



# **FUTURE PROOFED CITY** **BELFAST**

## **AMBITIONS DOCUMENT: A CLIMATE PLAN FOR BELFAST**

December 2020

[www.belfastcity.gov.uk/resilience](http://www.belfastcity.gov.uk/resilience)





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## **AMBITIONS DOCUMENT: A CLIMATE PLAN FOR BELFAST**

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**December 2020**



AM....

- ☒ Under 10
- ☐ 11-20
- ☐ 21-30
- ☐ 31-40
- ☐ 41-50
- ☐ 51-65
- ☐ Over 65

### MY STORY IS....

I worry about climate change  
because Australia is burning  
and my favourite country  
is aussie. Some of my  
family live there.

# INTRODUCTION

**Belfast's Resilience Assessment identified a wide-range of shocks and stresses for the city, improving our knowledge of existing and emerging risks. Coordinated response to these risks is being taken forward by city partners, working collaboratively through the city's Community Planning Partnership Board, and delivering the priorities set out 'Belfast Agenda'.**

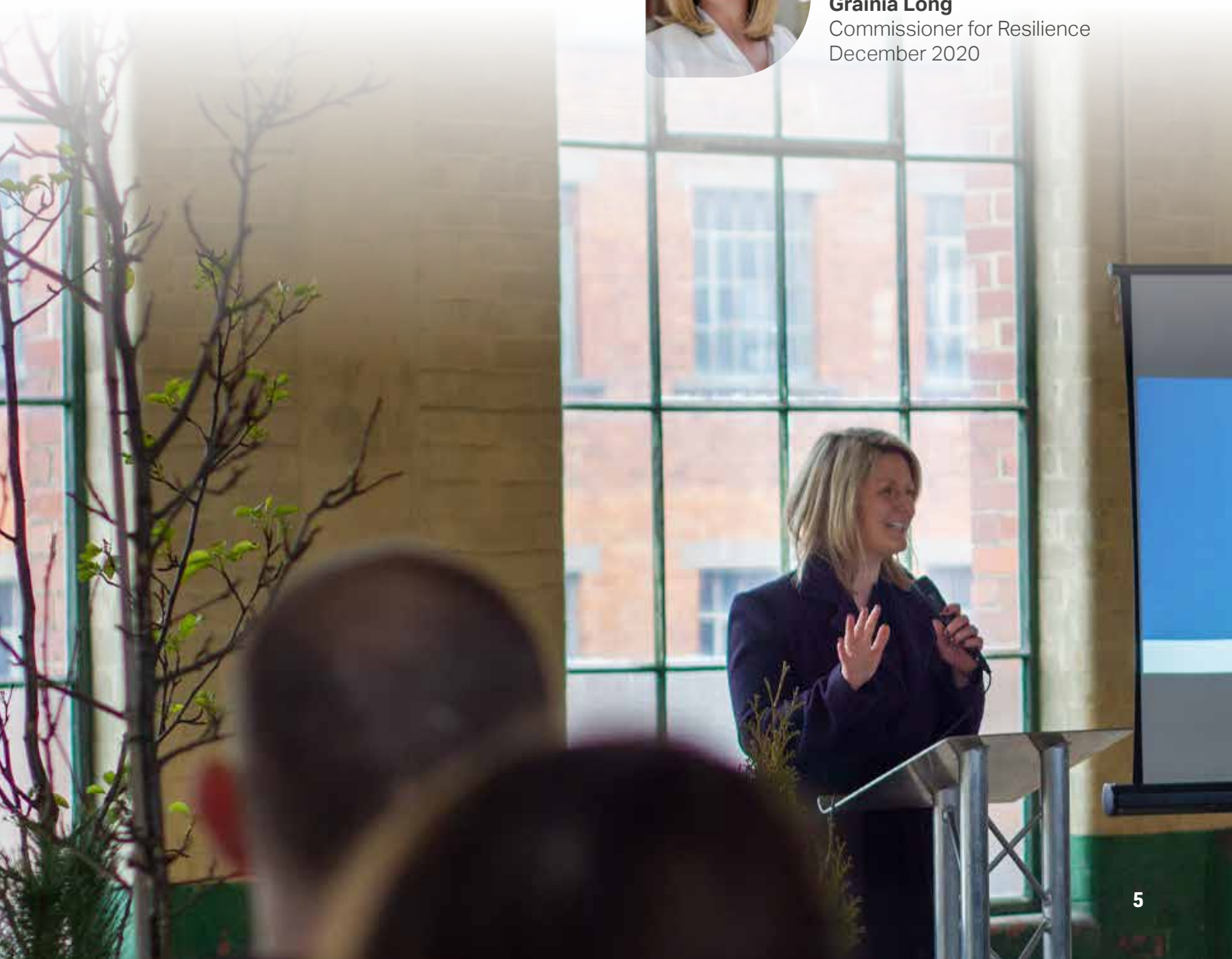
Public conversation on the draft Resilience Strategy found strong agreement with the shocks and stresses identified. However, there was also consensus that climate change presents acute risks for the city, and that we need a singular focus to prepare Belfast for its effects.

This 'ambitions document' is Belfast's first Climate Plan. It outlines a resilience 'goal' for the city, with a determined focus on climate adaptation, climate mitigation and the green economy. It sets out 30 'transformational programmes'- these are decade-long interventions which will have a positive impact, at scale, across the city. The programmes have been endorsed by the city's Resilience and Sustainability Board, and will be taken forward in a collaborative way by city partners in this decade. We have retained the emphasis on 'multiple problem solvers'- actions that solve several risks at once- and in particular ensuring that children and young people play a central role in climate action in their city.



*Grainia Long*

**Grainia Long**  
Commissioner for Resilience  
December 2020



# FOREWORD FROM THE CHAIR STRATEGIC POLICY AND RESOURCES COMMITTEE

Belfast Agenda, the city's community plan, is clear in its purpose- for Belfast to be a sustainable city. Meeting that vision has required the development of this document- the city's first 'climate plan' – a document which sets out a clear goal, to transition Belfast to an 'inclusive, net zero-emissions, climate- resilient economy in a generation'. Across Belfast, partner organisations have not only help identify the risks that face our city but they have also agreed that the ultimate goal for the city should be to **transition to an inclusive, net zero-emissions economy in a generation.**

This is the first time that Belfast has taken an integrated and collaborative approach to the development of a climate plan, and I am particularly pleased at the level of partnership working involved.

