Public Document Pack

Democratic Services Section
Legal and Civic Services Department
Belfast City Council
City Hall
Belfast
BT1 5GS

3rd October, 2025

MEETING OF THE CLIMATE AND CITY RESILIENCE COMMITTEE

Dear Alderman/Councillor,

The above-named Committee will meet in the Lavery Room - City Hall and remotely via Microsoft Teams on Thursday, 9th October, 2025 at 5.15 pm, for the transaction of the business noted below.

You are requested to attend.

Yours faithfully,

John Walsh

Chief Executive

AGENDA:

1. **Routine Matters**
   - (a) Apologies
   - (b) Minutes
   - (c) Declarations of Interest
2. **Presentations**
   - (a) Review of the Belfast Stories site (BRINK!)
   - (b) The future of Urban Treescapes in the UK (Involve)
3. **Notices of Motion Update** **(Pages 1 - 4)**
4. **DAERA NI Climate Action Plan Consultation Response** **(Pages 5 - 36)**
5. **Innovate UK Project - Belfast Net Zero Pathfinder** **(Pages 37 - 60)**

Belfast City Council

CLIMATE AND CITY RESILIENCE COMMITTEE

Subject:	Notices of Motion update
Date:	9th October 2025
Reporting Officer:	Debbie Caldwell, Climate Commissioner
Contact Officer:	Debbie Caldwell, Climate Commissioner

Restricted Reports				
Is this report restricted?	**Yes**		**No**	X
If Yes, when will the report become unrestricted?				
After Committee Decision				
After Council Decision				
Some time in the future				
Never				

Call-in				
Is the decision eligible for Call-in?	**Yes**	X	**No**	

1.0	**Purpose of Report or Summary of main Issues**
1.1	The purpose of this report is to provide an update on the Notices of Motion and Issues Raised in Advance allocated to the Climate and City Resilience Committee.
2.0	**Recommendations**
2.1	It is recommended that Members note the updates to the Notices of Motion / Issues Raised in Advance for which Climate and City Resilience Committee is responsible for as referenced in Appendix 1
3.6	**Financial & Resource Implications** There are no additional financial or resource associated with this report.
3.7	**Equality or Good Relations Implications/Rural Needs Assessment** There are no equality, good relations or rural needs implications contained in this report.

4.0	**Appendices**
	Appendix 1: Notices of Motion Live Database – Climate and City Resilience Committee

Meeting Date	Duration	Motion Title	Proposed by	Reporting Committee	Reporting Officer	October 2025 update
13/10/22	2y 11m	New Ireland Forum and citizens Assemblies	Cllr Seamas de Faoite	Climate & City Resilience	Nora Largey	A letter was issued to the office of An Taoiseach in May 2024 - no response has been received.
15/06/23	2y 3m	Climate and City Resilience Dashboard	Cllr Tara Brooks	Climate & City Resilience	John Tully	Work with AWS is complete and the Climate Team is working with Digital Services to build the solution. Work on this commenced in June 2024. A meeting with Microsoft took place in August to explore software and licensing options. The upgrade of MS Fabric begins on 1st April and the launch of the Climate Data Platform will follow this. May 2025, Digital Services are working with MS to allow easy access to the system and sharing of files through a data 'lakehouse'. Work is currently on-going and a number of climate related datasets have already been uploaded onto a test environment.
22/05/25	0y 4m	Fossil Fuel Non-Proliferation Theory	Cllr Anthony Flynn	Climate & City Resilience	John Tully	A report will be brought to the Committee in November, outlining a detailed consideration of the Notice of Motion and any potential cost implications.
24/06/25	0y 3m	National Park City	Cllr Aine Groogan	Climate & City Resilience	Debbie Caldwell	Climate Team met with Galway City Council counterparts leading on the development of a National City Park. Invitation extended to visit Belfast in December and present on National City Park development at Committee.

This page is intentionally left blank

Belfast City Council

CLIMATE AND CITY RESILIENCE COMMITTEE

Subject:	BCC Public Consultation Response to the Draft NI Climate Action Plan 2023-2027
Date:	9th October 2025
Reporting Officer:	John Tully, Director Organisational and City Strategy
Contact Officers:	Debbie Caldwell, Belfast Climate Commissioner Brenda Roddy, Project Officer, Climate Team

Restricted Reports				
Is this report restricted?	**Yes**		**No**	X
If Yes, when will the report become unrestricted?				
After Committee Decision				
After Council Decision				
Some time in the future				
Never				

Call-in				
Is the decision eligible for Call-in?	**Yes**	X	**No**	

1.0	**Purpose of Report/Summary of Main Issues**
1.1	The purpose of this report is to inform members about the recent public consultation on the Draft NI Climate Action Plan 2023-2027
2.0	**Recommendation**
2.1	I. Members are asked to note the proposals set out in the consultation document and to approve the draft Council response as attached at appendix 1. Subject to approval by Council, the response will be submitted to DAERA via their online consultation platform. II. Approve the officer response that was submitted by Belfast City Council to the public consultation which closed on 8th October 2025.

3.0	**Main Report**
3.1	**Background** The Climate Change Act (Northern Ireland) 2022 committed Northern Ireland to reducing its greenhouse gas (GHG) emissions to net zero by 2050, with a series of five year carbon budgets set to ensure steady progress from the outset. In December 2024, the Executive agreed that for the period of this plan, 2023-2027, GHG gas emissions need to be reduced by an annual average of 33% from 1990 levels. Importantly, the Act places a specific legal duty on all Northern Ireland departments to exercise their functions, as far as possible, in a way that supports achieving targets and carbon budgets. This ensures a shared responsibility both to reduce emissions through policies and proposals included in this plan and to monitor any likely impact on emissions of emerging policies and proposals during this first carbon budget period, 2023-2027. The draft Climate Action Plan sets out 52 policies and proposals designed to reduce emissions across nine sectors: • energy production and supply; • transport; • business and industrial processes; • residential buildings; • public buildings; • waste management; • agriculture; • land use, land-use change and forestry; and • fisheries. Some sectors are expected to contribute more than others; some policies and proposals have a greater impact than others; some contribute to emissions savings across more than one sector. Together, these policies and proposals set a roadmap of action needed to reduce emissions and keep Northern Ireland on track for future targets. Policies and programmes referenced also vary in terms of states of readiness, with some well established and others still under development. The CAP attempts to quantity the potential GHG emission reductions that the 52 policies and programmes might result in, with analysis based on a number of stretching assumptions.
3.2	**Draft Council Response** Overall, the approach of the CAP's policies and proposals outlined is welcomed and supported, as is the recognition by DAERA that without adequate, secured funding and political and public backing, achieving the carbon budget will be challenging. Within the draft consultation response, a number of key points and recommendations were made, as summarised below. • **Energy** - we welcomed more detail on the proposed Renewable Electricity Support Scheme for Northern Ireland but cautioned that without a complementary additional policy towards storage, it could lead to higher electricity bills for consumers and additional challenges for the grid operator. The response also highlighted that significantly more investment will be needed than is currently planned to meet rising electricity demand and increased supply of renewable electricity. • **Transport** - re-ordering the three proposed transport policy priorities (of switching fuels to lower emission versions, switching modes of transport and reducing the need and length of journeys) to prioritise reducing car journeys and modal shift in urban areas, recognising the risk around the global supply chain for critical minerals needed for the proposed fuels and technologies. Transport related policies should also

consider targeted financial support, such as grants, for low-income households and consider instruments to promote the used electric vehicle market as well as incentives for rural users.

- **Business and industrial processes** – a major challenge is the labour skills gap both in terms of number of workers and skills for new low carbon services and technology. A limitation of the current Energy and Resource Efficiency Programme is that the technical consultancy support is only available for businesses spending over £30k annually on energy and resources, which excludes many small businesses (80,000 registered SMEs and 70,000 micro businesses in operation across Northern Ireland). The need for policies to incentivise the re-use of waste heat from industrial processes for heat networks was also highlighted.
- **Residential buildings** - lack of finance is a major barrier to the implementation of domestic retrofit in NI. The response welcomed a radical scaling up of the proposed energy efficiency and warmer healthier homes programmes to a scale that mirrors schemes available in GB and RoI. In addition to strengthening Building Regulations to improve building fabric, householders require impartial support and advice to help them access funds and improve the energy efficiency of their homes. The response also cautioned against policies that would incentivise the continued use of oil boilers in urban areas.
- **Public buildings sector -** councils should be included in future government energy efficiency schemes. Although councils do not represent a large proportion of emissions in this sector, they have an important presence in communities and should be seen to be leading by example in terms of energy consumption and best practice. Climate should be considered throughout public sector capital projects, factoring in considerations such as Sustainable Urban Drainage and Whole Life Carbon Modelling as standard. The need for a specific support mechanism to help develop heat networks and make them competitive with gas heating, in particular mechanisms to support/facilitate the connection of public buildings to heat networks as this will avoid the costly grid upgrades that would be required if all public buildings were fitted with individual heat pumps.
- **Waste –** a 65% municipal recycling rate whilst reducing waste to landfill to not more than 10% by 2035, will not be met without the inclusion of all commercial and industrial waste and there must be greater emphasis on statutory buy-in from this sector. To meet these targets, Northern Ireland requires clear strategic direction in the form of policy and legislation supported with adequate finances. There is also a need for improved data provision from the commercial and industrial sectors to assist with waste projections and ensure compliance with waste legislation.
- **Agriculture -** rather than seeking interventions to address pollutants caused through over stocking the pollution should be decreased at source by moving to more regenerative farming practices, identifying the carrying capacity of land to assess sustainable livestock numbers and taking into account factors such as soil type and local hydrology.
- **Land use, land-use change and forestry –** the response challenges the claim "that sustainable forestry, including afforestation meets the requirements of the UK Forestry Standard and open habitat restoration, is, by definition, a nature-based project", as it does not meet the International Union for Conservation of Nature definition. Likewise, coniferous forests are not nature-based projects as claimed in the plan. The response advises alignment with the UK Forestry Standard which recommends 5% native broadleaved trees or shrubs; 10% of other tree species; and 10% open ground, or ground managed for biodiversity as the primary objective. The response also recommends an assessment of current forest estate planted on peat and identify opportunities to restore these peatland areas.
- **Economic Impact Assessment of the CAP –** the response highlights the failure of the Plan to frame climate action as a cost avoided, treating the short-term costs of climate

	action in isolation, without comparing them to the much higher economic, social, and environmental costs of climate inaction. Cost avoidance is critical to justifying the upfront investment. Also, there is no mention of intergenerational equity, acknowledging that climate action today helps avoid passing greater costs and risks onto future generations.
4.0	**Financial and Resource Implications**
4.1	At this stage there is no immediate resource or financial ask of the Council to respond to this public consultation.
5.0	**Equality or Good Relations Implications/Rural Needs Assessment** Consideration of equality, good relations and rural needs was embedded in the consultation document questions by DAERA and in Belfast City Council responses.
6.0	**Appendices** I – Council Public Consultation Response II – **Link to Draft NI Climate Action Plan 2023-2027**

Questions	Draft response
Relates to Chapter 5: Quantification Summary	
Q1. To what extent do you agree with the quantification methodology used to calculate emissions reductions from policies and proposals? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** We note that some sector leads commissioned external organisations to undertake modelling of projected emissions reductions from policies and proposals whilst others conducted the quantification internally by policy analysts. Whilst variation in methodologies is not ideal, by using the standardised UK GHG Inventory Reporting Protocol and the latest GHG Inventory data the quantification methodology is credible and robust.
Q2. Do you have any comments on the quantification methodology used to calculate emissions reductions from policies and proposals? Yes/No If yes, please provide your comments.	**No** We agree with selecting the Central Scenario of GHG emissions reductions associated with the proposed policies and proposals as the most realistic delivery certainty scenario.
Relates to Chapter 6: Sector Policies and Proposals **Energy Production and Supply Sector Contribution to Carbon Budget 2023-2027** Energy production and supply emissions are almost exclusively from burning fossil fuels for electricity generation at power stations.	
Q 3. To what extent do you agree with the proposed policies and proposals to reduce emissions for the energy production and supply sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives.	**Agree** The consultation acknowledges the critical role that a replacement Renewable Energy Support Scheme will have both in terms of meeting climate objectives and also the 80% of electricity consumption from renewable energy by 2030 target. We look forward to seeing more detail on the Renewable Electricity Support Scheme for Northern Ireland.

