BELFAST
TRANSFERABILITY PACKAGE

UP2030 UPSCALING PHASE

UP2030

EXECUTIVE SUMMARY

The purpose of this document is to transfer the knowledge and results acquired by the city of Belfast during the UP2030 project, so that the prototype developed can be replicated or scaled up both in other parts of the city and in other cities seeking innovative solutions for sustainable urban development. This 'transferability package' contains information about the scaling methodology designed in UP2030, defining the key concepts to be taken into account for its effective implementation in cities. The following sections of this document also provide a detailed account of how Belfast has implemented the methodology in its local context, along with the results obtained from the process:

- Definition of the objectives for the upscaling phase for the city, specifying which are the dimensions that will be addressed and the impact generated with the actions.
- List of barriers when it comes to upscaling and potential opportunities to overcome these. Some of these measures could be informed from the finance and governance tools.
- List of opportunities for upscaling the prototype, collecting the next steps for design and implementation and assigning roles and responsibilities among the actors involved.
- Provide a list of guidance materials and resources to inform key stakeholders about the upscaling phase and the activities that need to be conducted.

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GLOSSARY

Replication: transfer of a tested or proven interventions or initiatives to a different location at the same scale, in order to repeat success elsewhere and achieve similar results.

Upscaling: ability to take a tested concept, pilot project or initiative, and expand it while maintaining efficiency, in terms of people served, revenues generated, or other similar targets.

Prototype: initiatives, plans, programs or solutions developed by cities during the UP2030 project.

Learning Action Alliance (LAA): knowledge exchange and co-creation platforms intended to support the communication, coordination, innovation, and dialogue between city stakeholders at multiple levels.

THE IMPORTANCE OF UPSCALING – UP2030 UPSCALING METHODOLOGY

In projects such as UP2030, it is essential to devise a strategy for sustaining the work carried out during the project and maximising its impact. For this reason, the UP2030 project built an **upscaling methodology** to provide cities with instruments and resources developed during the project, so that the prototypes developed during the project can be grown and adapted to other sectors, regions and countries, in order to accomplish the goals defined by each city. This process ensures that best practices are transferable and adaptable across different urban contexts to provide cities with instrument and resources developed during the project, so that the prototypes developed during the project can be grown and adapted to other sectors, regions and countries, in order to accomplish the goals defined by each city.

The success of the replication or upscaling efforts is completely reliant on the institutional environment in which the actions will be implemented. Therefore, it is essential to create an "enabling environment", which is constituted primarily by:

Finance

Mechanisms for accessing financial, technical and political support.

Governance

Supportive policy, legal and regulatory frameworks and better policy coordination.

Capacity

Enhanced capacity across all levels of government.

The upscale methodology was structured in three phases:

1. PREPARATORY WORK

Setting the basis for upscaling

- Understand the local context, challenges and priorities of cities.
- Define the objectives for upscaling.
- Explore the available tools on governance and finance that support upscaling.

2. LAA WORKSHOP

Bringing local stakeholders to the process

- Set the scene, presenting the objective and defining the resources and capacities to move forward.
- Create readiness among the stakeholders at the local level.
- Design an initial implementation plan for upscaling actions.

3. FOLLOW-UP WORKSHOP

Refining the next steps

- Analyse the main insights and results obtained in the LAA workshop.
- Define next steps for the implementation of upscaling activities.
- Develop a transferability package, collecting information about objectives, opportunities, barriers, actions and resources needed for upscaling.

One of the key outcomes of this process is the **transferability package**, which is designed to serve as a guidance document for cities to assist them in transitioning from the planning phase to the implementation phase of upscaling activities. The transferability package is also designed to facilitate the communication of results with relevant stakeholders within the municipality, as well as with other local and regional governments seeking to learn from best practices.

INTRODUCTION OF THE CITY

Belfast declared a climate emergency in October 2019, recognising the urgent need for action and setting a goal to become a net-zero economy and climate-resilient city. In response, Belfast City Council launched the Belfast Resilience Strategy in 2020, alongside the Belfast Net Zero Carbon Roadmap, the Belfast One Million Trees programme and the strategy called "A Bolder Vision for Belfast". In UP2030, Belfast seeks to create a framework that adapts and mitigates climate risks through increased greening, better sustainable transport and more energy efficient buildings to act as a beacon of success for other neighbourhoods.