I would like to thank all the members of the Resilience and Sustainability Board who have agreed to work together to deliver thirty programmes, at scale, to meet our goal. We all welcome the variety of programmes that have been designed to be '**multiple problem solvers**' and look forward to witnessing the transition of Belfast into a more climate ready city. This plan is a first of many for Belfast and its timing is important for us all to drive the city forward in its green recovery.

Working together will help us to ultimately deliver the goal and enable city partners across all sectors to deliver these ambitious programmes. We are delighted to be involved from the beginning of this project and we are grateful for the commitment of city leaders, communities, organisations, universities and of course our residents who have supported the development of this plan. I believe this document positions Belfast as a city which can demonstrate its commitment to tackling the climate crisis, in the interests of all our residents- today's and tomorrow's.



*Christina Black*

**Councillor Christina Black**  
Chair  
Strategic Policy and  
Resources Committee



**Belfast  
City Council**

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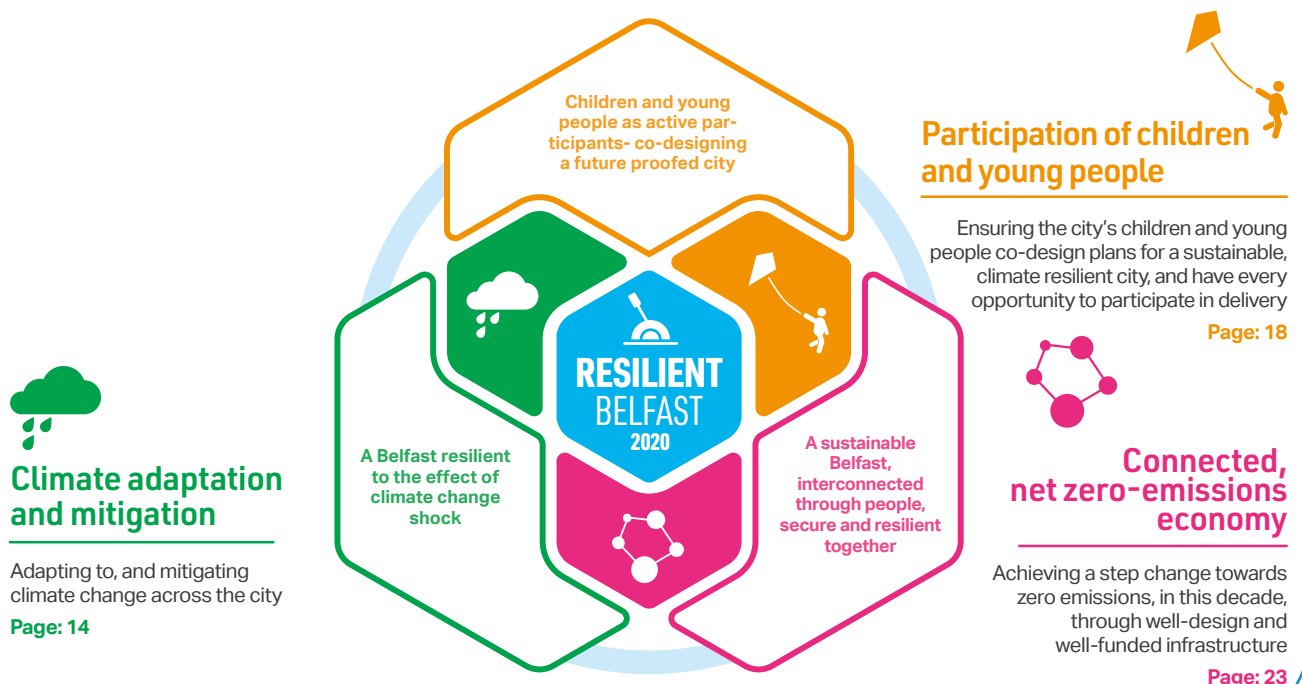
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# RESILIENCE GOAL



Our goal is to transition Belfast to an inclusive, net zero-emissions, climate resilient economy in a generation.