	However, without a complementary additional policy towards storage, this alone could lead to higher electricity bills for consumers (from constraint payments) and additional challenges for the grid operator. We would welcome a policy embedded within the production and supply sector that encourages the development of larger scale flexibility services such as heat network with thermal stores opportunities for pumped hydro, traditional battery energy storage systems or other innovative storage ideas. The declining penetration of renewables on the grid is a direct result of grid constraints. Adding more intermittent sources of power generation will require more storage to be available. We would welcome more clarity on the legislative changes that DFE will make to facilitate greater connection of energy storage facilities to the network and on how DFE will facilitate the participation of aggregators in the electricity market. The scheme will need to resolve barriers to renewable energy deployment which include a lack of financial incentives and planning related processes/ timelines. Resolution of these challenges would enable new renewable projects to be delivered faster and at lower cost. Another key barrier to renewable electricity generation has been managing the grid impacts of renewable technologies. The energy transition will require significant upgrades to the electricity network. NIE Networks has begun the initial phases of procurement as part of its planned £2.3 billion investment over the next six years to upgrade the electricity transmission and distribution network. Significantly more investment will be needed than is currently planned to meet rising electricity demand and increased supply of renewable electricity. Clarity is required around how DfE will work with NI Electricity Networks and SONI to strengthen the grid, streamline planning processes and remove policy uncertainty, all of which are currently hindering progress in this sector.
Q4. To what extent do you agree with the proposed approach to achieving a just transition in the energy production and supply sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** Policies and proposals listed in the Energy Section consider the importance of consumer protection, affordability and fairness, all of which are Just Transition principles. The document also cites the importance of upskilling the workforce and new green jobs that will be created through, for example, the Offshore Renewable Energy Action Plan and the NI Green Skills Action Plan. We note that whilst the requirement for a Just Transition Commission exists in law, it was not operational in time to influence the drafting of the CAP or the Policies and Proposals referenced within it, limiting the Commission's ability to shape energy sector policies. This could result in a lack of equity-focus in energy policies. There is also some ambiguity around funding to support communities most affected by the energy transition, for example in rural areas, or in areas where manufacturing industries are most

	prevalent. Clarity is required on how success in achieving a just transition will be measured across energy policies. Currently, grid connection fees cost the same for a developer as a community energy group. We think, the government should have targeted support for community energy projects which considers the prohibitive costs associated with connecting to the grid. We think, penetration of renewables, battery energy storage systems and other low carbon technologies at scale is possible, if we can empower communities to drive on their own projects. The targeted support at the grid costs, should form part of a wider support package aimed at empowerment of community energy projects and groups
Transport Sector Contribution to Carbon Budget 2023-2027 – The transport sector includes emissions from surface road transport, domestic shipping and aviation, and aircraft support vehicles. It is the second largest contributor to emissions in Northern Ireland.	
Q 5. To what extent do you agree with the proposed policies and proposals to reduce emissions for the transport sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** The CAP provides a robust strategic framework to align Northern Ireland's transport policies with the net zero emissions target by 2050. We would welcome greater detail on the mechanisms to deliver transport decarbonisation and how this will be delivered. We recognise that the climate and sustainability impacts of this sector should consider the global supply chain of proposed fuels and technologies. The methodology used is based on total energy management for fuel switching and ignores the supply chain of rare earth metals and availability of biofuels. Whilst fuel switching might be easier to attain and maintain than modal shift, the impact of fuel choice in isolation is only a partial consideration and could be considered short term solution that ignores significant supply chain risk. Reducing journeys and modal shift especially in urban areas would be likely to come out on top of any analysis which took a view of sustainable and net zero carbon in 2050 and beyond. The type and scale of behavioural change needed requires a combination of policy interventions along with well resourced programmes to normalise social change along with very significant levels of additional funding for public transport. The plan appears to give limited emphasis and support for reducing journeys although this is likely to be an important lever in urban and peri-urban areas. Policies that aim to reduce car dominance, ownership and free up land for active travel, public realm, greening and economic development should be factored into any policies that aim to reduce emissions particularly in urban settings such as Belfast in order to support a sustainable, liveable and climate resilient city. For example, policies that incentivise city centre living alongside settlement in urban centres and reduce urban sprawl. We would also point to the 'Good Relations Segregation and the Environment – Breaking Down Barriers Report' which highlights the duplication of public services and

	assets that has arisen due to the continuing segregation of communities and additional cost of reducing emissions in this context. We would welcome policies that seek to address this segregation handicap. The Plan also fails to address the current requirement for a certain no of car parking spaces for new developments which conflicts with policies to discourage car uses especially in urban areas. We would welcome early reform of this requirement.
Q 6. To what extent do you agree with the proposed approach to achieving a just transition in the transport sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives.	**Disagree** This area of the Climate Action plan could be strengthened by the legal requirement for a minimum level of active travel funding. This investment will be critical for people in urban areas and for those without access to cars and will provide health and well-being benefits as well as improved urban environment and air quality. The proposed expansion of EV charging infrastructure in public and workplace settings is also vital, especially in rural areas. If delivered well, it will avoid excluding rural communities from the low-carbon transition. However, there is a particularly strong focus on private solutions like EV ownership which low-income households will not be able to afford in the short term. A significant proportion of Belfast homes would not have dedicated private parking space that could allow relatively low-cost home EV charging. One of the overall aims of the Belfast Local Development Plan is to discourage the reliance of individual car use and encourage journeys by public transport and active travel. Sustainable urban form is supported by strategic policies including our ambitious growth strategy, which will encourage the proximity principle of homes and services, sustainable development, improving health and wellbeing, positive placemaking, environmental resilience, connectivity and green and blue infrastructure. The principle of compact urban forms that encourage higher housing densities at sustainable locations was largely founded on the idea of reducing the need to travel and support public transport efficiency. One of the key aims of the Belfast LDP '*Building a smart and connected and resilient place*' states: *The plan will encourage the expansion of green infrastructure networks for walking and cycling to encourage active travel and improve air quality and promote increased use of public transport whilst retaining suitable provision for cars.* It is not clear how the CAP plans to shift patterns of transport behaviour in urban centres towards active travel in the context of this policy area. Strategic Policy SP7 Connectivity states also:

	The council will support connectivity to and within the city by sustainable transport modes, such as public transport, walking and cycling. Land for sustainable transport infrastructure projects will be safeguarded and opportunities to protect and enhance existing provision will be maximised. The subtext of this policy advises: *Thematic policies support the integration of sustainable transport networks and land use to improve connectivity, reduce traffic volumes and promote sustainable patterns of mobility. This will require the intensification of mixed use development in accessible locations along existing and planned public transport corridors such as the Belfast Rapid Transit routes. This will enable the development of a compact, walkable city with mixed-use communities, connected to high quality public transport and active travel networks. A key consideration for assessing development proposals will be how the location and design of developments can change travel patterns and improve accessibility by sustainable modes of transport other than the private car.* *TRAN 8 in the Belfast LDP states:* *Consideration should also be given to parking provision for electric vehicles with access to charging points in development proposals where appropriate.* Investment in EV infrastructure should be taken forward in line with the planning policies stated above. Where appropriate, targeted investment such as grants for low-income households could be used to ensure equity, and instruments to promote the used EV market be considered. Like Scotland, Northern Ireland could develop a Just Transition Transport Plan to fully address job transitions in the transport sector including reducing inequality, reskilling, manufacturing opportunities and logistics.
Business and Industrial Processes Sector Contribution to Carbon Budget 2023-2027 Business emissions from stationary combustion in industrial and commercial sectors including industrial off-road machinery, refrigeration and air conditioning, and the use of fluorinated gases for other applications.	
Q7. To what extent do you agree with the proposed policies and proposals to reduce emissions for the business and industrial processes sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** **Large consumers** -we would prioritise broadening the energy management elements of the polices, as with large consumers there should be an energy management first approach. On site generation, fuel switching etc should always come after a robust energy audit. Waste heat – we would be keen to see policies that incentivise the re-use of waste heat from industrial processes for heat networks.

	Biomethane – we would welcome more clarity on the timeline for a biomethane policy given the potential opportunity in NI and the significant time that has elapsed since the call for evidence and the response to this. **EPCs & DECs** We agree with the comments supporting the Energy Performance in Buildings Directive, however, there has been emphasis on the use of Energy Performance Certificates (EPCs). There is a gap between predicted performance from EPCs and actual performance from Displayed Energy Certificates (DECs). The DEC is a much more accurate assessment of a building as takes into account the real performance of the building, taking into account the fabric, plant and operational management. It is considered a benefit to support the production and auditing of DECs. Actual assessment of the performance of building would benefit from focusing attention on the data collated from DECs. UK and EU-led Regulation, Compliance and Reporting will undoubtedly do a lot of the heavy lifting in generating carbon reductions in this sector, however given that the NI economy has a higher composition of small and medium sized enterprises than the rest of the UK, government support to enable small businesses to decarbonise will be critical. We have provided a short review of the Northern Ireland-led polices and proposals below: **Fuel Switching to Natural Gas** We are supportive of the acknowledgement in the draft CAP that gas is a transition fuel, rather than the long-term solution. **Uplifts to Building Regulations in Northern Ireland and Further Building Regulations Uplifts** Since 2022, all new buildings in Northern Ireland are required to achieve a 40% reduction in carbon emissions compared to previous standards, through a combination of improved energy efficiency standards for building fabric and the use of low-carbon heating systems. Whilst uplifts in Building Regulations are planned in 2026/27, Northern Ireland has not yet set concrete long-term regulatory targets for buildings beyond that. **Construction skills** A major challenge is addressing the labour skills gap both in terms of numbers and skills for new low carbon technology. This may happen organically in response to rising demand for sustainable homes due to uplifts in building regulations. However, alongside the proposed uplifts in building regulations, we would welcome action to address opportunities as highlighted in the NI Green Skills Action Plan 2025. Carbon accounting skills - we would welcome a policy that supports the development of Carbon accounting skills across NI manufacturing and industry given the lack of skills available in the workforce. This will be critical in enabling NI PLC to differentiate itself and establish NI as a low carbon manufacturing destination.

	Invest NI Energy and Resource Efficiency Programme / Invest NI Industrial Decarbonisation for Northern Ireland Project One of the current issues with the Energy and Resource Efficiency Programme is that the technical consultancy support is only available for businesses spending over £30k annually on energy and resources which precludes many small businesses. Given there are currently 80,000 registered SMEs in operation across Northern Ireland, along with over 70,000 micro businesses, more support is needed for smaller businesses with lower annual resource costs. Additionally, businesses supported by both of these programmes face challenges in implementing the measures recommended due to financial constraints, lengthy payback periods, and internal capacity constraints. So, whilst advisory and financial support is available, impact is currently limited. These challenges must be addressed when redesigning the programmes. **Refrigerants** – we agree with information regarding the Fluorinated Greenhouse Gases (F-Gases) Regulations within the draft CAP. We agree with comments made regarding the Combined Heat and Power Quality Assurance Programme within the Draft CAP and how the next steps will be led by DESNZ
Q8. To what extent do you agree with the proposed approach to achieving a just transition in the business and industrial processes sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** The Industrial Decarbonisation Programme and Energy and Resource Efficiency Programme led by Invest NI can help businesses reduce energy costs, which may protect jobs and competitiveness in the long term. If delivered well, this kind of support could help small and medium-sized enterprises (SMEs) and micro businesses to adapt to change without bearing the full financial burden. Similarly, proposed updates to Building Regulations could drive new skills and job opportunities in construction and green technologies, supporting employment in a low-carbon economy. We recognise that Invest NI's reach is currently limited to larger businesses, limiting its ability to support widespread change or ensure that all businesses, especially smaller ones, benefit equally from the transition. We would welcome similar support for SMEs and micro businesses. Given that manufacturing industries and construction represent 71.5% of emissions from this sector, there is little detail in the draft Climate Action Plan on how workers in these high-emitting industries will be retrained or supported as industries shift to cleaner technologies. Without clear funding, training programmes, or long-term workforce planning, there is a risk that these communities and sectors could be left behind. More inclusive engagement, stronger worker protections, investment in skills, and better access for marginalised groups will need to be addressed in the policies and proposals mentioned in the draft CAP, if Northern Ireland is to ensure a just transition in the business and industrial processes sector.