From vision to action

CITY'S VISION	PROTOTYPE
Create net zero neighbourhoods in Belfast by: ✪ Co-create an inclusive, more equitable and fair society. ✪ Achieve carbon net zero through greening, sustainable travel, green energy and building retrofit. ✪ Take a democratic and sustainable approach to be prepared, adapt to and mitigate climate risks and shocks.	Net Zero Neighbourhood Framework

Belfast's adaptive pathway

The Belfast prototype will be a **Net Zero Neighbourhood Framework (NZNF)** that can be scaled across the city and beyond and is focused on three themes: active travel, retrofit of buildings and city greening. The geographical focus is on the southern section of Belfast's city centre, which contains a mix of functions and land uses including residential, tourism, commercial, office, hospitality and transport. Through initiatives like the Safe Routes to School campaign, the Belfast Retrofit Delivery Hub, and carbon modelling tools, the city is generating transferrable insights.

The final NZNF will provide practical guidance, visual resources, stakeholder engagement processes and replicable toolkits to support urban planners, policymakers, and communities. The Belfast Agenda, Resilience Strategy, and Climate Ambitions documents are embedded within the NZNF, ensuring alignment with the city's long-term strategy.

The people and tools needed for developing the adaptive pathway:

- **Design Clips**: Developed the **"Safe Routes, Healthy Places"** toolkit and materials for active travel initiatives such as the Walking Bus.
- **Mapping for Change**: Created **Community Maps** and provided stakeholder engagement tools.
- **University of Cambridge**: Delivered a **carbon accounting methodology for urban regeneration**, estimating emission reductions from greening, retrofit, and mobility improvements.
- **Vrije Universiteit Brussel and Centre for Research & Technology Hellas**: Advancing **Neutrality Story Maps**, a multimedia tool for community storytelling and scenario planning to support participatory decision-making.

UPSCALING FOR BELFAST

The main objective of the city of Belfast for the upscaling phase is to scale the NZNF across the city and beyond, taking as a reference the lessons learned from the testing on the southern section of Belfast's city centre. The specific steps and objectives that need to be accomplished include agreeing on the Council's approach for post-project dissemination and upscaling, as well as further developing actor and stakeholder relationships. It is also essential to ensure alignment with city and regional strategies (such as the Belfast Agenda, Resilience Strategy, and Climate Ambitions), and to develop adaptable, flexible solutions suited to different urban contexts. Additionally, there is a need to explore the current finance and governance arrangements for each of the three sectors—residential, public buildings, and commercial—and to assess what changes or requirements would be necessary in terms of finance and governance to enable effective upscaling.

The LAA workshop with local stakeholders was the central point of the upscale phase in Belfast and had a primary focus on building retrofit. City partners and different experts were invited to the workshop, aiming to discuss what currently exists, and where the gaps, challenges and opportunities are, in order to provide upscale recommendations as part of the final framework. Participants were provided with a table based on three retrofit sectors (residential, public buildings and commercial) and asked to explore and discuss the current finance and governance arrangements for each of the three sectors.

The following sections provide an overview of the main results achieved by Belfast in the upscaling phase, centring primarily on the three sectors of retrofit, and defining the barriers and opportunities encountered together with local stakeholders, key decisions made, and a plan for next steps.

What are the barriers that need to be overcome with upscaling?

Residential sector:

- **Need for allocation of ring-fenced budget for retrofit measures** from overall Northern Ireland budget.
- **Additional funding allocated to NI Government Departments to support retrofit**.

Public buildings sector:

- **Absence of targets and accountability**. The new mandatory Public Bodies Reporting Duties are welcome and will drive climate action; however, there is no **consequence if targets are not hit** (unless climate groups demand action). Low carbon retrofit adaptation needs to be prioritised at an organisational level. Commitment, data and funding are required to bring forward retrofit measures on Belfast City Council's (BCC) building stock.
- **Knowledge gap in public sector bodies**. NI does not have access to the resources available to public bodies in Great Britain that can help to fund skills, support and capital works such as energy measuring and monitoring.
- **Funding schemes are taking too long to develop**.

