appropriate or necessary	Historic Environment Division	MOU with the Department of Housing, Local Government and Heritage agreed by 30 June 2021. Sectoral workshop held by 31 December 2021. Plan for how hazard data will be used and integrated with historic environment data developed by 31 December 2021. MOU signed with National Trust, Historic Environment Scotland, Historic England and Cadw by March 2022.

2.5 Regeneration

Urban areas are centres of innovation and growth, and engines of economic development. In Europe, they host around 75% of the population and use about 80% of the energy produced, with an expected increasing trend. They are major contributors to climate change, generating significant greenhouse gas emissions. Many cities have developed in low-lying areas and are vulnerable to the impacts of climate change – Belfast is a prime example of such a city.

The Department holds the urban regeneration policy brief, and provides significant levels of funding for this work, in close collaboration with district councils. Many of our urban regeneration interventions involve construction activity; and construction activity generates more than half of UK waste and a significant proportion of carbon emissions in the economy.

The Department has already made some contributions in the transition to a low-carbon economy, for instance:

- By achieving CEEQUAL accreditation for public realm schemes. CEEQUAL is the Civil Engineering etc equivalent of BREEAM (which applies to buildings), and it takes into account a number of measures of environmental sustainability, including carbon emissions;
- By planting of trees and soft landscaping in town and city streets;

- By creating better infrastructure to support walking and cycling;
- By developing mixed-use schemes for town and city centres that include residential elements and so reduce the need for commuting.

The Department will consider more explicitly the carbon impacts of interventions, and the wider climate change impacts in terms of energy usage to undertake the intervention, the embodied carbon released by various interventions, and the climate impacts of and to the intervention – for instance impacts for rainwater flows, and impacts of changing climate on the proposed intervention. This will include – but not be limited to – consideration of trees and soft landscaping in schemes; and the intervention’s support for walking and cycling. Such considerations will need to be designed into interventions, following suitable assessments.

In developing appraisal tools which consider these issues, the Department will be able to draw on learnings from other jurisdictions, and also through engagement with DAERA which holds the rural development brief. This will be the focus of early work in the divisions, alongside considering a commitment to achieving a Very Good CEEQUAL rating for all future public realm works.

To identify all the challenges as well as the solutions and actions we need to take to support our high streets and city centres, the

Department will oversee and provide support to the TEO-led High Street Task Force which has the strategic aim to contribute to the development of thriving and sustainable city, town and village centres. The Task Force has a bold, ambitious vision: “Sustainable city, town and village centres which are thriving places for people to do business, socialise, shop, be creative and use public services as well as being great places to live.” The purpose of the Taskforce is to contribute to:

- developing the strategic approach to delivering the vision and responding to the economic and social challenges facing village, town and city centres;
- building and strengthening the partnerships that will deliver the strategic response; and
- building the capacity needed to achieve the vision.

As part of the Ministerial Advisory Group (MAG) for Architecture & Built Environment’s role to provide advice on the built environment, it has developed a potential new co-production approach to reimagine our Living High Streets for the future. This approach is intended to change perceptions from a traditional economic model, to a more sustainable model that addresses social, environmental and economic aspects of our High Streets. The approach proposes that a cross-sector group of strategic collaborators co-produce a Craft Kit. This would include a series of tools that can facilitate engagement with communities (businesses, residents, services etc.) to co-produce place specific Action and Delivery Plans with visions and sustainable solutions for our “Living High Streets”.

Action	Owner	Timescale / Targets
Oversee the High Street Task Force production of a report on the sustainability of city, town and village centres	Housing, Urban Regeneration and Local Government Group	Report with recommendations to Minister by April 2022.
Work closely with MAG on the development of the Living High Streets Craft Kit	Housing, Urban Regeneration and Local Government Group	Co-design Workshops completed by 31 December 2021; Craft Kit available by 31 March 2022.
Develop and use integrated climate risk and vulnerability assessments as a key criterion for prioritising and designing urban regeneration interventions	Urban Regeneration Divisions	Time bound plan developed by 31 March 2022.
Develop a suite of interventions which address climate change issues and can be embedded in future schemes	Housing, Urban Regeneration and Local Government Group	By 31 March 2022.

3. Monitoring and Evaluation

It will be vital that we review progress on the actions and ambitions set out in this document. Although, for ease of reference, the document has been structured around various policy and operational strands of work, there are many connections between these strands. All DfC staff will be impacted by decisions around energy-efficient ways of working, for instance; and the evidence base on the lifetime carbon impacts of new build and retrofit will guide both housing and historic environment policy. A range of actions around reducing the carbon impacts of domestic heating will require engagement with DfE (lead on the NI Energy Policy), DfI

(lead on the NI planning system) and DoF (lead on Building Regulations).

The Department will therefore continue to maintain a Climate Change Working Group of staff who will review progress and ensure a coherence in actions; and will also continue to play an active role in the interdepartmental structures convened by DAERA.

The working group will report to the Departmental Management Board biannually; and the Department will publish a progress report against this action plan in spring 2022.

Available in alternative formats.

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