	One of the biggest challenges to industry and a major brake on NI's growth is the high cost of electricity. Significant growth and employment opportunities would arise, were NI to develop a coherent energy policy that focused on (a diversified) security of supply and made electricity more affordable for businesses.
Residential Buildings Sector Contribution to Carbon Budget 2023-2027 Residential building emissions are primarily affected by fuel combustion for heating and the production of hot water.	
Q9. To what extent do you agree with the proposed policies and proposals to reduce emissions for the residential buildings sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives .	**Agree** We welcome the range of policies and proposals to decarbonise the residential buildings sector listed, with a couple of caveats: **Affordable Warmth Scheme / Warm Healthy Homes Scheme** The government policy to replace older inefficient oil boilers with more efficient oil boilers conflicts with Belfast City Council's ambition to reduce the number of households with Oil heating as a priority project in its Local Area Energy Plan. These households are often located in areas served by the gas grid (with lower associated emissions) and should be prioritised for heat pumps or hybrid systems. Important therefore, that the policy does not incentivise the continued use of oil boilers in urban areas. **NISEP / Scale and Launch Energy Efficiency Programme** Lack of finance is widely recognised in NI as a major barrier to the implementation of low carbon domestic retrofit. We would welcome a radical scaling up of NISEP into a domestic Energy Efficiency Programme that mirrors the breadth of support currently offered by SEAI in the Republic of Ireland and in retrofit programmes in GB. In addition, stronger market and fiscal incentives are necessary for private homeowners to renovate an existing property rather than demolish and build a new home, using financial levers such as those utilised in the RoI. This would require collaboration with HM Treasury to review tax incentives in this area, as the current VAT rules which exempt new builds from VAT whilst applying VAT to renovation works. Any revised home energy efficiency programme should be implemented in advance of any programme to support installation of low carbon technologies such as air source heat pumps. **Clean Heat Market Mechanism** Deployment of this policy must be carried out alongside energy efficiency improvements in the housing stock as heat pumps are more efficient and therefore effective in homes with an EPC of D or above. If they are installed in homes with lower SAP ratings the heat gradient may be too high for the technology to work effectively, resulting in cold homes, potentially leading to mould and damp, which would trigger scepticism in the technology. Policy safeguards must be in place to prevent this from happening. This mechanism must also take account of and not conflict with the opportunity to develop heat networks in built up areas that have a high potential for heat networks such as those identified in the Belfast Local Area Energy Plan. **Gas Network Connections General Determinations 2023-2028**

	This policy risks incentivising fossil fuel use, bypassing low carbon district heating, air/ ground source heat pumps and geothermal energy for residential heating. The sector summary on P106 lists fuel switching to natural gas first before mentioning support for low carbon heating technologies. The short-term emphasis on a transition to natural gas could risk undermine efforts to transition to genuinely clean energy as the majority of funding is diverted to the gas network instead of low carbon district heating, for example. **Further Building Regulations Uplifts in Northern Ireland** See previous comments recommending Northern Ireland to align to Scotland's strategic approach and ambitions. There is also an opportunity to strengthen Building Regulations to help increase tree cover and cut carbon emissions from land use. This can happen by encouraging the use of sustainably sourced timber, which is a low-carbon building material. By promoting low-carbon construction methods in new building regulations, government could boost demand for timber and support more tree planting. Behaviour change -feedback from Retrofit Hub members spells out a clear requirement for support for householders to ensure engagement in any retrofit works with proactive social housing providers reporting refusal rates of up to 50% of homes. Locally based one stop shop schemes are critical as a cornerstone of any residential retrofit programme.
Q10. To what extent do you agree with the proposed approach to achieving a just transition in the residential buildings sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Strongly Agree** We support the proposed approach to achieving a just transition in this sector, recognising that lower income housing occupants are frequently affected more by the severe weather events and the health impacts of fuel poverty and poor air quality. There could be a risk of public backlash if people feel excluded from the benefits of the green transition, whether due to high costs or negative impacts such as rising bills or mould/damp from poor-quality retrofits. Means-tested grants could help to protect vulnerable households from unfair costs. Strong safeguards will be needed to ensure that energy efficiency measures are installed to a high standard. The provision of an independent one stop shop service would form the cornerstone of this approach. Members of the Belfast Retrofit Hub have highlighted that many residents are unaware of energy efficiency funding options, have limited understanding of various approaches which could make a difference to their homes. There is also a fear of rogue traders and wariness of paying for measures which are subsequently grant funded. Clarity on funding plans is essential. Policy clarity is also required around the Minimum Energy Efficiency Standards as this could have significant impacts on housing tenure. This is essential to inform investment by homeowners and landlords
Public Buildings Sector Contribution to Carbon Budget 2023-2027 Sector emissions primarily result from fuel combustion in public buildings for heating, cooling and hot water.	

Q11. To what extent do you agree with the proposed policies and proposals to reduce emissions for the public buildings sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Disagree** **Energy Management Strategy & Action Plan to 2030 & Energy Invest to Save Fund** Progress towards the 30% reduction target by 2030 is slow, with a reduction of only 12% in carbon emissions by 2022. We recommend that councils are included in future government energy efficiency schemes. Although councils do not represent a large proportion of emissions in this sector they have an important presence in communities and should be seen to be leading by example in terms of energy consumption and best practice. The lack of progress in this sector may be attributed to four key barriers preventing the retrofit of public sector buildings happening at the required rate and scale: • Limited capacity and expertise within public sector organisations to identify and implement projects • access to finance • long and complex procurement processes • risks associated with investing money with long term paybacks and no savings guarantees. We therefore recommend that the Invest to Save Fund is either linked to complementary support, broadened to become a more holistic scheme which aims to support both specialist advisory costs (related to project appraisal and procurement of energy performance contracts) and the capital costs of energy upgrades. This scheme could be cross-sectoral, accepting applications from both public and private sector organisations, to reduce operational costs. As noted previously, there has been an emphasis on the use of Energy Performance Certificates (EPCs) however there is a gap between predicted performance from EPCs and actual performance from Displayed Energy Certificates (DECs). The DEC is a much more accurate assessment of a building as takes into account the real performance of the building including the fabric, plant and operational management. It is considered a benefit to support the production and auditing of DECs. Actual assessment of the performance of building would benefit from focusing attention on the data collated from DECs. Heat networks – it is disappointing that these do not feature more strongly in the Plan given energy modelling carried out in Belfast as part of its Local Area Energy Plan and recent feasibility work shows the high viability of heat networks in the region's capital city. Connection of public sector buildings (which have a significant load) to heat networks is normally the first step on the critical pathway to building heat networks elsewhere. Policies that recognise the role of heat networks in the transition and their potential to balance the grid would therefore be very welcome. A specific support mechanism is urgently required to help develop heat networks and make them competitive with gas heating, in particular mechanisms to support/facilitate the connection of public buildings to heat networks. This will avoid the costly grid upgrades that would be required if all public buildings were fitted with individual heat pumps.

	2012 and 2022 Uplifts to Part F (Conservation of Fuel and Power) of the Building Regulations in Northern Ireland We support further uplifts to Part F, but the current implementation timeline is slow. Many public authorities are already choosing to go beyond current building regulations, specifying higher standards such as BREEAM Excellent or Passivhaus for new public buildings. As public buildings constructed over the next two years will likely be in use for 25+ years, and retrofitting is significantly more expensive than building to higher energy performance standards in the first place, it is crucial that the government speeds up planned uplifts to Building Regulations to ensure Northern Ireland meets its net zero by 2050 target. Climate is considered throughout capital projects e.g. Design Teams are tasked to include SUDs, Whole Life Carbon Modelling, etc. There is an opportunity to champion the new design standard "Building with Nature" on council projects For both residential and public sector building emission reductions. there needs to be a joined-up approach for the built environment. As an energy mix is required for any net zero scenario, a place-based plan of NetZero 2050 should inform the planning now. Decarbonisation later on, could become even more challenging if we don't have a joined-up approach. For example, urban dense areas have the opportunity to avail of heat networks, where these would be impossible in rural and urban sparce areas. Biofuels and electrification are the only real options for rural areas. Areas that have a gas network, can in the future avail of biomethane. With a future of limited quantities of each energy source, policies for promoting each of these decarbonisation technologies, should be targeted geographically, with a view of the energy landscape in 2050.
Q12. To what extent do you agree with the proposed approach to achieving a just transition in the public buildings sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives .	**Disagree** Given the influence at local level, it is important that public bodies are not left behind and are adequately supported to decarbonise their estates, with many having legacy buildings that require specialist retrofit expertise. Councils also have financial constraints hampering their ability to leverage new finance for capital improvements. Councils should be encouraged and supported, starting with including local authority estate management and climate representatives in policy design and implementation working groups to ensure their needs are met.
Waste Sector Contribution to Carbon Budget 2023-2027 Emissions in the waste management sector include those released from waste disposal at landfill sites, wastewater treatment and waste incineration. The Climate Change Act (Northern Ireland) 2022 includes a requirement to recycle at least 70% of waste by 2030.	
Q13. To what extent do you agree with the proposed policies and proposals to reduce emissions for the waste sector? Strongly agree / Agree / Neither agree nor disagree / Disagree /	**Agree** **Diverting Biodegradable Waste from Landfill** We fully support the introduction of a policy that requires all homes and businesses to present biodegradable waste for separate collection, providing that this will be in line with any future DAERA Waste Management strategies, policies and legislation.

Strongly disagree. Please provide your reasons and any alternatives	**Achieve a 65% municipal waste recycling rate whilst reducing waste to landfill to no more than 10% by 2035** The current approach to increasing recycling rates, which is largely focused on Local Authority Collected Municipal Waste will not be sufficient to achieve the next phase of recycling targets as the low-hanging fruit has already been harvested. A 65% municipal recycling rate will not be met without the inclusion of all commercial and industrial waste and there must be greater emphasis on statutory buy-in from this sector. To meet these targets, Northern Ireland requires clear strategic direction in the form of policy & legislation supported with adequate finances. This will set the foundation for investment and improved waste management infrastructure, aimed at delivering a more circular economy and less reliance on the vagaries of export-based markets. **Introduction of Mandatory Recycling for Commercial and Industrial Sector** We fully support mandatory business recycling as it would help achieve the '70% by 2030' recycling requirement in the Climate Change (Northern Ireland) Act 2022. A 70% recycling rate for Northern Ireland will not be achieved without the inclusion of mandatory targets for this sector**.** In addition, we highlight the need for improved data provision from the commercial and industrial sector to assist with waste projections and ensure compliance with waste legislation. This may be achieved through the government digital waste tracking system which is proposed for implementation in 2026 but requires expansion to include all commercial waste movements rather simply information from waste receiving sites. **Increasing Household Recycling** We support approaches that aim to promote enhancements in the quality and quantity of recyclate to enable more local reprocessing, for example through best practice guidance, and funding to improve collection systems. However, this will not be enough to meet Northern Ireland's challenging recycling targets and the commercial and industrial sectors must now play their part in contributing to these targets. We also note that there needs to be recognition that the recent changes in law to packaging material (e.g. EPR and DRS) is likely to negatively impact the quantity and quality of recyclable material collected from householders across Northern Ireland. It is probable that this will result in decreases to the Local Authority Collected Household Recycling Rate. However, if central government projections are correct, then the environmental impact of the scheme should benefit NI as a whole.
Q14. To what extent do you agree with the proposed approach to achieving a just transition in the waste sector?	**Agree** There is likely to be a natural transition over a significant period of time from traditional treatment methods for "disposing of waste" to giving it proper recognition as a valuable resource. As the shift moves from treatments at the bottom of the Waste Hierarchy (e.g. waste incineration and disposal to landfill) to more favourable options such as

Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	reuse and repair, this should actually lead to the creation of more jobs and a highly skilled workforce across the waste industry, which over time will have a positive impact on the local economy. Whilst retraining of the workforce and educating children and young people through the curriculum are welcome measures, proposals may also need to be developed to build knowledge, trust and capacity of the broader population. If stricter recycling rules are introduced, they must be implemented with equity in mind. For example, ensuring recycling information is accessible to all and providing additional support and infrastructure where required, to ensure all communities across Northern Ireland benefit from the transition.
Agriculture Sector Contribution to Carbon Budget 2023-2027 In agriculture the two main greenhouse gases are methane and nitrous oxide rather than carbon dioxide. Livestock emissions dominate greenhouse gases in the agriculture sector. Other key sources are from manure management, soils and emissions from off-road vehicles and machinery.	
Q15. To what extent do you agree with the proposed enabling actions to reduce emissions for the agriculture sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Disagree** **Agriculture** Given that the agriculture sector is the largest emitter accounting for 29.1% of NI GHG emissions in 2022, with livestock emissions dominating, emissions from livestock must be significantly reduced. Rather than seeking interventions to address pollutants caused through over stocking, the pollution should be decreased at source by moving to more regenerative farming practices. The proposals throughout the CAP consistently ignore that farming practices are not sustainable, and the actions outlined are to minimise pollutants rather than reducing pollution at source. We note that technical solutions are not yet fully developed or tested, e.g. increased slurry aeration and novel slurry treatment systems. With the majority of cattle and pig manure stored as liquid slurry in NI, the CAP notes that through slurry aeration methane emissions can be reduced by approximately 40%. However, depending on the aeration system, aeration may increase ammonia emissions by approximately 20% which could have a significant negative impact on peatlands and human health. Since the majority of Northern Ireland's protected sites and priority habitats outside the designated site network currently exceed critical levels of nitrogen deposition and ammonia emissions, the statement that "this proposed action could increase the uptake of slurry aeration by 50% by 2027" is problematic. How can these proposals have passed the Test of Likely Significant Effects under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995? Note Annex H, the HRA states "Many of the proposals and policies in the draft Climate Action Plan were deemed to be positive or neutral to habitats sites, particularly those with would involve a reduction in NOx or ammonia emissions or reduced leaching of nitrogen from agricultural soils." This is in contravention of the statements above within the CAP

	and a review is required by the Department as the Competent Authority. **Recommendation** Approximately 73% of the world's natural grasslands used for pasture have been degraded due to overgrazing, resulting in lower-quality feed. The carrying capacity of land should be identified to assess sustainable livestock numbers on land taking into account soil type, hydrology etc. Livestock size and breed should also be considered, the move to larger, continental cattle breeds for example impacts soil structure and compaction. Annex F states The Farming with Nature Package will provide the opportunity for farm businesses to implement nature-based solutions. BCC welcomes this initiative but it needs to be adequately resourced to ensure farmer uptake. Clarification is required on how much funding will be allocated to this initiative and what is the target for area of land under the scheme.
Q16. To what extent do you agree with the proposed approach to achieving a just transition in the agriculture sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** Ensuring a just transition in the agriculture sector means recognising that not all farmers are equally positioned to adapt to climate policies. The Northern Ireland Integrated Farm Survey highlights that small farms often have older age profiles who may be nearing the end of their working lives. These farms may face the greatest challenges in adapting either due to limited financial capacity, lower uptake of new technologies, or reduced incentive to make long-term changes. Special provisions may be required in these instances, whether through tailored support, flexible timelines, or financial assistance, to ensure they are not left behind in the transition. We look forward to further detail on the Just Transition Fund for Agriculture and will reserve comment on this policy until the details of this scheme are published.
Land Use, Land Use Change and Forestry Sector Contribution to Carbon Budget 2023-2027 - The Land Use, Land Use Change and Forestry (LULUCF) sector covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change, and forestry activities.	
Q17. To what extent do you agree with the proposed policies and proposals to reduce emissions for the LULUCF sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Strongly disagree.** **Deliver the Forests for Our Future programme** Annex F states "that sustainable forestry, including afforestation meeting the requirements of the UK Forestry Standard and open habitat restoration, is, by definition, a nature-based project." This is an inaccurate statement as it does not meet the IUCN definition of Nature- based Solutions as set out in Section 8.5. Coniferous forests such as sitka spruce plantations are not nature based projects. They are intensive damaging activities and should not be included within the suite of nature-based solutions. Most of the afforestation across NI is coniferous forestry. The UK Forestry Standard – General Forestry Practice Requirements states Incorporate a minimum of:

	• 5% native broadleaved trees or shrubs; • 10% of other tree species; • 10% open ground, or ground managed for biodiversity as the primary objective. In forests of less than 10 hectares and in native woods, the above proportions may be relaxed, as long as the adjacent land provides landscape and habitat diversity. The above criteria does not meet the definition of NbS as set out in Section 8.5. A significant proportion of the existing forest estate, coniferous plantations, is on peatland or peat soils. To define or potentially categorise this land use as a nature project is deeply concerning. Peatlands are our largest natural carbon stores and it is important to slow and eventually halt greenhouse gas emissions from peatland through raising water tables, and removing planted trees. Clearly defined objectives for restoring degraded peatlands are required within the NI Peatland Strategy. The UK Strategy includes the outcome that 80% of heavily degraded peatland are under restoration management aimed at recovering long-term security of the ecosystem. Given that a significant percentage of the state forest is on peat soils, there is a major opportunity for DAERA to demonstrate leadership in restoring afforested peatland. Removing forestry on peat and restoring hydrology is key for both biodiversity and carbon wins. **Recommendation** DAERA should assess its current forest estate and look for opportunities to restore these peatlands. A clear commitment to conserve and restore state owned peatlands in advance of climate mitigation and adaptation goals is needed.
Q18. To what extent do you agree with the proposed approach to achieving a just transition in the LULUCF sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives .	**Agree** We are broadly content with the proposed just transition approach. We look forward to commenting on the just transition provisions in LULUCF policies and proposals which should incorporate relevant guidance from the Just Transition Commission.
Fisheries Sector Contribution to Carbon Budget 2023-2027 Fisheries sector includes emissions from activities associated with sea fisheries, inland fisheries and aquaculture	
Q19. To what extent do you agree with the proposed policies and proposals to reduce emissions for the fisheries sector? Strongly agree / Agree / Neither agree nor disagree / Disagree /	**Strongly Agree** We fully support initiatives that prepare for roll-out of electrification and low or zero emission fuels across the fishing fleet. R&D to drive innovation is essential for this challenging sector however it makes up a relatively small proportion (0.1%) of Northern Ireland's total GHG emissions.

Strongly disagree. Please provide your reasons and any alternatives	
Q20. To what extent do you agree with the proposed approach to achieving a just transition in the fisheries sector? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Strongly Agree** We are broadly content with the considerations outlined and look forward to reviewing the financial assistance and incentive schemes that will provide support to workers in the sector who may be negatively affected by climate policies. It is critical that government ensures collaboration with the fisheries sector to co-design decarbonisation policies that ensure no one is left behind or disadvantaged by the transition
Relates to Chapter 7: Impact Assessments **Impact Assessment of the Climate Action Plan –** Several impact assessments have been undertaken as part of the development of the draft Climate Action Plan. Individual assessments have been carried out for the policies and proposals across all sectors, with each assessment proportionate to the scale and likely impact of the respective measure. In addition, overarching impact assessments have been conducted to consider the cumulative effects of the draft plan as a whole. Where proposals are at an early stage of development, some impacts may not yet be fully identified, and these will be considered further as the proposals are refined.	
Q21. To what extent do you agree with the key findings of the Financial, Social and Economic Impact Assessments that have been carried out on the **policies and proposals** in the draft Climate Action Plan? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** The findings note there are short-term financial costs associated with implementing polices and proposals in the draft Climate Action Plan which are generally balanced by long-term financial gains. The co-benefits of climate action have been somewhat underplayed in this section; however we note climate benefits are discussed later in the document.
Q22. To what extent do you agree with the key findings of the overarching Financial, Social and **Economic Impact Assessment** of the draft Climate Action Plan? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree** The summary fails to frame climate action as cost avoidance, treating the short-term costs of climate action in isolation, without comparing them to the much higher economic, social, and environmental costs of climate inaction. Cost avoidance is critical to justifying upfront investment. Also, there is no mention of intergenerational equity, acknowledging that climate action today helps avoid passing greater costs and risks onto future generations. Consideration should be given to the economic savings that can be made when climate mitigation and adaptation action is integrated e.g. retrofitting building to reduce carbon emissions and overheating at the same time, or delivering nature based solutions that reduce emissions from land use change as well as increase flooding resilience for communities.
Q23. To what extent do you agree with the key findings of the Equality Screening and Equality Impact Assessment?	**Agree** • DAERA have presented a thorough analysis of data to support the Equality screening / EQIA. It highlights a number of major impacts

Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives .	and/or gaps in understanding that will be monitored as part of its ongoing EQIA process. • DAERA have screened in the NI Climate Action Plan, which is to be welcomed. This will ensue that equalities continue to be considered as part of the climate action plan. • We welcome the commitments on page 80 of the equality screening / EQIA which include developing "robust, outcome focused action measures, to identifying, addressing and monitoring the key inequalities [and to] monitor... and address key inequalities". • We particularly welcome the statement that equality will be a cross-cutting theme and that there is a clear commitment to stakeholder agreement. We recognise the challenges involved in embedding cross-cutting considerations and look forward to working with DAERA as appropriate to make this happen. Community planning partnerships have been created in each of the 11 district councils, which are an important vehicle for local level engagement and delivery. • We await the further publishing of annual monitoring. Given the complexity and volume of data presented, it would be beneficial if this could be presented in an easier to understand way, as this will make it easier for stakeholders to enrich the data and improve collective understanding. • The screening states that the Climate Action Plan may have a major level of impact on people with disabilities. However, overall the consideration of disabilities, including the duty to promote positive attitudes or increase participation which have "not been scoped at this stage" would benefit from further detailed analysis. This should be a key consideration as part of the ongoing monitoring, engagement and cross-cutting commitment outlined in the screening / EQIA. The document states that "People with a disability experience climate change impacts differently and more severely than others. Their ability to adapt to future changes in our lifestyles, employment, transportation and new technology, which will be required to achieve net zero, may vary significantly. Equality impacts will be further assessed, and mitigation measures employed where appropriate as the strategy develops." The identified impacts do not take into consideration transport and mobility which seems a key omission; whilst the residential element considerations also appear to be relatively light. • DAERA acknowledge that this is the first in a series of Climate Action Plans and, as many of the polices and proposals are still at an early stage, that some data / understanding of impacts, may not be known and states that " Section 75 issues will be kept under review as the policy workstreams evolve, and equality screening will be undertaken as required on all related future policies/proposals as part of the normal policy development and implementation processes". This is particularly important and is to be welcomed.

	• Council stresses the importance of ongoing engagement as part of future implementation and delivery. This is crucial not just for successful delivery and partnership, but also to ensure that equality considerations are fully incorporated into ongoing planning and assessment. Whilst a digital first approach is appropriate, care must be taken to ensure wide participation and equal opportunity to engage. Given the complexities of climate change and the interdependencies, in-depth and focused consideration with target groups should also be deployed. In many cases, reliance on digital only methods such as Citizen Space will not be sufficient. There is limited evidence of pre-consultation which is usually recommended as part of EQIA. We recommend that on-going consultation with at higher risk groups as identified should be considered – not just as a one off at the start – this may be included as part of the Just Transition steering group. Often consultation (the appropriate type) will enable a better analysis of whether the equality duty has been met in substance, not just in form. • As part of this monitoring process, the importance of understanding the impacts on people with multiple identities, particularly in relation to poverty, should be considered. Whilst DAERA acknowledges the complexities of social identity, ongoing consideration (proactive identification, understanding and, where relevant mitigation) should form part of the EQIA monitoring process. Relying on the public consultation to identify impacts and undertake additional screening is not enough.
Q24. To what extent do you agree with the key findings of the Rural Needs Impact Assessments that have been carried out on the policies and proposals in the draft Climate Action Plan? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives .	**Agree** The summary frames the impact on rural communities as largely positive but this depends on policies being well-designed so that they deliver new green employment in rural areas, improved sustainable transport opportunities, opportunities for rural communities to own renewable energy projects and opportunities for more sustainable agriculture practices all of which could lead to better economic prospects for rural communities. Climate policies must be designed so that they support rather than disadvantage rural communities. We look forward to reviewing the details of these policy proposals to ensure they deliver the opportunities promised. Belfast LDP policies support sustainable urban form which includes proximity principles of homes, transport and services, positive placemaking, connectivity and green and blue infrastructure and this in turn helps protect rural communities from unsustainable development that lock in high carbon emissions. Spatial planning principles and policies as contained in LDPs should be supported in this Climate Action Plan in order to ensure communities can reduce their carbon emissions through sustainable patterns of development.
Q25. To what extent do you agree with the key findings of the overarching Rural Needs Impact Assessment of the draft Climate Action Plan?	**Agree** We broadly agree with the findings of the overarching RNIA. We look forward to reviewing the mitigation measures mentioned to address adverse impacts on rural areas as part of the policies and proposals.

Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives .	
Q26. To what extent do you agree with the key findings of the Strategic Environmental Assessment? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Disagree** We note the SEA statement that climate change mitigation and adaptation have been the key considerations when developing the plan. We would welcome further detail of how mitigation actions have included considerations of adaptation and more integration between the CAP and NICCAP3. We note the EPA's comments and would echo these that there are opportunities to consider how the impacts of climate change, individually and in combination, are likely to influence the implementation of the Plan. In this context, the Plan could consider opportunities to improve resilience of existing and planned critical infrastructure, systems and procedures to the effects and variability of climate change. This is not currently addressed in the draft plan and required further work alongside the NICCAP 3. There is potential for mitigation actions to enable maladaptation without proper consideration, for example in afforestation targets. Failure to safeguard proper adaptation measures in delivering the CAP would undermine efforts elsewhere to deliver climate adaptation, protect vulnerable communities and would avoid locking in financial burdens and increased vulnerability or missed opportunities to build adaptive capacity through this climate action plan. In addition to the above, vulnerable populations should be considered in the context of just transition / adaptation. The cascading effects of proposed mitigation and adaptation measures should also be considered. Recent extreme weather events could be useful to assist in identifying areas where for further work is needed to improve resilience, e.g. the resilience of critical water service infrastructure to flooding and drought. We echo the last paragraph of the summary, in which the SEA recommends close monitoring of policies and proposals set out within the draft Climate Action Plan to ensure that negative or unforeseen effects can be effectively responded to and managed. Mitigation measures should be included in these policies to prevent potential negative impacts from the outset.
Q27. To what extent do you agree with the key findings of the Habitats Regulations Assessment? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives.	**Strongly disagree** With the majority of cattle and pig manure stored as liquid slurry in NI, the CAP notes that through slurry aeration methane emissions can be reduced by approximately 40%. However, depending on the aeration system, aeration may increase ammonia emissions by approximately 20%. Given the significant negative impact of ammonia on peatlands and human health the statement that

	DAERA will encourage the increase in slurry aeration is deeply concerning. Since the majority of Northern Ireland's protected sites and priority habitats outside the designated site network currently exceed critical levels of nitrogen deposition and ammonia emissions, the statement that "this proposed action could increase the uptake of slurry aeration by 50% by 2027 is problematic. How can these proposals have passed the Test of Likely Significant Effects under the Conservation (Natural Habitats, etc.) Regulations (Northern Ireland) 1995? Note Annex H, the HRA states "Many of the proposals and policies in the draft Climate Action Plan were deemed to be positive or neutral to Habitats sites, particularly those with would involve a reduction in NOx or ammonia emissions or reduced leaching of nitrogen from agricultural soils." This is in contravention of the statements above within the CAP and a review is required by the Department as the Competent Authority.
Q28. To what extent do you agree with the key findings of the Regulatory Impact Assessment? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives.	**Agree** We agree the draft plan itself will not make any new regulations and therefore will not impose any costs, savings, additional compliance or administrative burdens on the wider business community.
Q29. To what extent do you agree with the key findings of the Children's Rights Impact Assessment? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives.	**Agree** We agree there is likely to be a net benefit to children and young people from the draft Climate Action Plan as it will deliver a cleaner, healthier and more sustainable environment whilst providing opportunities for the economy and job creation.
Q30. Can you provide any further information which will help to supplement the completion of these impact assessments. Please provide details, identifying the assessment to which the information relates	**No** Please details, identifying the assessment(s) to which the information relates: N/A
Relates to Chapter 8: The Natural Environment and Climate Change – **Soil Quality, Biodiversity and Air Quality Targets** The Act requires us to set specific targets for soil quality, biodiversity and air quality in this draft Climate Action Plan. The Act also requires that, where practicable, the policies and proposals should support and use nature-based projects, either individually or as part of wider action.	
Q31. To what extent do you agree with the proposed target for Soil Quality?	**Disagree** **Soils** The CAP states that "Good soil quality means that soil will function as a balanced ecosystem which sustains plant and animal life,

Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	whilst supporting provision of our food, filtering water pollutants and providing mitigation against flooding and drought. Soil health is a measure of how well our soils are performing these functions". Yet the proposed actions are on nutrient inputs and are therefore inadequate to either assess or protect soil health upon which agriculture depends. We note that the plan states that NI is at the start of understanding the nutrient status of our soils and measuring nutrient baselines will allow NI to plan for steps needed to assist farmers and landowners to measure and improve soil health parameters. However, there are actions that can be taken now to improve soil health, most notably assessing stocking rates and where required reducing stocking levels. This is critical to reducing nutrients at source, poaching, soil compaction etc. Waiting until the 75% baseline is completed to set targets is neither ambitious nor prudent in terms of protecting soil health upon which agriculture is dependent. BCC welcomes the development of a soil health indicator project but would urge action should be taken in the interim to prevent further deterioration of soils. Determining sustainable stocking levels at farm scale should be prioritised. Soil health is key to the future of agriculture, so this is a significant risk to the agriculture sector. The importance of soil quality in mitigating against the impacts of flooding and helping us a region adapt to climate change should also be considered as part of any work to improve soil health. **Recommendation** Stocking density is a key issue impacting soil health through compaction, poaching and erosion and is not limited to nutrient levels and the associated pollution impacts. A comprehensive review of soil health is required, considering both climate mitigation and adaptation needs together in an integrated plan.
Q32. To what extent do you agree with the proposed target for Biodiversity? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Strongly disagree.** At minimum, the CAP should contain an ambition to try to reach international biodiversity targets supported with adequate resources allocated to meet the targets set out in the forthcoming Nature Recovery Strategy. It is useful to note the recent OEP reports on pressures and drivers for biodiversity loss and the recent report on designated sites. DAERA need to implement all the recommendations within these reports. **Nature based solutions** There appears to be reliance on existing legislation and policy to address NbS but that is insufficient to integrate NbS within policies and proposals. The document embodies a strong business as usual approach but there is a need to consider opportunities to incorporate NbS into existing government programmes and investments to address Climate Change impacts and how this can be achieved.

Q33. **To what extent do you agree with the** proposed target for Air Quality? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Agree.** The council notes that DAERA has indicated that the Department is considering the feasibility of implementing new regulations that would bring into operation tighter annual average limits / targets / objectives for PM10 and $PM_{2.5}$, particulate matter having been identified as the most appropriate pollutant for incorporation into this draft Climate Action Plan. DAERA have advised that the main sources of ambient particulate matter in towns and cities come from industrial combustion, domestic combustion, and road transport. It is unclear, however, why particulate matter should have been identified as the most appropriate pollutant since the National Atmospheric Emissions Inventory '*Air Pollutant Inventories for England, Scotland, Wales, and Northern Ireland: 2005-2022'* publication identifies that principal emission sources of oxides of nitrogen (NOx) within Northern Ireland also include energy industries, industrial combustion, residential, commercial and public sector combustion and road transport. Moreover, the 2021 World Health Organisation (WHO) Global Air Quality Guidelines publication recommends an annual mean air quality guideline value of 10 mg/m^3 for nitrogen dioxide, in comparison to the current 40 mg/m^3 annual mean objective, a 24 hour mean guideline value of 25 mg/m^3 and retention of the 200 mg/m^3 1-hour mean guideline value. Belfast City Council presently maintains four Air Quality Management Areas across the city for exceedances of the 40 mg/m^3 annual mean objective for nitrogen dioxide, associated principally with road transport emissions, with one of our AQMAs additionally declared for exceedances of the 1-hour mean objective for nitrogen dioxide. Notwithstanding, the proposed air quality target is that '*In 2025, DAERA will engage with other Departments and key delivery organisations, with a view to considering the feasibility of implementing new regulations that would bring into operation tighter annual average limits/targets/ objectives for $PM_{2.5}$ and PM_{10}, in line with interim target 4 of the World Health Organisation Air Quality Guidelines 2021 of 10 mg/m^3 and 20 mg/m^3 respectively*. We note that Scotland has already adopted a $PM_{2.5}$ annual mean air quality objective of 10 mg/m^3 (as a limit) to be achieved by 2020, a target for $PM_{2.5}$ of 10 $\mu g/m^3$ is to be met across England by 2040, and that a $PM_{2.5}$ target is to be introduced for Wales by January 2027. DAERA will recall that Belfast City Council advised in response to '*Q1: Should there be legally binding targets for particulate matter, which are based on WHO guidelines?*' of the 'November 2020 DAERA Clean Air Strategy for Northern Ireland. A Public Discussion Document' that the Council would welcome further research and discussion by the Department into the introduction of legally binding targets for particulate matter for Northern Ireland, based

	on WHO guidelines, informed by an appropriate timescale, and prioritised actions for achievement of the targets. DAERA will appreciate that whilst $PM_{2.5}$ is not presently within the scope of regulations for the purposes of local air quality management, Part III of The Environment (Northern Ireland) Order 2002 places a statutory duty upon district councils to review and assess ambient air quality for those pollutants detailed within the Air Quality Regulations (Northern Ireland) 2003, including particulate matter (PM_{10}). No Air Quality Management Area is presently declared for PM_{10} within the Belfast City Council boundary. Moreover, the annual mean concentrations for PM_{10} and $PM_{2.5}$ measured at the Belfast Centre AURN site during 2024 were 13 mg/m^3 and 7 mg/m^3 respectively, and the annual mean concentration for PM_{10}, measured at the Stockmans Lane Roadside site during 2024 was 18 mg/m^3; below the DAERA proposed interim target 4 annual mean concentrations for PM_{10} and $PM_{2.5}$. However, Belfast City Council's 2023 LAQM Detailed Assessment for particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$) and nitrogen dioxide (NO_2) indicated that for a forward projection year of 2028, the highest particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$) and nitrogen dioxide (NO_2) annual mean concentrations within the Belfast City Council boundary are predicted to be 20.3 µg/m³, 13.1 µg/m³ and 31.1 µg/m³ respectively, typically within city centre locations where emissions from transport and combustion sources coalesce. These concentrations suggest that improvements will be required within the Belfast City Council area in order to achieve the proposed interim target 4 concentrations. It is considered therefore that further monitoring will likely be necessary across Belfast in order to accurately understand current ambient PM_{10} and $PM_{2.5}$ concentrations at relevant human health receptor locations. The council would consequently welcome publication of the recent audit of Northern Ireland Air Quality Monitoring Sites by Bureau Veritas. Accordingly, it is considered that the introduction of regulations to meet the WHO interim target 4 for PM_{10} and $PM_{2.5}$ are a welcome and acknowledged improvement over existing ambient air quality standards, established via the 2007 Air Quality Strategy for England, Scotland, Wales and Northern Ireland, and Directive 2008/50/EC on ambient air quality and cleaner air for Europe, etc. These interim targets 4 can however also be considered as an interim step towards full future alignment with the 2021 WHO Global Air Quality Guideline values. The WHO has recommended an annual mean air quality guideline of 15 µg/m³ for PM_{10} and 5 µg/m³ for $PM_{2.5.}$ The council would however welcome an analysis by DAERA of abatement options for PM_{10} and $PM_{2.5}$ emissions, having regard to the WHO Air Quality Guideline values, and taking account of local primary and secondary particulate matter and transboundary emission sources in any future feasibility study to inform the Clean Air Strategy for Northern Ireland.

	As an addendum to these comments, Belfast City Council would welcome publication of the DAERA Clean Air Strategy for Northern Ireland. Moreover, and as a consequence of the proposed Climate Action Plan targets for PM_{10} and $PM_{2.5}$, it is anticipated that various ambient air quality statutory instruments will need to be updated, including, but not limited to, the Clean Air (Northern Ireland) Order 1981, The Environment (Northern Ireland) Order 2002, the Air Quality Regulations (Northern Ireland) 2003 and The Air Quality Standards Regulations (Northern Ireland) 2010, etc.
Nature-Based Solutions to Reducing Emissions - Nature-based Solutions will create thriving habitats and ecosystems which reduce emissions, whilst also providing a landscape and marine environment which is more resilient to the impacts of climate change	
Q34. Can you provide any further information which will help us to incorporate Nature-based Solutions into our policies and proposals? Yes (If yes, please provide details) No	**Yes** The examples of NbS in the document are not ambitious and demonstrate there is a lack of knowledge across Government on what constitute NbS. Annex F states that "DfI undertook a review of its policy on grass cutting and verge management in 2022, placing a greater emphasis on environmental protection and enhancement. The revised policy will see a single swathe cut alongside roadsides twice per year. The revised policy endeavours to further increase the number of do not Mow Let it Grow sites and biodiversity enhancement projects on the NI road network." Unfortunately, this inappropriate management is leading to the development of areas of rank grassland rather than species rich grassland contributing to pollinator objectives and wider biodiversity benefits. Inappropriate management is the wrong messaging and is unhelpful to organisations trying to ensure appropriate management and resource investment across their estate. It is also unhelpful in the drive to garner public support for operational changes which contribute to biodiversity. Within the recently secured Nature Town and Cities bid Breaking through Barriers to connect People and Nature, BCC will be developing guidance on NbS best practice and BCC would welcome input from DAERA on its development.
Relates to Chapter 9: Governance for Delivery **Climate Action Governance Arrangements** We will only meet our carbon budget if we can successfully deliver the policies and proposals we have identified. Achieving this will require ongoing commitment and prioritisation of this work, shared ownership and cross-departmental working, and appropriate levels of oversight and scrutiny to keep us on track. Managing this implementation process will mean establishing appropriate governance structures within government, creating new statutory oversight bodies and working in partnership with existing independent oversight bodies.	
Q35. To what extent do you agree with the proposed governance arrangements to support the delivery of the Climate Action Plan? Strongly agree / Agree / Neither agree nor disagree / Disagree /	**Disagree** **Oversight** Please consider bringing climate, economic, and just transition (social) dimensions together into a single Climate & Sustainability Programme, merging two programme boards into one. **Just Transition Commission**