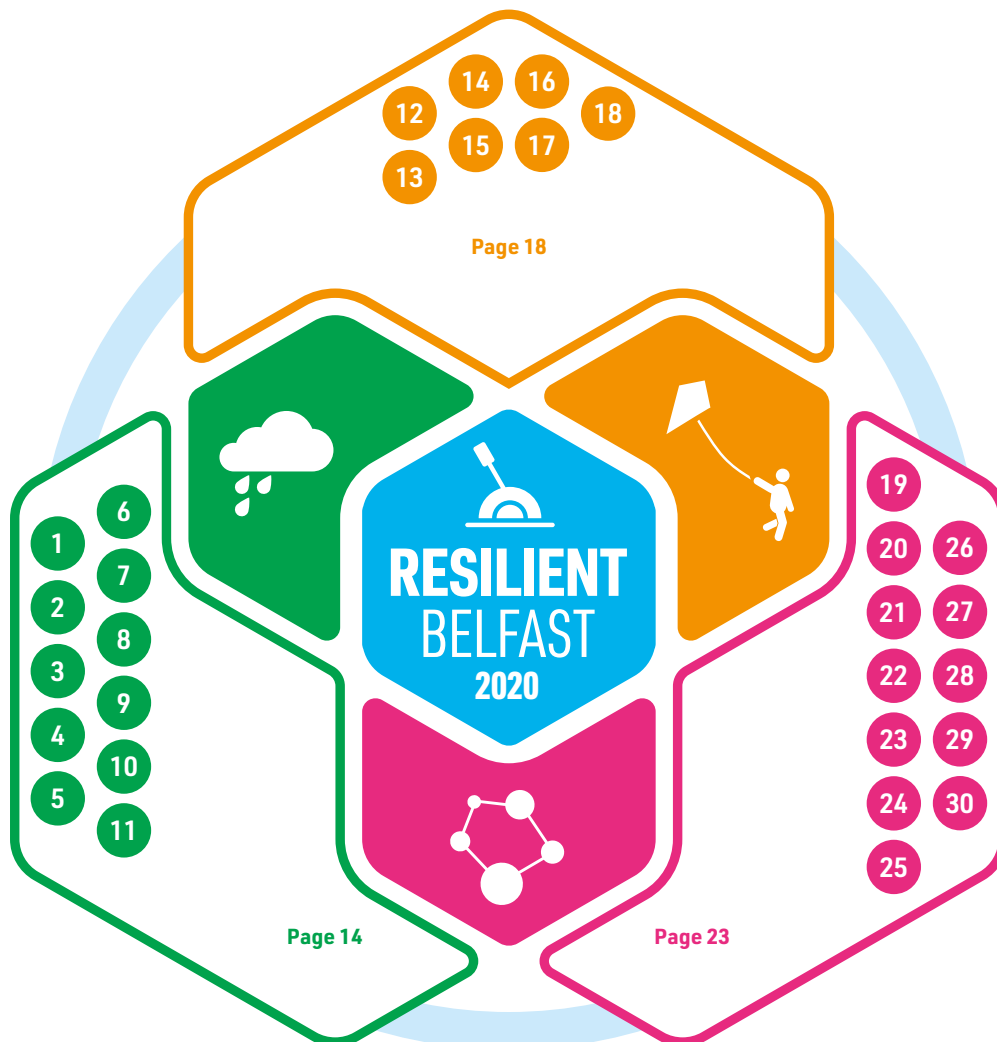




# MULTIPLE PROBLEM SOLVERS

We have identified a series of levers aimed at resolving several risks at once. These 'multiple problem solvers' provide focus and direction towards our transition to an inclusive, net zero emissions climate resilient economy.

# MULTIPLE PROBLEM SOLVERS



# DELIVERY OF UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS



**Belfast's Resilience Strategy has been informed by, and is aligned with the UN Sustainable Development Goals.**

The 2030 Agenda for Sustainable Development is an historic global agreement to eradicate extreme poverty, fight inequality and injustice and leave no one behind. Agreed by world leaders at the UN in 2015, the 17 Sustainable Development Goals (SDGs) succeed

the Millennium Development Goals (MDGs). The SDGs are universal with all signatories - including the UK - expected to contribute to them internationally and deliver them domestically.

**Belfast's Resilience Strategy contributes to the delivery of these important global goals.**

## United Nations: Sustainable Development Goals



# LEGEND KEY



## Area of focus

- Climate action
- Children and young people
- Connected, net zero-emissions economy

## Quality of resilience

- Reflective
- Resourceful
- Inclusive
- Integrated
- Robust
- Redundant
- Flexible

## Shock or stress

- Infrastructure capacity
- Condition of existing Housing Stock
- UK Exit
- Flooding and extreme weather events
- Cyber resilience
- Public Health
- Economic recovery capacity
- Population change
- Carbon intensive systems
- Housing supply in the city
- Segregation and division
- Climate change
- Poverty and inequality
- Use of prescription drugs
- Mental Ill-health
- Governance and financing of risk

## United Nations: Sustainable Development Goal

- No poverty
- Zero hunger
- Good health and well-being
- Quality education
- Gender equality
- Clean water and sanitation
- Affordable and clean energy
- Decent work and economic growth
- Industry, innovation and infrastructure
- Reduced inequalities
- Sustainable cities and communities
- Responsible consumption and production
- Climate action
- Life below water
- Life on land
- Peace, justice and strong institutions
- Partnerships for the goals

# CLIMATE ADAPTATION AND MITIGATION



**The effects of climate change present the greatest economic, social and environmental risks to the city of Belfast, in this decade and beyond'. The city's future economic growth must therefore be inclusive, sustainable and low-carbon.**

**"The economic cost of flooding could be profound. Belfast is 'predicted to be the most economically impacted, with aggregated annual average damages of approximately £16m.'"**

NI Flood Risk Assessment, 2018

- Belfast must be 'climate ready' i.e. prepared for changes to the city's weather, to our water, and to our biodiversity arising from climate change. The city must prevent economic shocks arising from climate change, and a widening of inequality due to its effects. It must urgently build community resilience to respond to the impacts of climate change, and ultimately transition to a net zero emissions economy.
- Belfast is facing a climate crisis. A harbour city, and already an area of significant flood risk, our proximity to water and the increasing presence of water in our city as the climate warms is a significant risk. Pockets of poor air pollution and our dependence on cars as a form of transport, coupled with the prevalence of hard infrastructure throughout the city highlight a series of interconnected challenges, which if left unchecked will leave the city exposed.
- Our ability to respond to a changing climate will fundamentally impact on the city's economic prosperity in the years to come. The prevalence of extreme weather events will require additional city resources; the design, development and location of future developments will be impacted by climate events and our attractiveness as a destination to live work and enjoy will all be impacted by our ability to prepare for, respond and absorb climate related shocks and stresses.
- The Intergovernmental Panel on Climate Change (IPCC) warned in 2018 that cities have twelve years to make rapid, far-reaching and unprecedented changes in all aspects of society in order to limit global warming to 1.5°C. Belfast must heed that warning and make climate resilience an urgent and strategic focus for the entire city.

- Furthermore, our dependence on energy will increase. While immediate energy demand scenarios are currently uncertain due to the impact of COVID-19, the Belfast Mini Stern demonstrates the scale of the city's long-term economic dependence on energy - it predicts that Belfast will spend c.£466 million per year in 2050.' Belfast therefore faces two energy challenges- to decarbonise rapidly while building the city's energy independence. Doing so provides an immense economic return to the city, as set out in the Mini Stern.

**"Belfast is emitting 1.5 million tonnes of carbon a year. At this rate, we will have used up our carbon by 2030."**

Belfast Mini Stern

- The 'foundational programmes' endorsed by the city's Resilience and Sustainability Board are strongly informed by the city's 'Mini Stern', by consultation with city partners and with communities, and are intended as a step change in the city's approach to climate adaptation and mitigation.