Commercial sector:

- Fragmented governance: **lack of strategic oversight and coordination across sectors**.
- **Limited access to funding in Northern Ireland** compared to Great Britain and Republic of Ireland; **need for ringfenced and sustainable funding**.
- **Data gaps** in energy performance of commercial building stock.
- **Costs of retrofit measures**: many investors and building owners have only recently begun to consider the technical measures, threats and opportunities around improving energy performance, of their portfolio. In some instances, office blocks have been put back on the market again once the costs of converting office space to residential mixed use was deemed unviable.
- There is **no current commercial demand as businesses are in long leases**, the work from home

(WFH) model is reducing demand for office space and there is limited Foreign Direct Investment (FDI). There is natural churn but businesses looking for big floor space are the ones to dictate the best in terms of peak sustainable building practice.

- The organisations hardest hit will be Belfast City Council (BCC) and Department of Finance (DoF) as they stand to **lose rates from the commercial stock** once the Energy Performance Certificate (EPC) legislation comes into practice in Northern Ireland – need to work with Land and Property Services (LPS) to explore the potential benefits of a scheme to convert commercial space into residential.

What are the opportunities that have been found in the upscale phase?

Residential sector:

- **Access to grant finance would increase uptake in retrofit works**. It would also stimulate the market to upskill and create jobs to meet the demand.
- **Finance schemes should mirror what is available in Great Britain and Republic of Ireland, addressing a major challenge regarding the current approach to funding in Northern Ireland where money is not ringfenced for retrofit measures** (e.g. landlords in Great Britain can receive up to 100% funding for retrofit works).
- **Grant finance opportunities should be available for a range of tenures** including landlords who are currently reluctant to complete works as funding is connected to the tenant and not the building.
- **Grants should be available for a fabric first approach as well as low carbon heating**, with a one stop shop to help residents and landlords understand what resources are available to them.
- **Cross-tenure grant schemes**, led by the NIHE and supported by wrap-around and enabling services, **could facilitate a street-by-street pathfinder programme**, which would aim to develop an effective methodology that could be rolled out at scale across the city.
- **The Sustainable Energy Communities** model (used widely in the Republic of Ireland), could provide **good opportunities for data collection, pilot testing, learning and attracting finance for the delivery of interventions**. Rotterdam was cited as a good example of employing local energy champions to build trust and encourage community participation, providing additional social benefits.

Public buildings sector:

- **Embed governance and accountability**. Introduce clear targets and data collection processes, and demonstrate top-down commitment across the public and private sectors.
- **Use Public Bodies' Reporting Duties as an incentive for additional climate action**, setting out the steps for an organisational approach.
- **Establishment of sustainable funding models** through grant schemes and financial mechanisms similar to those in Great Britain and Republic of Ireland, **including low-cost loans and revolving investment funds**. Make a case for an 'invest to save' model across public sector buildings. Queen's University Belfast was cited as a good example of how an initial investment of £250K in a revolving fund has yielded £10M in energy savings.
- **Consider a long-term plan to decarbonise building stock, identifying projects that provide financial savings** — particularly quick wins, such as solar PV, where financial savings could be realised in 5–8 years — and building on this to deliver larger interventions.

Commercial sector:

- Explore the repurposing of commercial stock to **convert suitable vacant office buildings into housing or sustainable commercial spaces**.
- This might provide multiple benefits in terms of retrofitting and addressing the city's housing needs.
- There are **opportunities for data through the Land and Property Services and Department for Economy (DfE)**, who are looking at energy mapping.

- Efficiency savings alone aren't enough. With 60% of BCC's rate income coming from offices, there is a **strong case for investing in low-carbon schemes and financial incentives**. An invest-to-save approach could help close the viability gap and build a strong business base.

- **Rating reform could encourage action** in response to the imminent threat of Energy Performance Certificate (EPC) requirements and the risk of stranded assets, particularly with regard to office stock. Currently, vacant properties pay 50% rates, or sometimes none at all, and there is a risk that developers might land bank low EPC properties without facing any financial disincentive to do so.

- **Ulster University is exploring opportunities for long term institutional investment**.

- Exploring the approaches taken by other United Kingdom and Republic of Ireland cities about the commercial sector could inform an approach for Belfast.

- The National Wealth Fund has approached the BCC to run a **two-day workshop focusing on decarbonising the built environment**. They might help to structure approaches to potential funding pots and identify investment opportunities.

- CBRE (commercial state agents) believes that **co-living could be a worthwhile approach to meeting housing demand by using vacant office space**. This could be an effective way of attracting and retaining younger generations to live in the city.