Strongly disagree. Please provide your reasons and any alternatives	Ideally the Just Transition Commission would have been established in time to work with and advise departments to inform the development of the draft Climate Action Plan to ensure that proposals, policies, strategies and plans comply with the just transition principle. Instead, it will only be able to provide an oversight review of the first Climate Action Plan rather than actively shape its development. Addressing inequality which is a key principle of the Just Transition will require integrated working across mitigation and adaptation. **NI Climate Commissioner** There is a risk of the roles of the NI Climate Commissioner and UK CCC overlapping. This relationship will have to be carefully managed to ensure the Climate Commissioner adds value beyond the existing functions of the CCC.
Relates to Chapter 10: Monitoring and Reporting **Monitoring and Reporting on Policies and Proposals** Monitoring and reporting on the implementation of policies and actions and the resulting impact on emissions reduction will be an essential element of tracking progress towards achieving the 2023-2027 carbon budget and meeting interim targets set for 2030 and 2040. We will ensure a robust monitoring framework is in place to keep us on our net zero pathway	
Q36. To what extent do you agree with the proposed approach to monitoring and reporting on policies and proposals? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Strongly Agree** We agree with the proposed monitoring and reporting approach and have no comments to add.
Relates to Chapter 11: Public Sector Leading by Example **Public Sector Leading by Example** The public sector is critical to the successful delivery of the draft Climate Action Plan – influencing and enabling positive behaviours, driving change and acting as a leader on climate action and low carbon innovation. We are committed to forging a net zero pathway by delivering vital public services in a way that reduces emissions, reduces waste and uses scarce resources more sustainably	
Q37. Do you have suggestions about other actions that we should be taking across the public sector? Yes (If yes, please provide details) No	**Yes** We would welcome further opportunities for more integrated working across local and regional scales of government to ensure that locally led climate mitigation and adaptation is supported and enabled through this plan.
Relates to Chapter 12: Enabling the Transition to Net Zero **Enabling the Change to net zero** The draft Climate Action Plan sets out the importance of science and innovation, education and skills, infrastructure, planning, behaviour change and communication as enablers to delivering our pathway to net zero	
Q38. To what extent do you agree with the actions that we are taking to enable the transition to net zero?	**Agree** **Behaviour Change and Communication** There is a need for a national public awareness campaign for behaviour change for climate action that targets the adult population in Northern Ireland in the same way that previous high-profile campaigns led by

Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	other departments have led to widespread change. This must however be placed in the context of system change, rather than individual victim blaming i.e. encouraging behaviour change through enabling conditions rather than one off campaigns. Trust, capacity building and incentivisation can enable behavioural change across the system. As climate action is a cross-cutting executive level strategic issue, communication budgets from all departments could be pooled to increase resourcing and impact. As awareness campaigns and information are insufficient to bring about major change alone; they should be closely linked with other levers, including regulations, fiscal incentives and disincentives, and the development of sustainable infrastructure. Ultimately the sustainable behaviours must be comparatively cheaper and easier than unsustainable behaviours, in order to create lasting change.
Relates to Chapter 13: Investing in Climate Action **Cost of Implementing the Climate Action Plan** Delivering a cost-effective path to decarbonisation in Northern Ireland requires action across all sectors of the economy and a joined-up approach. Funding our net zero transition will be a collaboration between the public and private sectors	
Q39. To what extent do you agree with the assessment of the costs of implementing this Climate Action Plan? Strongly agree / Agree / Neither agree nor disagree / Disagree / Strongly disagree. Please provide your reasons and any alternatives	**Disagree** **Government spending -** The costs are set out in gross terms, i.e. government expenditure, rather than net costs. We would like to see the CAP investment costs set out as net costs and also as a % of GDP to understand if planned government investment commitments align with the level of investment recommended by the Committee on Climate Change. Costs should also be articulated in avoided costs of delivery of the plan versus current business as usual. Also avoided costs from the result of the plan supporting adaptation actions should also be included.
Q40. Do you have any other information to inform this cost assessment? Yes (If yes, please provide details) No	**No**
Just Transition Fund for Agriculture The purpose of this scheme is to provide advice and financial assistance to the agriculture sector to deliver its contribution to meeting the carbon budgets and emissions reduction targets by implementing proposals and policies to be included in Climate Action Plans	
Q41. To what extent do you agree with the proposed approach to establishing a Just Transition Fund for Agriculture? Strongly agree / Agree / Neither agree nor disagree / Disagree /	**Agree** We look forward to seeing the future Just Transition Fund for Agriculture. We support the shift to sustainable farming, but policies to reduce emissions in farming should be introduced gradually. It will take years, and in some cases decades, for farm management practices to change. If farmers are pushed to make too many changes too quickly, or if they feel unfairly impacted by the transition, it could lead to public opposition. While many farmers will be open to change, others may be

Strongly disagree. Please provide your reasons and any alternatives	hesitant to make large investments or significant changes to how they farm. This needs to be reflected in the support, compensation, and timelines for implementing these changes.

This page is intentionally left blank

Belfast City Council

Subject:	Innovate UK Project – Belfast Net Zero Pathfinder
Date:	9th October 2025
Reporting Officer:	John Tully, Director Organisational and City Strategy
Contact Officer:	Debbie Caldwell, Belfast Climate Commissioner

Restricted Reports

Is this report restricted? **Yes** [ ] **No** [x]

Please indicate the description, as listed in Schedule 6, of the exempt information by virtue of which the council has deemed this report restricted.

Insert number [ ]

1. Information relating to any individual
2. Information likely to reveal the identity of an individual
3. Information relating to the financial or business affairs of any particular person (including the council holding that information)
4. Information in connection with any labour relations matter
5. Information in relation to which a claim to legal professional privilege could be maintained
6. Information showing that the council proposes to (a) to give a notice imposing restrictions on a person; or (b) to make an order or direction
7. Information on any action in relation to the prevention, investigation or prosecution of crime

If Yes, when will the report become unrestricted?

After Committee Decision	[ ]
After Council Decision	[ ]
Sometime in the future	[ ]
Never	[ ]

Call-in

Is the decision eligible for Call-in? **Yes** [x] **No** [ ]

1.0	**Purpose of Report/Summary of Main Issues**
1.1	To update members on the completion of the Belfast Net Zero Pathfinder project.

2.0	**Recommendation**
2.1	The Committee is asked to note that: I. the project ended on 31st July 2025 with the completion of six strategic work packages which have helped de-risk two of the priority projects identified in the city's Local Area Energy Plan (LAEP), namely the heat network and rooftop solar; II. The outputs of the project been used to develop a new funding bid, for round 3 of Pathfinders Net Zero Living funding from Innovate UK with a decision expected in Oct 2025.
3.0	**Main Report**
3.1	**Background** The Pathfinders Net Zero Living project kicked off in June 2024 with £149,964 secured in funding to help de-risk two key energy interventions listed within the Local Area Energy Plan as priority projects for Belfast. Belfast City Council worked in partnership with the Energy Systems Catapult (ESC) to deliver the work packages. The two key energy interventions were the city centre heat network and rooftop solar deployment.
3.2	To address non-technical barriers, the project focused on market readiness, organisational capacity, business model clarity, legal and commercial frameworks and community opportunities. The project was structured into 6 distinct work packages. The Summary Report, attached as an Appendix gives more detail on each work package and the overall project.
3.3	**Work Package 1: Project assessment** • Established project definitions, scoped two priority projects and analysed non-technical barriers.
3.4	**Work Package 2: Market readiness assessment** • Provided an understanding of the readiness of market actors (potential off-takers, investors, supply chain stakeholders etc) to engage and deliver decarbonisation projects ESC conducted structured interviews with various market actors. • Identified market constraints and off-taker requirements.
3.5	**Work Package 3: Stakeholder capacity** • Knowledge sharing across city-wide working groups and an internal council working group.
3.6	**Work Package 4: Commercial viability and route to finance** • WP4a Business model analysis assessed the viability of various rooftop solar business model, with the innovative portfolio PPA for rooftop solar aggregation included. • WP4b Legal and Commercial arrangements provided analysis of potential delivery vehicles for a Belfast City Centre heat network, with the JV ESCo and Golden Share emerging as the most favourable.
3.7	**Work Package 5: Community Opportunities** • Assessed opportunities for net zero investments (heat network or significant uptake of solar PV) to upskill /empower excluded groups and identified ways to support underrepresented groups to communities.
3.8	**Work Package 6: Impact Assessment** • Assessed the economic, environmental and social impacts associated with the implementation of the heat network and rooftop solar interventions.

3.9 3.10	The BCC Working Group continues to support delivery and the work is coordinated at the City level through the Belfast Net Zero group which reports into the Our Planet Board. This work is also a key part of the 2025/26 Corporate Annual Delivery Plan. **Next steps** BCC was invited to bid in a closed competition (for £50-150k projects) to enable projects to build on the innovation delivered so far. A bid was submitted in September within the short competition window (3 weeks). If successful, (notification by 14th October) the project will start on 1st December and complete by 31st March. The funding would provide an additional resource to develop delivery pathways for LAEP projects in the City. The proposed project focuses on further developing the innovative portfolio PPA and investigating the economic benefits of the thermal store element of the heat network as methods to lower the price of heat. The project would also further engage potential heat off-takers, produce a procurement roadmap for the heat network and engage other local authorities in knowledge sharing.
4.0	**Financial and Resource Implications** This work was funded through a £150k grant from Innovate UK. The proposed project would also be funded through a £150k grant from Innovate UK.
5.0	**Equality or Good Relations Implications/Rural Needs Assessment** Intelligence around diversity, inclusion, fairness and equality in the projects impact on the transition to net zero has been integrated into the project under WP6.
6.0	**Appendices - Documents Attached** Appendix I - Summary of Net Zero Belfast Project

This page is intentionally left blank

Belfast City Council

Net Zero Belfast Pathfinder project

Summary Report

25/07/2025

Table of Contents

1. Introduction

1.1 Project background

The Belfast Net Zero Pathfinder Project represents a landmark step in the city's journey towards a sustainable, inclusive, and low-carbon future. Initiated in June 2024 through a partnership between Belfast City Council (BCC) and Energy Systems Catapult (ESC) and supported by Innovate UK's Net Zero Living Pathfinders programme, the project is rooted in the city's Local Area Energy Plan (LAEP) and the Queen's Island Decarbonisation Plan (QIDP). These guiding frameworks prioritise scalable, cost-effective solutions that reduce emissions, foster innovation, and stimulate green economic growth across Belfast.

Belfast has set ambitious science-based targets aligned with the Net-Zero Carbon Roadmap: a 66% reduction in carbon emissions by 2025, 80% by 2030, and net zero by 2050 (all relative to 2000 levels). These targets are underpinned by a suite of progressive policies, including the Green Growth Strategy for Northern Ireland, the Circular Economy Strategy, and the Belfast City Council (BCC) Corporate Plan 2025–2028. The Pathfinder Project is also a cornerstone of the Belfast Agenda, the city's vision for a sustainable, inclusive, and prosperous Belfast by 2035.

This report summarises the outputs from the Belfast Net Zero Pathfinder Project which will inform the next phase of Belfast City Council's work to advance its energy transition. The project builds on the groundwork laid during Phase 1 which examined how Belfast's LAEP and the QIDP could support a whole systems approach to transition the city to net zero. These plans provided modelling and analysis of the city's energy system and identify priority decarbonisation projects and highlighted the practical challenges—beyond technology—that must be addressed to move from planning to delivery.

Phase 2 funding enables the Council to overcome a range of non-technical barriers that impede implementation of the LAEP and QIDP and help BCC to move viable interventions recommended by the energy masterplans (the LAEP and QIDP) into delivery projects: a city-centre heat network and a solar PV deployment. The objective is to accelerate and de-risk the delivery of two priority decarbonisation projects identified in the LAEP and QIDP.

The non-technical barriers include: limited maturity and readiness of market/supply chain for net zero investments, insufficient capacity of council and local stakeholders to progress decarbonisation projects, lack of business model clarity (e.g. off-taker arrangements) that can often deter investors, gaps in understanding of the optimum legal and commercial arrangements for public-private collaboration, and public concerns about local impacts of decarbonisation projects.

The project commenced on 1st June 2024 and ended on 31st July 2025. It was funded with an Innovate UK grant of £149,964 split between two project partners BCC (lead - £91,844) and the ESC (£58,120).

1.2 Work packages

To address these challenges, the project is organised into six work packages.

- **WP1: Project assessment** - clarifying objectives and delivery pathways for the heat network and solar PV projects and analysis of non-technical barriers.
- **WP2: Market readiness** - to provide an understanding of the readiness of market actors (potential off-takers, investors, supply chain stakeholders etc) to engage and deliver decarbonisation projects.