## 1 New city-wide structures to collaborate on climate action



Belfast has established two permanent new structures to drive partnership and collaboration to build the city's climate resilience and drive climate action. The Belfast Climate Commission is a 'thinktank' which ensures the right evidence and analysis is available to decision makers. The Resilience and Sustainability Board is a permanent feature of the Community Planning structures for the city. The board is a genuine partnership between agencies and organisations on climate action in Belfast, and over time will ensure integration of systems to increase the city's efficiency and effectiveness.

## 2 Delivery of Recommendations in Belfast's Mini Stern: A Net Zero Carbon Roadmap for Belfast



Working with Leeds and Edinburgh, Belfast's first Net Zero Carbon Roadmap has been produced, to identify the sources of Scope 1 and 2 emissions, and to set out cost effective and innovative stretch measures needed to reach net zero carbon by 2050. Through the Belfast Climate Commission and the Resilience and Sustainability Board, recommendations within the roadmap will be delivered to enable Belfast to reach its goal.

## 3 Climate change risk assessment



We have commissioned Arup (our 100 Resilient Cities strategic partner) to undertake a high level climate change risk assessment- to provide us with an assessment of the potential impact of climate change on the city's infrastructure. This work has identified significant areas of risk for the city, and areas of focus for climate planning into the future.

## 4 Belfast City Council Climate Adaptation and Mitigation Plan



Belfast City Council will publish its Climate Adaptation and Mitigation Plan in 2021, based on data from an internal sustainability review, an energy review and the development of climate adaptation priorities. The document will be the first comprehensive and integrated plan by the council on climate adaptation and mitigation.

## 5 Belfast Harbour - Green Port



Belfast Harbour's ambition is to become one of the 'greenest' ports in the world. Its strategic goals include achieving net zero carbon emissions in Belfast Harbour before 2030, through decarbonisation of our operations and nature based solutions. Its partnership-based action plans will protect and enhance our marine biodiversity and wider environment. With the help of digital innovation, it will help facilitate a circular economy and improve air quality standards throughout its estate. As a socially responsible Green Port, Belfast Harbour's vision is to work with others as a green developer and support our port community, customers and tenants as together we build a sustainable future for all.

## 6 Queen's University Environmental Solutions Centre



We will explore the feasibility of establishing a city-wide support organisation drawing on the model of Adaptation Scotland to provide advice and support to help public sector, businesses and communities understand what climate change will mean for them, and the best way to plan for its impact. City partners will work collaboratively to support the establishment of an interdisciplinary Environmental Solutions Centre at QUB, a collaboration between academics working on environment and sustainability research. The goal of the centre is to provide solutions to decarbonise economies and radically reduce greenhouse gas emissions to achieve net zero and to provide solutions that reverse the loss of biodiversity worldwide. Queen's has co-designed the centre with key partners in industry, local and regional government and civil society. The centre will focus on data analytics and synthesis and will deliver solutions through co-defined interdisciplinary working groups bringing together stakeholders from across a broad spectrum of relevant partners, and will be a critical asset to the city in its progress to reach net zero.

## 7 Sustainable District



Belfast Linen Quarter BID, working collaboratively with city partners, will establish the city's first 'Sustainable District' bringing together business, the public sector and the private sector to collaborate and innovate on energy, water and waste efficiency, decarbonisation and sustainable practices, to accelerate the city's transition to a climate-resilient economy.

The vision is to co-create a prosperous, inclusive, climate-resilient district founded on a circular, net zero-carbon economy. Work programmes will include system re-design to develop sustainable products & services; Sustainable waste management; a district-wide green energy contract, to accelerate the move to renewables; New approaches to public realm that reduce car use and increase cycling and walking and a strategy for improved air quality.

## 8 Belfast Region City Deal



The Digital Innovation Pillar of the Belfast Region City Deal prioritises resilience and sustainability, with a core commitment to triple bottom line delivery in all of its programs taking into account social, economic and environmental sustainability factors. Specific programs will target funding of innovation in energy transition, integrated transport solutions and building technology, in this decade. The Belfast Digital Innovation ambition will also focus on development of platforms such as digital twins, built on committed 5G/ IoT deployments within the city and which coupled with Belfast's leading expertise in cyber and AI technologies, will ensure that our innovation excellence is targeted to ensure our strategic city assets such as housing, energy, transport, water and telecommunications are resilient by design. Opportunities will therefore be sought to invest in enabling infrastructure to meet the city's ambitions while also emphasising skills and business growth at scale.

## 9 One Million Trees



Inspired by an original idea from the Belfast Metropolitan Residents Group, city partners will plant one million trees across Belfast by 2035. Launched in late 2020, and designed as a major programme to support climate adaptation across the city, it is a collaboration between public, private and voluntary sector partners, and will make a substantial contribution to the DAERA 'Forest of the Future' regional tree planting programme.

## 10 Local Development Plan: a Critical Lever for Resilience



Belfast's draft Local Development Plan (LDP) provides a robust statutory framework to enable Belfast's transition to an inclusive, net zero emissions, climate-resilient economy. The draft plan provides a 15-year framework to support the city's ambitions, providing the delivery of sustainable development, facilitating growth and allocating sufficient land to meet the needs of the city. Core objectives of the draft LDP include the promotion of a green and active place and building a smart, connected and resilient city. The draft LDP is therefore a critical lever in the delivery of this strategy's objectives.

## 11 Sustainability and Food



In developing this strategy, we have had insufficient time to look in detail at the city's food needs into the future, however this is a priority for strategy implementation. Working with partners across the city, a workstream examining the climate impacts and opportunities for an ongoing and city wide programme of healthy and sustainable food will be critical to Belfast's resilience.