Enabling the environment: governance and finance

Governance and finance are essential components of an upscaling plan. During the first phase of the upscaling methodology (preparatory work), the city of Belfast went through the finance and governance aspects, taking as a reference the **tools** developed by the Global Green Growth Institute (GGGI) and adelphi, respectively, and explored how these resources could help them shape an enabling environment for their upscaling plan. The key findings obtained from this initial phase were then discussed with the stakeholders of the Learning Action Alliance. The main results of the discussion are detailed below.

Governance

Effective governance for retrofit delivery in Belfast requires strong leadership, clear accountability, and coordinated action across sectors. Key elements include setting clear targets, embedding data collection and reporting processes, and fostering collaboration between public bodies, city partners, and communities. There is a need for policy clarity (e.g., definition on the Minimum Energy Efficiency Standards legislation and the timelines of when these might be implemented), which emphasises the importance of clear and committed policies to drive investments.

In addition, collaboration will be a fundamental pillar to achieve the desired results. Cross-departmental and cross-sectoral cooperation needs to be fostered, including with universities and national funds, to prioritise unlocking the barriers to action. Likewise, drawing inspiration from successful governance models in Great Britain, the Republic of Ireland, or cities such as Rotterdam can also help build trust, encourage participation, and support the implementation of large-scale retrofit initiatives.

Finance

The financial aspects of retrofit delivery in Belfast highlight the urgent need for ringfenced and accessible funding across all sectors. Financial incentives are required to kick start action and mobilise sectors. In the residential sector, grant schemes should support a range of tenures and adopt a fabric-first approach, with mechanisms similar to those in Great Britain and the Republic of Ireland. For public buildings, sustainable models such as revolving funds and low-cost loans could drive investment, as demonstrated by Queen's University Belfast. In the commercial sector, financial incentives, rating reform, and invest-to-save schemes are key to encouraging retrofit and repurposing of underused office stock. Overall, aligning Belfast's financial mechanisms with proven models in Great Britain and the Republic of Ireland and attracting institutional investment are essential for scaling retrofit efforts citywide.

Greening the city - Action plan for the next steps

From November 2025 onwards

Present learning and recommendations from this work in the framework to be discussed further as part of project legacy.

From December 2025 onwards

Identify governance mechanisms for building on this work post project e.g. Our Planet, Place Partnership.

From December 2025 onwards

Explore finance models such as those suggested by GGGI.

End of 2025

From January 2026 onwards

Retrofit Hub and NIHE work with lead partners to develop retrofit pathfinder.

By June 2026

Explore opportunities for mapping energy performance of public and commercial building stock in the city.

June 2026

Produce first carbon baseline for Belfast City Council. This will inform identification of carbon reduction programmes and target setting. This is likely to be replicated by all larger public bodies.

Partners involved

- BCC Climate Team
- Belfast Retrofit Hub
- Northern Ireland Housing Executive & Dept. for Communities
- BCC City Growth & Regeneration / Place Partnership

**BCC = Belfast City Council*

TOOLS' CONTRIBUTION TO THE PROTOTYPE AND POST-PROJECT USE

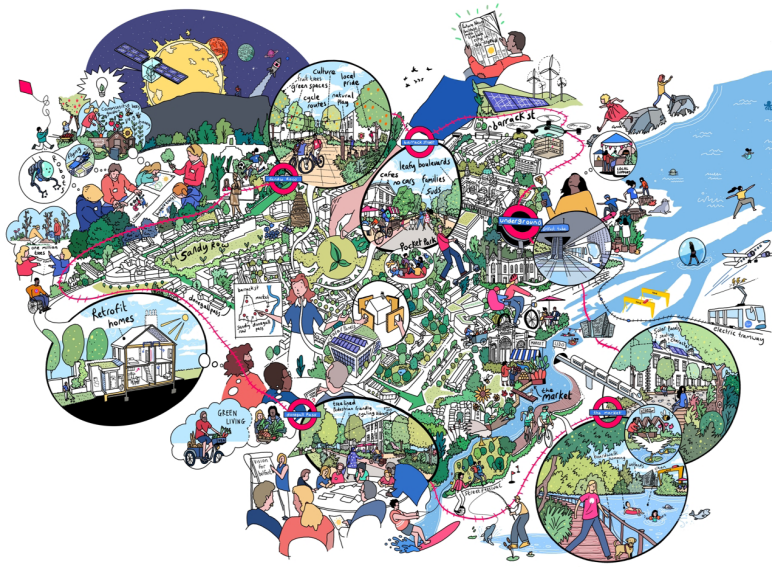
The long-term sustainability of the Net Zero Neighbourhood Framework (NZNF)is primarily ensured by tools that provide essential data quantification for carbon tracking and cost analysis, integrate participatory urban design methodologies into city policy, and establish platforms for community engagement and knowledge transfer. These tools, through their continued use and embedded outputs, enable the framework to be scaled up and applied to other neighbourhoods across Belfast and beyond.