- **WP3: Capacity building of local stakeholders** - strengthening capacity to take forward LAEP / QIDP outputs embedding this expertise across local anchor institutions.
- **WP4: Commercial viability and routes to finance**
    - WP4a: Business model analysis - to identify potential business models that might support their deployment and assess the most appropriate role for BCC to catalyse and enable the projects.
    - WP4b: Optimum legal and commercial arrangements for BCC to catalyse investment - to identify suitable delivery models to enhance the capacity of Council to engage private sector partners.
- **WP5: opportunities for downstream investments to upskill /empower excluded groups** - Engaging local communities and identifying ways to support underrepresented groups
- **WP6: assessment of economic, environmental and social impacts of the interventions** - tracking environmental, economic, and social outcomes, with dedicated resources for reporting

By accelerating and de-risking the delivery of two priority decarbonisation projects identified in the LAEP and QIDP, the project has supported ongoing efforts by Belfast City Council (BCC) and its partners to reduce emissions from the city's built environment which is the largest source of emissions in the City.

Moreover, tackling these non-technical barriers enables Belfast to progress decarbonisation using a whole systems approach to decarbonise the local area while also delivering wider benefits to local communities. As many places are increasingly commissioning LAEPs, the outputs and learning from this project can be applied to other areas with insights being relevant for all UK local authorities.

1.3 Project delivery

The six work packages were delivered through a collaborative model that draws on the strengths of Belfast City Council, Energy Systems Catapult (ESC), and two specialist subcontractors (Bird and Bird and Atkins Realis). The Council led the overall governance and stakeholder engagement, ensuring that the work aligns with city priorities and existing plans and delivers against the objectives set out in the proposal. ESC has provided technical expertise on market readiness and business modelling using best practice and proven methodologies. Two sub-contractors have been brought in to support specific tasks:

1. Bird & Bird who advised BCC on the optimum legal and commercial arrangements; and
2. Atkins Realis who advised BCC on the community opportunities and impact assessment.

This approach combines local insight, energy systems thinking, and targeted technical input. The project was designed to accelerate delivery, maximise value, and build lasting capability within the Council and its partners.

1.4 Project roles

As noted above, the project is a collaboration between BCC, ESC and local sub-contractors. As lead, Belfast City Council has undertaken most project management activities, including programme, funding officer lesion, tracking KPIs, contract management etc. The project team is listed below:

BCC team

- Project Lead and Quality Assurance - Debbie Caldwell (BCC)
- Project Manager – Odhrán Crolly / Lauren Flanagan
- Monitoring Officer - Claire Shortt

ESC team

- Analyst (Barriers) - Peter Graham
- Business Model Identification & Evaluation, & Market Engagement - Tom Elliot & Reace Edwards
- Quality Assurance - Andrew Clark & Marcus Alexander

Atkins Realis

- Community Development – Karen Rodgers (Atkins Realis)

Bird & Bird

- Legal and commercial arrangement - Stuart Cairns, George Matthew and Michael Rudd

Roles assigned to each work packages are shown below.

Work Package	BCC (Lead)	Energy Systems Catapult	Specialist Subcontractors
Work Package 1 Project Assessment	• Define objectives and delivery pathways for the heat network and solar PV projects • Coordinate stakeholder engagement	• Lead project assessment • Analysis of non-technical barriers • Write up final report	
Work Package 2 Market Readiness	• Local stakeholder engagement, • Provide contextual insights, • Review submission	• Lead market readiness assessment • Write up final report	
Work Package 3 Capacity Building	• Convene multiple stakeholder meeting and roundtables • Ensure knowledge and understanding developed by ESC and Subcontractors is embedded across local stakeholders • Track activities and compile report	• Undertake interviews with potential heat network off-takers • Provide onsite engagement with local stakeholder groups to build capacity building	• Undertake interviews with specific BCC and stakeholders in relation to the heat network and solar PV projects
Work Package 4a Business Model analysis	• Local stakeholder engagement, • Provide contextual insights, • Review submission	• Lead market readiness assessment • Develop business models • Write up final report	

Work Package	BCC (Lead)	Energy Systems Catapult	Specialist Subcontractors
Work Package 4b Legal and Commercial arrangements	• Review sub-contractor's submission • Align with council objectives and activities		• Legal advisors draft and validate delivery models • Provide strategic insights • Prepare paper
Work Package 5 Community Opportunities Assessment	• Provide contextual insights and technical information related to overarching projects		• Deliver community consultation, • Identify opportunities and risks related to the two projects for delivery, • Set out clear method for future stakeholder engagement • Prepare final report
Work Package 6 Impact Assessment	• Provide contextual insights and technical information related to overarching projects		• Identify and assess impacts • Prepare final report

2. Work Package 1 - Project assessment

This work package was intended to enable all partners and stakeholders on the project to operate from an agreed project definition baseline including the role of BCC and any other stakeholders. It includes a high-level review of the five non-technical barriers to allow subsequent work packages to build out solutions to the barriers identified. It also uses project storyboards to capture what, where, when, how many, how much, and who, aspects of each project.

It explains the rationale for prioritising a city-centre heat network and a solar car park with integrated EV charging which were identified through the Belfast LAEP and the QIDP as priority interventions capable of reducing carbon emissions, tackling fuel poverty, and supporting wider city objectives.

The report outlines the strategic case for each project, detailing their objectives, expected benefits, and the roles Belfast City Council and other stakeholders may play in delivery (with stakeholders categorised into supporter, enabler and investor). For the heat network, Belfast's building density, public sector anchor loads, and proximity to potential heat sources offer a strong foundation for development. The solar car park project responds to urgent grid constraints and the need for more EV infrastructure, while also demonstrating the city's potential for scaling up solar PV generation.

The report also explores the five key non-technical barriers that must be addressed to move these projects forward:

1. limited maturity and readiness of market/supply chain for net zero investments,
2. insufficient capacity of council and local stakeholders to progress decarbonisation projects,

3. lack of business model clarity (e.g. off-taker arrangements) that can often deter investors,
4. gaps in understanding of the optimum legal and commercial arrangements for public-private collaboration, and
5. public concerns about local impacts of decarbonisation projects.

The findings will inform future decision-making and help ensure that both projects are delivered in a way that is technically viable, commercially attractive, and socially inclusive.

To note: While the solar carport project was initially chosen, it was decided not to carry it forward after stage 1 – Project assessment due to future use and ownership complexities of the solar car port site. This followed conversations with two of the key stakeholders where it was envisaged solar car ports could be developed: the Odyssey and Catalyst.

Instead, the focus was shifted to rooftop solar PV installation across Belfast, and the development of a portfolio approach to sleeving solar power generated from multiple rooftops to a single off-taker (which could for example be an energy centre for a heat network)..

3. Work Package 2 - Market readiness to progress net zero innovation

This work package explored how ready Belfast's local energy market and supply chain are to support rooftop solar PV and heat network projects. The focus was on understanding what potential off-takers need, what's holding the market back, and whether there's a realistic path to scaling up local decarbonisation efforts.

Key Objectives

- Speak directly with stakeholders across the energy value chain to gauge interest and identify constraints
- Pinpoint the non-technical challenges slowing down deployment
- Understand what drives off-taker decisions—what they care about, what worries them, and what tips the balance
- Offer practical recommendations to improve market engagement and readiness

The team carried out structured interviews with a wide range of stakeholders: landlords, solar PV installers, electricity network operators, energy service companies (ESCos), and organisations that might connect to future heat networks, etc. These conversations were extremely valuable to both elements of the work. They revealed concerns and opportunities related to PV and the heat network.

Landlords were generally positive about rooftop solar, some more focused on off-setting carbon while others focused on supplying energy to tenants. The Energy Efficiency Capital Grant (EECG), despite offering up to £150,000, was seen as being too complex and the process too slow and unpredictable for many.

Installers, including 35 MCS-certified firms active in Belfast, liked the idea of portfolio PPAs. They were particularly interested in models that allow flexible onboarding and shared agreements across multiple sites. However, they flagged the need for clearer guidance on future non-domestic solar grants and a faster approval process to keep momentum going.

Investors focused on self-consumption rates, ideally above 70%, as a key factor in making PPAs financially viable. Some were open to oversizing systems to make full use of rooftop space, but only if there were solid demand forecasts and reliable export options to manage risk.

NIE, the local electricity network operator, said Belfast's rooftop solar ambitions didn't pose immediate technical issues. Early assessments showed that city-centre installations were feasible, and network upgrades are already in motion to support more distributed generation. That said, they stressed the need for more detailed data at a building-level to guide future planning.

The ESCo partnership could offer greater contractual simplicity than the supplier facilitated model, as there would only be one PPA between Belfast City Council and the ESCo, rather than contracting directly with multiple generators.

PPA platform providers confirmed that portfolio PPAs are technically feasible and could help match solar generation with heating and cooling loads. Their platforms could streamline onboarding for smaller buildings and maximise rooftop use.

The report also looked at how ready the market is for heat networks. Most stakeholders saw them as a credible alternative to gas, especially for meeting Net Zero targets without major building changes however cost was a major concern. Organisations were generally open to paying a connection fee, provided it was reasonable and offered a clear return. Some potential off-takers expressed concern over being locked into 15 year heat supply agreements given they are currently able to hedge price fluctuations and switch to new deals every two years.

Carbon reduction was a strong motivator, with many already working toward decarbonisation goals. Some were willing to pay more for low-carbon heat, but only if it stayed competitive with gas. Affordability and price transparency were especially important for public sector bodies tied to fixed procurement rules or budget constraints.

Social benefits such as like job creation, and locally sourced energy generation (energy security) were recognised but not seen as priority considerations. Also, stakeholders wanted a business case that made financial sense, delivered carbon reductions, and didn't add complexity to their operating procedures.

There's clear interest in both rooftop solar and heat networks, but the market isn't quite ready. Fragmented efforts, uncertain funding, and a lack of coordinated strategy are holding things back. To drive this on, Belfast City Council would need to:

- Develop clear, tailored offers that fit with how stakeholders procure energy;
- Promote collaborative purchasing models to reduce risk and improve uptake;
- Position heat networks as part of a wider city decarbonisation strategy; and
- Prioritise early engagement and transparent communication to build trust.

4. Work Package 3 - capacity of key stakeholders to take forward the LAEP

Capacity building has been integrated into all of the work packages of the Project, designed to address internal technical constraints, foster collaborative delivery, and prepare

stakeholders for the implementation of solar PV and heat network interventions. The strategy recognises that delivering complex energy infrastructure in an urban context requires more than technical expertise, it also requires broad understanding of the different routes to market, strategic alignment, and the ability to collaborate across institutions, communities and the market. The capacity building strategy adopted was therefore rooted in principles of co-design, systems thinking, and collaborative learning.

The approach taken leant on long standing city-wide and internal relationships. Drawing on existing working groups which were co-designed for systems thinking and collaborative learning. These existing working groups were convened to bring together Council departments, City-wide and third-party stakeholders.

Technical knowledge exchange played a key role in building confidence and clarity. Expertise from a range of BCC internal and city-wide stakeholders was integrated into discussions covering social, legislative and technical considerations for both the heat network and solar PV. These exchanges also included updates on partners' estates, ongoing energy and sustainability projects, and shared reflections on successes and challenges. This helped clarify complex issues and enabled non-technical stakeholders to engage more confidently with the material.

Capacity building was also tailored to the needs of specific stakeholder groups. Council staff received support on governance, commercial structures, and technical delivery, while city-wide partners were engaged in strategic discussions about net zero integration and the potential for connecting their estates to future heat networks. Although not funded under this programme, the heat mapping and masterplanning study for the Belfast Heat Network was leveraged to support these efforts. Outputs such as heat mapping, energy centre site selection, network routing, anchor load identification, and techno-economic modelling were used to inform workshops and engagement sessions.

Additional capacity-building activities included participation in the heat network off-taker interviews, conducted by Energy Systems Catapult. A member of the Council's climate team joined these interviews to strengthen relationships and bring additional insight to the discussions. These interviews helped shape an understanding of what an attractive connection offer might look like and contributed to the development of delivery models. Similarly, the community opportunity assessment involved direct engagement with Council staff and community organisations in Donegall Pass, integrating local knowledge into the planning process.

Capacity building was embedded throughout the Pathfinder project via three key groups.

1. The **Council's Heat Network Internal Working Group**, which informs and leads on the development of the Councils approach to incentivising the development of a heat network in Belfast and enables cross-departmental collaboration. It includes cross-departmental membership from: the Climate Team, Procurement, Property and Projects, Legal Services, Planning, Finance, City Regeneration and Development.
2. The **Net Zero Delivery Group** (part of the City's Community Planning Partnership) established following completion of the LAEP to co-ordinate emerging net zero investments across the City. This group provides collective leadership to promote and support the development of a coordinated series of net zero investments across the city to achieve the emission reduction targets in a cost optimal way whilst creating wider benefits for local communities. Its membership comprises: BCC, SONI, Phoenix Energy, NIE Networks, Queens University Belfast, the NI Housing Executive, Action Renewables, National Energy Agency and the Royal Society of Ulster Architects. The group provides a platform for city-wide operational stakeholders to share insights and catalyse private sector interest and investment and political traction.