# CASE STUDY: CLIMATE ACTION



## Cape Town: water resilience and avoiding day zero

**Cape Town made international headlines in 2017 when they faced the prospect of an imminent “Day Zero”, a scenario in which the city government would have to turn off the water distribution networks to conserve water, in response to experiencing the driest three-year period since the 1930’s. The city’s normal recourse was to increase water restrictions but more action was needed.**

Capetonians mobilised to take remarkable action. Lawns and water sensitive plants were replaced with less water reliant alternatives. Residents invested in water saving devices such as low-flow taps and shower heads. Community organisations developed their own response strategies. Some corporations went off-grid, turning to groundwater or desalination. The local government worked tirelessly with businesses to share information, hear concerns, plan and became much better at partnering. This collective response would eventually drive down water consumption by over 50%. Day Zero was called off in 2018 and later removed as a possibility for 2019 and again in 2020..

Positively, behaviours have changed permanently as residents’ water-saving and efficiency behaviours endured, even as restrictions were gradually lessened. Water consumption is unlikely to ever return to pre-drought levels. Cape Town’s achievement is evidence of the positive impact that partnering with residents and stakeholders at all levels can have on a city’s governance and operations.

# PARTICIPATION OF CHILDREN AND YOUNG PEOPLE



**The participation of children and young people in decisions that affects their lives is of critical importance in the design of a sustainable city. Our resilience goal, to transition to an inclusive, net zero emissions, climate-resilient city in a generation is not possible unless we involve children and young people in strategy design, and ensure their participation in its delivery.**

**We consider this value so important that it is one of three areas of focus, or 'multiple-problem solvers' as we restructure our economy and society, as climate change advances.**

In this section, we include several 'foundation programmes' which place children at the centre of decisions on climate adaptation and mitigation in Belfast.

35% of Belfast's population is aged 25 and under. Young people are a major asset for the city, especially given the shocks and stresses outlined earlier, e.g. the risk of population decline, outward migration, and how we build our economic resilience.

A young population provides Belfast with a bright economic future, with a source of future talent. If young people are properly involved in the decisions that affect their lives, they could also help to shape a transformed sustainable economy for the city. Our conversation with children and young people as part of this strategy consultation, found that sustainability and inclusion were key priorities for them, and would frame the choices they take about where to live in the future.

Poor air quality and the prevalence of cars are considered among the biggest barriers to child-friendliness and a key factor affecting independent mobility among children. Less mobility means reduced access to and experience of the city and fewer possibilities to take advantage of the city's opportunities. Designing a sustainable and child-friendly city is also critical to attracting today's skilled and talented workforce to the city, particularly those with children. Cities like Rotterdam and Vancouver have taken ambitious steps to make urban environments attractive to families, retaining skilled workers and driving the local economy.

We have been inspired and encouraged by action taken in New Zealand (particularly Christchurch), in Wales, where there is a strong policy focus on 'Future Generations', and by Medellin in Colombia, which has invested in a Children and Young Persons' 'Unit' in the city government.

A city's design has an immense impact on the health and wellbeing of children. Sustainable healthy cities are also child-friendly cities. Designing a city in the best interests of children is therefore critical to Belfast's resilience.

The physical environment in which children live is a key determinant of their health, behaviour and development. Research and practice from other cities shows that a strategic focus on connectivity - walking, cycling and play - can improve the health and wellbeing of children and young people. Conversely, high-density traffic, poor air quality and a lack of public space can directly discourage people from being physically active, in turn, impacting on their health prospects. Child-centred urban planning is critical to achieving Belfast Agenda priorities on inclusive growth, and importantly to achieving a step change in life expectancy.

The focus of this strategy, to transition to a net zero emissions city, is also intended to make the city more attractive for children and young people, improving liveability and increasing their social and economic opportunities.

During the formal consultation on this draft strategy, we listened to and considered the views of more than 367 children and young people, and their views have strongly informed the content of our final document.



## A snapshot of how young people participated in the process:



The Commissioner for Resilience met 60 Belfast Youth Forum members.



32 young people took part in two online sessions with the Lord Mayor.



Belfast climate strikers gave talks, came to the kiosk and attended online engagement sessions.



40 primary school children engaged through story telling sessions at two after schools clubs.



90 young people gave us their #ResilientBelfast stories and pictures.



40 children took trees home to plant across the city.



87 attendees at a 'Planning Resilient Futures' student conference.



Resilient discussion with 25 university students.



367 young people involved to date.

**"A good city is one that is good for its most vulnerable citizens..."**

Enrique Peñalosa, (Mayor of Bogotá 1998-2001 and 2016-2019)

## Some common themes which emerged were:

- Young people's high levels of anxiety about the potential impacts of climate change on the poorest and most vulnerable communities in Belfast.
- Many children and young people said they felt 'helpless' to the impacts of climate change- that decision makers were not making the crisis a core priority.
- Children's attitudes towards transport are very different to adults – they often do not see owning a car in the future as important or even necessary.
- The value placed by young people on their ability to live in a healthy city - many expressed this as a 'right' and in particular referred to the health impacts of air pollution, which should be made a city priority.
- Many young people emphasised the importance of urgency in delivery of change, saying that not everything has to be perfect before it is done.
- They welcomed the centrality of children and young people to the strategy and the potential for ongoing and meaningful involvement to the future design of climate policy and strategy in the city.
- Many young people felt their knowledge of the climate crisis and what is required is stronger than the decisions makers in the city, and their involvement is necessary to ensure we take the right approach now.
- They cautioned against their involvement being seen as 'tokenistic' and challenged decision makers to demonstrate their commitment by resourcing this work.
- They expressed real concern about other 'shocks and stresses' referred to in the strategy- particularly mental ill-health and digital inequality.



**In developing this strategy, we have adopted the seven key principles developed by Arup in its Designing for Urban Childhoods report:**

- 1** ..... The quality of life experienced by urban populations, and particularly by children, will determine our global future.
- 2** ..... Child-friendly urban planning is a vital part of creating inclusive cities that work better for everyone.
- 3** ..... Focusing on the needs of children can help act as a unifying theme for the promotion of progressive ideas and ambitious actions.
- 4** ..... Children's infrastructure can help to enhance the economic value and long-term viability of the urban environment.
- 5** ..... Providing multifunctional, playable space - beyond the playground - can enable everyday freedoms and create a public realm for all ages to enjoy together.
- 6** ..... Interventions at the neighbourhood scale offer the greatest potential to create a children's infrastructure network that allows safe and enjoyable journeys.
- 7** ..... Decision makers should be opportunistic and strategic, and integrate child-friendly thinking into all aspects of city making.