Carbon Accounting Methodology for Urban Regeneration (University of Cambridge (UCAM))

The **Carbon Accounting Methodology for Urban Regeneration** tool, developed by the University of Cambridge, will contribute to the long-term technical and quantifiable basis of the NZNF. UCAM provides quantification tools for achieving net zero, including carbon and cost analysis. Its long-term support is driven by its ability to help the City Council to estimate the carbon emission impacts of urban regeneration, thereby generating environmental benefits and supporting the development of carbon neutral neighbourhoods. The tool is designed to be scaled up and applied to other neighbourhoods in the city and beyond.

"Safe Routes, Healthy Places" toolkit (Design Clips)

The **Safe Routes, Healthy Places Belfast Toolkit** supports the NZNF's long-term sustainability by embedding child- and youth-friendly perspectives into active travel and urban design initiatives and building local capacity. The toolkit is aligned with the city's Net Zero Framework. Local stakeholders, including Belfast City Council, were actively involved in the co-development of the toolkits, ensuring ownership and long-term usability. The materials are intended to be used by the City Council to promote the Walking Bus model during the next academic year, and the participatory methods can be adapted to support further active school travel initiatives in the future, guided by a matrix demonstrating how to combine the different tools for upscaling.



Community Maps (Mapping for Change (MfC))

The **Community Maps platform (MfC)** ensures the long-term continuity of participatory planning and engagement crucial for the NZNF. Community Maps will continue to be used for participatory planning and engagement, specifically for visualising environmental and social data, supporting co-design, and aligning adaptive planning with Belfast's neutrality and sustainability goals. The outputs generated by Community Maps are being integrated into framework documents and policy recommendations. The tool is designed for ease of use and can be maintained by trained staff, enabling integration into planning workflows and supporting collaboration with diverse stakeholders. While ongoing hosting and technical support incur costs, these can be sustained through integration into city programs or external funding.

Neutrality Story Maps (VUB and CERTH)

By showcasing the work of the pilots and their prototypes in an accessible format with success stories, lessons learned and future strategies, **Neutrality Story Maps** allows other neighbourhoods in the city to learn and adopt similar climate neutrality strategies and approaches. The tool has been embedded in the communication strategy for the project by Granollers, who are using the tool to communicate their activities in UP2030 to the general public in an accessible multimedia narrative format. The city expressed interest in using the platform for at least the next five years that will be freely accessible.

TRANSFERABILITY OF THE PROTOTYPE

Belfast is a good example for cities looking to develop projects or interventions linked strategy and policy development. These projects can use topics such as community resilience, just transition and green transformation as an entry point, with the objective of achieving knowledge and policy related outputs.In UP2030, one of the objectives that has been defined in the upscale phase is to maximise the impact of the prototypes developed during the project, expanding them to other sectors, regions and countries.

To this end, it is extremely important to understand the characteristics of the context of the place where the prototypes are to be scaled up or replicated. To facilitate this process of transferring processes and results, the UP2030 project has developed four Urban Typologies with over 1000 provinces each in order to identify provinces, covering almost all of Europe, that have similarities based on different indicators that have been analysed. By grouping European regions with similar attributes, the Urban Typologies aims to foster targeted collaboration and encourage knowledge-sharing and communication for more effective solutions, especially between regions and cities sharing similar opportunities and challenges.

Four distinct typologies have been created:

- **Capacity for action**: Considers socio-economic factors and governance indicators.
- **Contributions to mitigation**: Focuses on sectoral emissions, carbon sequestration capacity and renewable energy potential.
- **Climate hazards**: Focuses on prevalent climate hazards and exposure.
- **Urban morphology**: Focuses on urban landscape and infrastructure characteristics such as urban density, land use types, etc.