3. The **Our Planet Strategic Oversight Group**, which oversees delivery of the City's strategic plan (Belfast Agenda) across the Our Planet programme of work. Membership includes: BCC, Translink, Queens University, NI Housing Executive, Dept for Economy, Dept for Agriculture, Environment and Rural Affairs, Belfast Harbour, NIE Networks, SONI, and Climate NI.

These groups are an integral part of the City's partnership approach to tackling the climate crisis and meet regularly. These groups are instrumental in bridging the gap between technical feasibility and delivery readiness for complex decarbonisation projects in the City.

The outcomes of this work have been significant. Internally, Council departments have developed a stronger understanding of heat network delivery and built confidence in progressing complex infrastructure projects. Externally, strategic alignment has been strengthened across city-wide stakeholders, and there is growing interest in forming an additional dedicated knowledge-sharing group for potential heat network off-takers. Capacity-building efforts have also been closely integrated with the heat network feasibility study, through the off-taker interviews, aligning the pathfinders project.

Looking ahead, capacity building will remain a core element of the delivery strategy. The continued convening of city-wide groups will support planning, risk management, and stakeholder coordination. A new off-taker forum will be explored to support the heat network project, and lessons from the Pathfinders programme will be used to address risks. Belfast City Council will extend these approaches across other city-climate projects.

5. Work Package 4 – Commercial viability and routes to finance

5.1 WP4a - Business model analysis

This work package focused on identifying and evaluating viable business models to support the accelerated deployment of rooftop solar PV in Belfast, a key priority in the LAEP, which recommends scaling rooftop solar installations to 22MW per year between 2025 and 2030, and ultimately reaching 1.1GW of installed capacity by 2050. The analysis centred on the feasibility of a developing a portfolio Power Purchase Agreement (PPA) as a mechanism to unlock investment, aggregate generation, and support wider decarbonisation goals.

Objectives

- Analyse rooftop solar PV generator archetypes and their commercial motivations
- Evaluate business model options for self-consumption, behind-the-meter PPAs, and portfolio PPAs
- Test the feasibility of portfolio PPAs through stakeholder engagement and market analysis
- Recommend an implementation plan

The report begins by categorising rooftop solar PV generators into two project types: large energy consumers and surplus providers. Large energy consumers typically have high demand behind-the-meter and seek to maximise self-consumption to reduce electricity bills. Surplus providers, on the other hand, have sufficient roof space to generate more than they consume and are interested in exporting surplus energy to the grid at a commercially viable rate. However, low export tariffs often limit willingness to oversize solar PV installations.

Three business model options were assessed for their suitability.

Business Model	Summary	Complexity
Self-consumption	Building owner installs and consumes solar PV directly.	Low
Behind-the-meter PPA	Third party installs PV and sells energy to building user.	Medium
Portfolio PPA	Appendix A- Aggregated energy from multiple rooftop assets sold to a central off-taker.	High

Case studies from Belfast, including Catalyst and the Odyssey Trust, illustrated how these models operate in practice. Catalyst's self-consumption model supplies communal services and recovers costs through tenancy agreements, while Odyssey's behind-the-meter PPA allows for sub-metered billing and cost recovery across tenants.

The portfolio PPA model was explored in depth as a strategic mechanism to aggregate rooftop solar generation across multiple sites and supply energy to a central off-taker, such as Belfast City Council or a heat network joint venture. Three implementation pathways were considered:

1. Supplier-Facilitated: Belfast City Council or a JV would contract directly with individual generators, while an energy supplier would aggregate and sleeve the energy. This approach offers control over generator selection and contract terms but involves high administrative burden and supplier fees.
2. Aggregator-Facilitated: An aggregator would manage contracts with generators and balance energy supply and demand. Belfast City Council would hold a single commercial agreement with the aggregator, reducing legal complexity but limiting influence over generator selection and pricing.
3. ESCo Partnership: An energy services company would fund rooftop PV installations and sell surplus energy to Belfast City Council via a portfolio PPA. This model simplifies contracting and thus may unlock private investment, but requires careful planning around asset ownership and long-term participation.

Stakeholder engagement helped inform the technical and commercial viability of portfolio PPAs, but also highlighted key considerations. Investors generally seek high self-consumption rates to ensure financial viability as of-setting the electricity bill offers a greater return that selling electricity. Therefore, they are traditionally cautious about oversizing systems without clear demand forecasts. Installers and ESCos expressed interest in multi-party agreements, while PPA innovators emphasised the importance of digital platforms to streamline participation and maximise rooftop utilisation.

The strategic value of a portfolio PPA lies in its ability to support Belfast's rooftop solar targets, integrate with heat network development, and provide a scalable mechanism for local energy procurement. The portfolio PPA offers electricity generation diversification, it is cost competitive and has the potential to demonstrate increased carbon reductions incentivised over-design.

For the next steps, the report recommends piloting a portfolio PPA with a small group of generators to test contractual and operational frameworks. ESCo partnerships should be explored to unlock private investment and simplify delivery, and the design of the portfolio PPA should align with Council procurement processes and Net Zero targets. Ultimately, portfolio PPAs could serve as a cornerstone of Belfast's energy transition, enabling coordinated deployment of rooftop solar PV and supporting broader decarbonisation initiatives across the city by way of feeding into the heat network energy centre.

5.2 WP4b - optimum legal and commercial arrangements for BCC to catalyse investment - CONFIDENTIAL

This summary is based on legal and commercial advice provided by the specialist subcontractor; Bird & Bird and is strictly confidential. It is intended for use by Belfast City Council's Corporate Management Team and the Climate Team. It must not be shared, circulated, or referenced outside this project, including the appendices attached.

The work package outlines recommended delivery models for the Belfast Heat Network (BHN) developed through a series of workshops, executive-level meetings, and committee presentations. The purpose of this work package is to inform strategic decision-making by elected members on the next phase of market engagement.

Following a detailed assessment, two delivery models were proposed for further market engagement: a Joint Venture Energy Services Company (JV ESCo) and a Golden Share model. These options were selected from a broader longlist, based on BCC's strategic priorities, its preferred level of control, available funding, and the anticipated appetite of the market.

The assessment considered five core criteria: the degree of control BCC wishes to retain over project development; the level of desired involvement in the operation of the heat network, its capacity and willingness to invest capital; its need ownership; and the likelihood of attracting credible private sector partners. Several alternative models—including Local Authority Delivered, Private Sector Delivered, Infrastructure/Operation Split, and Concession—were excluded due to perceived appetite of the elected members.

The JV ESCo model involves the creation of a 'special purpose vehicle' jointly owned by BCC and a private partner, governed by a Shareholders' Agreement. This structure requires capital investment from BCC and offers the potential for financial return. It enables strong operational influence but demands significant internal resource and expertise. A Development Agreement may be used to govern the design phase prior to committing to full delivery, allowing BCC to shape the project before entering into the Shareholders' Agreement.

The Golden Share model is another similar approach, where the BCC would hold a non-economic share in a delivery vehicle. This model does not require capital investment and therefore does not generate return. Thus, the golden share provides limited operational influence and requires minimal internal resources. Strategic oversight is retained without financial exposure, and a Development Agreement may also be used to shape the project prior to delivery.

Both models have been informed by delivery structures emerging under England's Advanced Zoning Programme. While zoning policy does not apply in Northern Ireland, it is recommended that BCC continue to monitor developments in England to ensure alignment with evolving market expectations and best practice.

6. Work Package 5 – Community opportunities assessment

The objective of this work package is to assess how the decarbonisation projects can upskill and empower excluded groups and communities through consultation and engagement.

Decarbonisation opportunities and challenges

- City Centre Heat Network: the development of a low-carbon heat network has high potential to provide reliable, efficient heating to a variety of building types, including heritage structures and mixed-use developments in the city centre. However, bespoke engineering solutions are required to integrate new systems with existing infrastructure while maintaining architectural integrity.
- Solar PV on Public Buildings: large-scale deployment of solar PV increases local renewable electricity generation, directly lowers operational costs for public institutions, and supports energy resilience. The public sector's leadership in solar adoption is expected to catalyse further investment and uptake across the private sector.
- Donegall Pass and Focus Zones: areas such as Donegall Pass, which face higher levels of fuel poverty, older housing stock, and limited retrofitting space, are identified as priorities for targeted investment and innovation. Tailored interventions, such as fabric upgrades and community energy schemes, address both social and technical barriers.

Policy Integration and Strategic Alignment

- The Belfast Net Zero Pathfinder Project is closely aligned with wider regional and national strategies, including the Circular Economy and Green Growth Strategy, reinforcing the importance of resource efficiency, local energy generation, and innovation in clean technology. It operationalises the Belfast Agenda and Net-Zero Carbon Roadmap, translating high-level ambitions into actionable, localised plans that address the unique challenges of Belfast's urban landscape

Lessons from comparable projects

- Bristol have been able to leverage £61.5m in social value package, delivered through the Leap City Partnership
- St Ives forward thinking smart energy programme was also able to deliver a low carbon business support programme, managing to support 35 local SMEs to take carbon emission reduction steps.
- In Aberdeenshire, a drastic reduction in fuel poverty was achieved through the smart solar and storage project, bringing solar PV and battery storage to 500 homes.

Barriers and recommendations

- Integration with Existing Infrastructure: delivering large-scale interventions in inner-city locations requires overcoming challenges related to building age, density, and historical value. The report recommends ongoing stakeholder engagement and pilot projects to demonstrate feasibility.
- Social Equity: ensuring that the benefits of decarbonisation are distributed equitably demands focused investment in deprived neighbourhoods and the removal of barriers to participation in training and employment.
- Innovation and Adaptability: continued investment in emerging technologies is recommended to future-proof the energy transition.

Conclusions

The Belfast Net Zero Pathfinder Project aims to drive an inclusive and sustainable energy transition through rooftop solar and a city centre heat network. Careful planning and collaboration can deliver benefits beyond carbon reduction, including community empowerment and job creation. Social value should be embedded in procurement,

governance, and supply chains to ensure equitable outcomes. Early, ongoing community engagement and alignment with local plans are vital for project success. These projects will provide a blueprint for inclusive climate action that benefits both the environment and local communities.

7. Work Package 6 – Impact assessment

This section provides an overview of the social, economic and environmental factors associated with two core decarbonisation interventions: the development of a city centre heat network and the deployment of solar photovoltaic (PV) systems. The objective of this work package is to evaluate the likely economic, environmental, and social impacts of these interventions, ensuring a just transition and maximising benefits across the city.

Socio-economic and community impact

- The Belfast Net Zero Pathfinder Project places strong emphasis on inclusive growth. Extensive consultation and engagement is recommended to identify opportunities to upskill local residents—particularly those from excluded or underserved groups—for new jobs created in green construction, energy management, and maintenance of renewable infrastructure.
- Community ownership models and energy-as-a-service initiatives can provide opportunity to foster local empowerment while ensuring affordability and wider participation in the energy transition.
- Reduction in energy poverty and improved energy security are expected, particularly in areas previously more vulnerable to high energy costs and unreliable heating.

Economic and environmental impact

- The report projects significant economic stimulus from green infrastructure investment, with the potential creation of skilled jobs, stimulation of local supply chains, and enhanced attractiveness for inward investment.
- Environmental modelling indicates that the combined interventions could deliver substantial carbon savings, contributing materially to Belfast's interim and long-term climate targets.
- The LAEP's phased implementation approach—focusing initially on "low-regrets" actions like fabric upgrades and public sector-led solar PV installations—enables flexibility and adaptation as technologies and market conditions evolve.

Project Specific Impact

- Heat Network: Air quality improvements, as there would be less on-site fossil fuel combustion heating sources. Therefore, a reduction of NO_2 and PM2.5 exposure in dense urban and lower-income areas can be expected.
- Both a heat network and increased solar PV deployment would provide the community more security of supply and insulate the users from geopolitical trends effecting fossil fuel prices or other price shocks.

8. Appendices

Appendix A Work Package 1: Project Assessment

Appendix B Work Package 2 and Work Package 4a: market readiness and business model analysis

Appendix C Work Package 3: capacity building of local stakeholders

Appendix D Work Package 4b: optimum legal and commercial arrangements

Appendix E Work Package 5: opportunities for downstream investments to upskill /empower excluded groups

Appendix F Work Package 6: assessment of economic, environmental and social impacts of the interventions