## **12 A Permanent Platform for Involving Children and Young People on Climate Change**



Led by the Belfast Climate Commission, and co-designed by children and young people, we will develop a model for ensuring the participation and involvement of young people, in future climate planning. The model will be developed in 2021, and will initially be developed to ensure their involvement in the UN Climate Conference COP26, but will be used annually to involve children and young people in decisions on the city's future.

## **13 Quality of urban childhood**



Working with partners across the city, Belfast City Council will put in place a series of indicators to measure the quality of 'urban childhood' in Belfast. This will include measuring the amount of time children spend playing outdoors, their level of contact with nature and their ability to get around independently. These will inform decisions by organisations working across Belfast to improve urban childhoods and urban resilience more generally.

## 14 Ulster University Architects for Change Programme



The 'Architects of Change' programme puts students from Ulster University's School of Architecture and the Built Environment at the heart of developing and delivering a training programme to business leaders across the region. Leading academics will work with students on strategies for smart cities, zero emission definition and delivery aiming to address how gaps in knowledge and skill can be addressed through training.

This training programme will support business leaders to access the relevant knowledge to deliver environmentally, socially sustainable practice within their organisations. Participants will receive mentoring, materials and consultancy from the University to ensure growth beyond the life of the training. Longer term, the project will deliver innovative concepts for design, planning, construction and management of climate resilient, net zero emission buildings and communities. It will help shape Belfast as a smart, green city; improving the health and wellbeing of citizens, users and communities.

## 16 City centre public realm play spaces



Working with its city partners, Belfast City Council will invest in a network of city centre public realm play spaces. This should include permanent spaces in the city centre and a network of temporary/pop-up play spaces across the city. This should include multifunctional use of space and re-use of existing infrastructure such as schoolyards, community hubs and car parks for community activities after hours. Belfast City Council wants to create a colourful, playful city that appeals to people of all ages. Working with city partners, Belfast City Council will build on its development of play spaces and invest in a network of city centre public realm that support diverse, interesting and inclusive family-friendly spaces. This could include permanent spaces in the city centre, embedding incidental play within the public realm and a creating network of pop up play spaces across the city. We will create multi-functional spaces through the re-use of existing infrastructure such as schoolyards, vacant spaces, community hubs and car parks for community activities after hours.

## 15 A Playful City



Belfast City Council will work to establish Belfast as 'A Playful City' by 2023, our designated year of culture, by bringing together the goals within its City Regeneration Strategy, its Cultural Strategy and its Resilience Strategy.

## 17 Ulster University MSc in Planning and City Resilience



Committed to producing leaders in planning for resilient, inclusive and healthy cities, Ulster University has launched an MSc in Planning and City Resilience. Using the city as a laboratory, studies can explore sustainable development, social and climate justice, inclusive planning and partnerships, and smart interventions.

## 18 Public transport



To achieve our priorities on climate resilience, city connectivity and urban childhoods, it is recommended that city partners should agree to an ambition to provide all children and young people have access to free public transport in Belfast - by an agreed year in the next decade. In achieving this goal we will enable a number of our objectives.

## CASE STUDY: CHILDREN AND YOUNG PEOPLE



### Paris: OASIS Schoolyards: battling heat and building resilience

**The densest capital in Europe, Paris has only 14.5m<sup>2</sup> of green space per inhabitant. This increases both the urban heat island effect and the risk of storm water flooding. With space at a premium the city had to consider existing assets it could leverage to tackle its resilience challenges of heat waves, flooding, declining social cohesion, and limited green space.**

In 2017, the Paris Resilience Strategy envisioned the renovation of the city's network of 761 schools into green islands or "oases" of cooler temperatures and community solidarity. In 2018, Project OASIS (Openness, Adaptation, Sensitisation, Innovation and Social Ties) brought together twelve city departments to begin a pilot with three schools participating. After extensive engagement with pupils, parents and the education community, renovation work began which included replacing asphalt with porous material, improving storm water drainage, increasing green space, modernizing water management, installing cooling fountains and water sprayers and creating natural and artificial shade structures. The project gained European recognition winning the 2019 Urban Innovation Actions award and a further €5m of EU-co funding.

Paris aims to scale this concept to approximately 700 schools by 2050. The Oases are expected to decrease average surface temperatures by 10%, reduce daytime air temperatures up to 3°C and increase water absorption capacity from 4 to 16mm. These new breathing spaces at the heart of neighbourhoods, designed by users, will improve the living environment, cope with the climate emergency, and reinforce social cohesion.

# CONNECTED, NET ZERO-EMISSIONS ECONOMY



**Resilient cities are well connected cities. Our vision of Belfast is as an inter-connected city, with secure, resilient infrastructure that meets its economic, social and environmental goals. A city that values sustainable forms of transport.**

Connected cities have well-developed networks of people, communities, industries and institutions all working collaboratively towards common goals. Investment in resilient infrastructure is critical to ensuring and enabling inclusive growth - connecting people and communities with markets, and with affordable easy access to high quality jobs and services. Resilient infrastructure is essential for place-making, good relations and building healthy and sustainable cities. Industrial strategy requires reliable, accessible and competitively-priced infrastructure to attract foreign direct investment and to create jobs.

**“It has never been more important for a city-region to be connected and have high levels of connectivity. Investment in infrastructure must facilitate and enable the growth of those businesses and sectors which have the potential to close the productivity gap.”**

Belfast has made huge strides since the Belfast/ Good Friday agreement towards being a connected city. However, much more progress is required to build ‘one city’, where our connections reduce our vulnerabilities and strengthen our capacity to withstand risks. The potential to be gained from an ‘infrastructure revolution’ for the city was highlighted in the Belfast Region Infrastructure Investment Framework - commissioned by the Belfast Region City Deal partners as part of their work to present a case to the UK Treasury for investment in the City Region. The Framework recognised the economic potential to be gained from a step change in investment in key infrastructure classes to boost growth in the region, and in turn enhance economic resilience.