For each typology, respectively, these are the clusters that correspond to the province in which Belfast is located (Belfast province), and hence which most closely resemble the province Belfast:

CAPACITY FOR ACTION

Moderately Urbanized and Transitional Regions

Found across Central and Eastern Europe, the Iberian Peninsula, Baltic countries and Italy, this cluster represents emerging regions with **socio-economic, well-being and governance indicators that sit modestly below the study area average**. These regions exhibit **lower employment rates and GDP levels**, while healthcare infrastructure remains limited with **fewer hospitals per capita**. Environmental protection is present but modest, with **protected areas covering slightly less territory** than the study area average.

CONTRIBUTIONS TO MITIGATION

Highest wind potential in contiguous European lowlands

This cluster is characterized by the **highest wind energy potential** in the study area combined with **high photovoltaic potential**, while **CSP potential is very low**, distinguishing it from related clusters. It is a largely contiguous area, spanning and covering most of the Benelux, Northern Germany, western Poland, and all of Ireland, and has a **highly urbanized character**. CO_2 emissions from buildings, vehicles, and industry are moderate and virtually identical to study area averages. **The share of forests and wetlands is relatively low**, providing space for renewable infrastructure.

CLIMATE HAZARDS

Wet conditions and low heat stress in northern latitudes

This cluster, covering almost all of **Scandinavia and parts of Western and Eastern Europe** (Ireland, Denmark, Finland, Sweden, Estonia), is defined by the **most pronounced wetness (and thereby very low drought risk)** and currently the **lowest heat stress**. This cluster has many of the lowest risks in the typology, considering current climate conditions. It has **low overall risk from floods, wildfires, landslides, and air pollution** (lowest in the entire region of interest). **Exposure to sea-level rise is relatively low** despite its coastal character. Despite being the **largest cluster by area**, it has a **low urbanization and minimal urban land coverage (~1.2% of total area)**. Overall, current climate risks are moderate to low, offering a **unique opportunity for foresighted adaptation** to plan for future increases in heat, flood, and drought hazards.

URBAN MORPHOLOGY

High-density urban centres with minimal open space

This cluster is found in the major metropolitan areas of Europe and is also widespread throughout Spain. It is characterised by a **very high population density** and an exceptionally **large proportion of densely built-up areas**—both significantly higher than in any other cluster. **Industrial and commercial zones occupy a substantial share** of the urban landscape. **Green spaces are limited**, while **impervious surfaces are extensive**. The terrain is relatively flat, with only a small proportion of the urban area situated on steep slopes.

For each of these four typologies, and for all clusters constituting the typologies, the following useful information is highlighted and can be explored: a short characterisation, common challenges and opportunities in each cluster, as well as key areas for action and example measures and instruments therein. In doing so, clusters can support urban planners and decision-makers in identifying strategic priorities, in addressing climate challenges more effectively, and with knowledge transfer between similar provinces, across Europe.

Belfast can serve as an example for other cities in these clusters, i.e. with these similar characteristics that are seeking to develop sustainable, climate-resilient and inclusive strategies for their local contexts. However, it should be noted that these typologies do not restrict the scope for replication and scaling up (i.e., the Belfast prototype is not only applicable in places classified within these four typologies), but rather help to identify places where the transfer of this package of Belfast is most likely to be successful. In addition, it goes without saying that these clusters cannot replace province or city case studies, and not be used as such. The clusters are on a province level.

*To explore the typologies, use the **interactive map**.*

*The full list of indicators is also found in the **methodology section**.*

KEY MESSAGE FROM THE CITY

"We can no longer justify public investment in projects that lack resilience or fail to decarbonise. Every intervention must deliver dual benefits: advancing climate action while creating flourishing communities for today that endure for tomorrow. This is our moment to reimagine how we build, move, live, and thrive in a net zero Belfast. Let this Framework be a standard-bearer that places climate action, equity, and future readiness at the heart of every decision. Advancing to net zero can no longer be an afterthought and must be embedded in the foundations of placemaking and regeneration, permeating every aspect of community building and future planning. The responsibility belongs to us all."

CITY CONTACT

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The local actions have been led by the municipality of Belfast and its liaison, Mapping for Change

All images: UP2030 Belfast team

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