This requires a shift in mindset - so that infrastructure is understood as vital to our economic and social interests, and responsibility for building, maintaining and investing in infrastructure goes beyond central government to a range of partners across the city.

It also requires a transformation in how we move around our city. Car dependency is undermining our resilience- by requiring more and more hard infrastructure that builds our exposure to climate risks rather than reducing them. Belfast must make a strategic shift away from the car as the predominant mode of transport, and this will in turn boost our climate resilience, and make our city a healthier, cleaner more enjoyable Belfast.

**“Strategic city-wide focus on connectivity has the potential to boost Belfast’s resilience - its capacity to withstand shocks and adapt to future risks.”**

The Good Relations Strategy for the city makes similar and important commitments on the need for a genuinely connected city, ‘...The way we have done things in the past needs to adapt to help us reach the ambitions we have set ourselves in the Belfast Agenda. We need social innovation; changing the way we plan, deliver and consume services and how and where we access them, how we travel within the city, how we educate our young people, how we view and use local spaces, and how we interact with one another across the city. These are all critical to achieving these ambitions.’



This strategy seeks to complement and underpin delivery of the Good Relations Strategy. The following recommendations are aimed at supporting the strategy in practice.

## 19 Sustainable drainage



Ensuring sustainable drainage is critical to any city's climate resilience. Led by Department of Infrastructure and working with delivery partners across Belfast, the draft Sustainable Drainage Infrastructure Plan is a critical programme of work, to be delivered in this decade and to ensure Belfast has a network of sustainable drainage systems to meet its existing and future growth.

## 20 A Zero Emissions city bus fleet by 2030



The transition to zero emissions public transport is a priority for the city. Translink, the city's main public transport provider, has an ambitious target to decarbonise its entire Belfast bus fleet by 2030. In addition, Translink plans to target a 50% reduction in GHG emissions, per passenger km, by 2030. Working in partnership with DFI and a range of regional partners, Translink is exploring opportunities to decarbonise rapidly through use of zero and low emissions vehicles and renewable energy.

Translink will procure and place into service 103 zero emission double deck buses consisting of both Hydrogen Fuel Cell and Battery Electric vehicles by the end of 2022. This programme will deliver clean air, environmentally friendly public transport ultimately being powered by sustainably produced hydrogen and electricity.

## 21 Delivering Belfast's Net Zero Carbon Roadmap: Buildings



Belfast's 'Mini Stern' - the Net Zero Carbon Roadmap for the city identifies buildings and transport as key emitters of carbon. Targeted intervention in housing, to meet the targets set out in the roadmap is necessary. Housing organisations in the city will explore financial options required to meet the targets by 2030 and 2050 respectively, and set interim milestones to report on progress on a five yearly basis.

## 22 A Bolder Vision for Belfast



A Bolder Vision for Belfast was collaboratively developed by Belfast City Council, Department for Communities and Department for Infrastructure and provides the blueprint for creating a more attractive, accessible, safe and vibrant city centre that will improve economic, societal, health and environmental wellbeing for all. Underpinned by four Visioning Principles it delivers an ambitious and challenging framework for 13 'What ifs?', transformational projects identified through stakeholder engagement, data and analysis. It is a high-level Vision, requiring change among all stakeholders and citizens, and is intended to inspire potential solutions to shape a dynamic, sustainable and connected 21st century city.

## 23 Electric vehicle infrastructure



By 2030, in parallel with the city's ambitions to decarbonise the city's bus fleet, Belfast will have delivered a network of electric vehicles to support transition.

## 24 Investment in existing NIHE stock



Investment solutions to improve NIHE stock will be critical to the city's resilience. It is important that these solutions are part of a wider city-wide approach to decarbonisation and retrofit of existing stock, as is taking place in other cities, with similar resilience challenges.

## 25 Developing a Hydrogen Eco System



To accelerate the city's transition to a net zero carbon economy, city partners across energy, waste, housing, water and transport will develop a network of hydrogen powered infrastructure in this decade. This will include hydrogen for transport, for logistics and mobility and for buildings.

## 26 Belfast Destination Hub - A Low Carbon Exemplar for the City



The Destination Hub will be a landmark signature experience in the heart of our city centre that speaks to the essence of this vibrant place. Supported by the Belfast Region City Deal, this major cultural attraction will invite visitors to explore the many stories of the city and its people through an immersive, multi-gallery experience. The Hub will be a cultural beacon for the city, an anchor for the wider Belfast experience and an area of orientation for visitors into Northern Ireland. Importantly, its design will be a bold demonstrator of intent on Belfast's ambitions to be a net zero emissions, climate-resilient city.

## 27 Sustainable Tourism



Belfast has joined the GDS (Global Destinations Sustainability) Movement, the world's leading benchmarking and performance improvement programme for tourism destinations.

A partnership between Visit Belfast, and Belfast City Council, the city will take part in the GDS Index for the first time in 2020 in order to inform and accelerate sustainable tourism development and bring a co-ordinated focus to the sustainable tourism agenda across the city region.

This is the beginning of Belfast's commitment to build back better; informing the city's vision for sustainable tourism and the future 10 year action plan for tourism in the city region. The end goal is for Belfast become a more regenerative, flourishing and sustainable place to visit, meet and thrive.

## 28 Training and skills for an inclusive low-carbon economy



Working with its education partners, Belfast City Council will explore the development of a major programme of training and skills for a generation of professionals to lead our transition to an inclusive low-carbon economy. Inspired by the Canadian Academy for Sustainable Innovation, we will aim to set a target to provide thousands of professionals with the skills, knowledge, and experience to manage our move to a sustainable future by 2050.

## 29 Innovation and Inclusive Growth Commission



The city's Innovation and Inclusive Growth Commission is a collaboration between Belfast City Council, Belfast Harbour, Ulster University and Queen's University. The Commission was established to develop an integrated, inclusive and long-term growth plan for the city. Its recommendations span a decade long-focus on how to build a job-led transition to an inclusive net zero emissions economy.

## 30 Fuel Poverty



As we transition to a low carbon economy, we are aiming to make the city more energy efficient and energy self-sufficient. We should therefore agree the eradication of fuel poverty as a city-wide ambition.

# CASE STUDY: CONNECTED, NET ZERO-EMISSIONS ECONOMY



## Melbourne: Melbourne Urban Forest: bringing a city together to enhance its natural assets

**With a rapidly growing population anticipated to reach 8million by 2051, metropolitan Melbourne's urban footprint is both expanding outward and becoming denser shrinking the city's green space, intensifying the urban heat island and contributing to flooding and run off during storms.**

Resilient Melbourne in partnership with The Nature Conservancy developed a comprehensive urban forestry strategy: Living Melbourne: Our Metropolitan Urban Forest which seeks to ameliorate the shocks and stresses associated with extreme heat, fire and flooding. With the help of private sector engagement to map canopy cover in the city, the Living Melbourne Strategy set a goal of increasing all sub-regional canopy cover levels by 20-30% by 2050. With this goal set, the Resilient Melbourne team along with Melbourne's 32 councils developed a cohesive roadmap for improving biodiversity and urban forest cover.

Implementation of the urban forest strategy, estimated to cost AUS\$570M, is expected to bring economic benefits currently valued at AUS\$4.95 billion per year, a figure expected to rise as the canopy cover increases.

Nature is an immensely valuable asset for driving urban resilience. Exposure to nature reduces stress and the incidence of mental illness while also strengthening community bonds by providing spaces to congregate and enjoy physical activities thus also addressing public health and social inequality.

# NEXT STEPS

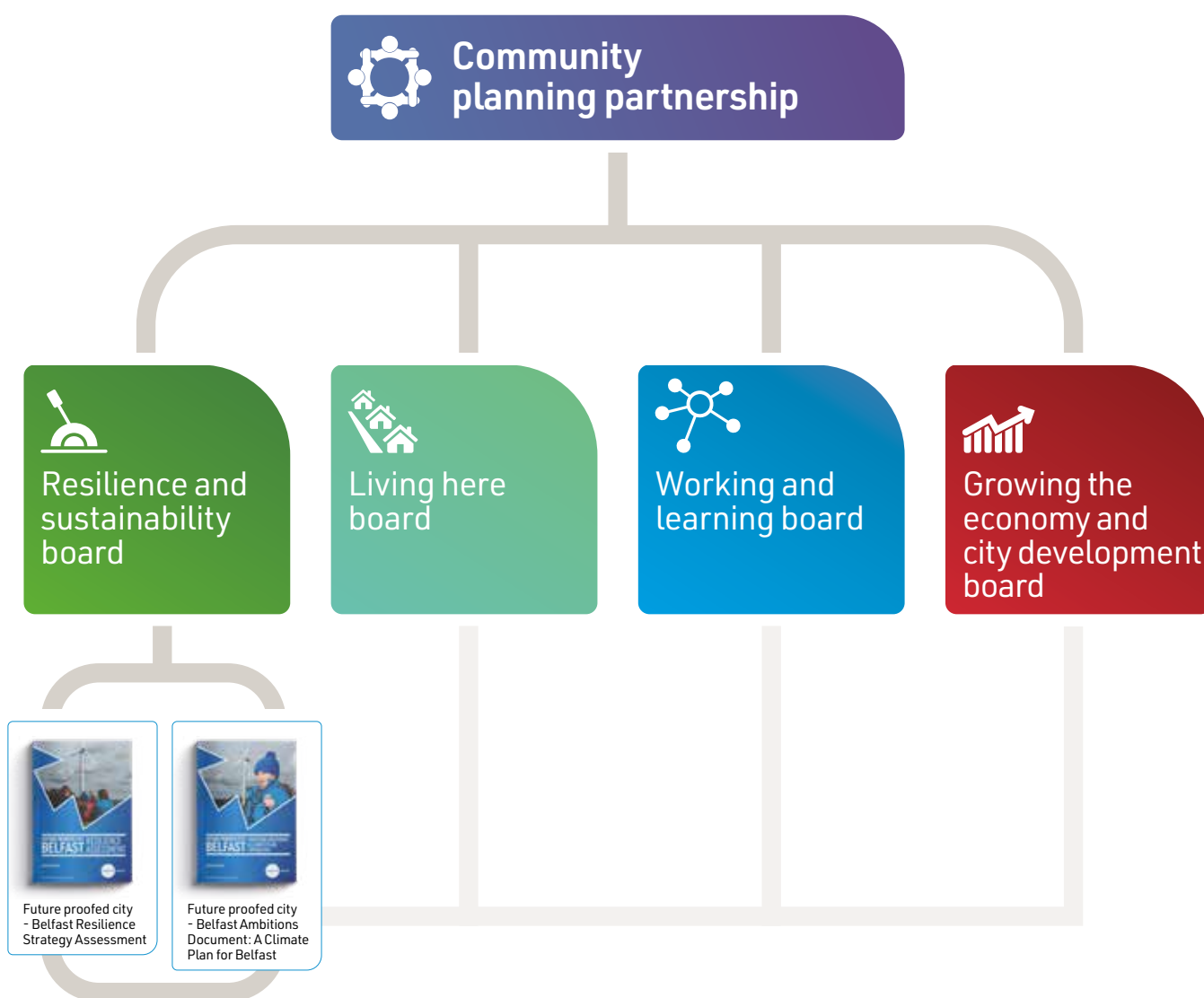


# NEXT STEPS

**Delivery of our ambitions will be overseen by the Resilience and Sustainability Board, and other Community Planning Partnership Boards, and in doing so will develop relevant delivery and resource plans.**

Individual city partners will take responsibility for delivery of key aspects of the strategy's ambitions.

To make contact with the team at Belfast City Council, email [resilient@belfastcity.gov.uk](mailto:resilient@belfastcity.gov.uk)



# RESILIENCE AND SUSTAINABILITY BOARD MEMBERS



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**Harbour**



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Working in partnership to make Northern Ireland Resilient



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As part of our commitment to promoting equality of opportunity and good relations, we want to ensure that everyone is able to access the documents we produce. This document is available in different languages and formats and we can provide others on request, please contact: Richard McLernon, Project Coordinator, Commissioner for Resilience on 028 9050 2091.



With thanks to



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